NOAA Technical Memorandum NMFS-AFSC-259

Community Profiles for North Pacific Fisheries - Alaska

Volume 8

by
A. Himes-Cornell, K. Hoelting, C. Maguire, L. Munger-Little,
J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little

U.S. DEPARTMENT OF COMMERCE
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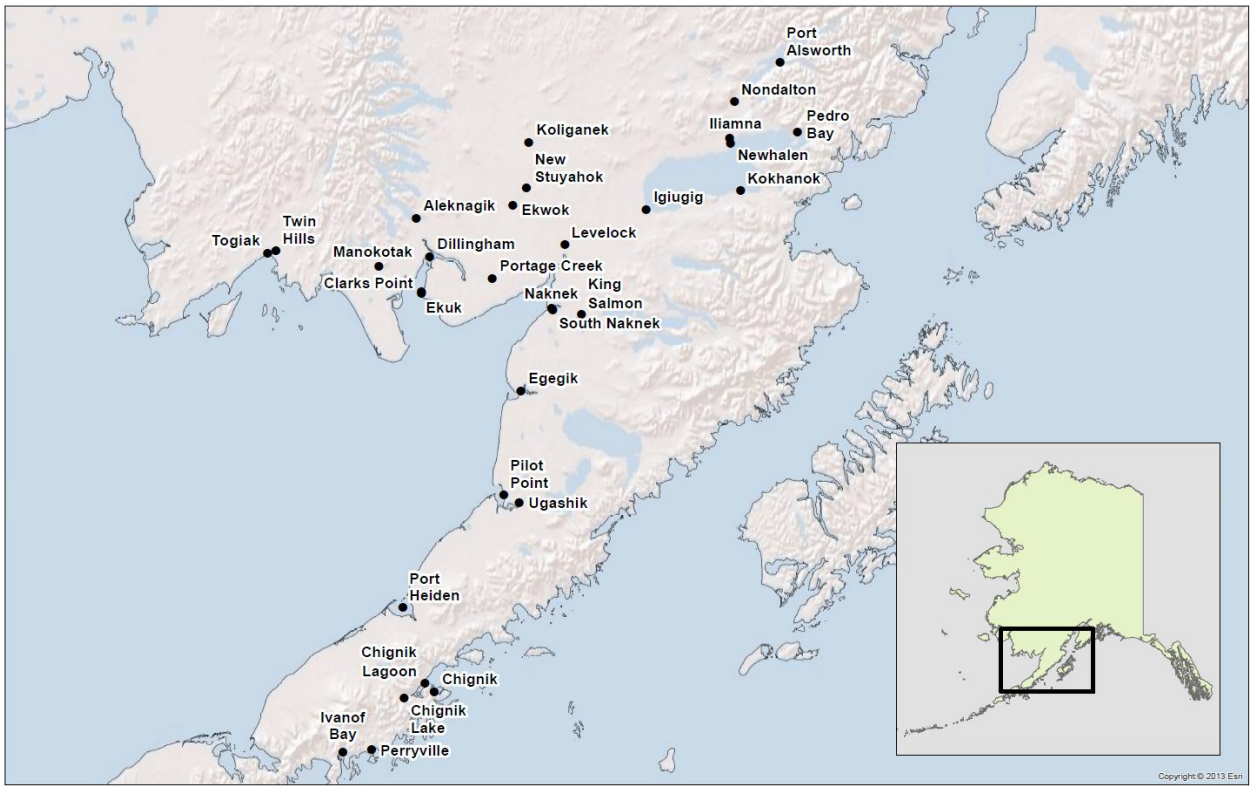
Bristol Bay and the Alaska Peninsula

Regional Introduction: Bristol Bay and the Alaska Peninsula

Communities

Aleknagik
Chignik
Chignik Lagoon
Chignik Lake
Clark's Point
Dillingham
Egegik
Ekuk
Ekwok
Igiugig
Iliamna
Ivanof Bay
King Salmon
Kokhanok
Koliganek
Levelock
Manokotak
Naknek
New Stuyahok
Newhalen
Nondalton
Pedro Bay
Perryville
Pilot Point
Port Alsworth
Port Heiden
Portage Creek
South Naknek
Togiak
Twin Hills
Ugashik



People and Place

Location

The Alaska Peninsula extends roughly 500 miles southwest of mainland Alaska, separating the Gulf of Alaska from Bristol Bay. Bristol Bay is approximately 250 miles long by 180 miles wide at its mouth. Historically part of the Bering Sea Land Bridge, Bristol Bay is relatively shallow. The region includes two boroughs (Lake and Peninsula Borough and Bristol Bay Borough) and one census area (Dillingham Census Area). Communities included range from Ivanof Bay to the west (approximately 56 degrees North Latitude, by -159 degrees West Longitude), to Pedro Bay to the east (approximately 60 degrees North Latitude, by -154 degrees West Longitude); a distance of about 335 miles.

Demographic Profile and History

Previous to Russian and European contact, the Bristol Bay region—specifically the Nushagak River region—was occupied by the Nushagagmiut culture of Yup'ik Eskimos. The region was an area of considerable cultural interaction, leading to extensive trade and in some cases, conflict with other groups including interior Athabascans and northern Yup'ik cultures from the Yukon-Kuskokwim Delta.[1] The Alaska Peninsula was populated by Aleutiiq cultures, believed to have moved into the area approximately 9,000 years ago.[2]

Today, the region is dependent mainly on commercial and subsistence fisheries tied to Bristol Bay, which is most productive sockeye salmon fishery on earth. Most of the region consists of small villages located along productive river drainages. Of the 31 communities profiled, only 4 had populations exceeding 500 residents as of 2010. In that year, the total regional population was 7,267; 32% of which lived in Dillingham, Bristol Bay's largest community. The region has a proportionally high Native Alaskan population, with 68.7% of residents identifying themselves as at least part American Indian or Alaska Native in 2010. At 30.7%, Dillingham had the highest proportion of residents who identified themselves as White that year.[3]

The Bristol Bay/Alaska Peninsula regional economy is highly dependent upon subsistence and seasonal employment. Permanent wage employment in smaller villages is scarce and often limited to jobs within local school districts or various tribal-related entities including tribal councils, non-profits, and Alaska Native Claims Settlement Act (ANCSA) chartered village corporations. Commercial fishing and construction contribute the largest number of seasonal jobs within the region, and in 2009 it was estimated to that the Bristol Bay commercial

[1] Tryck, Nyman, and Hayes. (1985). *City of Dillingham Comprehensive Plan.* Retrieved March 9, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-1985.pdf.
[2] LaRoche + Associates. (March 2011). L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[3] U.S. Census Bureau (2010). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

salmon fishery generated approximately $300 million in economic activity and provided 11,500 full- and part-time jobs during peak season.[4]

In 2010, the overall regional per capita income was estimated at $18,879, while the estimated median household income was $50,855.[5] As the region's economic center, Dillingham was somewhat an outlier at an estimated per capita income of $34,156 and estimated median household income of $74,828.[6] Although income figures are only estimates, this illustrates the contrast between Dillingham and surrounding communities in terms of wage employment availability. It is for this reason that many residents of smaller communities seasonally migrate to population centers in search of employment.

Natural Resources and Environment

The Alaska Peninsula/Bristol Bay region is in Alaska's maritime climate zone. Communities located along the coastline have mild winters with temperatures ranging from 10 to 35° F and cool summers with temperatures from 45 to 65° F. Precipitation averages 20-25 inches annually. Communities located inland on the Alaska Peninsula lie within the transitional climate zone but still exhibit a strong maritime influence. Two weather features are predictable features of life on the Alaska Peninsula and in the Bristol Bay area: wind and fog. In particular, communities which face the Bering Sea experience average winds of 15 knots year-round, with severe winter storms bringing winds in excess of 100 miles per hour. The warm Japanese Current keeps Bering Sea ports ice-free during all seasons, which also contributes to one of the richest marine ecosystems on Earth.

The Bristol Bay and Alaska Peninsula region exhibits a diverse range of topography and environments, from the rocky, mountainous Aleutian Range, to the wet tundra lowlands of the Nushagak and Kvickak river basins. Lowland areas surrounding Bristol Bay are characterized by a mix of wet tundra, gentle hills, and moraine deposits. Steep, sloped coastal peat bluffs line much of the shoreline.[7] Alaska Peninsula topography is steep, rugged, and marked by a number of active volcanoes. Previously glaciated valleys have left behind an abundance of lakes and drainages known for their salmon productivity.

Wildlife resources within the region are immense, supporting 35 species of fish, more than 190 species of birds, and 40 species of terrestrial mammals.[8] Important salmon producing drainages include the Nushagak, Kvichak, Naknek, Egegik, and Ugashik rivers; which contribute to the largest sockeye salmon fishery in the world. Bristol Bay supports approximately 46% of

[4] U.S. Environmental Protection Agency. (2012). *An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska.* Retrieved November 20, 2012 from: http://www.epa.gov/ncea/pdfs/bristolbay/bristol_bay_assessment_erd_2012_vol1.pdf.

[5] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[6] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[7] City of Dillingham. (2006). *City of Dillingham Comprehensive Plan.* Retrieved March 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.

[8] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

the global abundance of sockeye salmon, with an average annual inshore run of 23.4 million fish.[9]

Beyond fisheries, there are relatively few environmental resources being exploited in the Bristol Bay/Alaska Peninsula area. There are thought to be oil and gas deposits within the Bristol Bay lowlands; however, it is uncertain whether they are economically viable. Mineral prospects in the immediate area are slim; however, there are mineral claims outside the lowland areas. These include gold, copper, lead, zinc, arsenic, and molybdenum deposits at Shotgun Hills; tin, tungsten, silver, copper, zinc, arsenic, and bismuth deposits at Sleitat; iron, titanium, platinum, and palladium deposits at Kemuk Mountain; and mercury and antimony deposits at Cinnabar Creek an Kagati Lake.[10]

The proposed Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[11] Northern Dynasty Minerals Limited estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion pounds of copper, 66.9 million ounces of gold, and 3.3 billion pounds of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion pounds of copper, 40.4 million ounces gold, and 2.3 billion pounds of molybdenum.[12] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[13]

Governance

The Alaska Peninsula and Aleutian Islands region is comprised of two boroughs and one census area. Some communities profiled in this section are unincorporated and therefore rely on their respective boroughs for government services. Dillingham is the administrative center for the Bristol Bay and Alaska Peninsula Region, and is home to the Bristol Bay Native Association (BBNA), the regional ANCSA chartered non-profit. In addition, the city is home to several other village council offices and corporation on behalf of their respective communities. Both the Lake and Peninsula Borough and Bristol Bay Borough seats are located in King Salmon. In 2010, the Lake and Peninsula Borough administered a 2% raw fish tax, 6% accommodations tax, $3 per person/day guide tax, and $1 per person in lodge/day guide tax. Also in that year, the Bristol Bay Borough administered a 13.0 mills property tax, 10% accommodations tax, and 4% raw fish tax.

The Bristol Bay Economic Development Corporation is the regional Community Development Quota (CDQ) group that operates in the region. CDQ groups distribute a portion of commercial fishing proceeds to their various communities and sponsor economic and infrastructural development. In addition, there are a number of regional native corporations and Native village corporations with recognized status under the ANCSA.

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[9] Salomone, P., Morstad, S., Sands, T., Jones, M., Baker, T., Buck, G., West, F., and Kreig, T. (2012). *2010 Bristol Bay Area Annual Management Report.* Alaska Department of Fish and Game. Fishery Management Report No. 11-23. Retrieved December 6, 2012 from: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareabristolbay.salmon#/management.

[10] See footnote 7.

[11] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. (2008). Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.

[12] Northern Dynasty Minerals Limited (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.

[13] See footnote 8.

Involvement in North Pacific Fisheries

Fishing is the backbone of the regional economy in the Bristol Bay/Alaska Peninsula region. Commercial fleets operate out of most of the communities profiled in this section. Shoreside seafood processors are located within Chignik, Dillingham, Egegik, Ekuk, Naknek, Togiak, and Ugashik,[14] and commercial vessels landed 250.7 million pounds of seafood in those communities collectively. Within the region, Naknek received approximately 24.7% of total pounds landed, while Togiak received approximately 23.3%.[15] Much of the seafood processing labor force comes from outside the region, although individual communities vary as to what portion of labor comes from local sources.

Bristol Bay sockeye salmon is by far the most profitable fishery within the region. In 2010, reported salmon landings within the Bristol Bay/Alaska Peninsula region totaled $178.0 million ex-vessel.[16,17] Collectively, residents of profiled communities within the region held 1,275 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) in 2010. Most (330) were held in Togiak, where around 40% of residents held CFEC permits that year.[18] In addition, residents held a total of 2.05 million shares of halibut quota, 3.18 million shares of sablefish quota, and 23.43 million shares of crab quota in 2010.[19]

Sportfishing is not as extensive in this region as it is in south-central and southeastern Alaska. Most recreational fishing takes places on the Nushagak and Naknek rivers. Fly-out remote destination fishing is popular in the region, and many guide operators maintain lodges along major drainages and tributaries. Major sport species include all five species of Pacific salmon, as well as trout, grayling, char, and northern pike. In 2010, 4,887 sportfishing licenses were sold within the region, most of which were sold in Dillingham and King Salmon.[20]

Subsistence fishing and hunting form a major part of residents' livelihoods on the Alaska Peninsula and Bristol Bay. In all communities, a substantial majority of residents use subsistence resources. In 2008, residents reported harvesting 133,671 salmon, of which approximately 76% were sockeye. Chinook salmon also made up a significant portion of salmon harvested at 11% of

[14] Alaska Department of Fish and Game. (2011). *Data on Alaska fish processors*. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[15] Alaska Department of Fish and Game and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[16] Ibid.
[17] Figure reported for landings of all five species of Pacific salmon.
[18] Alaska Commercial Fisheries Entry Commission. (2011). Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[19] National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[20] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

fish reported.[21] In addition to salmon, clams, seals, beluga whales, halibut, herring, cod, crab, and other freshwater fish are harvested throughout the region.[22]

Regional Challenges

The region's high dependence on commercial fishing is both an asset and a liability. In recent years, foreign competition has driven down the market price of salmon in the United States, causing financial trouble for many Alaskan communities. While stocks are relatively healthy, salmon prices within the Bristol Bay region have been depressed since their peak in the 1980s.[23] In addition, a lack of year-round wage employment has intensified economic pressures on smaller communities, encouraging many to seek opportunities in larger, urban centers like Anchorage. [24] Cost of living presents another challenge to the region. While cargo barges service most communities, prices of goods and fuel is considerable.

The Bristol Bay/Alaska Peninsula is a region of social and political complexity, especially concerning resource development and use. A diverse range of stakeholders are often at odds over resource related interests that are seen as incompatible with each other. The proposed Pebble Mine has proven to be both a contentious and volatile issue with many area residents, and salmon by-catch continues to concern many communities whose subsistence livelihoods rest on strong salmon returns.[25]

[21] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[22] Lowe, M. (2007). *Socioeconomic Review of Alaska's Bristol Bay Region.* Retrieved March 15, 2012 from: http://www.iser.uaa.alaska.edu/Publications/bb-socio-review.pdf.
[23] Knapp, G. (2004). *Projections of Future Bristol Bay Salmon Prices.* Retrieved December 6, 2012 from: http://www.cfec.state.ak.us/pita/Knapp_BB_Price_Projections_Oct04_Exec_Summary.pdf.
[24] Huskey, L. (2005). *Migration as Economic Adjustment: the Experience of Rural Alaska.* Retrieved December 6, 2012 from: http://migration.iser.uaa.alaska.edu/presentations/migration_economic_adjustment.pdf.
[25] Caldwell, J. (n.d.). *Pebble Mine, Alaska: Stories & Perspectives.* Retrieved December 6, 2012 from: http://www.infomine.com/library/publications/docs/PebbleMine.pdf.

Aleknagik (*uh-LECK-nuh-qik*)

People and Place

Location [26]

Aleknagik is located at the head of Wood River on the southeast end of Lake Aleknagik, 16 mi northwest of Dillingham and 329 mi southwest of Anchorage. The area encompasses 43.8 sq mi of land and 7.2 sq mi of water. Aleknagik was incorporated as a Second-class city. The community lies within the Dillingham Census Area and is not under the jurisdiction of a borough.

Demographic Profile [27]

In 2010, there were 219 residents, ranking Aleknagik 186th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 18.4%. Between 2000 and 2009, the population grew by 3.62% with an average annual growth rate of 0.35%; which was slightly less than the statewide average of 0.75% and representative of a variable population trend. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Aleknagik had an estimated 235 permanent and 250 seasonal residents in 2010. On average, seasonal workers live in the community from April through September and population peaks are mostly driven by seasonal employment. Information regarding population trends can be found in Table 1.

The population of Aleknagik was predominately Yup'ik Eskimo in 2010. In that year, 75.8% of residents identified themselves as American Indian or Alaska Native, compared to 81.9% in 2000; 15.1% identified themselves as White, compared to 13.6% in 2000; and 9.1% identified themselves as two or more races, compared to 3.2% in 2000. Information regarding racial and ethnic trends in Aleknagik can be found in Figure 1.

The average household size in 2010 was 3.08, compared to 3.2 in 1990 and 3.62 in 2000. In that year, there were 132 total housing units, compared to 84 in 1990 and 107 in 2000. Of the households surveyed in 2010, 39% were owner-occupied, compared to 54% in 2000; 15% were renter-occupied, compared to 11% in 2000; 8% were vacant, compared to 15% in 2000; and 38% were occupied seasonally, compared to 20% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

The gender distribution in 2010 was skewed at 58.4% male and 41.6% female. This was less even than both the distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (54.8% male, 45.2% female). The median age that year was 29.5 years, which was less than the statewide median of 33.8 years and slightly older than the 2000 median of 28.3 years.

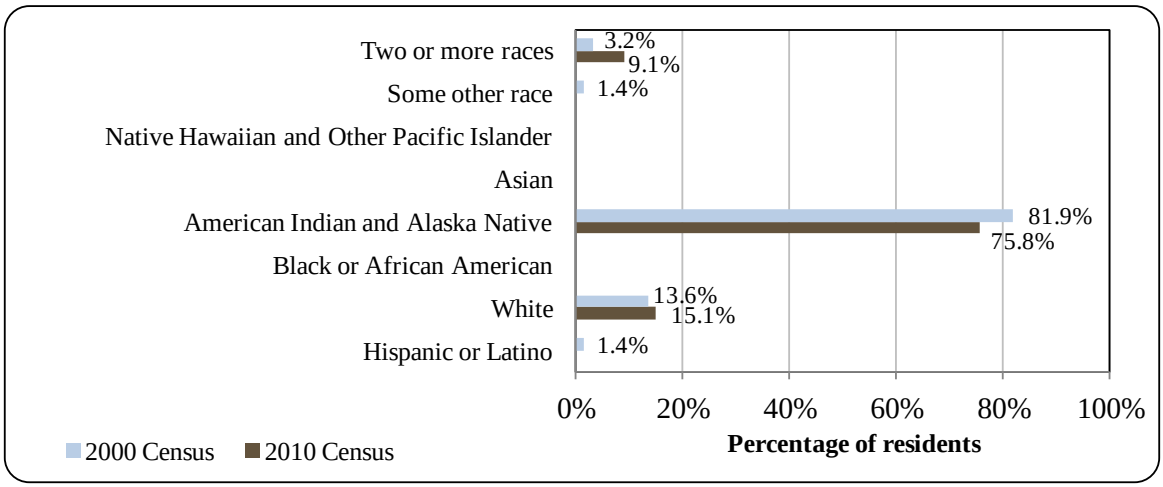
[26] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[27] U.S. Census, 1990, 2000 and 2010 decennial census and the 2006-10 American Community Survey.

Table 1. Population in Aleknagik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	185	-
2000	221	-
2001	-	221
2002	-	220
2003	-	239
2004	-	233
2005	-	238
2006	-	241
2007	-	232
2008	-	250
2009	-	229
2010	219	-

[1] U.S. Census, 1990, 2000 and 2010 Decennial Census.
[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Aleknagik: 2000-2010 (U.S. Census).

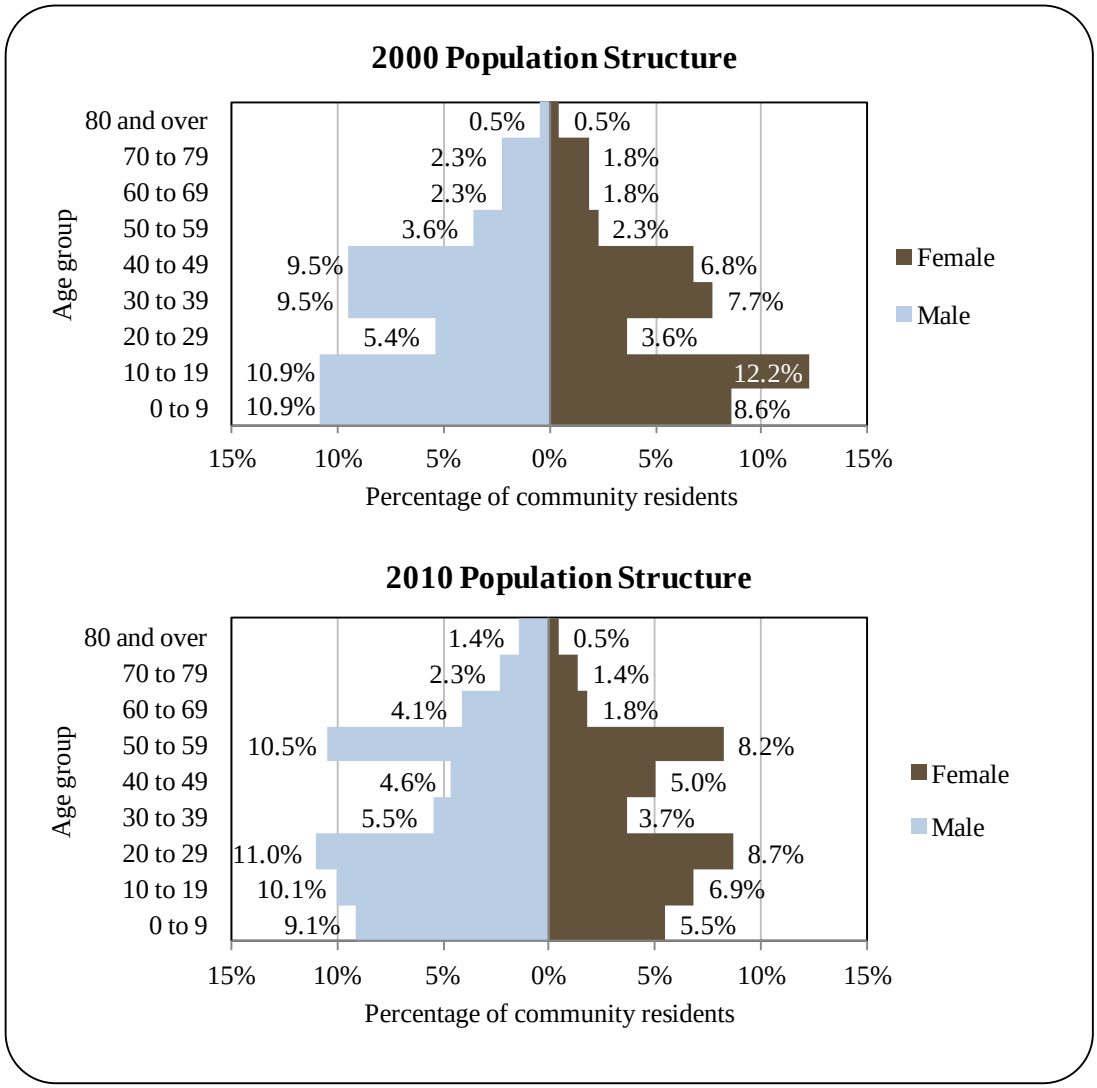


The population structure in 2010 was similar to 2000 in that it can be characterized as expansive. In addition, age transitions were, for the most part, consistent with a stable population; meaning that most cohorts maintained their overall structure as they aged. However, there was some attrition in the 30 to 39 range. In 2010, 31.6% of residents were under the age of 20, compared to 42.6% in 2000; 11.5% were over the age of 59, compared to 9.2% in 2000; 37.5% were between the ages of 30 and 59, compared to 39.4% in 2000; and 19.7% were between the ages of 20 and 29, compared to 9.0% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000 with male biases among most age ranges. In that year, the greatest absolute gender difference occurred in the 0 to 9 range (9.1% male, 5.5% female), followed by the 10 to 19 (10.1% male, 6.9% female) and 20

to 29 (11.0% male, 8.7% female) ranges. Of those three, the greatest relative difference occurred in the 0 to 9 range. Information regarding trends in population structure can be found in Figure 2.

Figure 2. Population Age Structure in Aleknagik Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[28] estimated that 82.8% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 9.4% of residents had less than a ninth grade education, compared to an

[28] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

estimated 3.5% of Alaska residents overall; an estimated 7.8% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 25.8% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 10.2% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 3.9% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall. No residents were estimated to hold an Associate's degree in 2010.

History, Traditional Knowledge, and Culture[29,30]

Aleknagik means "Wrong Way Home." The community was given its name because Native Yup'iks returning to their homes along the Nushagak River would sometimes become lost in the fog and would be swept up the Wood River with the tide, inadvertently arriving at Aleknagik Lake. During the latter part of the nineteenth century there were approximately 200 people ling in Aleknagik. However, an influenza outbreak in 1918 decimated much of the population. By 1929, the U.S. Census found 55 people living in the "Wood River Village" area to the south. In 1930, there were five families living on the shores of the lake year-round: the Waskeys, Polleys, Hansons, Yakos, and Smiths.

A log cabin territorial school was built on the south shore of the lake in 1933, and Josie Waskey was the first teacher. Attracted by the school, other facilities, and plentiful fish, game, and timber, a number of families from Goodnews Bay, Togiak, and Kulukak relocated to Aleknagik. A post office was established in 1937. A two-story framed school with a teacher apartment was constructed in 1938. By 1939, Aleknagik had 78 residents, over 30 buildings, and a small sawmill. In the late 1940s, a Seventh-Day Adventist mission and school was established on the north shore. During the 1950s, a Moravian church and a Russian Orthodox Church were built in Aleknagik and over 35 families lived along the lake. In 1959, the state constructed a 25-mi road connecting the south shore to Dillingham. The road was passable only during the summer months, until the late 1980s, when it was upgraded and maintained year-round. The city was incorporated in 1973. Over 24 additional square miles were annexed to the city in April 2000.

Natural Resources and Environment

Aleknagik is in a transitional climate zone. The primary influence is maritime, although a continental climate does affect the weather. Average summer temperatures range from 30 to 66 °F (-1 to 19 °C). Average winter temperatures range from 4 to 30 °F (-16 to -1 °C). The average annual precipitation is 20 to 35 inches and average annual snowfall is 93 inches. Fog and low clouds are common during July and August and may prevent air access to the community. The lake and river are ice-free from June through mid-November.[31]

[29] City of Aleknagik and Agnew::Beck Consulting (2005). *Aleknagik Comprehensive Plan.* Retrieved December 21, 2012 from: http://www.commerce.state.ak.us/dca/plans/Aleknagik-CP-2005.pdf.
[30] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[31] Ibid.

Aleknagik is located on the edge of Wood-Tilchik State Park, the largest state park in the nation at 1.6 million acres.[32] The topography surrounding the community is characterized by a system of lakes and rivers bordered by tundra lowlands, wooded areas, and mountainous regions. The lowland tundra and marshlands are marked by herbaceous sedges, forbs, shrubs, and dwarf birches and trees.[33] Coniferous spruce forest, mixed birch-spruce forest, muskeg, and willow-alder thickets occupy low and mesic zones. Areas above 900 ft are characterized by bare rock, heath tundra, and alpine meadows.[34]Aquatic wildlife in the area include all five species of Pacific salmon, rainbow trout, Dolly Varden, arctic char, lake trout, grayling, and northern pike. Terrestrial wildlife includes moose, caribou, brown bear, black bear, muskrat, otter, fox, beaver, wolverine, mink, porcupine, ground squirrels, and marmot. Birds include a variety of waterfowl, eagles, arctic tern, grouse, ptarmigan, sandpipers, and loons.[35]

Mineral resources in the area include an iron/titanium/platinum deposit at Kamuk Mountain approximately 36 mi northeast of Aleknagik.[36] Significant mineral resources are present in the region, including the Pebble copper-gold-molybdenum deposit. The Pebble site is located approximately 19 mi northwest of Iliamna, at the divide between the Koktuli River and Upper Talarik Creek.[37] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lbs of copper, 66.9 million ounces of gold and 3.3 billion lbs of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lbs of copper, 40.4 million ounces of gold and 2.3 billion lbs of molybdenum.[38] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon.[39]

While Aleknagik is relatively protected, natural hazards that have the potential to impact the community include river bank erosion and destabilization, winter storm events, wildfires, and flooding. While the community itself does not have a Hazard Mitigation Plan, the city of Dillingham 16 mi southeast has analyzed these hazards and has found their likelihood of occurrence to be moderate to high.[40]

As of 2010, there were three open contaminant cleanup projects in the area reported by the Alaska Department of Environmental Conservation. These include a mercury and petroleum contaminated site originating from a 1950s mercury ore processing plant along the Wood River,

[32] Alaska Department of Natural Resources. (n.d.). *Wood-Tilchik State Park.* Retrieved December 14, 2011 from: http://dnr.alaska.gov/parks/units/woodtik.htm.
[33] United States Forest Service. (1992). *The Alaska Vegetation Classification.* Retrieved December 14, 2011 from: http://www.fs.fed.us/pnw/publications/pnw_gtr286/pnw_gtr286a.pdf.
[34] See footnote 32.
[35] Ibid.
[36] Alaska Department of Natural Resources. (n.d.). *Mineral Resources.* Retrieved December 15, 2011 from: http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap_ch2_mineral.pdf.)
[37] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[38] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[39] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[40] City of Dillingham and URS. (2008). *The City of Dillingham Multi-Hazard Mitigation Plan.* Retrieved June 8, 2012 from:
http://www.agnewbeck.com/pdf/bristolbay/Dillingham_Comp_Plan/Final_Dillingham_HMP_030608.pdf.

groundwater heating oil contaminants which impacted a community well (the well has since been abandoned), and a fuel spill originating from a downed aircraft.[41]

Current Economy[42]

The economy in Aleknagik is largely dependent on educational and social services, health care, and commercial, subsistence and recreational fishing. Some residents commute to Dillingham for employment. Tourism is increasing in the vicinity of the community, with multiple guided hunting and fishing business and lodge operations located in and around Aleknagik.[43] Many residents participate in commercial and subsistence activities on the Bristol Bay coast during the summer. Trapping is also an important means of income. Most families depend to some extent on subsistence activities to supplement their livelihoods.[44]

In a survey conducted by the AFSC in 2011, community leaders reported that most residents are employed in the commercial fishing sector between June and August, when most residents make the bulk of their income. Incomes are supplemented by subsistence harvesting from August through September, at which time Permanent Fund Dividends (PFDs) arrive prompting many residents to move to Anchorage or Dillingham to look for employment. Top employers in 2010[45] included the City of Aleknagik, Bristol Bay Housing Authority, Bristol Bay Area Health Corporation, Aleknagik Traditional Council, Southwest Region Schools, Bristol Bay Native Association, University of Alaska, Bristol Bay Economic Development Corporation (BBEDC), Dillingham City School District, and Dillingham Liquor Store.

In 2010,[46] the estimated per capita income was $14,920 and the estimated median household income was $47,188, compared to $10,973 and $22,750 in 2000, respectively.[47] After accounting for inflation by converting 2000 values into 2010 dollars,[48] the real per capita income ($14,429) and real median household income ($29,916) indicate that individual earnings remained almost unchanged, while household earnings grew. In 2010, Aleknagik ranked 205th of 305 communities from which per capita income was estimated, and 148th of 299 communities from which median household income was estimated.

It should be noted that Aleknagik's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[49] A potentially more accurate understanding of per capita income is obtained through economic data compiled

[41] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved December 14, 2011 from: http://dec.alaska.gov/spar/csp/db_search.htm.)
[42] Unless otherwise noted, all monetary data are reported in nominal values.
[43] City of Aleknagik and Agnew::Beck Consulting. (2005). *Aleknagik Comprehensive Plan.* Retrieved June 8, 2012 from: http://www.commerce.state.ak.us/dca/plans/Aleknagik-CP-2005.pdf.
[44] The Stadium Group. (2003). *City of Aleknagik 20-Year Comprehensive Strategic Development Plan.* Retrieved June 8, 2012 from: http://www.commerce.state.ak.us/dca/plans/Aleknagik-CP-2003.pdf.
[45] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[46] U.S. Census. American Community Survey 2006-2010 estimates.
[47] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[48] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[49] See footnote 47.

by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $2.25 million in total wages in 2010.[50] When matched with the 2010 population, the per capita income equals $10,272. This estimate is lower than the 2000 per capita income reported by the U.S. Census, suggesting that caution is warranted when citing per capita income as unchanged between 2000 and 2010.[51] However, Aleknagik was not recognized as "distressed" by the Denali Commission indicating that over 30% of residents aged 16 and older earned more than $16,120 in 2010. [52]

According to the 2006-2010 ACS,[53] an estimated 61.3% of residents aged 16 an over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 25.8% and 40% residents were estimated to be living below the poverty line. Of those employed in the civilian labor force, an estimated 18.8% worked in the private sector, an estimated 72.5% worked in the public sector, and an estimated 8.7% were self-employed. It should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy. This may account for elevated poverty and unemployment statistics.

By industry, most (58%) of those employed were estimated to work in education service, health care, or social assistance sectors; followed by public administration sectors (18.8%) and agriculture, forestry, fishing, hunting, and mining sectors (17.4%). By occupation type, most (46.4%) were estimated to hold management or professional positions; followed by sales or office positions (27.5%); natural resources, construction, or maintenance positions (14.5%); and service positions (11.6%). Overall, the 2006-2010 ACS purported strong proportional gains to education service, health care, social assistance, agriculture, forestry, fishing, mining, and public administration sectors between 2000 and 2010. However, there were significant declines in most other sectors indicating an overall loss in economic diversity. Significant variation was also seen in occupation types during those years. It should be noted that ACS sampling techniques may not have captured the true scope of industry representation. This may account for the apparent reduction in economic diversity in those years. Information regarding employment trends can be found in Figures 3 and 4. According to 2010 ALARI estimates, most (41.3%) of employed residents worked in local government sectors; followed by financial sectors (17.4%); and education and health service sectors (15.2%).

[50] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[51] See footnote 45.
[52] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.
[53] See footnote 47.

Figure 3. Local Employment by Industry in 2000-2010, Aleknagik (U.S. Census).

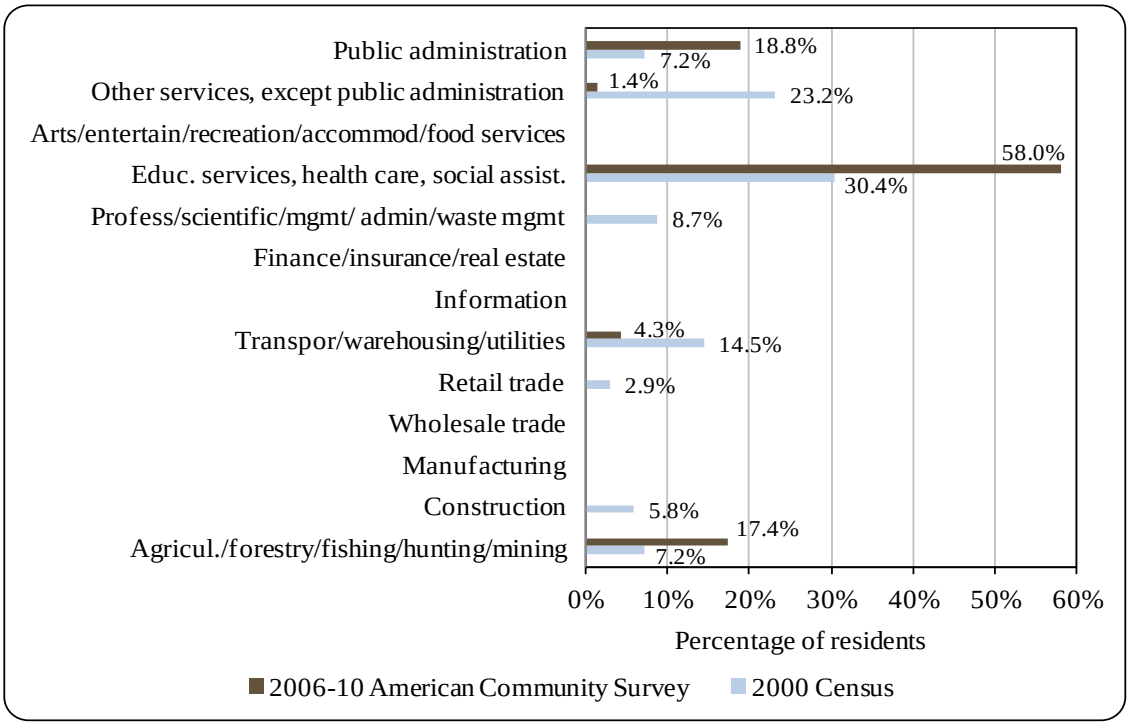
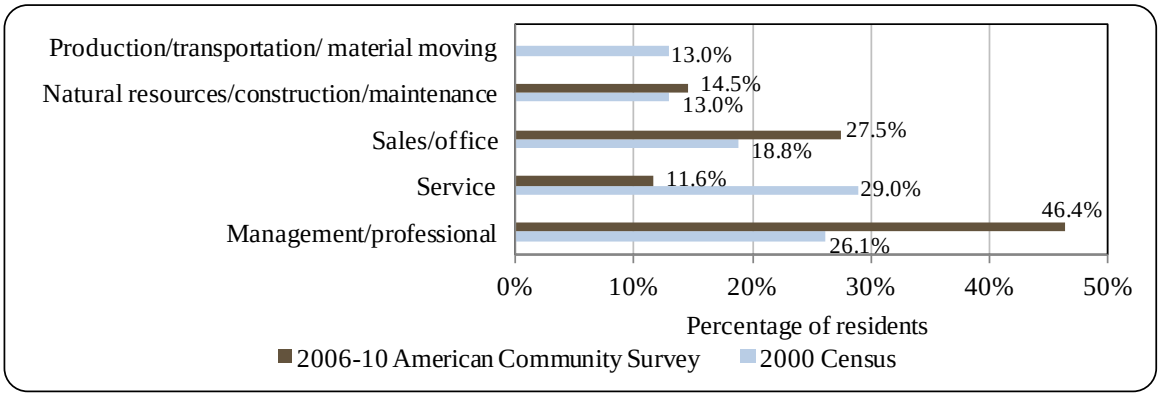


Figure 4. Local Employment by Occupation in 2000-2010, Aleknagik (U.S. Census).



Governance

Aleknagik is a Second-class city with a mayoral form of government. There is a U.S. Bureau of Indian Affairs (BIA) recognized Native village government (Native Village of Aleknagik), and an Alaska Native Claims Settlement Act (ANCSA) chartered Village Corporation (Aleknagik Natives, Ltd). The Bristol Bay Native Corporation represents Aleknagik as its regional ANCSA Corporation. The closest Alaska Department of Fish and Game (ADF&G) office is located in Dillingham, 16 mi southeast. The closest National Marine Fisheries Service (NMFS) office is located in Bethel, 147 mi northwest. The closest Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 329 mi northeast.

In 2010, total municipal operating revenue was $496,040, compared to $221,694 in 2000; an increase of 73.0% after adjusting for inflation.[54] Municipal revenues increased steadily between 2000 and 2008—peaking at $1.09 million in 2008—before declining again sharply in 2009. Aleknagik administered a 5% sales tax and 5% accommodations tax in 2010, collecting $56,000 in sales tax revenue that year, compared to $30,309 in 2000. Sales tax revenues peaked in 2007 and 2008 at $130,873 in each of those years (Table 2).

In 2010, sales tax accounted for 11.3% of total municipal revenues, compared to 13.7% in 2000. Also in that year, $107,484 in state administered Community Revenue Sharing was allocated to Aleknagik, compared to $25,605 from State Revenue Sharing in 2000. In addition, Aleknagik community entities received a number of fisheries-related state or federal grants between 2000 and 2010. These included $36,844 in fisheries disaster relief funds, $52,500 for an emergency response boat, $120,000 for a boat yard feasibility study, $2.12 million for a boat storage yard, $145,288 for a float plane dock feasibility study, $1.34 million for a float plane road project, $193,000 for dock transfer and maintenance funds, and $25,000 for projects related to the Pebble Mine. This information about selected revenue streams in Aleknagik is presented in Table 2.

Table 2. Selected Municipal, State or Federal Revenue Streams for the Community of Aleknagik from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$221,694	$30,309	$25,605	n/a
2001	$245,748	$37,042	$24,618	$36,844
2002	$372,413	$97,743	$24,622	$52,500
2003	$336,800	$106,606	$24,814	$30,000
2004	$294,864	$93,429	-	n/a
2005	$335,361	$93,429	-	n/a
2006	$516,373	$80,358	-	n/a
2007	$983,746	$130,873	-	$720,252
2008	$1,086,507	$130,873	-	$832,561
2009	$505,358	$55,698	$108,345	$1,225,028
2010	$496,040	$56,000	$107,484	$1,200,100

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[54] Inflation calculated using 2010 Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm

Infrastructure

Connectivity and Transportation

Aleknagik is the only regional village with a road link to Dillingham, a 25-mi road that connects to the south shore. The north shore of the lake is not currently accessible by road, and residents use skiffs to travel to town from the south shore.[55] As of 2013, the Alaska Department of Transportation and Public Facilities was in the process of developing a bridge over the Wood River that would connect the northern portion of the community to the south shore by road.[56] Aleknagik is also accessible by air. A state-owned 2,040-ft long by 80-ft wide gravel airstrip is located on the north shore of the Lake, and regular flights are scheduled to Alenagik from Dillingham.[57] Roundtrip airfare between Dillingham and Anchorage in June 2012 was $452, and roundtrip airfare between Dillingham and Aleknagik was $170.[58] In addition to the state-owned runway, two private runways are located in the community. One is a 1,200-ft by 25-ft gravel dirt runway located two mi southeast of Aleknagik, and the other is a 1,150-ft by 35-ft gravel runway. In addition, Moody's Aleknagik Seaplane Base, also on the north shore, provides fueling services for floatplanes. Vehicles, skiffs, ATVs, and snowmobiles are the most frequent means of local transportation.[59]

With regard to fisheries-related infrastructure, the state owns a 100-ft dock on the north shore of Aleknagik Lake. A breakwater, barge landing, boat launch ramp, and haulout facility are located there. The south shore has a boat launch located at the Lake Aleknagik State Recreational Site.[60]

Facilities

The majority of residents have household plumbing, and most use individual wells. Twelve homes do not have water or sewer service. Some haul water from the community center, and a few are served by a spring water catchment system. Septic tanks, leech fields, and public sewage lagoons are used for sewage disposal. The North Shore uses eleven shared residential effluent pumps (REP units), which discharge into a piped system. There are two landfill sites. The North Shore landfill is permitted, and the South Shore landfill is not permitted. Nushagak Electric in Dillingham provides electricity to Aleknagik. Public safety services include a Village Public Safety Office (VPSO) first responders and Aleknagik Volunteer Fire Department. Public facilities include a community center and library. Communications services include local and long distance telephone, internet, local television, and local radio.[61]

[55] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[56] Alaska Department of Transportation and Public Facilities. (n.d.) Aleknagik: Wood River Bridge. Retrieved October 23, 2013 from http://brooks-alaska.com/aleknagik/index.htm.
[57] See footnote 55.
[58] Airfare was estimated from http://www.travelocity.com and http://www.flygrant.com/ (retrieved November, 2011).
[59] See footnote 55.
[60] City of Aleknagik and Agnew::Beck Consulting. (2005). *Aleknagik Comprehensive Plan.* Retrieved June 8, 2012 from: http://www.commerce.state.ak.us/dca/plans/Aleknagik-CP-2005.pdf.
[61] See footnote 59.

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed or still in progress as of 2010 include broadband internet access, floatplane harbor access, and bridge access spanning the Wood River. Social services provided in the community include public subsidized housing and tribal office services. Harbor infrastructure includes 130 ft of public dock space capable of mooring vessels up to 100 ft in length and able to handle regulated vessels including rescue vessels, fuel barges, and 32-ft commercial vessels. Planned fisheries-related infrastructure includes additional dock space and haulout facilities. Fisheries related businesses and services located in Aleknagik include fishing gear sales, electrical services, welding services, mechanical services, machine shop, hydraulic services, small vessel (<60 tons) haulout facilities, commercial vessel moorage, recreational vessel moorage, dry dock storage, fish lodges, fishing related book keeping, fishing gear repair, and air taxi. Most fisheries-related businesses and services are informal, and residents often go to Dillingham, King Salmon, Lake Clark, or Iliamna for services not found within the community. There is no permanent moorage in the community due to winter ice conditions.

Medical Services[62]

Basic health care is provided by Aleknagik North and South Shore Clinics, considered Primary Health Care facilities and Community Health Aid Program (CHAP) sites. Acute and long-term care is available at the hospital in Dillingham.

Educational Opportunities[63]

Aleknagik has one school providing preschool through 12th grade instruction. As of 2011, there were 31 students enrolled and four teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries[64]

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population. In 1819, Russian fur traders established a trading post at Nushagak Point. Salmon were mostly harvested for local consumption although small amounts of salted salmon were exported. In 1864, canning techniques were being developed in California and by 1878; Alaska's first salmon cannery was built in Klawock.

In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product then

[62] See footnote 59.
[63] Ibid.
[64] The Bristol Bay Economic Development Corporation. (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery.* Retrieved March 14, 2012 from: http://www.bbsalmon.com/FinalReport.pdf.

there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached five million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.

The Spanish American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth centuryies. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. For the next seven years, production would range between 20 and 25 million. Fueled by demand for canned salmon during WWI, canneries operated 24 hours a day, seven days a week, and recorded record profits. This caused a major crash in sockeye runs throughout Bristol Bay in 1919.

Following the salmon crash, the White Act of 1924 assigned the federal government with managing the Alaska salmon fishery and mandated a 50% escapement rate. This prompted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps. However, new regulations being put in place were rarely enforced during the early years following the passage of the White Act.

Commercial salmon fishing prospered in the 1920s and early 1930s and accounted for 80% of tax revenues collected by the territorial government. However, variable runs, foreign encroachment, and the Great Depression stressed the industry and in 1935, only three million salmon were caught almost prompting a total shut-down of the Bristol Bay salmon fishery.

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted canneries to hire local labor and local fishermen and communities began to organize. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential industry. Following World War II, salmon runs were once again in decline, although the Pacific Decadal Oscillation coupled with lower ocean productivity was to blame this time. However, further threats faced the industry from overfishing in the Bering Sea. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches on the other hand, averaged at 6.7 million sockeye annually during the 1950s. At this point, many seafood producers switched to more lucrative tuna, which became the iconic fish of the baby boom years.

Following statehood in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this meant more aggressive forms of in-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. Despite rigorous management, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested. The state's response was both a scathing indictment of Japanese fishing effort and limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the U.S. asserted jurisdiction over much of the outer continental shelf surrounding its coastlines. The 200-mi exclusive economic zone, along with revised Bering Sea fishing boarders and favorable environmental conditions, set the stage for salmon recovery.

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity for the region. Sockeye returned in force the following year, and strong demands elevated prices over $1.00 per lb. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to $2.40 per lb. Average gross earnings by drift boat

exceeded $100,000 and the value of Bristol Bay drift permits surged to almost $250,000. As permit value rose, entry into the fishery became increasingly contested and litigated, resulting in additional permits being issued. However, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming would soon subvert the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to $1.09 per lb. By 1991, seafood processors were offering $0.50 per lb which resulted in fishermen striking. Once again, the Japanese were the focus of ire, with many fishermen making accusations of price-fixing from Japanese-owned seafood processors. During that time, Bristol Bay still maintained record salmon harvests, with 45 million fish taken in 1995. Revenues remained high despite low prices due to large harvests. However, once again the fishery would falter, and once again the Pacific Decadal Oscillation was to blame.

In previous lean years, production shortages would drive prices up. However, the abundance of farmed fish within the market changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to $63 million. Runs in years following were characterized by modest rebounds followed by more declines. In that time, Bristol Bay was declared both a state and federal disaster area and many permit holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at $250,000 was valued at less than $20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.

Many residents of Aleknagik are involved in commercial and subsistence activities during the summer months off the Bristol Bay coast. The Wood River is located in the Nushagak District of Bristol Bay. All five species of Pacific salmon are harvested in commercial, subsistence, and recreational fisheries. Between 1990 and 2009, and average of 25.8 million sockeye, 64,000 Chinook, 1.3 million chum, 88,000 coho, and 182,000 pink salmon were commercially harvested in Bristol Bay annually. The Togiak herring fishery is the largest herring fishery in Alaska. From 1990 to 2009, sac roe harvests averaged approximately 21,000 tons annually. Commercial spawn-on-kelp fisheries exist, but seldom occur. No spawn-on-kelp fishery existed in 2010, and only one existed between 2000 and 2010.[65]

In a survey conducted by the AFSC in 2011, community leaders reported that compared with 2005, the community has seen an increase in charter vessels, private vessels, commercial vessels, and vessels shorter than 35 ft. The community participates in the fisheries management process through a representative who sits on regional fisheries advisory groups run by ADF&G. Aleknagik is located Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. In addition, Aleknagik is eligible to participate in the Community Development Quota (CDQ) program and is represented by the BBEDC. In the Bering Sea – Aleutian Islands (BSAI) region, percentages of the Total Allowable Catch for groundfish species, halibut, and crab are allocated to six CDQ non-profit organizations representing 65 communities in Western Alaska in an effort to spur economic development and reduce poverty in western Alaska.[66] BBEDC receives allocations for pollock, Pacific cod, Atka mackerel, Pacific perch, yellowfin sole, rock sole, flathead sole,

[65] Salomone, P., Slim, M., Tim, S., Matt, J., Tim, B., Greg, B., Fred, W., and Ted, Kreig. 2011. 2010 Bristol Bay Area Annual Management Report. Alaska Department of Fish and Game. Fishery Management Report No. 11-23. Retrieved December 26, 2012 from: http://www.sf.adfg.state.ak.us/FedAidpdfs/FMR11-23.pdf.
[66] NOAA Fisheries (n.d.). *Community Development Quota Program.* Retrieved January 1, 2013 from: http://alaskafisheries.noaa.gov/cdq/default.htm.

sablefish, Pacific halibut, snow crab, Tanner crab, red king crab, golden king crab, and blue king crab. In 2010, pollock, crab, and Pacific cod were among the top performing fisheries for BBEDC harvesters, while halibut and sablefish fisheries also performed well.[67]

Processing Plants

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list, Aleknagik does not have a registered processing plant. The closest seafood processor is located in Dillingham.

Fisheries-Related Revenue

Overall in 2010, the community received $19,479 from fisheries-related taxes and fees, which represented an increase from $8,724 in 2000. These revenue sources included a Shared Fisheries Tax, Fisheries Resource Landing Tax, and money raised by boat hauls. In a survey conducted by the AFSC in 2011, community leaders reported that revenue raised by these taxes go to fund medical services, roads, and public safety. In addition, the community received $150,000 in funding or grants from their representative CDQ entity (BBEDC). Information regarding fisheries-related revenue can be found in Table 3.

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that the commercial salmon season typically runs from June through September. Gear types used by residents include gillnet and troll. Vessels under 35 ft homeport in Aleknagik seasonally, but are not permanent due to winter ice. In 2010, 26 residents, or 11.9% of the population, held a total of 32 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 35 residents held a total of 50 CFEC permits. Of the CFEC permits issued in 2010, 72% were salmon, compared to 58% in 2000; and 28% were herring, compared to 40% in 2000. In addition, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) groundfish or crab permits between 2000 and 2010. Finally, no residents held halibut, sablefish, or crab quota between 2010 and when the programs began. A total of 66% of the CFEC permits were actively fished in 2010, compared to 74% in 2000. Overall, the number of CFEC permits held within the community declined at a relatively steady rate between 2000 and 2010, while the percentage of permits actively fished averaged at 63.5% annually. Participation in herring fisheries declined significantly in that time, as did the number of herring permits held locally. Participation in salmon fisheries remained relatively high between 2000 and 2010, an average of 89.9% of CFEC salmon permits actively fished annually. Fisheries prosecuted by Aleknagik residents in 2010 included Bristol Bay drift and set gillnet salmon.

Residents held 31 commercial crew licenses in 2010, compared to 48 in 2000. In addition, residents held majority ownership of 14 vessels that year, compared to 59 in 2000. In

[67] Bristol Bay Economic Development Corporation (2012). *BBEDC Decennial Review Report 2006-2010.* Retrieved January 2, 2013 from: http://www.commerce.state.ak.us/bsc/pub/DR_2010_BBEDC.pdf.

addition, the number of vessels homeported in Aleknagik declined significantly from a peak of 115 in 2000, to a low of 14 in 2010. The sharpest decline in that decade occurred in 2005, when the number of homeported vessels dropped from 111 to 21 in one year.

No landings were reported in Aleknagik between 2000 and 2010. However, landings were reported by Aleknagik residents during that time. In 2010, residents landed 847,395 lbs of salmon valued at $763,956 ex-vessel, compared to 803,096 lbs valued at $515,045 ex-vessel in 2000; an increase of $0.07 per lb after adjusting for inflation,[68] and without considering the species composition of landings. Salmon landings by residents peaked in 2004 at 1.04 million lbs landed valued at $492,588 ex-vessel. Information regarding commercial fishing trends can be found in Tables 4 though 10.

[68] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Aleknagik: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	$3,500	$5,471	$4,609	$3,682	$3,297	$4,019	$4,850	$6,131	$6,131	$6,100	n/a
Shared Fisheries Business Tax[1]	$3,164	$5,471	$7,609	$9,153	$3,297	$4,019	$4,825	$6,061	$5,810	$7,241	$7,004
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$25	$69	$267	$445	$475
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	$5,603	$8,261	$11,158	$14,500	$14,500	$4,900	$4,263	$11,633	$11,925	$12,000
Harbor usage[2]	$2,060	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$8,724*	*$16,545*	*$20,479*	*$23,993*	*$21,094*	*$22,538*	*$14,600*	*$16,525*	*$23,841*	*$25,711*	*$19,479*
Total municipal revenue[5]	*$221,694*	*$245,748*	*$372,413*	*$336,800*	*$294,864*	*$335,361*	*$516,373*	*$983,746*	*$1.07 M*	*$505,358*	*$496,040*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city brings in each year from all sources, including fisheries-related revenue streams. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Aleknagik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	20	19	13	14	13	11	11	10	10	9	9
	Fished permits	9	4	2	0	0	0	0	0	0	0	0
	% of permits fished	45%	21%	15%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	14	16	12	13	12	11	11	10	10	9	9

Table 4 cont'd. Permits and Permit Holders by Species, Aleknagik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	29	28	28	30	25	28	24	23	23	24	23
	Fished permits	28	27	22	27	23	24	21	21	20	22	21
	% of permits fished	97%	96%	79%	90%	92%	86%	88%	91%	87%	92%	91%
	Total permit holders	31	28	30	32	25	29	25	24	23	29	23
Total CFEC Permits[2]	*Permits*	*50*	*48*	*42*	*44*	*38*	*39*	*35*	*33*	*33*	*33*	*32*
	Fished permits	*37*	*31*	*24*	*27*	*23*	*24*	*21*	*21*	*20*	*22*	*21*
	% of permits fished	*74%*	*65%*	*57%*	*61%*	*61%*	*62%*	*60%*	*64%*	*61%*	*67%*	*66%*
	Permit holders	*35*	*32*	*32*	*34*	*28*	*32*	*28*	*27*	*26*	*31*	*26*

Note: n/a indicates that no data were reported for that year.

[1] (NMFS) National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] (CFEC) Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Aleknagik: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Aleknagik[2]	Total Net Lbs Landed In Aleknagik[2,5]	Total Ex-Vessel Value Of Landings In Aleknagik[2,5]
2000	48	0	0	59	115	0	0	$0
2001	28	0	0	57	96	0	0	$0
2002	20	0	0	55	101	0	0	$0
2003	31	0	0	58	103	0	0	$0
2004	27	0	0	51	111	0	0	$0
2005	30	0	0	15	21	0	0	$0
2006	25	0	0	15	19	0	0	$0
2007	34	0	0	15	15	0	0	$0
2008	38	0	0	16	15	0	0	$0
2009	37	0	0	17	16	0	0	$0
2010	31	0	0	14	14	0	0	$0

[1] (ADF&G) Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] (ADF&G) Alaska Department of Fish and Game, and (CFEC) Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] (NMFS) National Marine Fisheries Service. 2011. Alaska processors' Weekly Production Reports (WPR) data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] (CFEC) Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Individual Fishing Quota, Halibut, Aleknagik: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: (NMFS) National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Individual Fishing Quota, Sablefish, Aleknagik: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: (NMFS) National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Individual Fishing Quota, Crab, Aleknagik: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: (NMFS) National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Aleknagik: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	0	0	0	0	0	0	0	0	0	0	0
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Aleknagik Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	124,660	171,050	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	803,096	517,138	245,476	927,430	1,037,633	880,145	973,238	1,027,564	983,706	1,021,253	847,395
Total[2]	*927,756*	*688,188*	*245,476*	*927,430*	*1,037,633*	*880,145*	*973,238*	*1,027,564*	*983,706*	*1,021,253*	*847,395*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	$13,347	$13,342	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$515,045	$193,716	$100,482	$426,824	$492,588	$488,780	$581,051	$629,884	$682,079	$761,068	$761,946
Total[2]	*$530,392*	*$209,058*	*$102,484*	*$428,827*	*$494,592*	*$490,785*	*$583,057*	*$631,891*	*$684,087*	*$763,077*	*$763,956*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is very popular in Aleknagik, most likely due to its proximity to Aleknagik Lake and Wood Tilchik State Park. In a survey conducted by the AFSC in 2011, community leaders reported that species targeted by local private anglers include all five species of Pacific salmon, as well as halibut. In addition, local private anglers target Dolly Varden char, rainbow trout, and northern pike.[69] In 2010, there were 324 sportfishing licenses sold in the community, compared to 581 in 2000. Sportfishing license sales peaked in 2006 at 601 licenses sold. In addition, residents held 45 sportfishing permits in 2010, compared to 21 in 2000. Although there are sport fish guide business registered in Aleknagik, none were active between 2000 and 2010.

Aleknagik is located within the Nushagak, Wood River, and Togiak ADF&G Harvest Survey Area which included all lakes and tributaries of the Nushagak River drainage, including the Mulchatna River drainage, the Wood River, Tilchik Lake systems, and water westward of Cape Newenham. In 2010, there were a total of 23,385 freshwater angler days fished, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 67% of angler days fished, compared to 73% in 2000. Total angler days fished peaked in 2005 at 48,751. No charter log data is available for Aleknagik between 2000 and 2010. Information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Aleknagik: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses to Residents[2]	Sport Fishing Licenses Sold in Aleknagik[2]	Freshwater Angler Days Fished – Non-Residents[3]	Freshwater Angler Days Fished – Alaska Residents[3]
2000	0	1	21	581	31,290	11,793
2001	0	1	31	536	31,489	10,779
2002	0	2	33	575	20,011	11,911
2003	0	3	40	463	26,783	13,419
2004	0	2	42	599	25,203	19,980
2005	0	14	40	596	33,089	15,662
2006	0	11	47	601	28,840	14,858
2007	0	9	43	486	28,541	13,762
2008	0	12	50	335	27,066	7,356
2009	0	8	49	381	22,444	7,805
2010	0	7	45	324	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information

[69] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence is an important part of the local culture and economy of Aleknagik. According to a survey conducted by the AFSC in 2011, community leaders reported that incomes are heavily supplemented by subsistence resources after the commercial fishing season closes. The most important subsistence species harvested by residents include sockeye salmon, berries, moose, and caribou. Popular subsistence areas include Aleknagik Lake, Bear Creek to the north, and Pike Bay on the east side of Aleknagik Lake.[70] According to data taken from the ADF&G Community Subsistence Information System, residents of Aleknagik have used or harvested butter clams, cockles, hair crab, mussels, razor clams, shrimp, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, burbot, capelin, cisco, Dolly Varden, flounder, Arctic grayling, herring (roe and food), lake trout, Pacific cod, Pacific tom cod, Northern pike, rainbow smelt, rainbow trout, sculpin, sucker, and whitefish.[71]

Data pertaining to subsistence activity is limited, and information on household participation in subsistence activities is unavailable. Of the species reported by ADF&G in Table 13, residents reported harvesting sockeye salmon the most often, followed by Chinook, coho, chum, and pink salmon. In 2008, residents reported harvesting 3,309 salmon, compared to 1,111 in 2000. Reported salmon harvests peaked in 2008. Overall, the number of reported Chinook and sockeye salmon harvests increased significantly between 2000 and 2008, while the number of chum and coho harvest remained relatively stable. In 2010, residents held 3 Subsistence Halibut Registration Certificates (SHARC), compared to 1 in 2003. No halibut was reported harvested between 2003 and 2008. Between 2000 and 2008, an estimated 11 beluga whales, 7 harbor seals, and 63 spotted seals were harvested. Information regarding subsistence trends can be found in Tables 12 through 15.

Additional Information

In a survey conducted by the AFSC in 2011, community leaders reported that opening the Wood River Special Harvest Area to commercial fishing has negatively impacted the community by preventing residents from accessing their set net operations and fish camps. In addition, the community is in favor of allowing foreign processors to operate in Bristol Bay in order to increase processing capacity. Finally, proposals to increase length restrictions of vessels may negatively affect residents, who are largely "low capital" by impacting their competitiveness. Management impacts perceived to be beneficial to the community include the CDQ program and shortened openings on ebb tides.

[70] City of Aleknagik and Agnew::Beck Consulting. (2005). *Aleknagik Comprehensive Plan.* Retrieved June 8, 2012 from: http://www.commerce.state.ak.us/dca/plans/Aleknagik-CP-2005.pdf.
[71] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Aleknagik 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Aleknagik: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	19	17	187	55	134	n/a	735	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	26	19	885	68	187	14	1,051	n/a	n/a
2005	22	19	470	82	105	6	1,131	n/a	n/a
2006	26	20	482	95	155	10	1,305	n/a	n/a
2007	21	15	284	8	94	n/a	1,021	n/a	n/a
2008	42	40	1,198	125	142	n/a	1,844	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Aleknagik: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	3	n/a	n/a
2005	4	n/a	n/a
2006	4	n/a	n/a
2007	3	n/a	n/a
2008	3	n/a	n/a
2009	3	n/a	n/a
2010	3	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Aleknagik: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	1	n/a	n/a	n/a	n/a	n/a	n/a
2001	2	n/a	n/a	n/a	n/a	n/a	4
2002	2	n/a	n/a	n/a	n/a	n/a	5
2003	n/a	n/a	n/a	n/a	n/a	2	6
2004	2	n/a	n/a	n/a	n/a	n/a	7
2005	3	n/a	n/a	n/a	n/a	5	7
2006	1	n/a	n/a	n/a	n/a	n/a	10
2007	n/a	n/a	n/a	n/a	n/a	n/a	10
2008	n/a	n/a	n/a	n/a	n/a	n/a	14
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

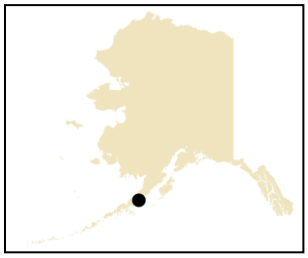
Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Chignik (*CHIG-nick*)



People and Place

Location [72]

The City of Chignik is located on Anchorage Bay on the south shore of the Alaska Peninsula. It lies 450 mi southwest of Anchorage and 260 mi southwest of Kodiak. The area encompasses 11.7 sq mi of land and 4.2 sq mi of water. Chignik was incorporated as a Second-class city in 1983 and is located in the Lake and Peninsula Borough.

Demographic Profile [73]

In 2010, there were 91 residents, ranking Chignik 254th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population declined by 52%. Between 2000 and 2009, the population declined by 21.5% with an average annual growth rate of -0.89%, which was lower than the statewide average of 0.75%. However, there was a 15.2% increase in population between 2000 and 2010, and a 46.8% increase between the 2009 Alaska Department of Labor (DOL) estimate and 2010 U.S. Census figures, indicating a net growth in that decade. Information regarding population trends can be found in Table 1.

Chignik's racial composition is a mixture of Alutiiq and non-Natives. In 2010, 57.1% of the population identified themselves as American Indian or Alaska Native, compared to 60.8% in 2000; 34.1% identified themselves as White, compared to 31.6% in 2000; 3.3% identified themselves as Asian, compared to 2.5% in 2000; 4.4% identified themselves as two or more races, compared to 1.3% in 2000; and 1.1% identified themselves as some other race, compared to 1.3% in 2000. In addition, 1.1% of residents identified themselves as Hispanic or Latino, compared to 1.3% in 2000. Information regarding trends in Chignik's racial and ethnic composition can be found in Figure 1.

In 2010, the average household size was 2.22, compared to 3.4 in 1990 and 2.72 in 2000. Also in that year, there were 105 total household units, compared to 104 in 1990 and 80 in 2000. Of the households surveyed in 2010, 24.8% were owner-occupied, compared to 21.3% in 2000; 14.3% were renter-occupied, compared to 15% in 2000; 25.7% were vacant, compared to 11.3% in 2000; and 35.2% were occupied seasonally, compared to 52.5% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

[72] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[73] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

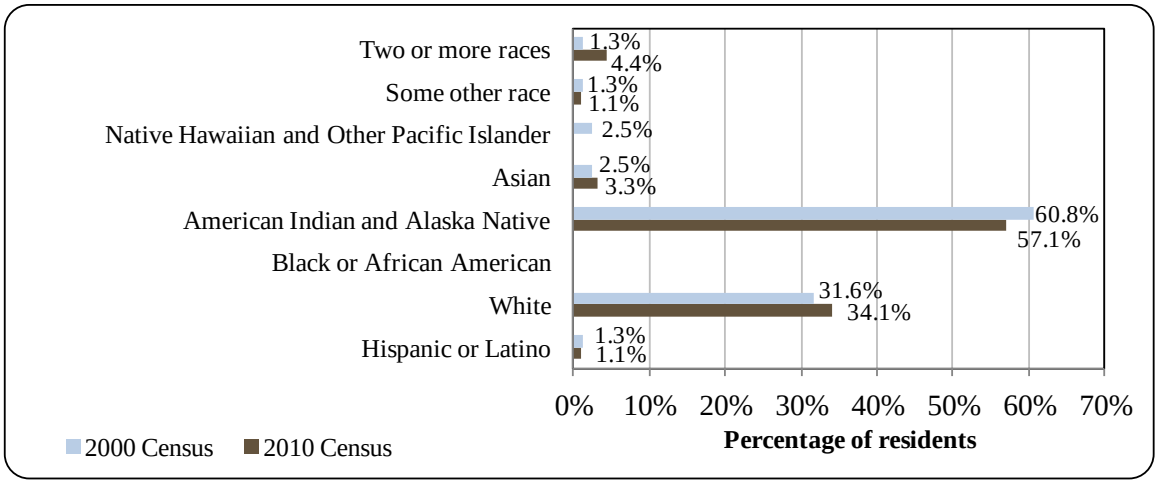
Table 1. Population in Chignik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	188	-
2000	79	-
2001	-	76
2002	-	77
2003	-	91
2004	-	92
2005	-	95
2006	-	83
2007	-	80
2008	-	59
2009	-	62
2010	91	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Chignik: 2000-2010 (U.S. Census).



Gender distribution was somewhat skewed in 2010 at 56.1% male and 43.9% female. This was more skewed than both the statewide distribution (52.1% male, 47.9% female) and 2000 distribution (53.2% male, 46.8% female). The median age that year was 45.3 years, which was markedly older than the statewide median of 32.7 years and 2000 median of 36.3 years; and indicative of an aging population.

The population structure was constrictive and highly irregular in both 2000 and 2010. High variability and attrition is likely attributed to the fact that many residents hold dual residency in either Kodiak or Anchorage, migrating to the larger cities in the winter when employment becomes scarce.[74] In addition, Chignik is largely integrated with the surrounding communities of Chignik Lake and Chignik Lagoon, which may further confound both population structures.

In 2010, 24.2% of residents were under the age of 20, compared to 31.8% in 2000; 12.1% were over the age of 59, compared to 6.3% in 2000; 52.8% were between the ages of 30 and 59, compared to 50.6% in 2000; and 11.0% were between the ages of 20 and 29, compared to 11.4% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000, most male biases among most age ranges. In that year, the greatest absolute gender difference occurred within the 50 to 59 range (15.4% male, 9.9% female), followed by the 70 to 79 (2.2% male, 0.0% female) and 20 to 29 (6.6% male, 4.4% female) ranges. Of those three, the greatest relative gender difference occurred in the 70 to 79 range. Information regarding trends in Chignik's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Cenus' 2006-2010 American Community Survey (ACS)[75] estimated that 54.1% of residents aged 25 and older held a highschool diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, and estimated 39.2% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 6.8% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estiamted 21.6% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; an estimated 8.1% had an Associate's degree, compared to an estimated 8% of Alaskan residents overall; an estimated 6.8% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 4.1% had a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[76]

The Alaska Peninsula has been occupied for over 8,000 years, although there is limited evidence of occupation in the Chignik vicinity. The village of *Kalwak* is reported to have existed prior to Russian contact, although it was destroyed during the fur trade boom in the late eighteenth century. During the Russian occupation, many communities along the Gulf of Alaska became fragmented and by 1871, the Alaska Peninsula appeared to be almost abandoned. A 1976 study of the Chignik region found a large site affiliated with 4,000 year-old traditions in the area. Two surveys conducted in 1984 and 1996 also revealed a cluster of Native homes on the southwest side of Anchorage Bay.

[74] Chignik Bay Tribal Council. (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf.

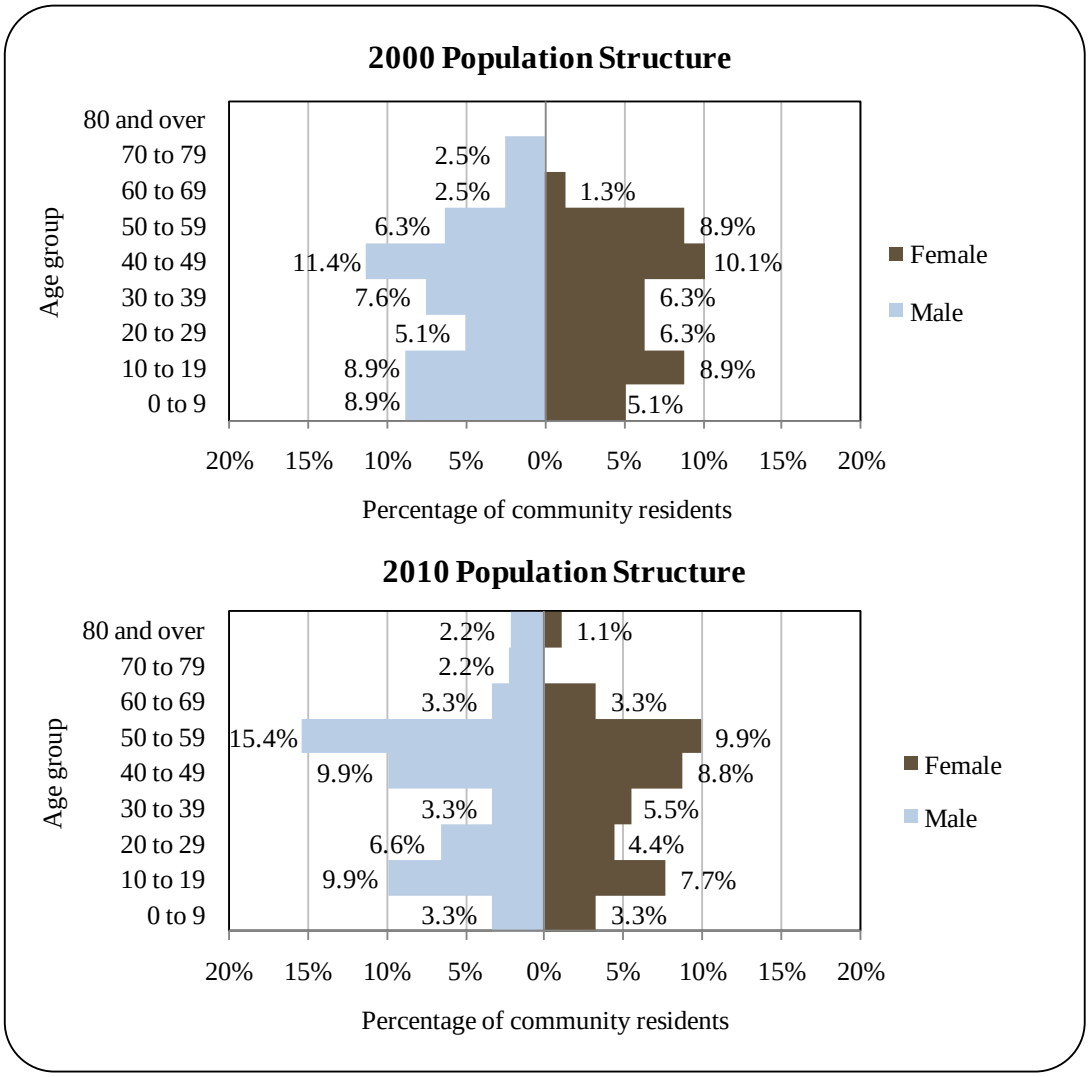
[75] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[76] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Chignik, meaning "big wind," was established in the late nineteenth century as a fishing village. During this time, supplies and workers were shipped in from San Francisco and in 1896 the Hume Company built a cannery on the eastern side of Anchorage Bay. A cannery on the town side was built in 1910 by Columbia River Packers, which later burned in 1976. Trident Seafoods currently owns the cannery, although NorQuest Seafoods (which sold the cannery to Trident) still operates it. A 1979 building inventory of the cannery indicated 56 facilities of possible historic significance. The original 1910 structure remains the oldest continuously operating seafood processing facility in Alaska.

Today, Chignik Bay continues to remain a community dependent on commercial and subsistence fisheries and seafood processing. It is part of a regional community network connected to Chignik Lake and Chignik Lagoon; with a combined population of 242 according to the 2010 Census.

Figure 2. Population Age Structure in Chignik Based on the 2000 and 2010 U.S. Decennial Census.



Natural Resources and Environment

The maritime climate of Chignik is characterized by cool summers and relatively warm, rainy winters. Summer temperatures range from 39 to 60 °F (4 to 16 °C). Winter temperatures range from 21 to 50 °F (-6 to 10 °C). Extreme temperatures, ranging from a low of -12 (-24 °C) to a high of 76 °F (24 °C), have been recorded. Precipitation averages 127 inches annually, with an average annual snowfall of 58 inches.[77]

Chignik is located in the Alaska Peninsula National Wildlife Refuge (APNWR). The geology and topography of the area is characterized by high relief mountainous slopes mantled with deposits of volcanic ash and cinders. Many depressions in the slopes contain muskeg. Brown and tan sandstone conglomerates dominate the landscape. Soils are relatively shallow and unproductive on the slopes, and primarily consist of well-drained ashy loams overlying sandy and cindery ash. Level areas consist of deeper, poorly drained organics with a thin layer of ash. Land within the community consists mostly of marshy wetlands, pebble rock, and sand. Vegetation is typical of western/Aleutian Alaska. Due to soil and climatic conditions, natural growing trees are rare and most vegetation consists of low shrubs, grasses, and dwarf alders and willow. Brackish marsh vegetation populates the low lying areas and wetlands. Wildflowers including dandelion, fireweed, iris, rose, lupine, and horsetail are also found throughout the area, as well as an abundance of wild berries.[78]

The APNWR provides habitat for many migratory and marine birds including mallards, shovel nose, canvas backs, pintails, common merganser, bufflehead, and gulls. Terrestrial wildlife includes brown bear, moose, caribou, wolf, wolverine, fox, river otter, and beaver. Fish present include all five species of Pacific salmon, Arctic grayling, Dolly Varden char, rainbow and lake trout, northern pike, and burbot. Marine mammals present include Steller sea lions, harbor seals, sea otters, and migratory whales.[79] Mineral resources in the area include a copper and molybdenum deposit located at Bee Creek to the north, as well as coal deposits scattered throughout the region.[80]

Natural hazards in the area are similar to those on a regional level and include coastal flooding and erosion, storm surges, earthquakes, volcano eruptions, and tsunamis. There have been several historic earthquake and flooding events, and the community itself lies 40 mi west of the active volcano, Mt. Veniaminof.[81] An active stratovolcano, eruption events were observed six times between 2002 and 2008.[82]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in the community in 2010.[83]

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[77] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[78] Chignik Bay Tribal Council. (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf.
[79] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge.* Retrieved January 24, 2012 from: http://alaskapeninsula.fws.gov/wildlife.htm.
[80] Alaska Department of Economic Development. (n.d.). *Mineral Resources in Alaska.* Retrieved January 24, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[81] See footnote 78.
[82] Alaska Volcano Observatory (n.d.). *Veniaminof Reported Activity.* Retrieved January 9, 2013 from: http://www.avo.alaska.edu/volcanoes/volcact.php?volcname=Veniaminof.
[83] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved June 22, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[84]

Commercial fishing and subsistence activities are central parts of Chignik's economy. The commercial fishing and seafood processing sectors are major contributors to the local cash economy, although many of these jobs are seasonal and attract mostly temporary workers. Like most rural communities in Alaska, education, health care, and public administration are major sources of year round employment. Top employers[85] for 2010 included Lake and Peninsula School District, Chignik Lake Village Council, and Bristol Bay Housing Authority, Health Corporation, and Native Association.

In 2010,[86] the estimated per capita income in Chignik was $16,377 and the estimated median household income was $37,206, compared to $16,166 and $34,250 in 2000, respectively. However, after accounting for inflation be converting the 2000 values to 2010 dollars,[87] the real per capita income ($21,258) and median household income ($45,038) indicate and overall decline in both individual and household earnings.[88] In 2010, Chignik ranked 180th of 305 Alaskan communities from which per capita income was estimated, and 206th of 299 communities from which median household income was estimated.

Chignik's small population size may have prevented the ACS from accurately portraying economic conditions.[89] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $1.03 million in total wages in 2010.[90] When matched with the population in 2010, the per capita income equals $11,332 which suggests that caution should be used when comparing 2006-2010 ACS estimates with the 2000 Census.[91]

According to 2006-2010 ACS estimates,[92] 46.7% of residents aged 16 years and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 2.8%, compared to 5.9% statewide; and 4.9% of residents were estimated to be living below the poverty level, compared to 9.5% statewide. Of those employed, an estimated 23.4% worked in the private sector and an estimated 76.6% worked in the public sector.

[84] Unless otherwise noted, all monetary data are reported in nominal values.
[85] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[86] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[87] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[88] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[89] Ibid.
[90] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[91] See footnote 85.
[92] See footnote 86.

By industry, most (55.3%) employed residents were estimated to work in the public administration sector in 2010; followed by education, health care, and social assistance sectors (12.8%) manufacturing sectors (12.8%); construction sectors (12.8%); and transportation, warehousing, and utility sectors (6.4%). By occupation type, most (42.6%) employed residents were estimated to hold sales or office positions that year; followed by management or professional positions (23.4%); production, transportation, or material moving positions (17.0%); natural resources, construction, or maintenance positions (14.9%); and service positions (2.1%).

Between 2000 and 2010, there were several major proportional shifts in employment by industry sector, most notably within the public administration and education, health care and social assistance sectors; In addition, the proportion of sales and office occupations saw a dramatic increase from 17.1% in 2000 to 42.6% 2010, while service occupations declined steeply from 28.6% to 2.1%. It should be noted that large variations in employment data may be attributed either to shifts in economic conditions resulting from a transient population, or ACS sampling errors. Information regarding employment trends can be found in Figure 3 and 4.

No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

An alternative estimate of employment is provided by the ALARI database. According to 2010 ALARI estimates,[93] most (52.6%) of employed residents worked in local government sectors; followed by education and health service sectors (10.5%); and other unspecified sectors (10.5%).

Figure 3. Local Employment by Industry in 2000-2010, Chignik (U.S. Census).

[93] See footnote 85.

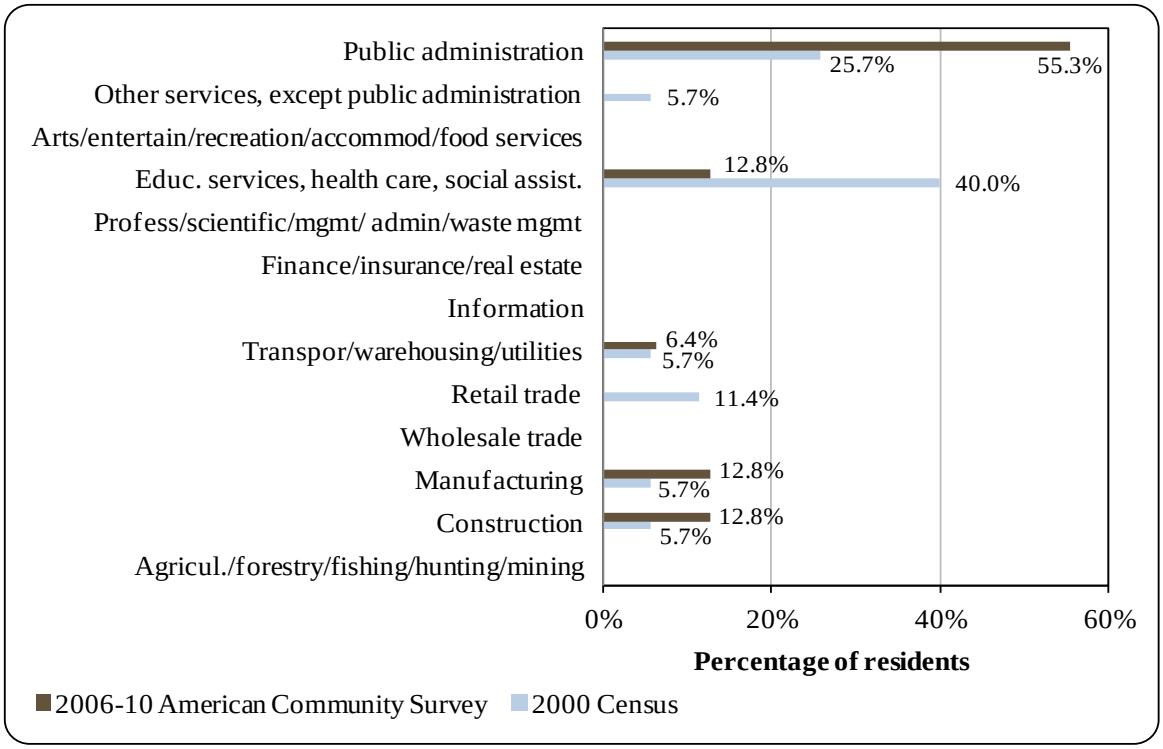
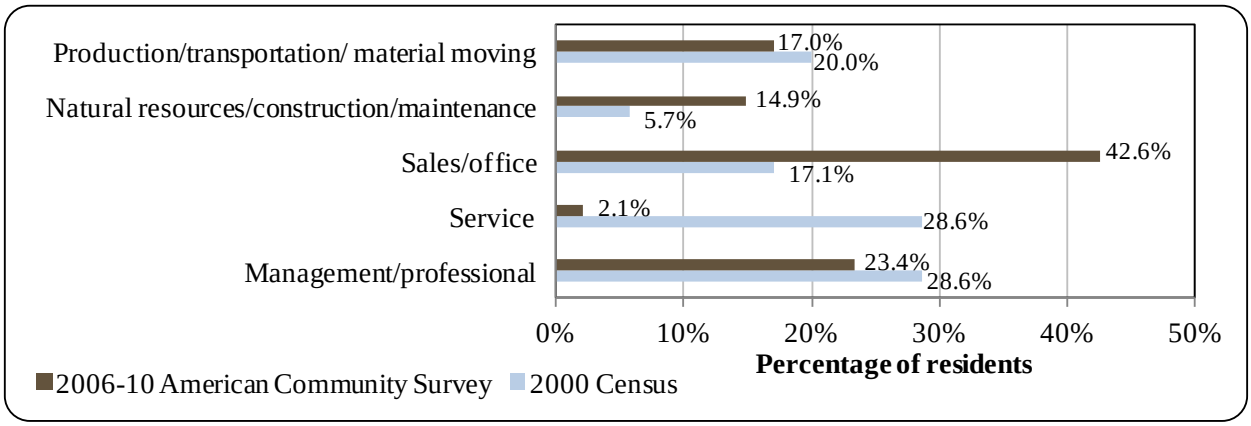

Public administration
Other services, except public administration
Arts/entertain/recreation/accommod/food services
Educ. services, health care, social assist.
Profess/scientific/mgmt/ admin/waste mgmt
Finance/insurance/real estate
Information
Transpor/warehousing/utilities
Retail trade
Wholesale trade
Manufacturing
Construction
Agricul./forestry/fishing/hunting/mining
55.3%
25.7%
5.7%
12.8%
40.0%
6.4%
5.7%
11.4%
12.8%
5.7%
12.8%
5.7%
0%
20%
40%
60%
Percentage of residents
2006-10 American Community Survey
2000 Census

Figure 4. Local Employment by Occupation in 2000-2010, Chignik (U.S. Census).



Governance

Chignik is a Second-class city with a mayoral form of government. It has a seven-member city council, five-member school board, and four municipal employees. In addition, there is a U.S. Bureau of Indian Affairs recognized Tribal government (Chignik Bay Tribal Council) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Far West, Incorporated). The regional ANCSA chartered corporation representing Chignik is the Bristol Bay Native Corporation. The community has a local Alaska Department of Fish and Game (ADF&G) office open during the summer. The closest permanent ADF&G office is located in Sand Point, 105 mi to the southwest. The closest National Marine Fisheries Services (NMFS) office is located in Kodiak, 260 mi to the northeast; and the closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 450 mi northeast.

In 2010, the municipality administered a 3% fish tax; however, the Lake and Peninsula Borough administers an additional 2% Raw Fish tax, 6% accommodations tax, $3.00 Guide tax, and $1.00 Lodge Guide tax. In 2010, there was $1.15 million in total municipal revenues, compared to $1.21 million in 2000. Revenues peaked in 2009 at $1.42 million, and were at their lowest in 2005 at $961,753. Chignik received $99,109 in state allocated Community Revenue Sharing in 2010, accounted for approximately 8.6% of municipal revenues. In 2000, the community received $26,242 in State Revenue Sharing, which accounted for approximately 2.2% of total revenues. Between 2000 and 2010, Chignik received over $12.2 million in fisheries related grants. Projects funded by these grants included harbor dredging, seafood processing projects, dock improvements, construction of a breakwater and small harbor, and port facilities improvements. Information regarding municipal revenue trends can be found in Table 2.

Infrastructure

Connectivity and Transportation[94]

Chignik is accessible by air and sea. There is a state-owned 2,600-ft long by 60-ft wide gravel runway and a seaplane base. Regular flights run from King Salmon and Port Heiden. Barge services arrive weekly from late spring through early fall and monthly during the remainder of the year. The state ferry operates bi-monthly from Kodiak between May and October. A 600-ft privately-owned dock and boat haul-out are available. A breakwater, 110-slip small boat harbor, and public dock are under development. ATVs and skiffs are the primary means of local transportation. There is a strong regional interest in constructing roads between Chignik, Chignik Lagoon, Chignik Lake, and the city landfill. The price of roundtrip airfare between Chignik and Anchorage in June 2012 was $960.[95]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chignik from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$1,213,519	n/a	$26,242	$25,000
2001	$1,321,777	n/a	$25,264	$3,325,000
2002	$1,251,393	n/a	$25,263	$175,075
2003	$1,069,864	n/a	$25,428	$7,500,000
2004	$1,168,627	n/a	-	$213,370
2005	$961,753	n/a	-	n/a
2006	$966,626	n/a	-	n/a
2007	$965,673	n/a	-	n/a
2008	$1,073,390	n/a	-	n/a
2009	$1,420,955	n/a	$99,010	$1,000,000
2010	$1,152,553	n/a	$99,109	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System.* Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010).* Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[94] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[95] Airfare was calculated using lowest fare. Source: http://www.travelocity.com (retrieved November 22, 2011).

Facilities[96,97]

The municipality provides basic utilities including diesel power, water and sewer, and waste disposal. Water is supplied by Indian Creek, which has a dam and a reservoir. Water is treated and piped into all 60 homes and the school. A well is available for back-up water supply. Piped sewage is collected in community septic tanks, and wastewater is discharged via ocean outfall lines; approximately 45 homes are served. The remainder use individual septic tanks. All homes are completely plumbed. The municipal landfill currently serves both private residencies and the local cannery and needs to be updated in order to extend its lifespan. Long distance telephone services are provided by ACS, AT&T, and GCI. Internet service is provided by GCI. The city fuel tank farm has four 32,000 gallon storage tanks and one 6,000 gallon dispensing tank

The city offers cable television services via a satellite system. Current infrastructure is strung along telephone poles, and service is often interrupted by storms. Public safety and emergency response is handled by the local volunteer fire department and Village Public Safety Officer. The community hall offers space for recreation, community gatherings, and cultural events. Additional public facilities include a post office, church, and subsistence building.

Beginning in 2006, the community was in the development and proposal phase of several extensive port improvement projects aimed at developing Chignik as a regional marine transportation and cargo hub. A small boat harbor and breakwater was approved for funding in 2001 and construction and dredging was completed in 2005. As of 2010, the two docks located in Chignik were privately owned by Trident Seafoods and NorQuest Seafoods. The city is interested in constructing a seven acre public dock on public waterfront land for commercial and industrial uses. Proposed facilities and services for placement around the dock would include container shipping and short-term storage, inbound cargo storage, outside storage for seine skiffs and fishing gear, a vehicle staging area, fuel delivery and vessel fueling, travel lift and vessel haulout, a vessel repair facility, a machine shop, a marine-related rental shop, and other marine-oriented businesses.

Medical Services

Chignik Bay Sub Regional Health Clinic is a qualified Emergency Care Center and Community Health Aid Program (CHAP) site.[98] Services currently offered include primary medical care, emergency and trauma, behavioral health, dental, diagnostic imaging, and pharmacy.[99]

[96] See footnote 94.
[97] Chignik Bay Tribal Council. (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf.
[98] See footnote 94.
[99] Ibid.

Educational Opportunities[100]

Chignik Bay School offers preschool through 12th grade instruction. As of 2011 there were 20 students enrolled and 2 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Historical involvement in north pacific fisheries dates back over 8,000 years of human occupation in the area; however, commercial fishing didn't take root in the area until the end of the nineteenth century when the first seafood processor began salting, packing, and shipping salmon.[101]

The Chignik Management Area (CMA) is located on south side of the Alaska Peninsula and is the site of one of the earliest salmon fisheries in Alaska. By 1878, two canneries were processing the region's abundant sockeye salmon resource from Chignik Lagoon, one more began operation in Anchorage Bay by Chignik in 1896, and by 1910 the Columbia River Packers Association had built a cannery at Indian River (on Anchorage Bay). Canneries continued to proliferate throughout the region between 1890 and 1910, with additional canneries being established near Ivanof Bay, and in Anchorage Bay. By 1911, the Columbia River Packing Company (later renamed Columbia Ward Fisheries) began operations on the north side of Chignik Lagoon, and operated there until 1990. By 1992, Aleutian Dragon Fisheries, and Chignik Pride Fisheries operated the only two remaining processing plants in the area, and both were located in Chignik Bay. Seafood processed mostly included all five species of Pacific salmon, Pacific cod; while smaller quantities of octopus, sablefish, red snapper, pollock, and herring were also processed. Chignik canneries began processing shrimp in the 1970s, king crab in the early 1980s. and Tanner crab by 1987.[102]

All five species of Pacific salmon are harvested commercially within the CMA, of which sockeye salmon are primarily targeted. In 2010, Chinook harvests within CMA totaled 10,380 fish, sockeye harvests totaled 1.38 million fish, coho harvests totaled 159,198 fish, pink harvests totaled 489,781 fish, and chum harvests totaled 581,329 fish. Total ex-vessel value of the CMA salmon harvest in 2010 was approximately $14.34 million.[103] Ex-vessel value for Chignik salmon peaked in 1987 and 1988 at more than $25 million, and decreased steadily to a low of approximately $5 million between 2002 and 2006.[104]

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[100] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

[101] Chignik Bay Tribal Council. Retrieved January 25, 2012 from: http://www.chignikbay.com/economictrends.asp

[102] Hutchinson-Scarbrough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.* Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from: http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf.

[103] Anderson, T. J., and N. W. Nichols. (2010). *Chignik Management Area Salmon and Herring Annual Management Report, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 10-48. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR10-48.pdf.

[104] Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization.* University of Alaska, Anchorage. Retrieved January 9, 2013 from: http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.

Managed by emergency order, herring harvests typically occur from April 15 through June 30 for the sac roe season, and from August 15 through February 28 for the food and bait season. However, no commercial herring harvest occurred in 2010 due to low industry interest. The last commercial herring harvest occurred in 1996.[105]

Groundfish species targeted for both state and federal fisheries include Pacific cod, sablefish, lingcod, black rockfish, dark rockfish, and walleye pollock. In 2010, Pacific cod and walleye pollock comprised the largest volume of groundfish harvested in state fisheries within the Chignik area. Pacific cod are managed as a single Gulf of Alaska (GOA) stock, with the state managing parallel fisheries within state waters. In 2010, the total Acceptable Biological Catch for GOA pacific cod was 174.38 million lbs. In that year, 59.16 million lbs of Pacific cod was taken from the western GOA, of which 56% was harvested from state waters. In the Chignik Area, pot gear vessels were allocated 8.51 million lbs, while jig gear vessels were allocated 946,040 lbs. The total Pacific cod harvest that year was 9.15 million lbs taken by 16 vessels, valued at $2.19 million ex-vessel. In 2010, Black rockfish harvests in the Chignik Area was capped at 100,000 lbs. Only one vessel participated in the fishery that year. Skates are typically harvested incidentally while fishing for other targeted species, and fall under the assemblage of "other species" which include sharks, sculpins, squid, and octopi. Growing Asian markets for skates has increased interest in skates, which at times can be more valuable than other targeted species. Because of overfishing concerns, NMFS placed skates in bycatch status in 2006, while ADF&G discontinued directed harvests in state waters. State directed sablefish fisheries existed within Kodiak and Chignik areas in 2002, but have since been restricted to bycatch harvests. In 2010, sablefish bycatch harvests in state waters around Kodiak, Chignik, and the South Peninsula Eastern Districted totaled 17,924 lbs. Lingcod harvests are also strictly managed within the Kodiak and Chignik areas. Again, most lingcod is harvested as bycatch, and retention typically remains below 100,000 lbs annually within the western GOA. During 2008, lingcod harvests spiked to 521,257 lbs due to increased retention by trawl vessels. Lingcod harvests declined to 97,281 lbs in 2009 and 67,429 lbs in 2010. Walleye pollock harvests totaled 101.6 million lbs in the central GOA, and 57.1 million lbs in the western GOA. In the western GOA, 58% of the total pollock harvest occurred within state waters.[106]

Historically, commercial red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, Pandalid shrimp, red sea cucumber, and giant Pacific octopus harvests have occurred along the Alaska Peninsula. Most shellfish stocks are depressed, and commercial fisheries for red king crab and shrimp have not occurred since 1982. The Chignik Tanner crab fishery began in 1968, when 21,100 lbs were harvested and peaked in 1975 when 11 million lbs were harvested. Commercial fishing was closed in 1990 to allow depressed stocks to recover, and reopened during the 2004 and 2005 seasons. No Tanner crab fisheries occurred within the Chignik District between 2006 and 2010. Dungeness crab is harvested within the Chignik District, although participation in the fishery is low with less than three vessels reporting landings in 2010. Shrimp fishing within the Chignik District began in 1968, and harvests peaked in 1976 at 27 million lbs. Stocks crashed shortly after, and by 1981 only 71,000 lbs were harvested. Since then, all inshore waters within the Chignik District have remained closed. While commercial fishing is permitted

[105] See footnote 103.

[106] Stichert, M. A., K. Phillips, and P. Converse. (2011). *Annual Management Report fo Groundfish Fisheries in the Kodiak, Chignik, and South Alaska Peninsula Management Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-44. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-44.pdf.

in some areas within the Chignik area, there was no fishing effort for shrimp within the Chignik District in 2010. Commercial sea cucumber harvests began in the Kodiak and Chignik districts in 1991 following an increase in market demand. Limits for eviscerated product was set at 25,000 lbs for the Chignik District in 2010 and fishing effort was limited. Demand for octopus increased during the 1990s, and are harvested alongside targeted species. In 2010, incidental harvests totaled 270,067 lbs from both state and federal waters.[107]

In 2002, the Alaska Board of Fisheries implemented an experimental program that allocated a percentage of the Chignik sockeye salmon harvest to a harvesting cooperative, while creating a separate, "independent" fishery for non-cooperative vessels. The Chignik Salmon Cooperative originally grew from anger over ex-vessel prices offered by processing plants. In 1991, this anger led to local seiners striking. Following the strike, the Chignik Seiners Association continued discussions over the formation of a cooperative as a way to increase the overall profitability and lower overhead costs within the Chignik sockeye salmon fishery.[108] Fishing cooperatives had been formed previously in other fisheries as a method of voluntary self-management which would complement existing limited entry systems. It was believed that cooperatives would increase local access to markets, operating efficiency, and overall profitability.[109] In the case of the Chignik cooperative, members would be selected as harvesters, tenders, or inactive members. Profits would then be split equally among members. Between 2002 and 2005, over three-quarters of salmon permit holders living in Chignik became members of the Chignik Salmon Cooperative. Following the formation of the Cooperative, relations with local seafood processors became strained. With control over almost 70% of the salmon harvest, the Cooperative gained greater influence within the market than independent fishermen had previously held. Two salmon processing plants owned by Trident Seafoods and Norquest Seafoods operated in nearby Chignik Bay. Trident Seafoods and the Cooperative were unable to come to a purchasing agreement, and Trident decided close its plant in 2004. Despite being regarded as largely successful by most permit holders, the Chignik Salmon Cooperative ended in 2006 after the Alaska Supreme Court determined that the cooperative broke Alaska Limited Entry law.[110]

Today, the Chignik region as a whole participates heavily in commercial sockeye salmon, halibut, and groundfish fisheries; with Chignik Bay acting as a central hub for seafood processing. In addition, subsistence fishing provides an important economic and cultural foundation for residents. The community is eligible for participation in the Community Quota Entity (CQE) program, although they have yet to form a non-profit corporation. The impetus for the CQE program followed the implementation of the halibut and sablefish Individual Fishing Quota (IFQ) program in 1995. The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated and

[107] Sagalkin, N. and K. Spalinger. (2011). *Annual Management Report for Shellfish Fisheries in the Kodiak, Chignik, and Alaska Peninsula Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-43. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-43.pdf.
[108] Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization.* University of Alaska, Anchorage. Retrieved January 9, 2013 from: http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.
[109] Deacon, R. T., D. P. Parker, and C. Costello. (2008). *The Efficiency Gains from Coordinating Effort in a Fishery: Evidence from the Chignik Salmon Cooperative.* University of California, Santa Barbara. Retrieved January 9, 2013 from: http://econ.ucsd.edu/CEE/papers/Chignik%20II%2012_4.pdf
[110] See footnote 108.

apportionment of the annual Total Allowable Catch to eligible vessels and processors. Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, an unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead to decreased participation in communities traditionally dependent on the halibut or sablefish fisheries. To address this issue, the North Pacific Fishery Management Council implemented the CQE program in 2005. Under the program, eligible communities could form a non-profit corporation to purchase and manage quota share on their behalf.[111]

Chignik is located in Federal Reporting Area 620, International Pacific Halibut Commission (IPHC) Regulatory Area 3B, and the Central GOA Sablefish Regulatory District.

Processing Plants

Trident Seafoods Corporation's Chignik Plant is located in Chignik. Trident Seafoods was founded in 1973, and by the year 2000 was employing 4,000 people annually throughout Alaska and the Pacific Northwest. Throughout Alaska, Trident processes cod, pollock and crab in the winter and herring and salmon in the summer. The Chignik facility provides room and board at a nominal cost, as well as free air transportation to Chignik from Seattle and back to its seafood processing employees.[112]

Fisheries-Related Revenue

Between 2000 and 2010, Chignik received revenue from raw-fish taxes, Shared Fisheries Business taxes, Fisheries Resource Landing taxes, and harbor usage fees. In addition, the Lake and Peninsula Borough received revenue from raw-fish taxes. In 2010, fisheries-related revenue totaled $178,557, compared to $410,446 in 2000. Fisheries-related revenues peaked in 2001 at $715,582. Information regarding fisheries-related revenue trends can be found in Table 3.

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

In 2010, 14 residents, or 15% of the population, held a total of 24 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 19 residents held 36 CFEC permits. Of the CFEC permits issued in 2010, 54% were for salmon, compared to 33% in 2000; 25% were for groundfish, compared to 33% in 2000; 13% were for halibut, compared to 14% in 2000; and 8% were for crab and "other" shellfish, compared to 6% in 2000. In addition, 5 residents held 6 groundfish License Limitation Program (LLP) permits; and 1

[111] North Pacific Fishery Management Council (2010). *Review of the Community Quota Entity (CQE) Program under the Halibut/Sablefish IFQ Program.* Retrieved October 23, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/halibut/CQEreport210.pdf.
[112] Trident Seafoods (n.d.) *Trident Seafoods.* Retrieved from: http://tridentseafoods.com/.

resident held 1 Federal Fisheries Permit (FFP) in 2010; although none of those permits were actively fished. Finally, residents held 128,220 shares of halibut quota on 1 account in 2010, compared to 218,539 shares held on 4 accounts in 2000. No residents held crab or sablefish quota between 2010 and when the programs began.

Residents held 24 commercial crew licenses in 2010, compared to 36 in 2000. In addition, residents held majority ownership of 22 vessels that year, compared to 31 in 2000. Of the CFEC permits held in 2010, 50% were actively fished, compared to 56% in 2000. This varied by fishery with 69% of salmon permits being fished, and 0% of crab and other shellfish permits being fished. Fisheries prosecuted by Chignik residents in 2010 included: statewide longline halibut, GOA pot gear miscellaneous saltwater finfish, and Alaska Peninsula drift gillnet salmon.[113]

Landings made in Chignik in 2010 are considered confidential. A total of 15.60 million lbs were landed in Chignik in 2009, representing an ex-vessel total value of $9.91 million; however, information on individual species landed between 2000 and 2010 is mostly confidential. In 2004, 4.79 million lbs of salmon was landed in the community with an ex-vessel value of $4.37 million, compared to 8.23 million lbs valued at $5.39 million in 2002; representing a $0.21 increase in ex-vessel price per pound after adjusting for inflation.[114] In 2010, Chignik ranked 20th of 67 Alaskan communities in terms of pounds landed, and 21st in terms of ex-vessel revenue.

In 2010, residents landed 1.71 million lbs of salmon valued at $1.13 million ex-vessel, compared 1.48 million lbs valued at $1.17 million ex-vessel in 2000; a decline of $0.44 per pound after accounting for inflation.[115] However, residents landing Pacific cod in 2008 saw an increase of $0.18 per pound ex-vessel from 2000 after accounting for inflation.[116] Information regarding commercial fishing trends can be found in Tables 4 through 10.

[113] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[114] Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.
[115] Ibid.
[116] Ibid.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Chignik: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	$92,046	$235,538	$126,568	$82,644	$61,500	$76,649	$42,355	$44,623	$55,867	$58,779	$58,000
Shared Fisheries Business Tax[1]	$96,248	$239,487	$130,059	$85,201	$54,345	$79,611	$43,471	$46,101	$57,716	$62,488	$68,777
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	$17	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	$222,152	$240,557	$215,000	n/a	n/a	$123,000	$3,720	$69,420	$54,750	$58,125	$51,780
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$410,446*	*$715,582*	*$471,627*	*$167,862*	*$115,845*	*$279,260*	*$89,545*	*$160,144*	*$168,333*	*$179,392*	*$178,557*
Total municipal revenue[5]	*$1.21 M*	*$1.32 M*	*$1.25 M*	*$1.07 M*	*$1.17 M*	*$961,753*	*$966,626*	*$965,673*	*$1.07 M*	*$1.42 M*	*$1.15 M*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Chignik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	6	5	6	6	6	6	6	6	6	6	6
	Active permits	3	2	0	2	2	2	2	2	2	1	0
	% of permits fished	50%	40%	0%	33%	33%	33%	33%	33%	33%	16%	0%
	Total permit holders	5	4	5	5	5	5	5	5	5	5	5
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	2	2	2	3	3	3	1	1	1	1	1
	Fished permits	0	0	0	3	2	2	1	1	1	0	0
	% of permits fished	0%	0%	0%	100%	67%	67%	100%	100%	100%	0%	0%
	Total permit holders	2	2	2	3	3	3	1	1	1	1	1
Crab (CFEC) [2]	Total permits	1	2	0	0	0	10	8	2	2	1	1
	Fished permits	0	0	0	0	0	3	2	1	1	0	0
	% of permits fished	0%	0%	n/a	n/a	n/a	30%	25%	50%	50%	0%	0%
	Total permit holders	1	1	0	0	0	6	5	2	2	1	1
Other shellfish (CFEC) [2]	Total permits	1	1	1	3	3	3	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	2	2	3	1	1	1	1	1
Halibut (CFEC) [2]	Total permits	5	5	5	4	4	4	4	4	4	4	3
	Fished permits	4	4	5	4	3	4	4	4	4	3	1
	% of permits fished	80%	80%	100%	100%	75%	100%	100%	100%	100%	75%	33%
	Total permit holders	5	5	5	4	4	4	4	4	4	4	3
Herring (CFEC) [2]	Total permits	5	9	3	3	2	2	0	0	0	0	0
	Fished permits	1	1	0	0	0	0	0	0	0	0	0
	% of permits fished	20%	11%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	4	4	2	2	1	1	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Chignik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	12	11	12	14	11	11	8	6	6	5	6
	Fished permits	3	5	2	7	5	7	3	4	4	1	2
	% of permits fished	25%	45%	17%	50%	45%	64%	38%	67%	67%	20%	33%
	Total permit holders	10	9	9	10	7	8	7	6	6	5	6
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	12	13	11	12	12	11	10	10	10	11	13
	Fished permits	12	12	4	5	5	11	3	5	7	7	9
	% of permits fished	100%	92%	36%	42%	42%	100%	30%	50%	70%	64%	69%
	Total permit holders	13	13	11	13	12	11	10	10	11	12	13
Total CFEC Permits[2]	*Permits*	*36*	*41*	*32*	*36*	*32*	*41*	*31*	*23*	*23*	*22*	*24*
	Fished permits	*20*	*22*	*11*	*16*	*13*	*25*	*12*	*14*	*16*	*11*	*12*
	% of permits fished	*56%*	*54%*	*34%*	*44%*	*41%*	*61%*	*39%*	*61%*	*70%*	*50%*	*50%*
	Permit holders	*19*	*16*	*14*	*18*	*14*	*15*	*14*	*14*	*15*	*15*	*14*

[1] National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics Of The Commercial Fishing Sector In Chignik: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Chignik[2]	Total Net Lbs Landed In Chignik[2,5]	Total Ex-Vessel Value Of Landings In Chignik[2,5]
2000	36	2	2	31	83	101	--	--
2001	52	3	2	31	77	98	--	--
2002	9	5	2	30	69	46	8,505,387	$5,919,782
2003	25	2	2	29	65	71	--	--
2004	8	4	2	22	61	93	5,293,332	$5,629,393
2005	17	3	2	18	54	53	--	--
2006	32	1	2	21	56	56	--	--
2007	19	1	1	17	53	58	--	--
2008	23	2	1	18	53	56	--	--
2009	22	4	1	18	55	60	15,595,633	$9,971,058
2010	24	3	1	22	62	65	--	--

Note: Cells showing "–" indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Chignik: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	4	218,539	60,615
2001	2	74,536	22,525
2002	3	76,165	23,541
2003	2	128,220	40,522
2004	2	128,220	36,902
2005	2	128,220	31,073
2006	2	128,220	25,661
2007	2	128,220	21,810
2008	2	128,220	25,784
2009	1	128,220	25,784
2010	1	128,220	23,418

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Chignik: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Chignik: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Chignik: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	8,233,008	--	4,785,219	--	--	--	--	--	--
Total[2]	--	--	*8,233,008*	--	*4,785,219*	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	$5,393,924	--	$4,373,478	--	--	--	--	--	--
Total[2]	--	--	*$5,393,924*	--	*$4,373,478*	--	--	--	--	--	--

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net lbs refers to the landed weight recorded in fish tickets.
2 Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Chignik Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	246,690	421,704	--	483,972	826,684	1,322,554	1,080,807	696,587	296,092	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	1,475,563	1,771,713	--	1,596,836	606,863	886,931	1,579,434	--	1,875,820	1,749,124	1,713,624
Total[2]	*1,722,253*	*2,193,417*	--	*2,080,808*	*1,433,547*	*2,209,485*	*2,660,241*	*696,587*	*2,171,912*	*1,749,124*	*1,713,624*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	$76,474	$116,851	--	$130,895	$198,250	$342,008	$395,575	$322,580	$169,120	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$1,165,987	$903,829	--	$823,197	$568,538	$727,155	$658,765	--	$1,041,463	$1,076,938	$1,128,337
Total[2]	*$1,242,461*	*$1,020,679*	--	*$954,091*	*$766,788*	*$1,069,162*	*$1,054,340*	*$322,580*	*$1,210,583*	*$1,076,938*	*$1,128,337*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Only a few residents hold sportfishing licenses in the community, and non-Alaska resident sportfishing is somewhat limited due to Chignik's remote location. Sportfishing licenses were not sold in the community between 2000 and 2007, and a total of 9 were sold in 2010. In addition, 7 sportfishing licenses were sold to residents in 2010, compared to 18 in 2000. There were no active sport fish guide businesses registered in 2010, although 1 was registered in 2009 and in 2005. One resident held a sport fish guide license in 2010.

Chignik is located within the Alaska Peninsula and Aleutian Islands ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages, between Cape Douglas and the community of Naknek. In 2010, angler days fished totaled 5,297 for saltwater fisheries and 33,635 for freshwater fisheries, compared to 10,534 and 44,976 in 2000, respectively. In that year, non-Alaskan resident anglers accounted for 38.4% of saltwater and 58.4% of freshwater angler days fished, compared to 15.8% and 39.5% in 2000, respectively. According to ADF&G Harvest Survey data, private anglers in Chignik target king salmon. In 2007, ADF&G reported 4 charter operators in the harvest survey area. In that year, charter vessels kept 10 coho salmon, 154 halibut, 5 lingcod, and 68 pelagic rockfish. Information regarding sportfishing trends can be found in Table 11.

Subsistence Fishing

Subsistence is an important part of life in Chignik, as many year-round residents rely on subsistence and personal use fisheries to supplement their incomes when employment is scarce. In addition, as with many rural communities in Alaska, subsistence activities are a source of social and cultural cohesion, reinforcing lifestyles and traditions important to village life. In a 2003 ADF&G survey of subsistence participation by household and species, 82% of households were found to participate in salmon subsistence, 95% in halibut subsistence, 7% in marine mammal subsistence, 66% in marine invertebrate subsistence, and 34% other non-salmon fish subsistence. Subsistence harvesting in pounds per capita that year was 281.5. According to the ADF&G *Community Subsistence Information System*,[117] residents of Chignik have used and/or harvested chitons, butter clams, Dungeness crab, limpets, octopus, littleneck clams, pinkneck clams, sea urchin, Tanner crab, cockles, harbor seal, Steller sea lion, black rockfish, Dolly Varden, lingcod, Pacific cod, rainbow trout, red rockfish, sablefish, steelhead and walleye pollock.

Of the species reported by ADF&G in Table 13, sockeye salmon were harvested the most, followed by coho salmon. In 2008, residents reported harvesting 929 salmon, compared to 1,558 in 2000. Reported salmon harvests peaked in 2007 at 2,389 fish. In 2010, 10 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 21 in 2000. In that year, an estimated 560 lbs of halibut was harvested on 2 SHARC, compared to an estimated 12,878 lbs harvested with 19 SHARC in 2000. Halibut harvests peaked in 2000. Data on marine mammal subsistence harvests is limited. Between 2000 and 2008, an estimated 14 harbor seals were harvested. Information regarding subsistence trends can be found in Tables 12 through 15.

[117] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 11. Sport Fishing Trends, Chignik: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to residents[2]	Sport Fishing Licenses Sold in Chignik[2]
2000	0	0	18	0
2001	0	0	22	0
2002	0	1	11	0
2003	0	0	22	0
2004	0	0	6	0
2005	0	0	18	0
2006	0	0	7	0
2007	0	0	10	13
2008	0	1	17	15
2009	0	0	8	11
2010	0	1	7	9

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 12. Subsistence Participation by Household and Species, Chignik: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	82%	95%	7%	66%	34%	281.5
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Chignik: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	13	16	n/a	125	173	87	1,173	n/a	n/a
2001	12	11	4	22	12	32	758	n/a	n/a
2002	17	15	9	n/a	170	n/a	1,306	n/a	n/a
2003	22	21	88	6	136	12	1,796	1,626	2,829
2004	16	10	19	n/a	163	n/a	306	n/a	n/a
2005	22	21	25	24	158	61	1,266	n/a	n/a
2006	8	4	6	n/a	8	n/a	534	n/a	n/a
2007	15	9	35	n/a	542	n/a	1,792	n/a	n/a
2008	11	7	2	2	36	55	834	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Chignik: 2003-2010.

Year	SHARC Issued	SHARC Fished	SHARC Halibut Lbs Harvested
2003	21	19	12,878
2004	30	18	4,434
2005	31	19	4,641
2006	31	22	4,051
2007	27	12	2,684
2008	16	9	5,130
2009	13	3	283
2010	10	2	560

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Chignik: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	1	n/a
2003	n/a	n/a	n/a	n/a	n/a	3	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	4	n/a
2007	n/a	n/a	n/a	n/a	n/a	4	n/a
2008	n/a	n/a	n/a	n/a	n/a	2	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Chignik Lagoon (*CHIG-nick*)

People and Place

Location [118]

Chignik Lagoon is located on the south shore of the Alaska Peninsula, 450 mi southwest of Anchorage. It lies 180 mi south of King Salmon, 8.5 mi west of Chignik, and 16 mi east of Chignik Lake. Chignik Lagoon is unincorporated and is located in the Lake and Peninsula Borough.

Demographic Profile [119]

In 2010, there were 78 residents, ranking Chignik Lagoon 268th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 47.2%. However, between 2000 and 2009 the population declined by 29.1% with an average annual growth rate of -2.0%; much lower than the statewide average of 0.75% and reflective of a steady decline in population since its peak in 2001. Information regarding population trends can be found in Table 1.

Chignik Lagoon is predominately a Koniag community.[120] In 2010, 62.8% of residents identified themselves as American Indian or Alaska Native, compared to 81.6% in 2000; 20.5% identified themselves as White, compared to 11.7%; 1.3% identified themselves as Asian, compared to 0.0% in 2000; 11.5% identified themselves as two or more races, compared to 5.8% in 2000; and 3.8% identified themselves as some other race, compared to 0.0% in 2000. In addition, 3.8% of residents identified themselves as Hispanic or Latino, compared to 0.0% in 2000. Further information regarding racial and ethnic trends in Chignik Lagoon can be found in Figure 1.

In 2010, the average household size was 2.69, compared to 3.1 in 1990 and 3.12 in 2000. In that same year, the total number of housing units was 66, compared to 83 in 1990 and 68 in 2000. Of the households surveyed in 2010, 32% were owner-occupied, compared to 38% in 2000; 12% were renter-occupied, compared to 10% in 2000; 15% were vacant, compared to 13% in 2000; and 41% were occupied seasonally, compared to 38% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

Gender distribution in 2010 was relatively even at 51.3% male and 48.7% female. This was similar to the statewide distribution (52.1% male, 47.9% female) and more even than the distribution in 2000 (57.3% male, 42.7% female). The median age that year was 36.0 years, which was somewhat higher than the statewide median of 32.7 years and markedly higher than the 2000 median of 26.3 years.

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[118] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[119] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[120] See footnote 118.

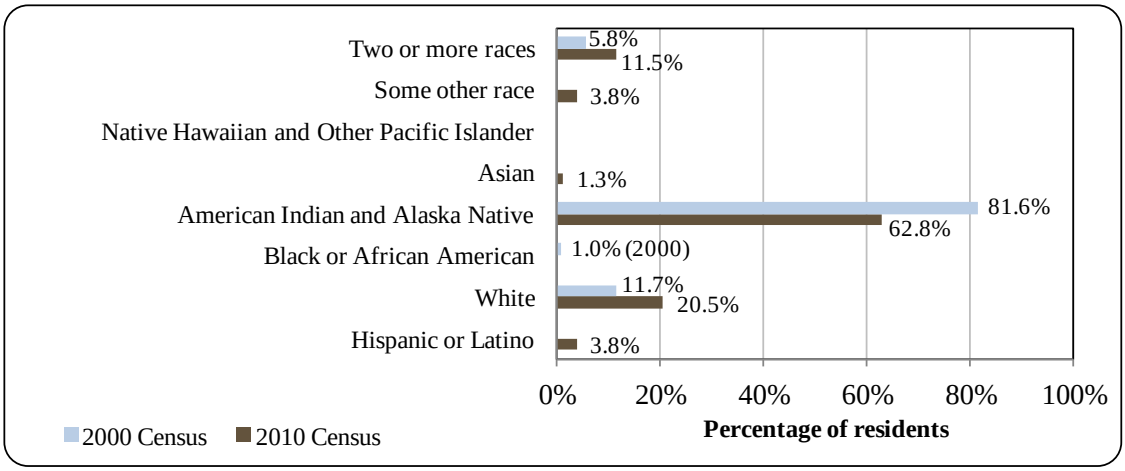
Table 1. Population in Chignik Lagoon from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	53	-
2000	103	-
2001	-	104
2002	-	88
2003	-	92
2004	-	82
2005	-	86
2006	-	71
2007	-	67
2008	-	71
2009	-	73
2010	78	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Chignik Lagoon: 2000-2010 (U.S. Census).

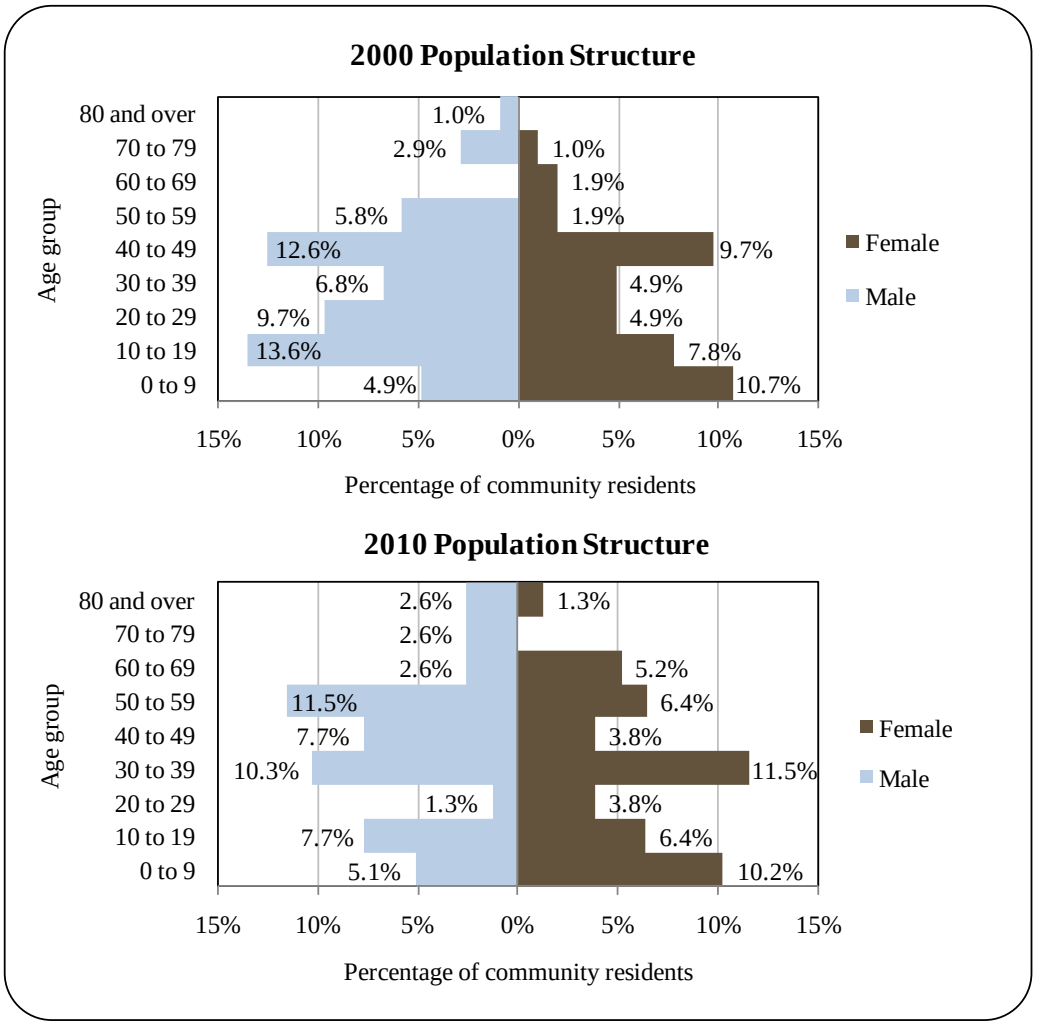


The population structure was irregular in both 2000 and 2010 making it difficult to discern a trend. In 2010, 29.4% of residents were under the age of 20, compared to 37% in 2000; 14.3% over the age of 59, compared to 6.8% in 2000; 51.2% were between the age 30 and 59, compared to 41.7% in 2000; and 5.1% were between the ages of 20 and 29, compared to 14.6% in 2000. Gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within 50 to 59 range (11.5% male, 6.4% female), followed by the 0 to 9 (10.2% female, 5.1% male) and 40 to 49 (7.7% male, 3.8% female)

ranges. Of those three, the greatest relative gender difference occurred within the 40 to 49 range. Information regarding trends in Chignik Lagoon's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-10 American Community Survey (ACS)[121] estimated that 82.0% of residents aged 25 years and older held a high school diploma or higher degree in 2010, compared to an estiamted 90.7% of Alaskan residents overall. Also in that year, an estimated 18.0% had between a ninth and twelfth grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 22.0% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; an estimated 14.0% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 6.0% had a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

Figure 2. Population Age Structure in Chignik Lagoon Based on the 2000 and 2010 U.S. Decennial Census.



[121] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

Archaeological evidence suggests that Aleut (Unanga and Alutiiq) peoples have occupied the Alaska Peninsula for approximately 9,000 years.[122,123] In the past, the Chignik region was at the contact boundary between Aleut and Yup'ik language groups. Archaeological investigations around Chignik Lake, Chignik River, and Chignik Lagoon suggest occupation dating back approximately 2,000 years. During the late 1700s and early 1800s, Russian traders began exploring the Aleutian Islands and Alaska Peninsula. The decline of the fur trade was followed by the growth of salmon processing within the region, and by 1889 three canneries had been established in Chignik Lagoon.[124] These were the Chignik Bay Company cannery, the Shumagin Packing Company, and the Chignik Bay Packing Company.[125]

Chignik Lagoon took its name from its location and proximity to Chignik, which means "big wind" in Aleut. The area was originally occupied by Kanaigmuit Eskimos, who primarily subsisted on otter, sea lion, porpoise, and whale. During the fur boom between 1767 and 1783, the sea otter population was decimated. This, in addition to disease and conflict, reduced the Native population to less than half its original size. After Alaska was purchased from Russia, Chignik salmon grew in popularity, and many migrants moved into the region. Today, Chignik Lagoon exists as a village dependant on fishing Pacific cod, halibut, and salmon. Although a cannery no longer exists in the community, residents are heavily involved in both commercial and subsistence fishing.[126]

Natural Resources and Environment

The community experiences a maritime climate, characterized by cool summers and warm, wet winters. Thick cloud cover and heavy winds are prevalent during winter months. Summer temperatures range from 39 to 60 °F (4 to 16 °C). Winter temperatures range from 21 to 36 °F (-6 to 2 °C). Precipitation averages 127 inches annually, with an average annual snowfall of 58 inches.[127]

Chignik Lagoon is located in the Alaska Peninsula National Wildlife Refuge (APNWR). The refuge was created in 1980 as a product of the Alaska National Interest Lands Conservation

[122] LaRoche and Associates (2011). *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from: http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[123] WHPacific (2010). *Aleutians East Multi-Jurisdictional/Multi-Hazard Mitigation Plan.* Retrieved December 7, 2011 from: http://www.aleutianseast.org/.
[124] Mobley, C. M. (2004). *Chignik's Norquest Cannery: A Cultural Resource Inventory and Evaluation, Chignik, Alaska Peninsula, Alaska.* Retrieved January 10, 2013 from: http://polarconsult.net/ChignikBay/env/mobley_combined.pdf.
[125] Hutchinson-Scarbrough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.* Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from: http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf.
[126] Native Village of Chignik Lagoon (n.d.). *Chignik Lagoon.* Retrieved January 26, 2012 from: http://chigniklagoon.net/index.html.
[127] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Act, and occupies 3.7 million acres of the Alaska Peninsula.[128] The geology and topography of the area is characterized by high relief mountainous slopes mantled with deposits of volcanic ash and cinders. Brown and tan sandstone conglomerates dominate the landscape. Soils are relatively shallow and unproductive on the slopes, and primarily consist of well-drained ashy loams overlying sandy and cindery ash. Level areas consist of deeper, poorly drained organics with a thin layer of ash. Poorly drained depressions within mountainous slopes can contain muskeg environments. Land within the community consists mostly of marshy wetlands, pebble rock, and sand. Vegetation is typical of western/Aleutian Alaska. Due to soil and climatic conditions, natural growing trees are rare and most vegetation consists of low shrubs, grasses, and dwarf alders and willow. Brackish marsh vegetation populates the low lying areas and wetlands. Wildflowers including dandelion, fireweed, iris, rose, lupine. Horsetail are also found throughout the area, as well as an abundance of wild berries.[129]

The APNWR provides habitat for many migratory and marine birds including mallards, shovel nose, canvas backs, pintails, common merganser, bufflehead, and gulls. Terrestrial wildlife includes brown bear, moose, caribou, wolf, wolverine, fox, river otter, and beaver. Fish found in the area include all five species of Pacific salmon, Arctic grayling, Dolly Varden, rainbow and lake trout, northern pike, and burbot. Marine mammals include Steller sea lions, harbor seals, sea otters, and migratory whales.[130] Natural resources in the area include a copper and molybdenum deposit located at Bee Creek to the northeast, as well as coal deposits scattered throughout the region.[131]

Natural hazards in the area are similar to those on a regional level and include coastal flooding and erosion, storm surges, earthquakes, volcano eruptions, and tsunamis. There have been several historic earthquake and flooding events, and the community itself lies west of the active volcano, Mt. Veniaminof.[132] An active stratovolcano, eruption events were observed six times between 2002 and 2008.[133]

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation sites active in the community in 2010.[134]

Current Economy[135]

Fishing is an economic mainstay in Chignik Lagoon, and the area serves as a regional fishing center. The economy is dependent on the success of the salmon fleet. The primary year-round employers are the village council, electric plant, and school. Subsistence activities contribute to food sources, and harvests include salmon, other fish, crab, clams, caribou, moose,

[128] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge.* Retrieved January 24, 2012 from: http://alaskapeninsula.fws.gov/wildlife.htm.
[129] Chignik Bay Tribal Council (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf.
[130] See footnote 128.
[131] Alaska Department of Economic Development. (n.d.). *Mineral Resources in Alaska.* Retrieved January 24, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[132] See footnote 129.
[133] Alaska Volcano Observatory (n.d.). *Veniaminof Reported Activity.* Retrieved January 9, 2013 from: http://www.avo.alaska.edu/volcanoes/volcact.php?volcname=Veniaminof.
[134] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved June 22, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.
[135] Unless otherwise noted, all monetary data are reported in nominal values.

ducks, and berries.[136] Top employers[137] in 2010 included the Lake and Peninsula School District, Chignik Lagoon Village Council, Twin Peaks Construction, Native Village of Chignik Lagoon, Bristol Bay Native Association, and Bristol Bay Area Health Corporation.

In 2010,[138] the estimated per capita income in Chignik Lagoon was $37,231 and the estimated median household income was $130,250, compared to $28,941 and $92,297 in 2000, respectively. After accounting for inflation by converting 2000 values to 2010 dollars,[139] the real per capita income ($38,057) and real median household income ($121,369) indicate that while individual earnings have stayed the same, household earnings increased. In 2010, Chignik Lagoon ranked 20th of 305 Alaskan communities from which per capita income was estimated, and 3rd of 299 Alaskan communities from which median household income was estimated; making Chignik Lagoon one of the wealthiest communities in Alaska in terms of household earnings.

Chignik Lagoon's small population size may have prevented the ACS from accurately portraying economic conditions.[140] Another way of understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $657,455 in total wages in 2010.[141] When matched with the population in 2010, the per capita income equals $8,429; which is significantly lower than ACS estimates. This suggests that caution should be used when comparing 2010 ACS estimates with the 2000 Census.[142] However, it should be noted that the ACS estimated that 17.5% of employed residents were self-employed. If this is accurate, then ALARI estimates may be inaccurate based on the fact that self-employed residents were not considered.

According to 2006-10 ACS estimates,[143] 62.5% of the population aged 16 years and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 0.0%, compared to an estimated 5.9% statewide; and no residents were estimated to be living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Again, these estimates may be inaccurate depending on sample error. ALARI estimated a 2010 unemployment rate of 3.4% based on unemployment claimants.

Of those employed in 2010, an estimated 67.5% worked in the public sector, an estimated 17.5% were self-employed, and an estimated 15.0% worked in the private sector. By industry,

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[136] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[137] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[138] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[139] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[140] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[141] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[142] See footnote 140.
[143] See footnote 138.

most (32.5%) employed residents were estimated to have worked in the education, health care, and social assistance sectors in 2010; followed by agriculture, forestry, fishing, hunting, and mining sectors (22.5%); public administration sectors (22.5%); transportation, warehousing, and utilities sectors (12.5%); and construction sectors (10.0%) (Figure 3). By occupation type, most (50.0%) employed residents were estimated to hold management or professional positions; followed by natural resources, construction, or maintenance positions (42.5%); service positions (5.0%); and production, transportation, or material moving positions (2.5%) (Figure 4).

Local employment by industry and by occupation shifted dramatically between 2000 and 2010, most likely because of Chignik Lagoon's variable population or because of ACS sampling error. Notable changes were seen in both the public administration and construction sectors, including notable increases in both management and professional occupations.

Figure 3. Local Employment by Industry in 2000-2010, Chignik Lagoon (U.S. Census).

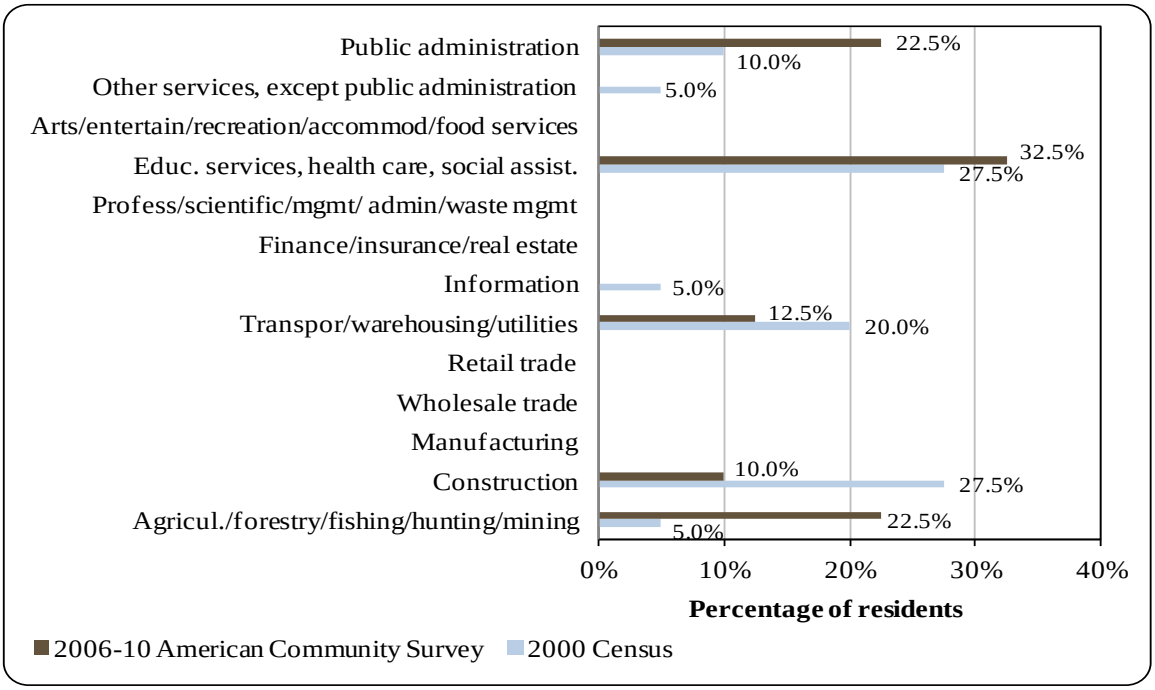
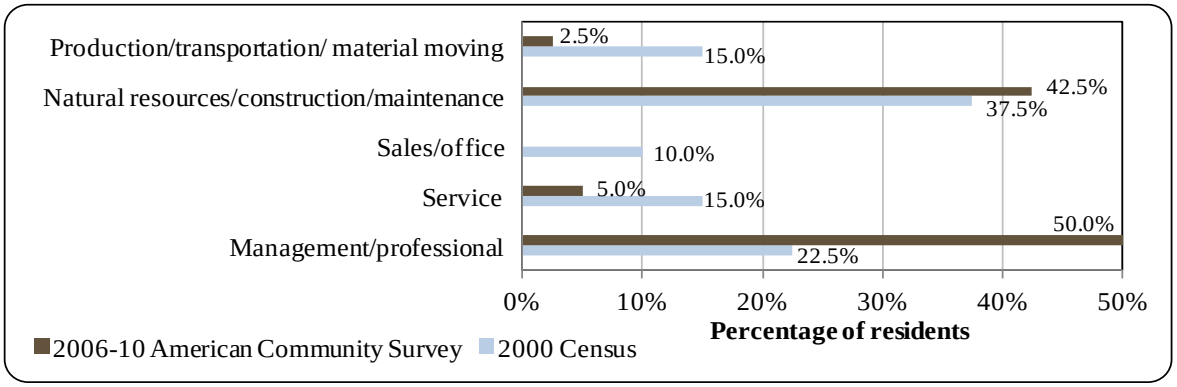


Figure 4. Local Employment by Occupation in 2000-2010, Chignik Lagoon (U.S. Census).



Governance

Chignik Lagoon is unincorporated and unable to administer taxes. However, it is under the jurisdiction of the Lake and Peninsula borough, which administers a 2% Raw Fish tax, 6% accommodations tax, $3.00 Guide tax, and $1.00 Lodge Guide tax. There is a U.S. Bureau of Indian Affairs (BIA) recognized Tribal government (Native Village of Chignik Lagoon) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Chignik Lagoon Native Corporation). The regional ANCSA Native corporation representing Chignik Lagoon is the Bristol Bay Native Corporation. The closest Alaska Department of Fish and Game (ADF&G) office is located in Chignik, although that office is only open seasonally. The closest permanent ADF&G office is located in Sand Point, 100 mi to the southwest. The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services (BCIS) offices are located in Kodiak, 257 mi to the northeast. Information regarding community finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chignik Lagoon from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[2] Alaska Department of Community and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[3] Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation[144]

Chignik Lagoon is primarily accessible by air and sea. There are no roads connecting it to other villages. There is a strong regional interest in constructing roads between Chignik, Chignik Lagoon, Chignik Lake, and the landfill. A state-maintained 1,810-ft by 60-ft wide gravel airstrip, public domain small boat harbor, and seaplane base are all located in the community. Regular and charter flights are available from King Salmon. A cargo ship brings supplies annually, and goods are lightered to shore. Boat haulouts are available. ATVs and skiffs are the primary means of local transportation. Price for roundtrip airfare between Chignik and Anchorage in June 2012 was $960.[145]

Facilities[146]

Chignik Lagoon draws its water from surface sources. The piped water system serves most homes; a few households have individual wells. Nearly all residences have complete plumbing, using individual septic tanks. An incinerator is available at the landfill. As of 2012 there was a hydroelectric project underway at Packer's Creek outside of town. Public safety services are provided by state troopers based in King Salmon. Fire and rescue services are provided by the Chignik Lagoon First Responder Group. Additional public facilities include a youth center and subsistence building, community center, school gym, and school library. Communications services include local and long distance telephone, local television, internet, and local radio.[147]

Medical Services[148]

The Chignik Lagoon Clinic, which provides basic health care, is a Community Health Aid Program site. Emergency care, trauma care, behavioral health care, dental care, diagnostic images, and pharmacy services are provided in Chignik.

Educational Opportunities[149]

Chignik Lagoon School offers preschool through twelfth grade instruction. As of 2011 there were 18 students enrolled and 3 teachers employed.

[144] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[145] Airfare was calculated using lowest fare. Source: http://www.travelocity.com (retrieved November 22, 2011).
[146] See footnote 144.
[147] Native Village of Chignik Lagoon (n.d.). *Chignik Lagoon.* Retrieved January 26, 2012 from: http://chigniklagoon.net/index.html.
[148] See footnote 144.
[149] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Chignik Management Area (CMA) is located on south side of the Alaska Peninsula and is the site of one of the earliest salmon fisheries in Alaska. By 1878, two canneries were processing the region's abundant sockeye salmon resource from Chignik Lagoon, one more began operation in Anchorage Bay by Chignik in 1896, and by 1910 the Columbia River Packers Association had built a cannery at Indian River (on Anchorage Bay). Canneries continued to proliferate throughout the region between 1890 and 1910, with additional canneries established near Ivanof Bay, and in Anchorage Bay. By 1911, the Columbia River Packing Company (later renamed Columbia Ward Fisheries) began operations on the north side of Chignik Lagoon, and operated there until 1990. By 1992, Aleutian Dragon Fisheries, and Chignik Pride Fisheries operated the only two remaining processing plants in the area, and both were located in Chignik Bay. Canneries primarily focused on all five species of Pacific salmon and Pacific cod; while also processing smaller quantities of octopus, sablefish, red snapper, pollock, and herring. Chignik canneries began processing shrimp in the 1970s, king crab in the early 1980s. and Tanner crab by 1987.[150]

All five species of Pacific salmon are harvested commercially within the CMA, of which sockeye salmon are primarily targeted. In 2010, Chinook harvests within CMA totaled 10,380 fish, sockeye harvests totaled 1.38 million fish, coho harvests totaled 159,198 fish, pink harvests totaled 489,781 fish, and chum harvests totaled 581,329 fish. Total ex-vessel value of the CMA salmon harvest in 2010 was approximately $14.34 million.[151] Ex-vessel value for Chignik salmon peaked in 1987 and 1988 at more than $25 million, and decreased steadily to a low of approximately $5 million between 2002 and 2006.[152]

Managed by emergency order, herring harvests typically occur from April 15 through June 30 for the sac roe season, and from August 15 through February 28 for the food and bait season. However, no commercial herring harvest occurred in 2010 due to low industry interest. The last commercial herring harvest occurred in 1996.[153]

Groundfish species targeted for both state and federal fisheries include Pacific cod, sablefish, lingcod, black rockfish, dark rockfish, and walleye pollock. In 2010, Pacific cod and walleye pollock comprised the largest volume of groundfish harvested in state fisheries within the Chignik area. Pacific cod are managed as a single Gulf of Alaska (GOA) stock, with the state managing parallel fisheries within state waters. In 2010, the total Acceptable Biological Catch for GOA pacific cod was 174.38 million lbs. In that year, 59.16 million lbs of Pacific cod was

[150] Hutchinson-Scarbrough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.* Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from: http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf.

[151] Anderson, T. J., and N. W. Nichols. (2010). *Chignik Management Area Salmon and Herring Annual Management Report, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 10-48. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR10-48.pdf.

[152] Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization.* University of Alaska, Anchorage. Retrieved January 9, 2013 from: http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.

[153] See footnote 151.

taken from the western GOA, of which 56% was harvested from state waters. In the Chignik Area, pot gear vessels were allocated 8.51 million lbs, while jig gear vessels were allocated 946,040 lbs. The total Pacific cod harvest that year was 9.15 million lbs taken by 16 vessels, valued at $2.19 million ex-vessel. In 2010, Black rockfish harvests in the Chignik Area were capped at 100,000 lbs. Only one vessel participated in the fishery that year. Skates are typically harvested incidentally while fishing for other targeted species, and fall under the assemblage of "other species" which include sharks, sculpins, squid, and octopi. Growing Asian markets for skates have increased interest in the species, which at times can be more valuable than other targeted species. Because of overfishing concerns, NMFS placed skates in bycatch status in 2006, while ADF&G discontinued directed harvests in state waters. State directed sablefish fisheries existed within Kodiak and Chignik areas in 2002, but have since been restricted to bycatch harvests. In 2010, sablefish bycatch harvests in state waters around Kodiak, Chignik, and the South Peninsula Eastern Districted totaled 17,924 lbs. Lingcod harvests are also strictly managed within the Kodiak and Chignik areas. Again, most lingcod is harvested as bycatch, and retention typically remains below 100,000 lbs annually within the western GOA. During 2008, lingcod harvests spiked to 521,257 lbs due to increased retention by trawl vessels. Lingcod harvests declined to 97,281 lbs in 2009 and 67,429 lbs in 2010. Walleye pollock harvests totaled 101.6 million lbs in the central GOA, and 57.1 million lbs in the western GOA. In the western GOA, 58% of the total pollock harvest occurred within state waters.[154]

Historically, commercial red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, Pandalid shrimp, red sea cucumber, and giant Pacific octopus harvests have occurred along the Alaska Peninsula. Most shellfish stocks are depressed, and commercial fisheries for red king crab and shrimp have not occurred since 1982. The Chignik Tanner crab fishery began in 1968, when 21,100 lbs were harvested and peaked in 1975 when 11 million lbs were harvested. Commercial fishing was closed in 1990 to allow depressed stocks to recover, and reopened during the 2004 and 2005 seasons. No Tanner crab fisheries occurred within the Chignik District between 2006 and 2010. Dungeness crab is harvested within the Chignik District although participation in the fishery is low with less than three vessels reporting landings in 2010. Shrimp fishing within the Chignik District began in 1968, and harvests peaked in 1976 at 27 million lbs. Stocks crashed shortly after, and by 1981 only 71,000 lbs were harvested. Since then, all inshore waters within the Chignik District have remained closed. While commercial fishing is permitted in some areas within the Chignik area, there was no fishing effort for shrimp within the Chignik District in 2010. Commercial sea cucumber harvests began in the Kodiak and Chignik districts in 1991 following an increase in market demand. Limits for eviscerated product was set at 25,000 lbs for the Chignik District in 2010 and fishing effort was limited. Demand for octopus increased during the 1990s, and are harvested alongside targeted species. In 2010, incidental harvests totaled 270,067 lbs from both state and federal waters.[155]

Chignik Lagoon has a history of being a fishing community, with many commercial fishermen using it as a seasonal base of operations. Even after the closure of the local seafood processor, the community remained a commercial fishing hub for the region, largely because of

[154] Stichert, M. A., K. Phillips, and P. Converse. (2011). *Annual Management Report fo Groundfish Fisheries in the Kodiak, Chignik, and South Alaska Peninsula Management Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-44. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-44.pdf.

[155] Sagalkin, N. and K. Spalinger. (2011). *Annual Management Report for Shellfish Fisheries in the Kodiak, Chignik, and Alaska Peninsula Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-43. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-43.pdf.

the acclaimed Chignik salmon fishery. In 2002, the Alaska Board of Fisheries implemented an experimental program that allocated a percentage of the Chignik sockeye salmon harvest to a harvesting cooperative, while creating a separate, "independent" fishery for non-cooperative vessels. The Chignik Salmon Cooperative originally grew from anger over ex-vessel prices offered by processing plants. In 1991, this anger led to local seiners striking. Following the strike, the Chignik Seiners Association continued discussions over the formation of a cooperative as a way to increase overall profitability and lower overhead costs within the Chignik sockeye salmon fishery.[156] Fishing cooperatives had been formed previously in other fisheries as a method of voluntary self-management to complement existing limited entry systems. It was believed that cooperatives would increase local access to markets, operating efficiency, and overall profitability.[157] In the case of the Chignik cooperative, members would be selected as harvesters, tenders, or inactive members. Profits would then be split equally between members. Between 2002 and 2005, over three-quarters of salmon permit holders living in Chignik became members of the Chignik Salmon Cooperative. Following the formation of the Cooperative, relations with local seafood processors became strained. With control over almost 70% of the salmon harvest, the Cooperative gained greater influence within the market than independent fishermen had previously held. Two salmon processing plants owned by Trident Seafoods and Norquest Seafoods operated in nearby Chignik Bay. Trident Seafoods and the Cooperative were unable to come to a purchasing agreement, and Trident decided close its plant in 2004. Despite being regarded as largely successful by most permit holders, the Chignik Salmon Cooperative ended in 2006 after the Alaska Supreme Court determined it broke Alaska Limited Entry law.[158]

Chignik Lagoon is eligible to participate in the Community Quota Entity (CQE) program, and established a CQE non-profit called the Chignik Lagoon Fishing Coalition at the recommendation of the Chignik Lagoon Village Council. The impetus for the CQE program followed the implementation of the halibut and sablefish Individual Fishing Quota (IFQ) program in 1995. The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated a portion of the annual Total Allowable Catch to eligible vessels and processors. Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, and unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead to decreased participation in communities traditionally dependent on the halibut or sablefish fisheries. To address this issue, the North Pacific Fishery Management Council implemented the CQE program in 2005. Under the program, eligible communities could form a non-profit corporation to purchase and manage quota share on their

[156] Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization.* University of Alaska, Anchorage. Retrieved January 9, 2013 from: http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.

[157] Deacon, R. T., D. P. Parker, and C. Costello. (2008). *The Efficiency Gains from Coordinating Effort in a Fishery: Evidence from the Chignik Salmon Cooperative.* University of California, Santa Barbara. Retrieved January 9, 2013 from: http://econ.ucsd.edu/CEE/papers/Chignik%20II%2012_4.pdf

[158] See footnote 156.

behalf.[159] As of Fall 2013, the Chignik Lagoon Fishing Coaliatoin had not yet purchased commercial halibut IFQ or halibut charter permits. However, the non-profit had acquired four non-trawl groundfish License Limitation Program permits for lease to eligible community members.[160]

Chignik Lagoon is located in Federal Reporting Area 620, International Pacific Halibut Commission Regulatory Area 3B, and the GOA Sablefish Regulatory District.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Chignik Lagoon does not have a registered processing plant. The closest seafood processor is located in Chignik.

Fisheries-Related Revenue

No fisheries-related revenue was reported on a community level between 2000 and 2010. Taxes and fees are collected on a borough level. Information regarding fisheries-related revenue can be found in Table 3.

Commercial Fishing

In 2010, 24 residents, or 30.8% of the population, held a total of 44 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 29 residents held 71 CFEC permits. Of those issued in 2010, 48% were for salmon, compared to 46% in 2000; 25% were for groundfish, compared to 42% in 2000; 9% were for herring, compared to 14% in 2000; 9% were for halibut, compared to 7% in 2000; and 9% were for crab, compared to 1% in 2000. Six residents held License Limitation Program (LLP) groundfish permits and two residents held Federal Fisheries Permits (FFP) (Table 4). Residents held 387,433 shares of halibut quota on 5 accounts in 2010, compared to 428,943 shares on 6 accounts in 2000. No residents held sablefish or crab quota between 2010 and when the programs began (Tables 6 to 8).

Residents held 41 commercial crew licenses in 2010, compared to 53 in 2000 (Table 5). In addition, residents held majority ownership of 41 vessels that year, compared to 49 in 2000. Of the CFEC permits held in 2010, 57% were actively fished, compared to 52% in 2000. This varied by fishery from 81% of salmon permits, to 75% of halibut, 36% of groundfish, 25% of crab, and 0% of herring permits. Herring permits were actively fished until 2006. Also in 2010, 66% of LLP groundfish permits were fished, as were 50% of FFPs (Table 4). Fisheries prosecuted in 2010 by Chignik Lagoon residents included: Chignik pot Dungeness crab and purse seine salmon; statewide longline halibut; statewide pot miscellaneous saltwater finfish; and GOA pot miscellaneous saltwater finfish.

No landings were reported in the community between 2000 and 2010; however, landings were reported by residents in those years (Tables 9 and 10). In 2010, 4.65 million lbs of salmon valued at $3.76 million ex-vessel was landed, compared to 3.71 million lbs valued at $3.03

[159] North Pacific Fishery Management Council (2010). *Review of the Community Quota Entity (CQE) Program under the Halibut/Sablefish IFQ Program.* Retrieved October 23, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/halibut/CQEreport210.pdf.
[160] NOAA Fisheries. (2013). Community Quota and License Programs and Community Quota Entities. Retrieved October 30, 2013 from http://alaskafisheries.noaa.gov/ram/cqp.htm.

million ex-vessel in 2000; a decrease of $0.31 per pound ex-vessel after accounting for inflation[161] and without considering the species composition of landings. Pacific cod landings that year totaled 4.63 million lbs valued at $1.19 million ex-vessel, compared to 1.10 million lbs valued at $340,136 ex-vessel; representing a decrease of $0.17 per pound after accounting for inflation.[162] Other landings made in 2010 are considered confidential. Halibut landings in 2007 totaled 94,153 lbs valued at $401,341 ex-vessel, compared to 117,741 lbs valued at $303,414 in 2000; representing an increase of $1.11 per pound ex-vessel after accounting for inflation.[163]

[161] Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.
[162] Ibid.
[163] Ibid.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Chignik Lagoon: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Chignik Lagoon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	5	6	6	6	5	5	5	5	6	6	6
	Active permits	3	4	3	4	4	4	4	4	5	5	4
	% of permits fished	60%	66%	50%	66%	80%	80%	80%	80%	83%	83%	66%
	Total permit holders	5	6	6	6	5	5	5	5	6	6	6
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	1	1	1	1	2	2	1	1	2	2	2
	Fished permits	0	0	0	1	1	2	1	1	2	2	1
	% of permits fished	0%	0%	0%	100%	50%	100%	100%	100%	100%	100%	50%
	Total permit holders	1	1	1	1	2	2	1	1	2	2	2
Crab (CFEC) [2]	Total permits	1	2	4	1	1	12	11	4	4	3	4
	Fished permits	1	2	2	1	1	7	3	1	1	0	1
	% of permits fished	100%	100%	50%	100%	100%	58%	27%	25%	25%	0%	25%
	Total permit holders	1	1	1	1	1	10	9	3	3	3	3
Other shellfish (CFEC) [2]	Total permits	2	2	1	1	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	2	1	1	1	1	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	5	5	6	5	6	6	6	6	6	6	4
	Fished permits	5	4	5	5	6	6	5	6	5	4	3
	% of permits fished	100%	80%	83%	100%	100%	100%	83%	100%	83%	67%	75%
	Total permit holders	5	5	6	5	6	6	6	6	6	6	4
Herring (CFEC) [2]	Total permits	10	6	5	4	8	7	5	5	3	3	4
	Fished permits	1	1	0	0	1	1	1	0	0	0	0
	% of permits fished	10%	17%	0%	0%	13%	14%	20%	0%	0%	0%	0%
	Total permit holders	7	5	4	3	3	3	2	2	1	1	2

Table 4 cont'd.. Permits and Permit Holders by Species, Chignik Lagoon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	30	28	22	23	32	29	18	17	15	15	11
	Fished permits	8	18	6	12	14	9	7	7	8	9	4
	% of permits fished	27%	64%	27%	52%	44%	31%	39%	41%	53%	60%	36%
	Total permit holders	19	19	17	16	22	19	15	14	13	14	10
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	23	25	24	24	24	26	23	22	23	24	21
	Fished permits	22	24	16	15	13	22	16	17	18	19	17
	% of permits fished	96%	96%	67%	63%	54%	85%	70%	77%	78%	79%	81%
	Total permit holders	22	25	25	22	24	24	21	20	23	25	23
Total CFEC Permits[2]	*Permits*	*71*	*68*	*62*	*58*	*72*	*81*	*63*	*54*	*51*	*51*	*44*
	Fished permits	*37*	*49*	*29*	*33*	*35*	*45*	*32*	*31*	*32*	*32*	*25*
	% of permits fished	*52%*	*72%*	*47%*	*57%*	*49%*	*56%*	*51%*	*57%*	*63%*	*63%*	*57%*
	Permit holders	*29*	*31*	*30*	*26*	*33*	*33*	*27*	*24*	*24*	*27*	*24*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Chignik Lagoon: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Chignik Lagoon[2]	Total Net Lbs Landed In Chignik Lagoon[2,5]	Total Ex-Vessel Value Of Landings In Chignik Lagoon [2,5]
2000	53	0	0	49	42	0	0	$0
2001	66	0	0	54	41	0	0	$0
2002	52	0	0	51	38	0	0	$0
2003	53	0	0	51	35	0	0	$0
2004	29	0	0	54	38	0	0	$0
2005	38	0	0	42	34	0	0	$0
2006	35	0	0	40	34	0	0	$0
2007	40	0	0	40	32	0	0	$0
2008	39	0	0	43	35	0	0	$0
2009	25	0	0	44	32	0	0	$0
2010	41	0	0	41	33	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Chignik Lagoon: 2000-2010.

Year	Number of Halibut Quota Share account holders	Halibut Quota Shares held	Halibut IFQ allotment (lbs)
2000	6	428,943	118,561
2001	6	428,943	130,449
2002	6	428,943	135,181
2003	6	428,943	134,450
2004	6	392,851	112,189
2005	6	392,851	94,604
2006	6	392,851	78,258
2007	6	392,851	66,660
2008	6	392,851	78,597
2009	6	392,851	78,519
2010	5	387,433	70,738

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation in Chignik Lagoon: 2000-2010.

Year	Number Of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation in Chignik Lagoon: 2000-2010.

Year	Number Of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Lbs)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-Vessel Revenue, by Species, in Chignik Lagoon: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-Vessel Revenue, By Species, by Chignik Lagoon Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	155,804	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	117,741	125,784	--	143,088	132,099	108,299	92,959	94,153	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	11,279	2,630	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	1,098,592	1,644,330	3,314,695	2,501,486	3,341,116	2,871,138	2,391,714	3,758,015	3,927,712	3,491,723	4,633,248
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	3,710,293	4,435,588	2,301,163	2,661,475	1,574,900	2,536,652	2,636,534	5,930,246	6,307,771	6,537,079	4,649,445
Total[2]	*4,926,626*	*6,205,702*	*5,615,858*	*5,317,328*	*5,050,745*	*5,671,893*	*5,121,207*	*9,782,414*	*10,235,483*	*10,028,802*	*9,282,693*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	$244,977	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	$303,414	$242,512	--	$396,534	$380,693	$310,905	$342,496	$401,341	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	$4,755	$583	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	$340,136	$415,390	$703,288	$672,325	$795,125	$741,575	$875,374	$1,740,608	$2,244,109	$886,419	$1,187,620
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$3,034,196	$2,465,420	$1,493,648	$1,630,399	$1,469,211	$2,144,728	$1,752,060	$2,321,916	$3,339,523	$4,126,809	$3,763,243
Total[2]	*$3,677,745*	*$3,123,322*	*$2,196,936*	*$2,704,013*	*$2,645,612*	*$3,442,185*	*$2,969,930*	*$4,463,866*	*$5,583,632*	*$5,013,228*	*$4,950,863*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is limited due to Chignik Lagoon's remote location. However, in 2010 there was one sportfishing guide business registered in the community and three residents held sport fish guide licenses. In total, 44 sportfishing licenses were sold in the community in 2010, compared to 10 in 2000. In addition, 18 sportfishing licenses were sold to residents, compared to none in 2000.

Chignik Lagoon is located within the Alaska Peninsula and Aleutian Islands ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages, between Cape Douglas and the community of Naknek. In 2010, angler days fished totaled 5,297 for saltwater fisheries and 33,635 for freshwater fisheries. In that year, non-Alaskan residents accounted for 38.4% of saltwater and 58.4% of freshwater angler days fished, compared to 15.8% and 39.5% in 2000, respectively. According to ADF&G Harvest Survey data, private anglers in Chignik Lagoon target king and sockeye salmon, halibut, rockfish, Pacific cod, Dungeness and Tanner crab, hardshell clams, and other shellfish. There is no kept/released charter information available for Chignik Lagoon. Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing trends, Chignik Lagoon: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Chignik Lagoon[2]
2000	1	1	10	0
2001	1	1	33	0
2002	1	1	25	0
2003	2	3	33	7
2004	2	3	36	7
2005	1	1	36	21
2006	2	1	18	30
2007	2	1	20	29
2008	1	0	14	9
2009	1	0	17	41
2010	1	3	18	44

Table 11 cont'd. Sport Fishing trends, Chignik Lagoon: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence is an important part of life in Chignik Lagoon as many year-round residents rely on subsistence and personal use fisheries to supplement their incomes when employment is scarce. In addition, as with many rural communities in Alaska, subsistence activities are a source of social and cultural cohesion, reinforcing lifestyles and traditions important to village life. During the 1980s and 1990s, residents harvested salmon primarily using purse seines, beach seine, and gill nets. Fish were also set aside from commercial harvests for home use and some salmon were harvested using rod and reel under sportfishing regulations.[164]

In a 2003 ADF&G survey,[165] 90% of surveyed households were to participating in subsistence salmon fisheries, 94% were participating in subsistence halibut fisheries, 71% were participating in subsistence marine invertebrate fisheries, and 25% were participating in

[164] Hutchinson-Scarbrough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.* Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from: http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf.

[165] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

subsistence non-salmon fish fisheries. In 2003, it was estimated that 304.5 lbs of marine resources were harvested per person for subsistence. According to the ADF&G *Community Subsistence Information System*,[166] Chignik Lagoon residents have used or harvested chitons, butter clams, Dungeness crab, octopus, littleneck clams, razor clams, sea urchin, Tanner crab, harbor seal, king crab, Steller sea lion, black rockfish, Dolly Varden char, eulachon, herring, longcod, Pacific cod, rainbow trout, red rockfish, skates, steelhead, and sole.

Salmon, halibut and marine mammals have been harvested by residents recently (Tables 12-15). Of the salmon species harvested by residents, sockeye salmon were harvested most, followed by coho and Chinook salmon. In 2008, residents reported harvesting 2,466 salmon, compared to 2,659 in 2000. The number of sockeye salmon reported harvested peaked in 2004 at 3,577 fish, which was the same year total reported salmon harvests peaked. In 2010, 13 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 34 in 2003. In that year, an estimated 770 lbs of halibut was harvested on 9 SHARC, compared to an estimated 2,921 lbs on 28 SHARC in 2003. Estimated halibut harvests peaked in 2006 at 6,694 lbs harvested on 28 SHARC. Marine mammal harvest information is limited; however, an estimated 14 sea otters were harvested between 2000 and 2010. In addition, an estimated 3 Steller sea lions were harvested between 2000 and 2008.

Table 12. Subsistence Participation by Household and Species, Chignik Lagoon: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	90%	94%	n/a	71%	25%	304.52
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[166] Ibid.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Chignik Lagoon: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	26	22	88	n/a	8	n/a	2,563	n/a	n/a
2001	38	37	87	n/a	240	33	2,843	n/a	n/a
2002	31	22	32	n/a	68	n/a	2,396	n/a	n/a
2003	35	28	126	n/a	35	17	3,459	2,051	856
2004	31	16	16	23	78	50	3,577	n/a	n/a
2005	26	24	157	14	114	27	1,896	n/a	n/a
2006	30	22	130	7	74	13	2,850	n/a	n/a
2007	30	11	16	3	95	n/a	3,327	n/a	n/a
2008	19	16	n/a	n/a	65	n/a	2,401	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Chignik Lagoon: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	34	28	2,921
2004	45	34	4,434
2005	42	30	4,686
2006	42	28	6,694
2007	39	22	4,269
2008	18	12	1,859
2009	13	9	2,233
2010	13	3	770

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Chignik Lagoon: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	1	n/a
2001	n/a	n/a	n/a	n/a	n/a	1	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	1	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Chignik Lake (*CHIG-nick*)

People and Place

Location [167]

Chignik Lake is located on the south side of the Alaska Peninsula next to the body of water of the same name. It lies 13 mi from Chignik, 265 mi southwest of Kodiak, and 474 mi southwest of Anchorage. The community is unincorporated and under the jurisdiction of the Lake and Peninsula Borough.

Demographic Profile [168]

In 2010, there were 73 residents, ranking Chignik Lake 277th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population declined by 45.1%. Between 2000 and 2009, the population declined by 27.6% with an average annual growth rate of -0.89%. This was lower than the state average of 0.75% and indicative of steady rate of decline since the population peaked in 2000 (Table 1).

Chignik Lake is an Alutiiq community with 94.5% of residents identifying themselves as American Indian or Alaska Native in 2010, compared to 86.9% in 2000. In addition, 2.7% of residents identified themselves as White, compared to 11.7% in 2000 and 2.7% identified themselves as two or more races, compared to 0.7% in 2000 (Figure 1).

In 2010, the average household size was 2.70, compared to 3.90 in 1990 and 3.63 in 2000. In that year, there were 50 total housing units, compared to 57 in 1990 and 50 in 2000. Of those households surveyed in 2010, 52% were owner occupied, compared to 68% in 2000; 12% were renter occupied, compared to 12% in 2000; 20% were vacant, compared to 18% in 2000; and 26% were occupied seasonally, compared to 2% in 2000. There were no residents living in group quarters between 1990 and 2010.

In 2010, the gender distribution of Chignik Lake was slightly skewed at 56.2% male and 43.8% female. This was slightly more skewed that the statewide distribution (52.1% male, 47.9% female) and significantly more male biased than 2000 (48.3% male, 51.7% female). The median age was 32.5 years, very similar to the statewide median of 32.7 years and markedly higher than the 2000 median of 20.8 years.

[167] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[168] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

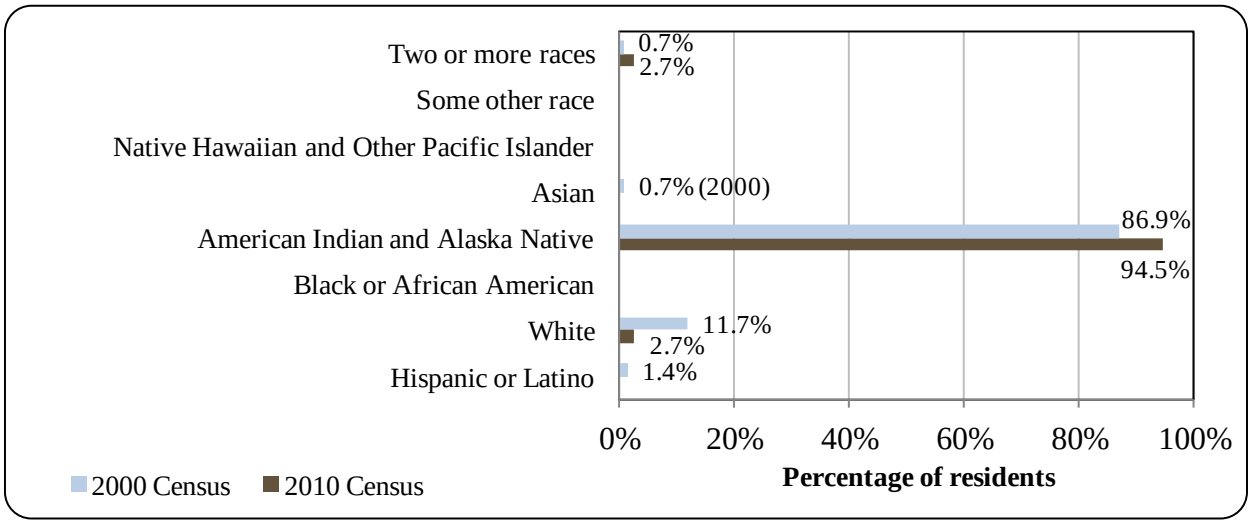
Table 1. Population in Chignik Lake from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	133	-
2000	145	-
2001	-	140
2002	-	115
2003	-	113
2004	-	113
2005	-	117
2006	-	122
2007	-	125
2008	-	104
2009	-	105
2010	73	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

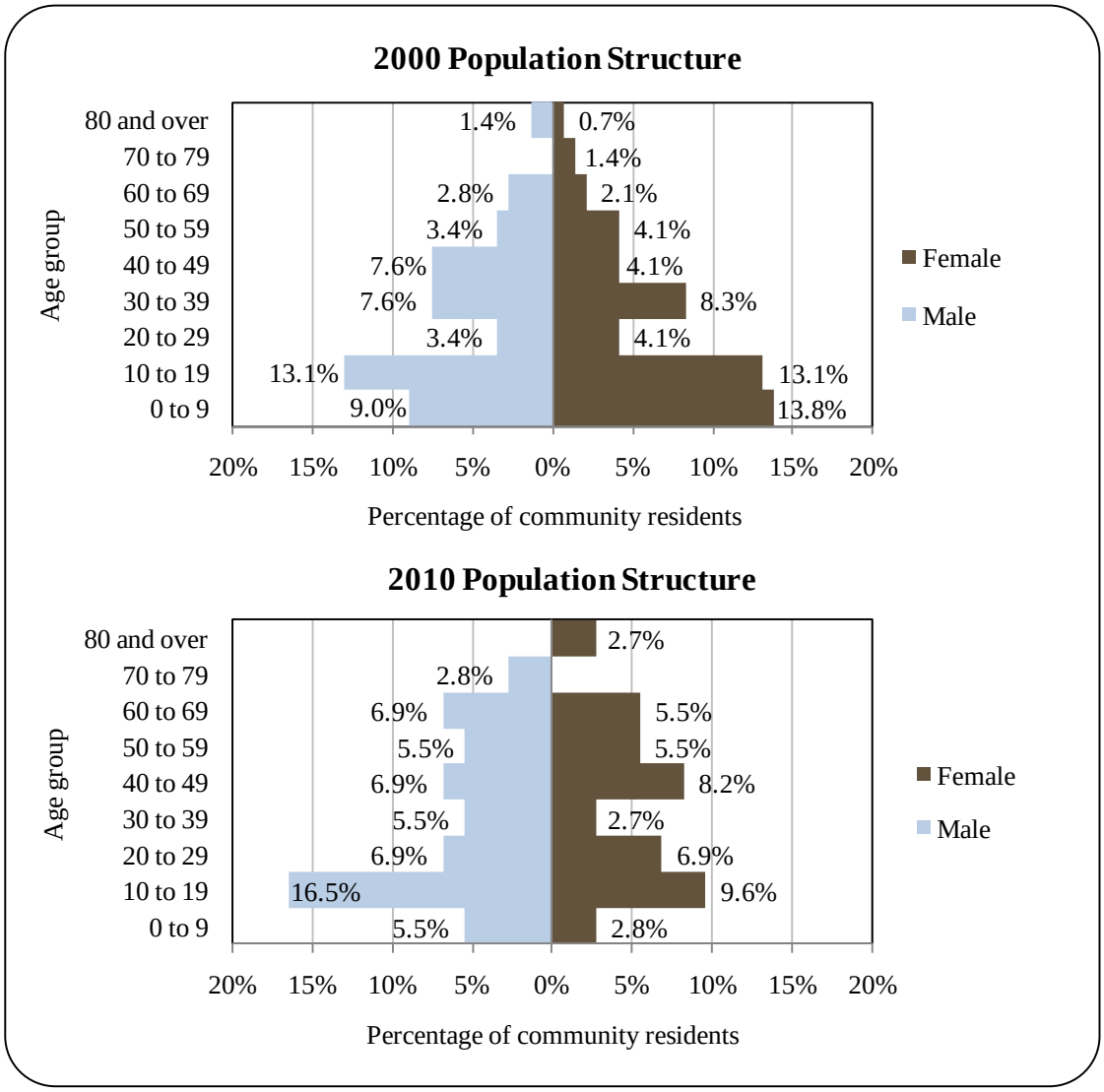
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Chignik Lake: 2000-2010 (U.S. Census).



The population structure was irregular in both 2000 and 2010, although more constricted in 2010 with 34.4% of residents under the age of 20, as opposed to 49% in 2000. Also in that year, 17.9% of residents were over the age of 59, compared to 8.4% in 2000; 34.3% were between the ages of 30 and 59, compared to 35.1% in 2000; and 13.8% were between the ages of 20 and 29, compared to 7.5% in 2000.

Figure 2. Population Age Structure in Chignik Lake Based on the 2000 and 2010 U.S. Decennial Census.



Gender distribution by age cohort was more uneven in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 30 to 39 ranges (5.5% male, 2.7% female); followed by the 70 to 79 (2.7% female, 0.0% male) and 0 to 9 (5.5% male, 2.8% female) ranges. Of those three, the greatest relative gender difference occurred in the 70 to 79 range. Information regarding trends in Chignik Lake's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-10 American Community Survey (ACS)[169] estimated that 57.1% of residents aged 25 years and older held a high school

[169] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 26.5% had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 16.3% had 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and an estimated 53.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall. No residents were estimated to hold a post-secondary degree.

History, Traditional Knowledge, and Culture

Archaeological evidence suggests that Aleut (Unanga and Alutiiq) peoples have occupied the Alaska Peninsula for approximately 9,000 years.[170,171] In the past, the Chignik region was at the contact boundary between Aleut and Yup'ik language groups. Archaeological investigations around Chignik Lake, Chignik River, and Chignik Lagoon suggest occupation dating back approximately 2,000 years. During the late 1700s and early 1800s, Russian traders began exploring the Aleutian Islands and Alaska Peninsula. The decline of the fur trade was followed by the growth of salmon processing within the region, and by 1889 three canneries had been established in Chignik Lagoon.[172] These were the Chignik Bay Company cannery, the Shumagin Packing Company, and the Chignik Bay Packing Company.[173]

The present population traces its roots from Aleuts who lived on the west side of the Alaska Peninsula near Illnik and the old village of Kanatag near Becharof Lake. In 1903, the village was the winter residence of a single family who fished near Chignik Lagoon. Other families moved from surrounding villages in the early 1950s when a school was built. The residents of Chignik Lake retain close ties with its Alutiiq heritage and practice a subsistence lifestyle. Commercial fishing is the mainstay of Chignik Lake's economy. Some residents leave the village during the summer months to fish commercially, crew or work at the fish processors in Chignik.[174]

Natural Resources and Environment

The maritime climate of Chignik Lake is characterized by cool summers and relatively warm, rainy winters. Summer temperatures range from 39 to 60 °F (4 to 16 °C). Winter temperatures range from 21 to 50 °F (-6 to 10 °C). Extreme temperatures, ranging from a low of

[170] LaRoche and Associates (2011). *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from: http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[171] WHPacific (2010). *Aleutians East Multi-Jurisdictional/Multi-Hazard Mitigation Plan.* Retrieved December 7, 2011 from: http://www.aleutianseast.org/.
[172] Mobley, C. M. (2004). *Chignik's Norquest Cannery: A Cultural Resource Inventory and Evaluation, Chignik, Alaska Peninsula, Alaska.* Retrieved January 10, 2013 from: http://polarconsult.net/ChignikBay/env/mobley_combined.pdf.
[173] Hutchinson-Scarbrough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.* Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from: http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf.
[174] Lake and Peninsula Borough. (n.d.). *Chignik Lake.* Retrieved January 30, 2012 from: http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC=%7BBF9236C9-F5CB-4227-9F86-681435D21410%7D.

-12 (-24 °C) to a high of 76 °F (24 °C), have been recorded. Precipitation averages 127 inches annually, with an average annual snowfall of 58 inches.[175]

Chignik Lake is located in the Alaska Peninsula National Wildlife Refuge (APNWR). The refuge was created in 1980 as a product of the Alaska National Interest Lands Conservation Act, and occupies 3.7 million acres of the Alaska Peninsula.[176] The geology and topography of the area is characterized by high relief mountainous slopes mantled with deposits of volcanic ash and cinders. Brown and tan sandstone conglomerates dominate the landscape. Soils are relatively shallow and unproductive on the slopes, and primarily consist of well-drained ashy loams overlying sandy and cindery ash. Poorly drained depressions within mountainous slopes can contain muskeg environments. Level areas consist of deeper, poorly drained organics with a thin layer of ash. Land within the community consists mostly of marshy wetlands, pebble rock, and sand. Vegetation is typical of western/Aleutian Alaska. Due to soil and climatic conditions, natural growing trees are rare and most vegetation consists of low shrubs, grasses, and dwarf alders and willow. Brackish marsh vegetation populates the low lying areas and wetlands. Wildflowers including dandelion, fireweed, iris, rose, lupine, and horsetail are also found throughout the area, as well as an abundance of wild berries.[177]

The APNWR provides habitat for many migratory and marine birds including mallards, shovel nose, canvas backs, pintails, common merganser, bufflehead, and gulls. Terrestrial wildlife includes brown bear, moose, caribou, wolf, wolverine, fox, river otter, and beaver. Fish includes all five species of Pacific salmon, Arctic grayling, Dolly Varden char, rainbow and lake trout, northern pike, and burbot. Marine mammals include Steller sea lions, harbor seals, sea otters, and migratory whales.[178] Natural resources in the area include a copper and molybdenum deposit located at Bee Creek to the northeast, as well as coal deposits scattered throughout the region.[179]

Natural hazards in the area are similar to those on a regional level and include coastal flooding and erosion, storm surges, earthquakes, volcano eruptions, and tsunamis. There have been several historic earthquake and flooding events, and the community itself lies west of the active volcano, Mt. Veniaminof.[180] An active stratovolcano, eruption events were observed six times between 2002 and 2008.[181]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in the community in 2010.[182]

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[175]Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[176] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge.* Retrieved January 24, 2012 from: http://alaskapeninsula.fws.gov/wildlife.htm.

[177] Chignik Bay Tribal Council (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf.

[178]U.S. Fish and Wildlife Service (n.d.). *Alaska Peninsula National Wildlife Refuge.* Retrieved January 24, 2012 from: http://alaskapeninsula.fws.gov/wildlife.htm.

[179] Alaska Department of Econ. Dev. (n.d.). *Mineral Resources in Alaska.* Retrieved January 24, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.

[180] See footnote 178.

[181] Alaska Volcano Observatory (n.d.). *Veniaminof Reported Activity.* Retrieved January 9, 2013 from: http://www.avo.alaska.edu/volcanoes/volcact.php?volcname=Veniaminof.

[182] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved June 22, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[183]

Fishing is the mainstay of Chignik Lake's economy. Some residents leave the community during summer months to commercially fish, crew, or work at the fish processing plants at Chignik. The people depend on subsistence hunting and fishing and utilize salmon, other fish, caribou, moose, and seal. Top employers in 2010[184] included: Lake and Peninsula School District, Chignik Lake Village Council, Bristol Bay Housing Authority, Bristol Bay Area Health Corp., and Bristol Bay Native Association.

In 2010,[185] the estimated per capita income was $16,347 and the estimated median household income was $64,063, compared to $13,842 and $41,458 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,[186] the real per capita income ($18,202) and real median household income ($54,517) indicate that while individual earnings declined, household earnings increased. In 2010, Chignik Lake ranked 181st of 305 Alaskan communities from which per capita income was estimated, and 66th of 299 Alaskan communities from which median household income was estimated.

Chignik Lake's small population size may have prevented the ACS from accurately portraying economic conditions.[187] Another way of understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $745,553 in total wages in 2010.[188] When matched with the population in 2010, the per capita income equals $10,213 which was significantly lower than 2010 ACS estimates and suggests that caution should be used when comparing 2010 ACS estimates with the 2000 Census.[189] It should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,[190] 61.7% of residents aged 16 years and older were part of the civilian labor force. Unemployment that year was estimated at 8.3%, compared to an estimated 5.9% statewide, and an 14.0% of the population was estimated to be living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Of those employed in 2010, an estimated 50% worked in the public sector and an estimated 50% worked in the private sector.

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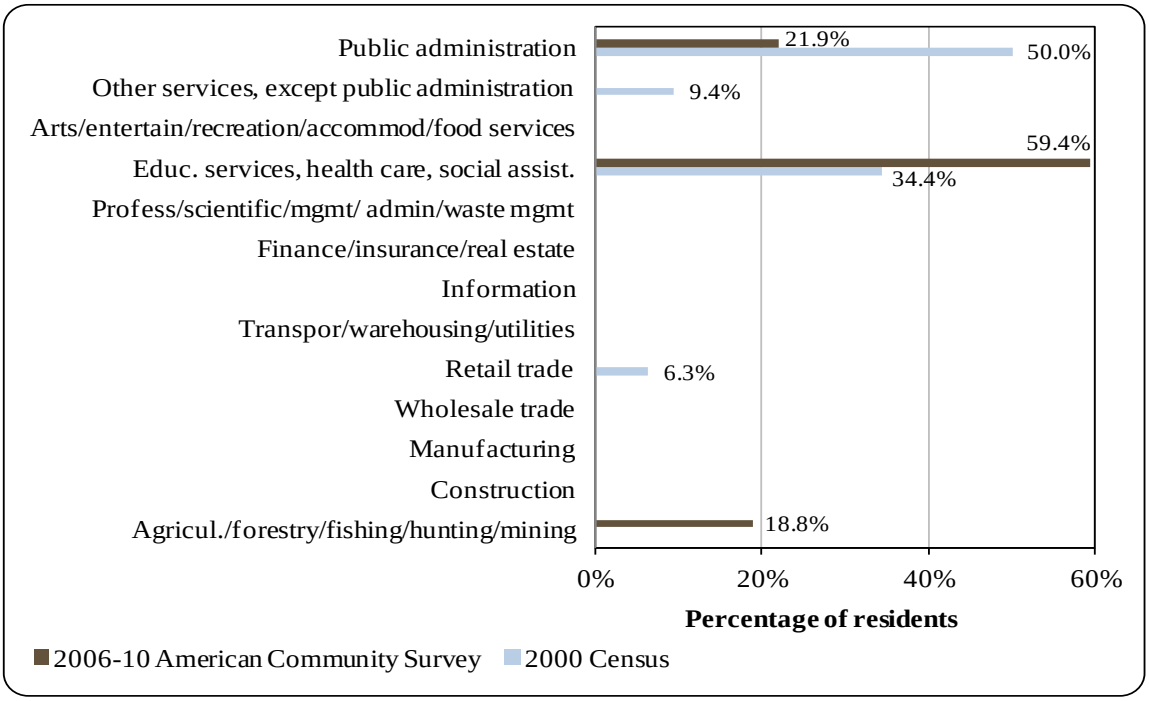
[183] Unless otherwise noted, all monetary data are reported in nominal values.
[184] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[185] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[186] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[187] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[188] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[189] See footnote 184.
[190] See footnote 185.

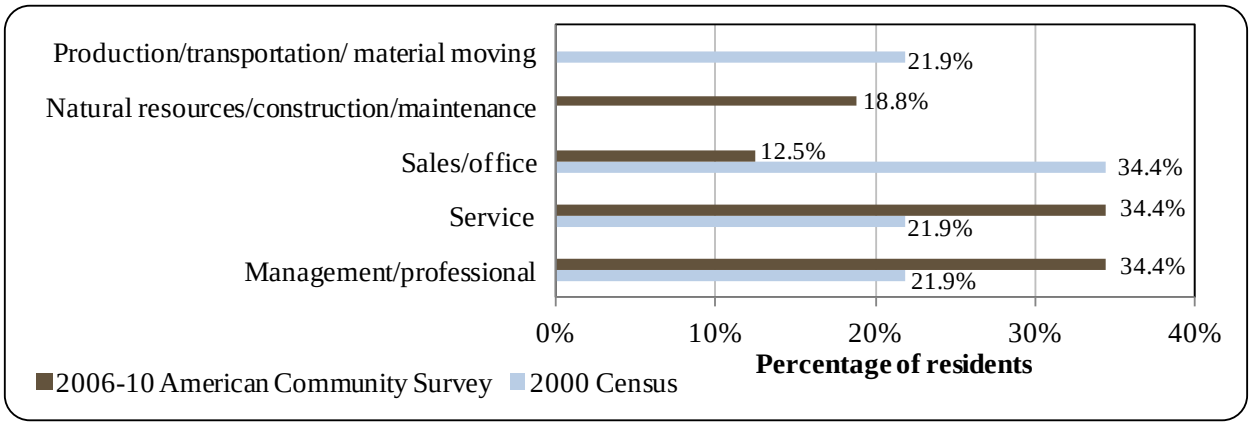
By industry, most (59.4%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by public administration sectors (21.9%) and agriculture, forestry, fishing, hunting, and mining sectors (18.8%). By occupation type, most (34.4%) employed residents were estimated to hold management or professional positions; followed by service positions (34.4%); natural resources, construction, or maintenance positions (18.8%); and sales or office positions (12.5%). There was immense variation in employment by industry sector and occupation type between 2000 and 2010. This could be attributed to the highly variable population or ACS sampling error. According to 2010 ALARI estimates, most (68.0%) of employed residents worked in local government sectors; followed by financial service sectors (12.0%) and other unspecified sectors (6.0%).[191] Further information regarding employment trends can be found in Figures 3 and 4.

Figure 3. Local Employment by Industry in 2000-2010, Chignik Lake (U.S. Census).



[191] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

Figure 4. Local Employment by Occupation in 2000-2010, Chignik Lake (U.S. Census).



Governance

Chignik Lake is unincorporated and therefore unable to administer taxes (Table 2). However, it is under the jurisdiction of the Lake and Peninsula borough which administers a 2% Raw Fish tax, 6% Bed tax, $3.00 Guide tax, and $1.00 Lodge Guide tax. There is a U.S. Bureau of Indian Affairs recognized Tribal government (Chignik Lake Village) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Chignik River Limited). The regional ANCSA chartered Native corporation representing Chignik Lake is the Bristol Bay Native Corporation. The closest seasonal Alaska Department of Fish and Game (ADF&G) office is located in Chignik; however, the closest permanent ADF&G office is located in Sand Point, 100 mi to the southwest. The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services (BCIS) offices are located in Kodiak, 265 mi to the northeast.

Infrastructure

Connectivity and Transportation[192]

Chignik Lake is primarily accessible by air. There is a state-owned 2,800-ft. long by 60-ft. wide gravel airstrip; seaplanes may land at Chignik Lagoon. Regularly-scheduled and charter flights are provided. Goods are lightered weekly during the summer and monthly during winter, to the lake via Chignik Lagoon and are then transported over land. The state ferry provides service to Chignik Lagoon four times per year. There is no harbor, dock, barge access, or boat haul-outs. Skiffs and ATVs are the primary means of local transportation. There is a strong regional interest in constructing roads between Chignik, Chignik Lagoon, Chignik Lake, and the city landfill. The price of roundtrip airfare between Anchorage and Chignik Lake in June of 2012 was $960.[193]

[192]Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[193] Airfare was calculated using lowest fare. Source: http://www.travelocity.com (retrieved November 22, 2011).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chignik Lake from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Facilities[194]

Treated well water is stored in a wood stave tank and is piped to all 32 households. The school has its own well. Approximately 70% of the homes are plumbed. Fifteen HUD (Housing and Urban Development) homes are connected to a central sewer system with a waste pump and lagoon; the remainder of the houses in the community use individual septic systems. Chignik Lake Electric Utility generates power only during the summer months; in winter, electricity is purchased from the school district. There is one hotel available for visitor accommodations. Public safety services are provided by state troopers based in King Salmon. Fire and rescue services are provided by the Chignik Lake Rescue Squad. Additional public facilities include a community center and school library.

Medical Services[195]

Chignik Lake Clinic is a Community Health Aid Program site. Basic health care is provided; however, emergency and trauma care, behavioral health care, dental care, diagnostic images, and pharmacy services are located in Chignik.

[194] See footnote 192.
[195] Ibid.

Educational Opportunities[196]

Chignik Lake School provides preschool through 12th grade instruction. As of 2011, there were 22 students enrolled and 2 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Chignik lake system has historically been the most productive sockeye salmon system in southwestern Alaska. Commercial fisheries began in the Chignik region in the late nineteenth century. In 1888, a fish-prospecting party lead by the Fishermen's Packing Company of Astoria, Oregon, returned from Chignik with 2,160 barrels of salted salmon. During the following year, 12 new canneries in central Alaska lead to a boom in seafood processing. Around 1896, the Hume Brothers and Pacific Steam Whaling Company both constructed canneries in Chignik, which mostly purchased fish from the Chignik Lagoon area. Northwestern Fisheries Company purchased both canneries in 1905 and closed the Hume facility, while operating the other until 1931. In 1910, the Columbia River Packers Association (CRPA) built a cannery at the mouth of Indian Creek, along the shore of Anchorage Bay. The Chignik area began to flourish around the CRPA and Northwestern Fisheries canneries. Key to the canneries success was the extensive use of fish traps station in Chignik Bay and Lagoon. Both the CRPA and Northwestern facilities on Anchorage Bay were the main Chignik canneries until the 1932 season, when neither operated due to poor economic conditions. Both plants didn't operate the following year, allowing a independent operator to establish a cannery at Chignik Lagoon. The 1930s were poor years for the Chignik fishing industry. All 20 canneries owned by Northwestern Fisheries were leased to Pacific American Fisheries (PAF) in 1933, but the PAF primarily only operated fish traps while selling catch to other canneries. In the 1950s, both the CRPA and American Packers Association plants combined operations. A fire in 1976 decimated the APA cannery. The cannery was quickly rebuilt and put back into operation by 1977.[197]

Annual catches in the Chignik fishery generally ranged between 0.5 to 1.5 million fish between the fisheries inception and 1950. However, the 1950s and 1960s produced periods of low annual catches averaging fewer than 500,000 until they rebounded during the 1970s and 1980s.[198] In 2002, the Board of Fisheries passed regulations leading to a harvesting cooperative in the Chignik fishery. Each year, the cooperative would receive a percentage of the Chignik sockeye harvest, based on the number of permit holders who join. Between 2002 and 2005, more than three quarters of Chignik permit holders joined the cooperative. Although controversial, the program reduced vessel participation and provided cost savings, while still providing income for its members. After lengthy litigation regarding its legality, the program was ended in 2006.[199]

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[196] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[197] Mobley, C. M. (2004). *Chignik's Norquest Cannery—A Cultural Resource Inventory & Evaluation, Chignik, Alaska Peninsula, Alasla.* Retrieved June 25, 2012 from: http://polarconsult.net/ChignikBay/env/mobley_combined.pdf.
[198] Rogers, D.E. (1995). *Recent Variation in the Catches of Chignik Sockeye Salmon.* Retrieved June 25, 2012 from: https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/4219/9509.pdf?sequence=1.
[199] Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization.* Retrieved June 25, 2012 from:

Historically, commercial red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, Pandalid shrimp, red sea cucumber, and giant Pacific octopus have occurred along the Alaska Peninsula. Most shellfish stocks are depressed, and commercial fisheries for red king crab and shrimp have not occurred since 1982. The Chignik Tanner crab fishery began in 1968, when 21,100 lbs were harvested and peaked in 1975 when 11 million lbs were harvested. Commercial fishing was closed in 1990 to allow depressed stocks to recover, and reopened during the 2004 and 2005 seasons. No Tanner crab fisheries occurred within the Chignik District between 2006 and 2010. Dungeness crab is harvested within the Chignik District although participation in the fishery is low with less than three vessels reporting landings in 2010. Shrimp fishing within the Chignik District began in 1968, and harvests peaked in 1976 at 27 million lbs. Stocks crashed shortly after, and by 1981 only 71,000 lbs were harvested. Since then, all inshore waters within the Chignik District have remained closed. While commercial fishing is permitted in some areas within the Chignik area, there was no fishing effort for shrimp within the Chignik District in 2010. Commercial sea cucumber harvests began in the Kodiak and Chignik districts in 1991 following an increase in market demand. Limits for eviscerated product was set at 25,000 lbs for the Chignik District in 2010 and fishing effort was limited. Demand for octopus increased during the 1990s, and are harvested alongside targeted species. In 2010, incidental harvests totaled 270,067 lbs from both state and federal waters.[200]

Groundfish species targeted for both state and federal fisheries include Pacific cod, sablefish, lingcod, black rockfish, dark rockfish, and walleye pollock. In 2010, Pacific cod and walleye pollock comprised the largest volume of groundfish harvested in state fisheries within the Chignik area. Pacific cod are managed as a single Gulf of Alaska (GOA) stock, with the state managing parallel fisheries within state waters. In 2010, the total Acceptable Biological Catch for GOA pacific cod was 174.38 million lbs. In that year, 59.16 million lbs of Pacific cod was taken from the western GOA, of which 56% was harvested from state waters. In the Chignik Area, pot gear vessels were allocated 8.51 million lbs, while jig gear vessels were allocated 946,040 lbs. The total Pacific cod harvest that year was 9.15 million lbs taken by 16 vessels, valued at $2.19 million ex-vessel. In 2010, Black rockfish harvests in the Chignik Area were capped at 100,000 lbs. Only one vessel participated in the fishery that year. Skates are typically harvested incidentally while fishing for other targeted species, and fall under the assemblage of "other species" which include sharks, sculpins, squid, and octopi. Growing Asian markets for skates have increased interest, which at times can be more valuable than other targeted species. Because of overfishing concerns, NMFS placed skates on bycatch status in 2006, while ADF&G discontinued directed harvests in state waters. State directed sablefish fisheries existed within Kodiak and Chignik areas in 2002, but have since been restricted to bycatch harvests. In 2010, sablefish bycatch harvests in state waters around Kodiak, Chignik, and the South Peninsula Eastern Districted totaled 17,924 lbs. Lingcod harvests are also strictly managed within the Kodiak and Chignik areas. Again, most lingcod is harvested as bycatch, and retention typically remains below 100,000 lbs annually within the western GOA. During 2008, lingcod harvests spiked to 521,257 lbs due to increased retention by trawl vessels. Lingcod harvests declined to 97,281 lbs in 2009 and 67,429 lbs in 2010. Walleye pollock harvests totaled 101.6 million lbs in

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http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.

[200] Sagalkin, N. and K. Spalinger. (2011). *Annual Management Report for Shellfish Fisheries in the Kodiak, Chignik, and Alaska Peninsula Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-43. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-43.pdf.

the central GOA, and 57.1 million lbs in the western GOA. In the western GOA, 58% of the total pollock harvest occurred within state waters.[201]

Chignik Lake's participation in North Pacific Fisheries is tied to the Chignik Salmon Fishery, as well as the Chignik region as a whole. Like the other communities in the Chignik region, the community is eligible to participate in the Community Quota Entity program, although a non-profit has not been formed. The impetus for the CQE program followed the implementation of the halibut and sablefish Individual Fishing Quota (IFQ) program in 1995. The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated and apportionment of the annual Total Allowable Catch to eligible vessels and processors. Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, and unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead decreased participation in communities traditionally dependent on the halibut or sablefish fisheries. To address this issue, the North Pacific Fishery Management Council implemented the CQE program in 2005. Under the program, eligible communities could form a non-profit corporation to purchase and manage quota share on their behalf. Chignik Lake is located in Federal Reporting Area 620, International Pacific Halibut Commission Regulatory Area 3B, and the Central GOA Sablefish Regulatory District.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Chignik Lake does not have a registered processing plant. The closest seafood processor is located in Chignik.

Fisheries-Related Revenue

No fisheries-related revenue was reported on a community level between 2000 and 2010 (Table 3). Taxes and fees are collected on a borough level.

Commercial Fishing

In 2010, 8 residents, or 11.0% of the population, held 8 permits issued by the Commercial Fisheries Entry Commission (CFEC), which has held relatively stable since 2000 when 8 residents held 10 CFEC permits. All of the CFEC permits issued in 2010 were for salmon, and 63% were actively fished. No residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits, and 1,866 shares of halibut quota were held on 1 account between 2000 and 2010. No residents have held sablefish or crab quota shares since those programs began. The only fishery prosecuted by residents in 2010 was the Chignik purse

[201] Stichert, M. A., K. Phillips, and P. Converse. (2011). *Annual Management Report fo Groundfish Fisheries in the Kodiak, Chignik, and South Alaska Peninsula Management Areas, 2010.* Alaska Dep. of Fish and Game. Fishery Management Report No. 11-44. Retrieved January 10, 2013 from: http://www.adfg.alaska.gov/FedAidPDFs/FMR11-44.pdf.

seine salmon fishery.[202] In 2010, 27 residents held commercial crew licenses, compared to 38 in 2000. Also in that year, residents held majority ownership of 7 vessels, compared to 10 in 2000. No landings were made in the community between 2000 and 2010 given a lack of processing capacity; however, landings were still reported by residents. Landings made by residents in 2010 are considered confidential. However, in 2006 residents landed 311,656 lbs of salmon with an ex-vessel value of $228,033, compared to 451,442 landed in 2000 with an ex-vessel value of $395,859. This represents a decrease of approximately $0.32 per pound ex-vessel during this time period after accounting for inflation[203] and without considering the species composition of landings. Further, information regarding commercial fishing trend scan be found in Tables 4 through 10.

[202] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[203] Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Chignik Lake: 2000-2010.

Revenue Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries resource landing tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Chignik Lake: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	2	0	0	0	0	0	0	0	0	0
	Fished permits	0	1	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	50%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	1	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0

Table 4 Cont. Permits and Permit Holders by Species, Chignik Lake: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	8	9	8	7	10	8	8	6	5	7	8
	Fished permits	7	7	3	3	6	7	7	4	3	4	5
	% of permits fished	88%	78%	38%	43%	60%	88%	88%	67%	60%	57%	63%
	Total permit holders	8	9	9	8	10	8	8	6	5	7	8
Total CFEC Permits[2]	*Permits*	*10*	*12*	*9*	*7*	*10*	*8*	*8*	*6*	*5*	*7*	*8*
	Fished permits	*9*	*8*	*3*	*3*	*6*	*7*	*7*	*4*	*3*	*4*	*5*
	% of permits fished	*90%*	*67%*	*33%*	*43%*	*60%*	*88%*	*88%*	*67%*	*60%*	*57%*	*63%*
	Permit holders	*8*	*10*	*9*	*8*	*10*	*8*	*8*	*6*	*5*	*7*	*8*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Chignik Lake: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Chignik Lake[2]	Total Net Lbs Landed In Chignik Lake[2,5]	Total Ex-Vessel Value Of Landings In Chignik Lake[2,5]
2000	38	0	0	10	5	0	0	$0
2001	37	0	0	11	6	0	0	$0
2002	25	0	0	10	5	0	0	$0
2003	20	0	0	10	4	0	0	$0
2004	3	0	0	10	3	0	0	$0
2005	32	0	0	11	4	0	0	$0
2006	18	0	0	12	4	0	0	$0
2007	13	0	0	10	4	0	0	$0
2008	28	0	0	6	4	0	0	$0
2009	26	0	0	7	3	0	0	$0
2010	27	0	0	7	3	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Chignik Lake: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	1	1,866	520
2001	1	1,866	572
2002	1	1,866	592
2003	1	1,866	589
2004	1	1,866	537
2005	1	1,866	452
2006	1	1,866	373
2007	1	1,866	317
2008	1	1,866	375
2009	1	1,866	375
2010	1	1,866	340

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation in Chignik Lake: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island crab Catch Share Program Participation in Chignik Lake: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-Vessel Revenue, by Species, in Chignik Lake: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-Vessel Revenue, by Species, by Chignik Lake Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	451,442	396,120	--	--	558,310	733,563	311,656	--	--	--	--
Total[2]	*451,442*	*396,120*	--	--	*558,310*	*733,563*	*311,656*	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$395,859	$262,959	--	--	$488,908	$631,483	$228,033	--	--	--	--
Total[2]	*$395,859*	*$262,959*	--	--	*$488,908*	*$631,483*	*$228,033*	--	--	--	--

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net lbs refers to the landed weight recorded in fish tickets.
2 Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is not a substantial part Chignik Lake's participation in North Pacific Fisheries, partly because of its remote location and high cost for travel to the community. Visitors to the community acquire sportfishing licenses elsewhere. No licenses were sold in the community between 2000 and 2010. In 2010, 10 residents held sportfishing licenses, compared to 7 in 2000. There were no registered sport fish guide businesses active in 2010 nor did any residents hold sport fish guide licenses. However, the Chignik area is popular with private anglers willing to make the trip, and Chignik Lake offers visitor accommodations.

Chignik Lake is located within the Alaska Peninsula and Aleutian Islands ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages, between Cape Douglas and the community of Naknek. In 2010, angler days fished totaled 5,297 for saltwater fisheries and 33,635 for freshwater fisheries. In that year, non-Alaska resident anglers accounted for 38.4% of saltwater and 58.4% of freshwater angler days fished, compared to 15.8% and 39.5% in 2000, respectively. According to ADF&G Harvest Survey data, private anglers in Chignik Lake target king, coho, chum, and sockeye salmon, Dolly Varden char, halibut, rockfish, lingcod, Pacific cod, and other finfish. There is no kept/release charter information available for Chignik Lake. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence is an important part of life in Chignik Lake as many year round residents rely on subsistence and personal use fisheries to supplement their incomes when employment is scarce. As with many rural communities in Alaska, subsistence activities are a source of social and cultural cohesion, reinforcing lifestyles and traditions important to village life. In a 2003 ADF&G survey, 83% of household surveyed were found to be participating salmon subsistence activities, 90% were participating in halibut subsistence activities, 38% were participating in marine mammal subsistence activities, 65% were participating in marine invertebrate subsistence activities, and 18% were participating in non-salmon fish subsistence activities. Total per capita lbs harvested that year was estimated at 183.08. According to the ADG&G *Community Subsistence Information System*,[204] residents of Chignik Lake have used or harvested chitons, butter clams, octopus, littleneck clams, razor clams, sea urchin, Tanner crab, cockles, harbor seal, Steller sea lion, Dolly Varden, Pacific cod, rainbow trout, steelhead, and flounder.

Of the species reported by AF&G in Table 13, sockeye salmon were harvested the most, followed by coho, Chinook, pink, and chum. In 2008, residents reported harvesting 2,125 salmon, compared to 2,500 in 2000. Total reported salmon harvests peaked in 2002 with 3,062. In 2010, 4 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 7 in 2003. In that year, an estimated 100 lbs of halibut was harvested using 5 SHARC,compared to an estimated 359 lbs on 6 SHARC in 2003. Halibut harvests peaked in 2007 at an estimated 1,176 lbs harvested on 6 SHARC. Reports on marine mammal subsistence are limited. However, 1 sea otter was reported harvested in 2004. Between 2000 and 2008, an estimated 55 harbor seals were harvested. Harbor seal harvests peaked in 2008 at an estimated 20 seals. Information regarding subsistence trends can be found in Tables 12 through 15.

[204] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 11. Sport Fishing Trends, Chignik Lake: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Chignik Lake[2]
2000	0	0	7	0
2001	0	0	5	0
2002	0	0	10	0
2003	0	0	11	0
2004	1	3	7	0
2005	0	1	10	0
2006	1	1	18	0
2007	1	3	11	0
2008	1	1	11	0
2009	0	1	10	0
2010	0	0	10	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 12. Subsistence Participation by Household and Species, Chignik Lake: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	83%	90%	38%	65%	18%	183
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Chignik Lake: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	17	16	15	n/a	n/a	5	2,464	n/a	n/a
2001	26	25	41	n/a	n/a	n/a	2,930	n/a	n/a
2002	23	20	8	n/a	75	n/a	2,979	n/a	n/a
2003	24	21	2	1	46	7	2,621	815	439
2004	12	7	19	n/a	185	17	1,094	n/a	n/a
2005	24	15	30	n/a	264	40	2,714	n/a	n/a
2006	26	15	42	n/a	125	n/a	2,574	n/a	n/a
2007	27	21	6	n/a	64	96	2,638	n/a	n/a
2008	16	14	23	23	9	54	2,016	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Chignik Lake: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	7	6	359
2004	6	3	413
2005	8	6	406
2006	7	5	310
2007	8	6	1,176
2008	8	5	423
2009	8	5	197
2010	4	1	100

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Chignik Lake: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	3	n/a
2001	n/a	n/a	n/a	n/a	n/a	1	n/a
2002	n/a	n/a	n/a	n/a	n/a	3	n/a
2003	n/a	n/a	n/a	n/a	n/a	9	n/a
2004	n/a	n/a	n/a	n/a	n/a	7	n/a
2005	n/a	1	n/a	n/a	n/a	4	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	8	n/a
2008	n/a	n/a	n/a	n/a	n/a	20	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Clark's Point

People and Place

Location [205]

Clark's Point is located on a spit on the northeastern shore of Nushagak Bay, 15 mi south of Dillingham and 337 mi southwest of Anchorage. The area encompasses 3.1 sq mi of land and 0.9 sq mi of water. The community was incorporated as a Second-class city in 1971, is located in the Dillingham Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [206]

In 2010, there were 62 residents, ranking Clark's Point 286th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 3.3%. Between 2000 and 2009, the population declined by 18.7% with an average annual growth rate of -1.29%, which was less than the statewide average of 0.75% and representative of a relatively steady decline. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the permanent population of Clark's Point was 60, and that seasonal workers typically live in the community from June through August. Clark's Point population peaks at the end of June and is mostly driven by employment in the fishing sectors. Information regarding population trends can be found in Table 1.

Clark's Point is predominately a Yup'ik community with 88.7% of the population identifying themselves as American Indian or Alaska Native in 2010, compared to 90.7% in 2000. In addition, 11.3% of the population identified themselves as White, compared to 6.7% in 2000. Overall, racial and ethnic composition in Clark's Point remained relatively unchanged between 2000 and 2010. Information regarding racial and ethnic composition can be found in Figure 1.

In 2010, the average household size was 2.58, compared to 3.3 in 1990 and 3.13 in 2000. In that year, there were a total of 50 housing units, compared to 55 in 1990 and 51 in 2000. Of the households surveyed in 2010, 36% were owner-occupied, compared to 27% in 2000; 12% were renter-occupied, compared to 20% in 2000; 0% were vacant, compared to 10% in 2000; and 52% were occupied seasonally, compared to 43% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

[205] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[206] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

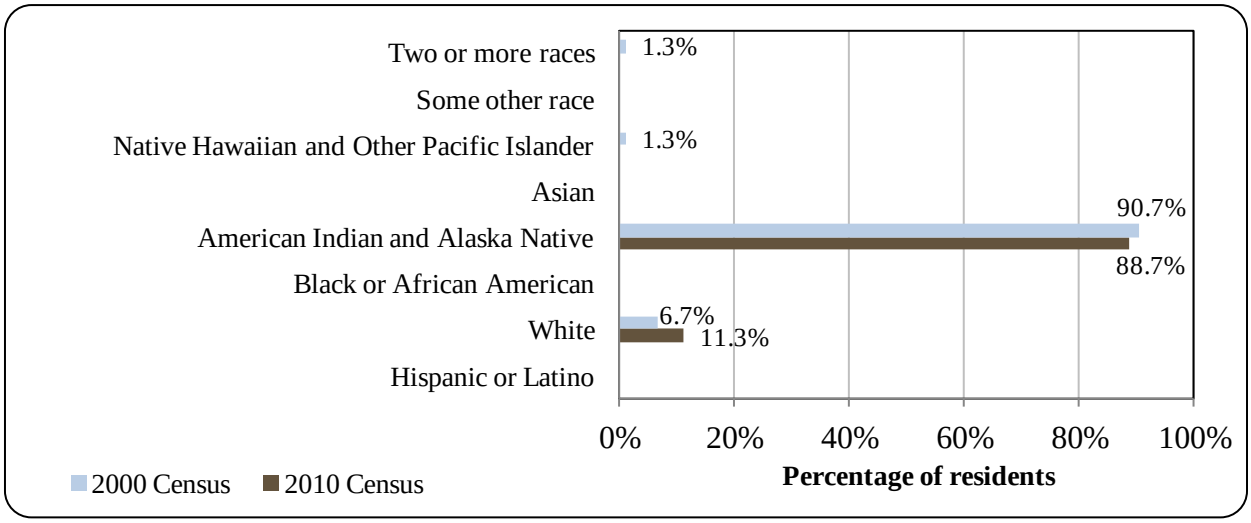
Table 1. Population in Clark's Point from 1990 to 2010 By Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	60	-
2000	75	-
2001	-	69
2002	-	65
2003	-	66
2004	-	63
2005	-	65
2006	-	69
2007	-	66
2008	-	54
2009	-	61
2010	62	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Clark's Point: 2000-2010 (U.S. Census).



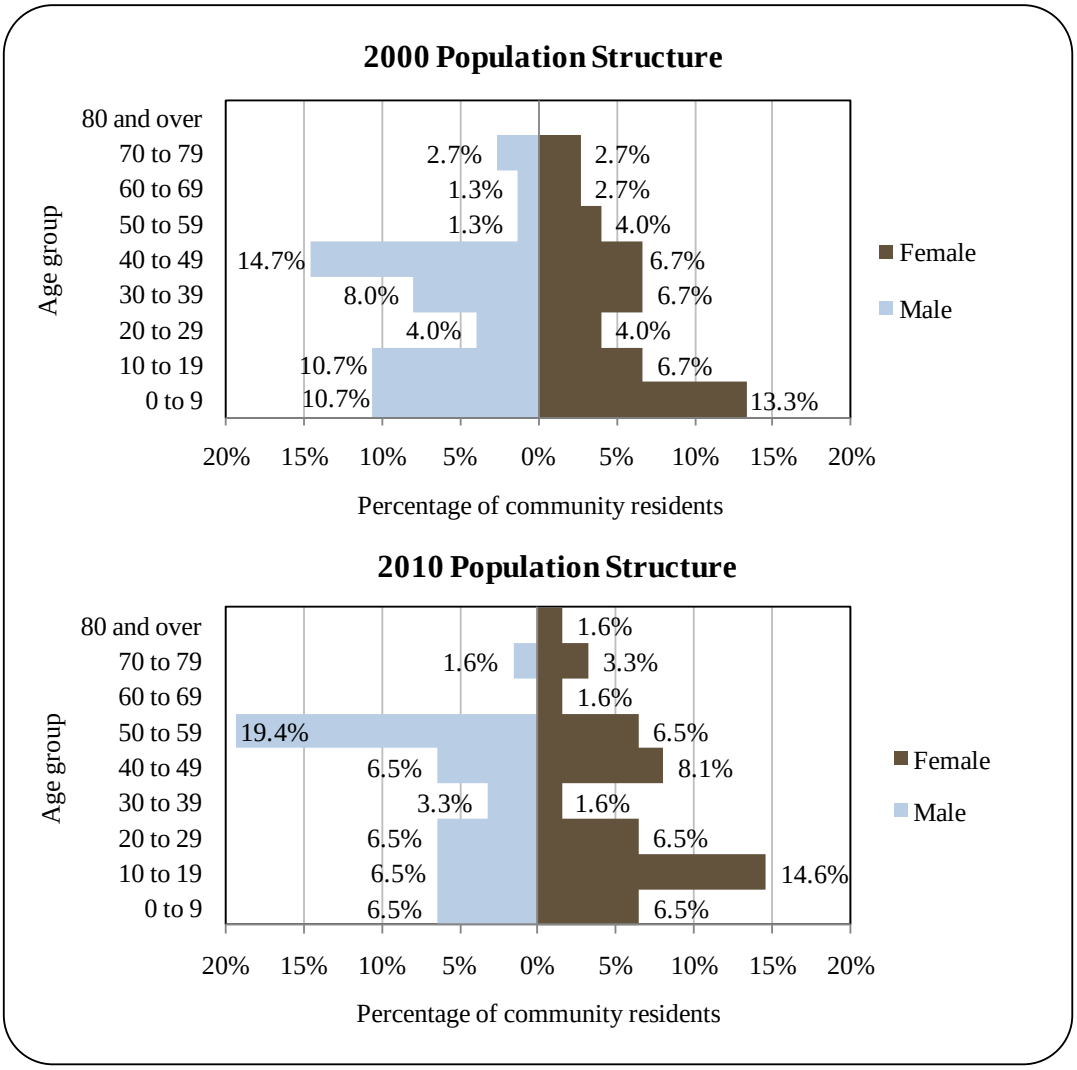
Gender distribution in 2010 was even at 50.0% male and 50.0% female. This was more even than both the distribution statewide (52% male, 48% female) and the distribution in 2000 (53.4% male, 46.6% female). The median age that year was 35.0 years, which was similar to the statewide median of 33.8 years and older than the 2000 median of 30.5 years.

The population structure was irregular in both 2000 and 2010, although somewhat more constricted in 2010. In that year, 34.1% of residents were under the age of 20, compared to

41.4% in 2000; 8.1% were over the age of 59, compared to 9.4% in 2000; 45.4% were between the ages of 30 and 59, compared to 41.4% in 2000; and 13.0% were between the ages of 20 and 29, compared to 8.0% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 50 to 59 range (19.4% male, 6.5% female), followed by the 10 to 19 (14.6% female, 6.5% male), 70 to 79 (3.3% female, 1.6% male), and 30 to 39, (3.3% male, 1.6% female) ranges. Of those four, the greatest relative gender difference occurred in the 50 to 59 range. Information regarding trends in Clark's Point population structure can be found in Figure 2.

Figure 2. Population Age Structure in Clark's Point Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS) [207]estimated that 79.4% of residents aged 25 and older held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 20.6% of residents had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and an estimated 64.7% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall. No residents were estimated to have less than a 9th grade education or hold a post-secondary degree.

History, Traditional Knowledge, and Culture[208]

Clark's Point originally had a Yup'ik name, "Saguyak," yet there is no evidence of a settlement at the site prior to the Nushagak Packing Company cannery, established in 1888. John Clark, the community's namesake, was the manager of the Alaska Commercial Company store at Nushagak. Clark is said to have operated a saltery prior to the establishment of the cannery. In 1893, the cannery became a member of the Alaska Packers Association. In 1901 a two-line cannery was built. During World War II, the canning operation ceased, and only salting was done at Clark's Point. The plant was closed in 1952, and the Alaska Packers Association used the facility as the headquarters for its fishing fleet. The city was incorporated in 1971. The village has been plagued by severe erosion, resulting in a housing project that was constructed on high and safe ground on the bluff in 1982.

Natural Resources and Environment

Clark's Point is located in a climatic transition zone. The primary influence is maritime, although the arctic climate also affects the region. Average summer temperatures range from 37 to 66 °F (3 to 19 °C). Average winter temperatures range from 4 to 30 °F (-16 to -1 °C). Average annual precipitation is 20 to 26 inches, and annual snowfall averages 82 inches. Fog and low clouds are common during winter months. The Nushagak Bay is ice-free from June through mid-November.[209]

The topography surrounding Clark's Point was shaped by continental glaciers and consists of wet lowlands, rolling hills, and moraine deposits. Soils in the area are dominated by silty glacial deposits. Lowlands are characterized by streams and small lakes and ponds associated with the wetlands. Upland hills are covered with a thick layer of silty loess.[210] Vegetation consists of a mix of moist tundra and spruce stands. Tundra consists of mosses, lichens, and grasses. Spruce forests consist of white spruce and paper birch, and typically cover

[207] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[208] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[209] Ibid.
[210] City of Dillingham. (2006). *City of Dillingham Comprehensive Plan.* Retrieved February 9, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.

moraine hills. Other tree species in the greater area include quaking aspen, black spruce, and cottonwood.[211]

While the community lacks a hazard mitigation plan, coastal flooding events and erosion have historically impacted the region as a whole. Exposed bluffs in the area are susceptible to erosion from tides and storm surges, often leading to coastal lowland flooding.[212] According to Dillingham's *2008 Multi-Hazard Mitigation Plan*,[213] there is an approximate 0.05% chance of a 5.0 magnitude or above earthquake occurring in the area before 2017.

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation sites active in the community in 2010.[214]

Current Economy[215]

The primary economic base of Clark's Point is commercial fishing. Trident Seafoods has an on-shore facility, although it was not registered on the Alaska Department of Fish and Game (ADF&G) intent to operate list in 2010. In addition, no commercial landings were made in the community between 2000 and 2010.[216] Ekuk, to the south of Clark's Point, also contributes to regional commercial fishing employment. Everyone depends on subsistence resources to some extent and travels over a great area, if necessary, to harvest them. Salmon, smelt, moose, bear, rabbit, ptarmigan, duck, and geese are harvested. Exchange relationships exist between nearby communities. For example, whitefish is acquired from Ekwok, New Stuyahok, and Bethel; and smelt and lingcod are traded with Manokotak for moose.[217] Top employers[218] in 2010 included: Southwest Region Schools, Clark's Point Village Council, City of Clark's Point, Bristol Bay Native Association (BBNA), Ekuk Fisheries LLC, and Grant Aviation Inc.

In 2010,[219] the estimated per capita income in Clark's Point was $10,491 and the estimated median household income was $14,107, compared to $10,988 and $28,125 in 2000, respectively. After accounting for inflation by converting 2000 values to 2010 dollars,[220] the real per capita income ($14,449) and real median household income ($36,984) indicate declines in both individual and household earnings.

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[211] Palcsak, B.B. and Dorava, J. M. (1994). *Overview of Environmental and Hydrogeologic Conditions at Dillingham, Alaska.* Retrieved February 9, 2012 from: http://www.dggs.alaska.gov/webpubs/usgs/of/text/of94-0482.PDF.

[212] See footnote 210.

[213] City of Dillingham. (2008). *City of Dillingham Multi-Hazard Mitigation Plan.* Retrieved February 10, 2012 from: http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Dillingham_HMP.pdf.

[214] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved June 22, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.

[215] Unless otherwise noted, all monetary data are reported in nominal values.

[216] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[217] See footnote 208.

[218] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

[219] U.S. Census. American Community Survey 2006-10 Estimates.

[220] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

The small population of Clark's Point may have prevented the ACS from accurately portraying economic conditions.[221] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $422,801 in total wages in 2010.[222] When matched with the population in 2010, the per capita income equals $6,819, which is somewhat less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Census figures.[223] In addition, Clark's Point was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[224] However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates, 50% of the population aged 16 years and older was part of the civilian labor force in 2010. In that year, unemployment was estimated at 19.6%, compared to an estimated 5.9% statewide; and 44.6% of the population was estimated to be living below the poverty line, compared to an estimated 9.5% statewide. Of those employed in 2010, an estimated 50% worked in the private sector and an estimated 50% worked in the public sector.

By industry, most (28.6%) were estimated to work in public administration sectors in 2010; followed by manufacturing sectors (28.6%); construction sectors (21.4%); and private service sectors (21.4%). By occupation type, most (57.1%) employed residents were estimated to hold service positions that year; followed by natural resources, construction, or maintenance positions (21.4%); and sales or office positions (21.4%). Overall, there were significant proportional changes in employment by industry sector and occupation type between 2000 and 2010. There were notable increases in construction and private service sectors, and notable declines in education services, health care, social assistance, transportation, insurance, and utilities sectors. These changes could either be attributed to changes in economic conditions and population structure, or errors in ACS sampling methods resulting from the community's small population size. According to 2010 ALARI estimates, most (59.4%) employed residents worked in local government sectors; followed by other unspecified sectors (12.5%) and manufacturing sectors (9.4%). Information regarding employment trends can be found in Figures 3 and 4.

No individuals characterized themselves as working in natural resource based industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

[221] See footnote 207.
[222] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[223] See footnote 218.
[224] Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: www.denali.gov.

Figure 3. Local Employment by Industry in 2000-2010, Clark's Point(U.S. Census).

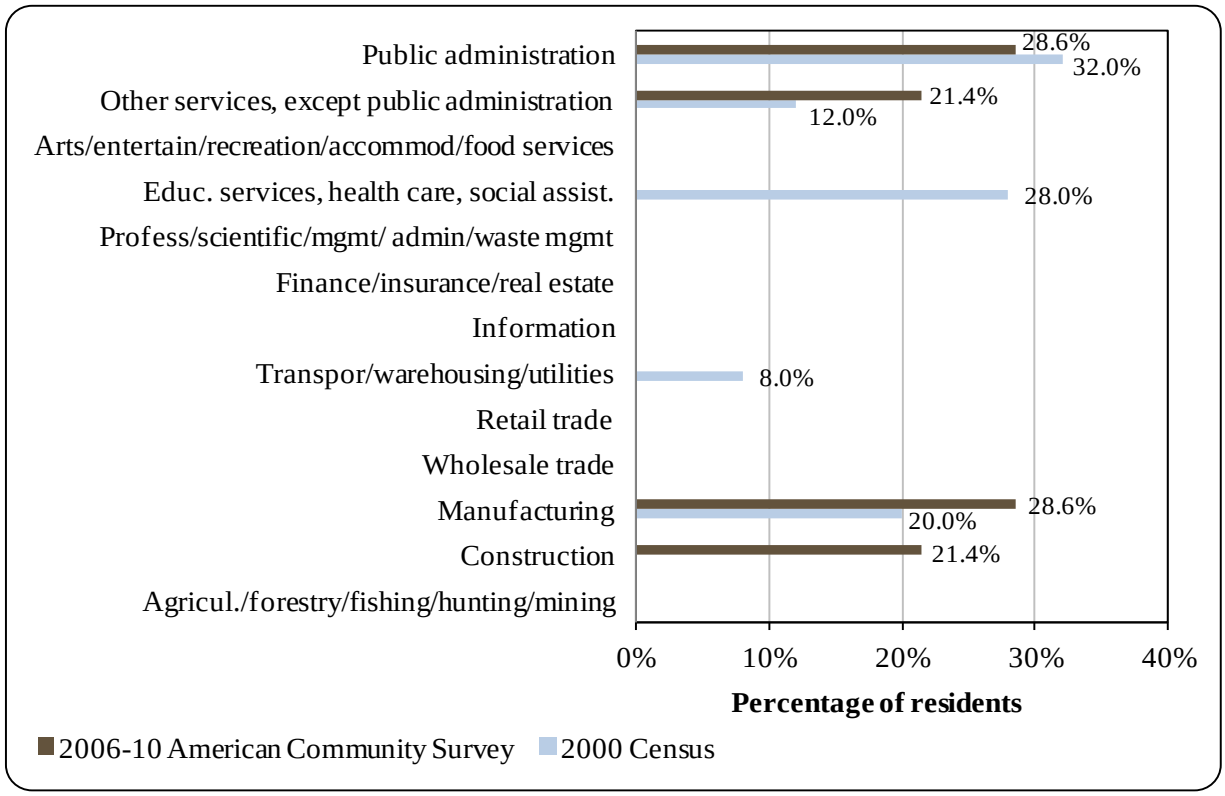
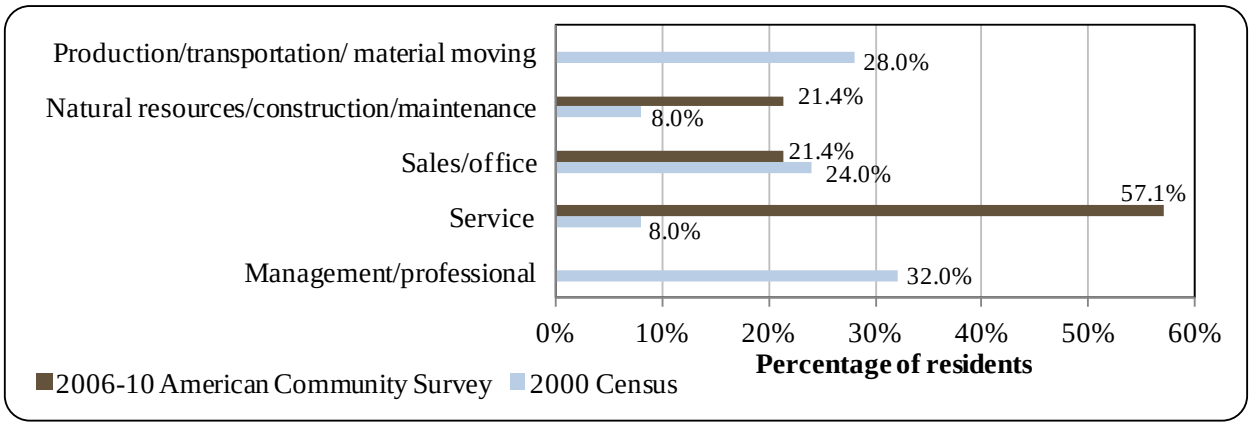


Figure 4. Local Employment by Occupation in 2000-2010, Clark's Point (U.S. Census).



Governance

Clark's Point is a Second-class city with a mayoral form of government. There is a federally recognized Tribal government (Clark's Point Village Council) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Saguyak Inc.). The Bristol Bay Native Corporation is the regional ANCSA for-profit Native corporation representing Clark's Point, and the Bristol Bay Native Association is the regional ANCSA non-profit. The closest Alaska Department of Fish and Game

(ADF&G) office is located in Dillingham, 15 mi to the north. The closest National Marine Fisheries Service (NMFS) office is located in Bethel, 171 mi to the northwest. The closest U.S. Bureau of Citizenship and Immigration Services (BCIS) is located in Anchorage, 337 mi to the east.

When adjusted for inflation,[225] municipal revenues increased by 95.4% between 2000 and 2010 from $160,621 to $405,855. However, it should be noted that a Certified Financial Statement was not available for 2010, and values represented in Table 2 for that year are budgeted estimates. In 2009, almost half of community revenues were allocated in the form of state revenue sharing. Locally generated revenues came predominately from utilities rents and fuel sales. Sales tax revenues declined sharply in 2003 due to Trident Seafoods closing operations in the community. In 2010, Clark's Point received $99,059 in state allocated Community Revenue Sharing, which accounted for approximately 24.4% of total revenues for that year. This represented a proportional increase from 2000, when $25,605 in State Revenue Sharing accounted for approximately 15.9% of total revenues. Between 2000 and 2010 there were no fisheries-related grants reported. Information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Clark's Point from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$160,621	$28,547	$25,605	n/a
2001	$218,815	$30,419	$24,618	n/a
2002	$294,491	$24,866	$24,622	n/a
2003	$140,766	$5,651	$25,208	n/a
2004	$270,258	$466	-	n/a
2005	$213,776	$1,111	-	n/a
2006	$271,209	$363	-	n/a
2007	$145,174	$412	-	n/a
2008	$228,756	$636	-	n/a
2009	$283,344	$1,206	$98,755	n/a
2010	$405,855	n/a	$99,059	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[2] Alaska Department of Community and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[3] Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[225] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.

Infrastructure

Connectivity and Transportation

Air transport is the primary method of reaching Clark's Point. Regular and charter flights are available from Dillingham. There is a state-owned 3,200-ft long by 60-ft wide gravel runway, and float planes land on Nushagak River. Freight is brought in by barge to Dillingham and then flown or lightered to the community. The only boat moorage is an undeveloped spit dock owned by the city; boats land on the beach. Trident Seafoods owns a private dock for vessels delivering landings. ATVs and snowmobiles are the primary means of local transportation.[226] The fishing community of Ekuk and City of Dillingham are both within close proximity of Clark's Point, and residents regularly commute between them. The price of roundtrip airfare between Anchorage and Dillingham in June 2012 was $452.[227] From Dillingham, flights to Clark's Point can be chartered from Grant Air at $160 roundtrip.[228]

Facilities[229]

Spring-fed wells provide water treated with chlorine and fluoride to the community. Nearly 80% of residents are connected to the piped water system; the remainder use individual wells. Approximately 40% of homes and the school -- all located on the bluff -- are served by a piped gravity sewage system. Residents below the bluff rely on septic tanks or pit privies. In all, 21 homes have piped water and sewer. The clinic and city offices use "honeybuckets." Trident Seafoods supplies its own power, and the school has back-up generators. Public safety services are provided by the local Village Public Safety Office (VPSO) and state troopers based in Dillingham. Fire and rescue services are provided by Clark's Point volunteer fire department and first responders. Communications services include local and long distance telephone, internet, local television, and local radio.

In a survey conducted by the AFSC in 2011, community leaders reported that as of 2010, the community was in the process of building vessel haulout facilities, a diesel powerhouse, a new landfill, and a new tribal building. In addition, there were plans for improvements to the water and sewer system, broadband internet, road system improvements, and a barge landing area. Vessels up to 32 ft in length can use moorage in Clark's Point; however, there is no space available for permanent public moorage. The only U.S. Coast Guard regulated vessel type Clark's Point is capable of handling are fuel barges. Residents rely on Dillingham and Anchorage for businesses and services not available in the community.

Medical Services[230]

Clark's Point Clinic provides basic health services and is a Community Health Aid Program (CHAP) site. Emergency services are provided by Clark's Point First Responders.

[226] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[227] Airfare was calculated using lowest fare. Retrieved November 22, 2011, from http://www.travelocity.com.
[228] Grant Air. (n.d.). Retrieved January 14, 2013 from: http://www.flygrant.com/.
[229] See footnote 226.
[230] Ibid.

Dillingham provides acute, specialized, and long-term health care services. The city also hosts a regional Emergency Medical Service (EMS) center.

Educational Opportunities

Due to declining student enrollment, the Clark's Point School closed in 2013.[231,232] Until that year, Clark's Point School offered Kindergarten through 12th grade instruction. As of 2011, there were 13 students enrolled and one teacher employed.[233]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population. In 1819, Russian fur traders established a trading post at Nushagak Point. Salmon were mostly harvested for local consumption although small amounts of salted salmon were exported. In 1864, canning techniques were being developed in California and by 1878; Alaska's first salmon cannery was built in Klawock.[234]

In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product then there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached 5 million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.[235]

The Spanish American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth century's. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. For the next 7 years, production would range between 20 and 25 million. Fueled by demand for canned salmon during World War I, canneries operated 24 hours a day, 7 days a week, and recorded record profits. This caused a major crash in sockeye runs throughout Bristol Bay in 1919.[236]

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[231] DeMarban, A. June 5, 2012. "Dwindling students mean four more rural Alaska schools will close." *Alaska Dispatch*. Retrieved October 23, 2013 from http://www.alaskadispatch.com/article/dwindling-students-mean-four-more-rural-alaska-schools-will-close.
[232] Alaska Department of Education and Early Development (2013). *1999-2013 School Closures*. Retrieved October 23, 2013 from http://w3.legis.state.ak.us/index.php.
[233] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[234] The Bristol Bay Economic Development Corporation. (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery.* Retrieved March 14, 2012 from: http://www.bbsalmon.com/FinalReport.pdf.
[235] Ibid.
[236] Ibid.

Following the salmon crash, the White Act of 1924 assigned the federal government with managing the Alaska salmon fishery and mandated a 50% escapement rate. This prompted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps. However, new regulations being put in place were rarely enforced during the early years following the passage of the White Act. Commercial salmon fishing prospered in the 1920s and early 1930s and accounted for 80% of tax revenues collected by the territorial government. However, variable runs, foreign encroachment, and the Great Depression stressed the industry and in 1935, only 3 million salmon were caught almost prompting a total shut-down of the Bristol Bay salmon fishery.[237]

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted canneries to hire local labor and local fishermen and communities began to organize. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential industry. Following World War II, salmon runs were once again in decline, although the Pacific Decadal Oscillation coupled with lower ocean productivity was to blame this time. However, further threats faced the industry from overfishing in the Bering Sea. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches on the other hand, averaged at 6.7 million sockeye annually during the 1950s. At this point, many seafood producers switched to more lucrative tuna, which became the iconic fish of the baby boom years.[238]

Following statehood in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this meant more aggressive forms of in-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. Despite rigorous management, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested. The state's response was both a scathing indictment of Japanese fishing effort and limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the United States asserted jurisdiction over much of the outer continental shelf surrounding its coastlines. The 200-mile Exclusive Economic Zone, along with revised Bering Sea fishing borders and favorable environmental conditions, set the stage for salmon recovery.[239]

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity for the region. Sockeye returned in force the following year, and strong demands elevated prices over $1.00 per pound. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to $2.40 per pound. Average gross earnings by drift boat exceeded $100,000 and the value of Bristol Bay drift permits surged to almost $250,000. As permit value rose, entry into the fishery became increasingly contested and litigated, resulting in additional permits being issued. However, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming would soon subvert the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to $1.09 per pound. By 1991, seafood processors were offering $0.50 per pound which resulted in fishermen striking. Once again, the Japanese were the focus of ire, with many fishermen making accusations of price-fixing from Japanese-owned seafood

[237] Ibid.
[238] Ibid.
[239] Ibid.

processors. During that time, Bristol Bay still maintained record salmon harvests, with 45 million fish taken in 1995. Because of large harvests, revenues remained high despite low prices.[240]

In previous lean years, production shortages would drive prices up. However, the arrival of farmed fish in the market changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to $63 million. Runs in years following were characterized by modest rebounds followed by more declines. In that time, Bristol Bay was declared both a state and federal disaster area and many permit holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at $250,000 was valued at less than $20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.[241]

The history of fisheries participation in Clark's Point is tied to the cannery that was opened by the Alaska Packer's Association in the late nineteenth century.[242] Since then, it has continued to develop as a commercial and subsistence fishing community. Clark's Point is part of a regional network of fishing communities, which include Ekuk and the regional hub of Dillingham. In a survey conducted by the AFSC in 2011, community leaders reported that salmon seasons typically run from June to August, and herring and halibut from April to May. The community participates in the fisheries management process in Alaska through a representative that sits on regional fisheries advisory and/or working groups run by ADF&G. In addition, Clark's Point is eligible for participation in the Community Development Quota (CDQ) program and is represented by the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[243] Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. The community is located in Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Clark's Point does not have an active processing plant. Trident Seafoods still maintains a shoreside plant although no landings were recorded between 2000 and 2010 and it has remained unregistered since 2002.[244] In addition, Icicle Seafoods Inc. anchors a processor barge at Clark's Point from mid-June through July for the salmon and herring seasons. Processor crew ranges from 80 to 115.[245]

[240] Ibid.
[241] Ibid.
[242] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[243] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.
[244] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[245] Icicle Seafoods Inc. (n.d.). *Icicle Seafoods' Western Alaska operations*. Retrieved February 10, 2012 from: http://www.icicleseafoods.com/locations/vsl/about.aspx.

Fisheries-Related Revenue

Between 2000 and 2010, Clark's Point received fisheries-related revenue mostly from Shared Fisheries Business taxes. In 2010, the community received $105,950 in total fisheries related tax revenue, representing a substantial increase from 2000 when $2,208 was collected. Fisheries-related revenue peaked in 2009 when $443,117 was collected.

In a survey conducted by the AFSC in 2011, community leaders reported that the community received $150,000 from its regional CDQ entity (BBEDC) in 2010. However, the community itself does not have any fisheries-related fees programs which support public services and infrastructure. Information regarding fisheries-related revenue trends can be found in Table 3.[246]

Commercial Fishing

In 2010, most residents who held permits issued by the Commercial Fisheries Entry Commission (CFEC) held Bristol Bay set and drift gillnet salmon permits, followed by statewide longline halibut permits, and Bristol Bay gillnet herring roe permits.[247] A total of 17 CFEC permits were held by 16 residents in 2010, compared to 34 CFEC permits held by 18 residents in 2000. In total, 25.8% of residents living in Clark's Point held CFEC permits in 2010. Of the CFEC permits held that year, 88% were for salmon, compared to 50% in 2000; 6% were for herring, compared to 32% in 2000; and 6% were for halibut, compared to 18% in 2000. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. No residents held halibut, crab, or sablefish quota between 2010 and when the programs began.

A total of 13 residents held commercial crew licenses in 2010, compared to 30 in 2000. In addition, residents held majority ownership of 11 commercial vessels in that year, compared to 12 in 2000. Of the CFEC permits held in 2010, 71% were actively fished, compared to 68% in 2000. This varied by fishery from 80% of salmon permits, to 0% of herring and halibut permits.

Between 2000 and 2010, no landings were reported in Clark's Point, although landings were reported by residents. In 2010, residents landed 297,203 lbs of salmon valued at $260,659 ex-vessel, compared to 528,907 lbs valued at $323,297 ex-vessel in 2000. representing an increase of $0.04 per pound after adjusting for inflation[248] and without the species composition of landings. Salmon landings by residents peaked in 2000. Herring was actively fished by residents from 2000 through 2004, and in 2006. In 2000, residents landed 60,874 lbs of herring valued at $6,482 ex-vessel. Other years when herring landings were made are considered confidential. No halibut landings were reported by residents between 2000 and 2010. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[246] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.
[247] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[248] Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Clark's Point: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$3,700	$4,400	n/a	n/a
Shared Fisheries Business Tax[1]	$2,208	$64,838	$136,927	$43,264	$2,470	$2,900	$3,575	$33,539	$139,023	$118,364	$105,613
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	$72	n/a	$19	$49	$191	$2,589	$327
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$2,208*	*$64,838*	*$136,927*	*$43,264*	*$2,542*	*$2,900*	*$3,594*	*$37,288*	*$143,613*	*$120,953*	*$105,940*
Total municipal revenue[5]	*$160,621*	*$218,815*	*$294,491*	*$140,766*	*$270,258*	*$213,776*	*$271,209*	*$145,174*	*$228,756*	*$283,344*	*$405,855*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Clark's Point: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	6	4	3	2	0	0	0	0	0	0	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	0%
	Total permit holders	6	4	3	2	0	0	0	0	0	0	1
Herring (CFEC) [2]	Total permits	11	10	6	2	1	0	1	0	0	0	1
	Fished permits	7	4	2	1	1	0	1	0	0	0	0
	% of permits fished	64%	40%	33%	50%	100%	n/a	100%	n/a	n/a	n/a	0%
	Total permit holders	6	5	3	1	1	0	1	0	0	0	1

Table 4 cont'd. Permits and Permit Holders by Species, Clark's Point: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	17	16	18	14	16	15	12	13	13	13	15
	Fished permits	16	14	10	9	12	13	10	11	12	10	12
	% of permits fished	94%	88%	56%	64%	75%	87%	83%	85%	92%	77%	80%
	Total permit holders	17	16	18	15	18	17	13	12	12	13	15
Total CFEC Permits[2]	*Permits*	*34*	*30*	*27*	*18*	*17*	*15*	*13*	*13*	*13*	*13*	*17*
	Fished permits	*23*	*18*	*12*	*10*	*13*	*13*	*11*	*11*	*12*	*10*	*12*
	% of permits fished	*68%*	*60%*	*44%*	*56%*	*76%*	*87%*	*85%*	*85%*	*92%*	*77%*	*71%*
	Permit holders	*18*	*17*	*18*	*15*	*18*	*17*	*13*	*12*	*12*	*13*	*16*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Clark's Point: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Clark's Point[2]	Total Net Lbs Landed In Clark's Point[2,5]	Total Ex-Vessel Value Of Landings In Clark's Point[2,5]
2000	30	0	1	12	43	0	0	$0
2001	31	0	1	12	39	0	0	$0
2002	22	0	1	7	31	0	0	$0
2003	18	0	0	9	28	0	0	$0
2004	14	0	0	8	31	0	0	$0
2005	19	0	0	9	32	0	0	$0
2006	14	0	0	8	30	0	0	$0
2007	18	0	0	9	28	0	0	$0
2008	16	0	0	12	29	0	0	$0
2009	17	0	0	10	26	0	0	$0
2010	13	0	0	11	28	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Clark's Point: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation in Clark's Point: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation in Clark's Point: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Clark's Point: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Clark's Point Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	60,874	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	528,907	394,037	140,517	351,460	484,031	462,498	452,007	263,295	369,879	283,776	297,203
Total[2]	*589,781*	*394,037*	*140,517*	*351,460*	*484,031*	*462,498*	*452,007*	*263,295*	*369,879*	*283,776*	*297,203*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	$6,482	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$323,297	$151,106	$64,322	$160,199	$220,397	$259,687	$274,973	$159,202	$251,540	$210,243	$260,659
Total[2]	*$329,778*	*$151,106*	*$64,322*	*$160,199*	*$220,397*	*$259,687*	*$274,973*	*$159,202*	*$251,540*	*$210,243*	*$260,659*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Participation in recreational fisheries is limited in Clark's Point due to its remote location, lack of sport fish guide businesses, and the fact that most residents participate in subsistence harvesting rather than sportfishing. In 2010, 11 residents held sportfishing licenses, compared to 17 in 2000. However, no sportfishing licenses were sold within the community between 2000 and 2010. According to a survey conducted by the AFSC in 2011, community leaders reported that recreational fishing that is done within the community is done by private, locally owned vessels. Recreational fishermen target all five species of Pacific salmon and halibut.

Clark's Point is located within the Nushagak, Wood River and Togiak ADF&G Harvest Survey Area, which includes the Nushagak River, Mulchatna River, Wood River, and Tilchik Lake drainages, as well as water westward to Cape Newenham.[249] Overall, there was a steady decline in angler days fished in the survey area between 2000 and 2010. In 2010, freshwater angler days fished totaled 23,385, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 89% of angler days fished, compared to 73% in 2000. There is no kept/released charter information available for Clark's Point. Information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Clark's Point: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Clark's Point[2]
2000	0	0	17	0
2001	0	0	13	0
2002	0	0	7	0
2003	0	0	13	0
2004	0	0	6	0
2005	0	0	7	0
2006	0	0	4	0
2007	0	0	9	0
2008	0	0	15	0
2009	0	0	6	0
2010	0	0	11	0

[249] Alaska Department of Fish and Game. (n.d.). *Alaska Sport Fishing Survey*. Retrieved February 13, 2012 from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home.

Table 11 cont'd. Sport Fishing Trends, Clark's Point: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	n/a	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Historically, Nushagak Bay was a region of intense subsistence activity. At least 18 historic village sites have been documented along its shores; and the villages of Ekuk, Kanakanak, Nushagak, and Kanulik held the bulk of the region's population by the time of European contact Traps, spearing, and dip netting were common methods used in catching salmon at the mouth of the Nushagak River and when commercial fishing began in Nushagak Bay in the 1870s, many indigenous commercial fishermen would save a portion of their harvest for subsistence purposes.[250]

According to a survey conducted by the AFSC in 2011, community leaders reported important subsistence resources which include fish, marine mammals, moose, caribou, berries, and herbs.

Subsistence activities change according to season. In the spring, residents hunt seal, ducks, and geese, fish for herring, collect herring roe on kelp, and gather bird eggs. In the summer, residents collect salmon berries, and fish for salmon and pike. In the fall, residents fish

[250] Seitz, J. (1990). *Subsistence Salmon Fishing in Nushagak Bay, Southwest Alaska.* Alaska Dep. of Fish and Game. Technical Paper No. 195. Retrieved January 14, 2013 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp195.pdf.

for salmon, white fish, halibut, and pike, hunt moose, and collect blueberries, cranberries, and blackberries. In the winter, residents hunt moose, caribou, and ptarmigan and fish for smelt and tomcod. Beluga whales are harvested throughout the year.[251] According to the AFD&G *Community Subsistence Information System*,[252] residents of Clark's Point have harvested and/or used butter clams, razor clams, shrimp, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, burbot, cisco, Dolly Varden, flounder, Arctic grayling, herring (roe and food), lake trout, Pacific cod, tom cod, northern pike, rainbow smelt, rainbow trout, sucker, and whitefish.

Data on subsistence activity is limited, and estimates of subsistence participation by household are not available. In addition, it should be noted that ADF&G subsistence data for Clark's Point is combined with the subsistence camp of Ekuk. Of the species reported by ADF&G in Table 13, sockeye salmon were harvest most often, followed by coho, Chinook, pink, and chum salmon. In 2008, residents reported harvesting 2,016 salmon total, compared to 1,147 in 2000. Reported salmon harvests peaked in 2008. In 2010, 1 resident held a Subsistence Halibut Registration Permit (SHARC), compared to 2 in 2003. No residents reported halibut harvests between 2010 and when NMFS began issuing the SHARC. Marine mammals were an important subsistence resource between 2000 and 2008. Between 2000 and 2010, an estimated 11 beluga whales were harvested although there is no information for 2003 through 2010. Finally, an estimated 219 spotted seals and three harbor seals were harvested between 2000 and 2008. Spotted seal harvests peaked in 2008 at an estimated 81 seals. Information regarding subsistence trends can be found in Table 12 through 15.

Additional Information

According to a survey conducted by the AFSC in 2011, community leaders reported that current challenges facing the fishery based economy in Clark's Point include a lack of infrastructure, including the absence of cold storage facilities or a dock. In addition, there has been a great amount of erosion to the beach and bluffs located near the river system which is affecting shore based fishing and threatening general infrastructure. The number of commercial permits in the community has been in decline, making it more difficult to support infrastructure. There is a need for small fishery support businesses in the community, including small vessel repair, vessel storage, maintenance and net building services, and a parts shop. Finally, there is concern in the community regarding the loss of drift permits within the community. There is a desire to see programs which assist in making permits more affordable to local residents, and incentivize young residents to remain within the community.

[251] East, P.; Egbert, J.T.; Hurley, D.; Wassily, B.; Wassily, H.; Wassily, J.; Wassily, K.; Wassily, M.; and Wassily, S. (2003). *Clark's Point, Alaska.* Retrieved February 13, 2012 from: https://segue.middlebury.edu/repository/viewfile/ polyphony-repository___repository_id/edu.middlebury.segue.sites_repository/ polyphony-repository___asset_id/ 6782661/polyphony-repository___record_id/6782662/ polyphony-repository___file_name/clarkspoint.pdf.

[252] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Clark's Point: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Clark's Point: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	16	13	336	33	142	97	539	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	14	14	193	52	365	186	283	n/a	n/a
2005	10	9	264	94	277	46	436	n/a	n/a
2006	13	13	231	31	51	58	313	n/a	n/a
2007	10	10	120	74	79	10	264	n/a	n/a
2008	13	12	172	99	535	421	789	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Clark's Point: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	2	n/a	n/a
2004	4	n/a	n/a
2005	4	n/a	n/a
2006	4	n/a	n/a
2007	4	n/a	n/a
2008	3	n/a	n/a
2009	1	n/a	n/a
2010	1	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Clark's Point: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	3	n/a	n/a	n/a	n/a	n/a	2
2001	4	n/a	n/a	n/a	n/a	3	6
2002	4	n/a	n/a	n/a	n/a	n/a	14
2003	n/a	n/a	n/a	n/a	n/a	n/a	15
2004	n/a	n/a	n/a	n/a	n/a	n/a	22
2005	n/a	n/a	n/a	n/a	n/a	n/a	24
2006	n/a	n/a	n/a	n/a	n/a	n/a	27
2007	n/a	n/a	n/a	n/a	n/a	n/a	28
2008	n/a	n/a	n/a	n/a	n/a	n/a	81
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Dillingham (*DILL-eenq-ham*)

People and Place

Location [253]

Dillingham is located at the extreme northern end of Nushagak Bay in northern Bristol Bay, at the confluence of the Wood and Nushagak Rivers. It lies 327 mi southwest of Anchorage and is a 6 hour flight from Seattle. The area encompasses 33.6 sq mi of land and 2.1 sq mi of water. Dillingham was incorporated as a First-class city in 1963, is located in the Dillingham Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [254]

In 2010, there were 2,329 residents, ranking Dillingham 40th of 352 communities in terms of population size. Between 1990 and 2010, the population grew by 15.5%. Between 2000 and 2009, the population fell by 8.2% with an average annual growth rate of -0.53, which was less than the statewide average of 0.75% and indicative of a slowly shrinking population during that time. However, 2010 Census data indicate that the population has recovered somewhat since 2009 Alaska Department of Labor and Workforce Development (DOLWD) estimates. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there was an estimated 2,500 seasonal or transient workers living in Dillingham in 2010, in addition to year round residents. On average, there are seasonal workers living in Dillingham from May through September. The population typically peaks in June and July, and is mostly driven be employment in the fishing sectors. Information regarding population trends can be found in Table 1.

Dillingham's racial composition is predominately Yup'ik Eskimo and White. In 2010, 55.9% of residents identified themselves as American Indian or Alaska Native, compared to 52.6% in 2000. Also in that year, 30.7% of residents identified themselves as White, compared to 35.6% in 2000; 1.3% identified themselves as Asian, compared to 1.2% in 2000; and 11.2% identified themselves as two or more races, compared to 9.4% in 2000. Residents identifying themselves as Black or African American, Native Hawaiian or Other Pacific Islander, or some other race each made up less than one percent of the population. Hispanics and Latinos made up 2.9% of the population in 2010, compared to 3.5% in 2000. Information regarding race and ethnicity can be found in Figure 1.

[253] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[254] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

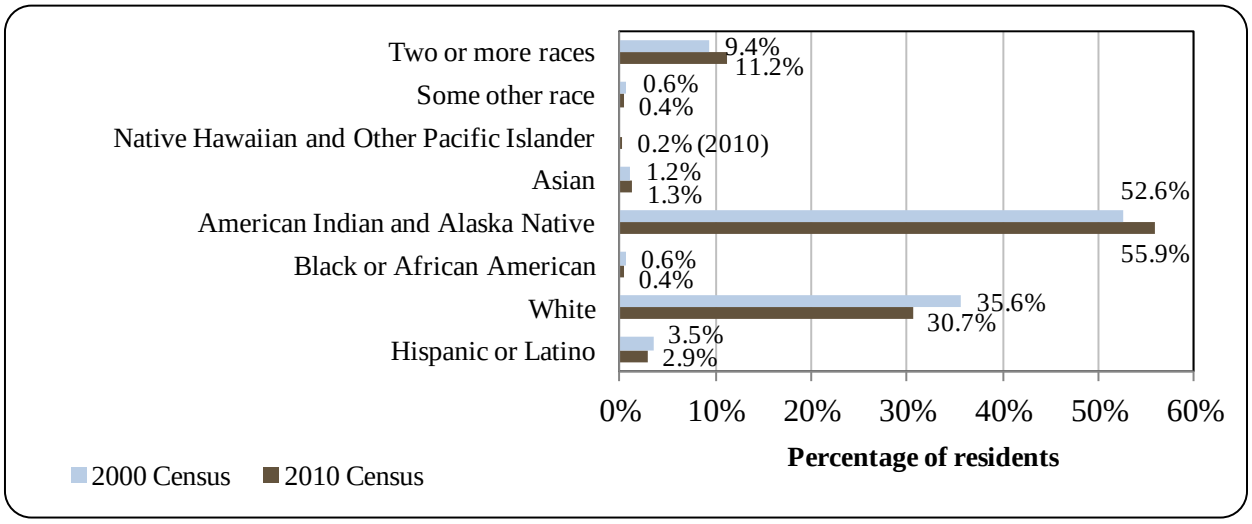
Table 1. Population in Dillingham from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	2,017	-
2000	2,466	-
2001	-	2,461
2002	-	2,468
2003	-	2,385
2004	-	2,407
2005	-	2,371
2006	-	2,405
2007	-	2,404
2008	-	2,335
2009	-	2,264
2010	2,329	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Dillingham: 2000-2010 (U.S. Census).



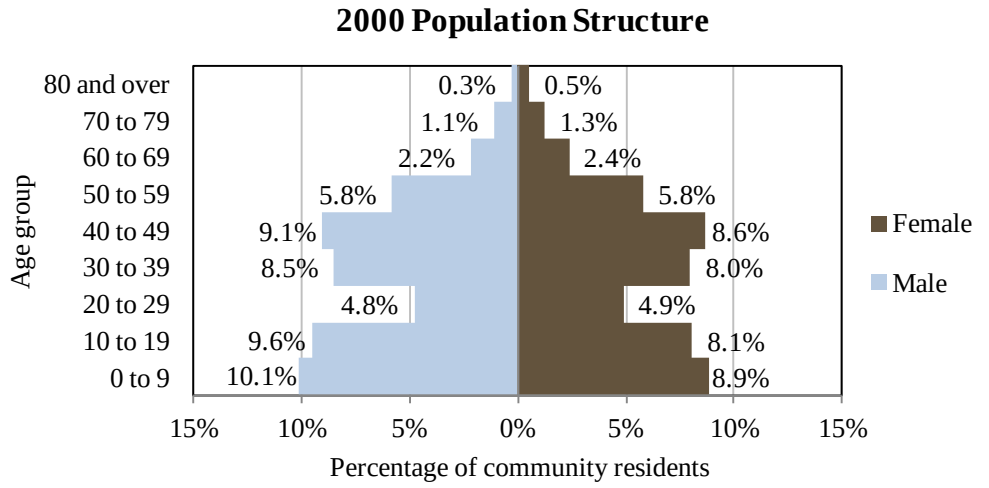
In 2010, the average household size in Dillingham was 2.66, a decline from 2.90 in 1990 and 2.75 in 2000. In that year, there were a total of 1,047 housing units, compared to 851 in 1990 and 1,000 in 2000. Of those households surveyed in 2010, 42% were owner-occupied, compared to 43% in 2000; 40% were renter-occupied, compared to 45% in 2000; 13% were vacant,

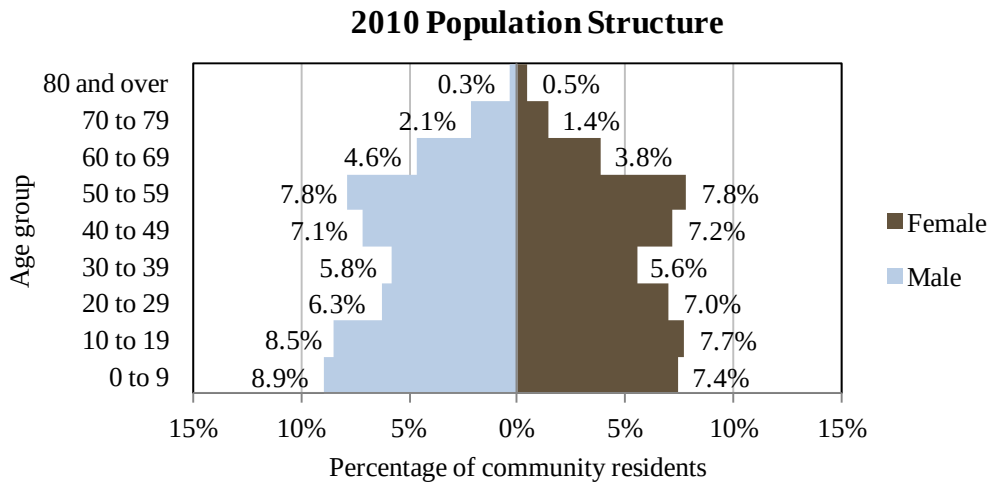
compared to 8% in 2000; and 6% were occupied seasonally, compared to 4% in 2000. There were 52 residents living in group quarters that year, compared to 33 in 2000.

The gender distribution in 2010 was relatively even at 51.6% male and 48.4% female. This was similar to the gender distribution statewide (52% male, 48% female) and identical to the distribution in 2000. The median age that year was 32.8, which was similar to the statewide median of 33.8 and identical to the median age in 2000.

Compared with 2000, the population structure in 2010 was slightly more stationary. In addition, age transitions were consistent with a stable population, meaning that the population aged while still mostly retaining its structural character. In 2010, 32.5% of residents were under the age of 20, compared to 36.7% in 2000. Also in that year, 12.7% of residents were over the age of 59, compared to 7.8% in 2000; and 41.3% were between the ages of 30 and 59, compared to 45.8% in 2000. The proportion of residents between the ages of 20 and 29 grew from 9.7% in 2000 to 13.3% in 2010, perhaps indicating greater youth retention in the community.

Figure 2. Population Age Structure in Dillingham Based on the 2000 and 2010 U.S. Decennial Census.


2000 Population Structure
80 and over
70 to 79
60 to 69
50 to 59
40 to 49
30 to 39
20 to 29
10 to 19
0 to 9
Age group
0.3%
1.1%
2.2%
5.8%
9.1%
8.5%
4.8%
9.6%
10.1%
0.5%
1.3%
2.4%
5.8%
8.6%
8.0%
4.9%
8.1%
8.9%
15%
10%
5%
0%
5%
10%
15%
Percentage of community residents
Female
Male


2010 Population Structure
80 and over
70 to 79
60 to 69
50 to 59
40 to 49
30 to 39
20 to 29
10 to 19
0 to 9
Age group
0.3%
2.1%
4.6%
7.8%
7.1%
5.8%
6.3%
8.5%
8.9%
0.5%
1.4%
3.8%
7.8%
7.2%
5.6%
7.0%
7.7%
7.4%
15%
10%
5%
0%
5%
10%
15%
Percentage of community residents
Female
Male

Gender distribution by age cohort was relatively even in both 2000 and 2010. In 2010, the greatest absolute gender difference occurred in the 0 to 9 range (8.9% male, 7.4% female), followed by the 10 to 19 range (8.5% male, 7.7% female) and 70 to 79 range (2.1% male, 1.4% female). Of those three, the greatest difference relative to cohort size occurred in the 70 to 79 range. In 2000, the greatest absolute gender difference occurred in the 10 to 19 range (9.6% male, 8.1% female), followed by the 0 to 9 range (10.1% male, 8.9% female) and 30 to 39 range (8.5% male, 8% female). Of those three, the greatest difference relative to cohort size occurred in the 10 to 19 range. Information regarding population structure trends can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[255] estimated that 94.3% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 3.5% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 2.3% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 29.8% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 5% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 18.4% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 15% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

Previous to Russian and European contact, the Nushagak River region was occupied by the Nushagagmiut culture of Yup'ik Eskimos. The area's proximity to highly productive salmon grounds and location between the Alaska Peninsula and Yukon-Kuskokwim Delta lent to considerable cultural mixing, trade, and in some instances, conflict. Cultural groups in the greater area included the Aglemiut group, who occupied the mouth of the Nushagak river and Bristol Bay coast; and Athabascans, who occupied the Mulchatna river to the north of Dillingham.

Bristol Bay was visited by Captain James Cook in 1778 while searching for a northwest passage. The bay was named after the Admiral Earl of Bristol. Although this was the first well recorded visit to Bristol Bay by Europeans, Cook gave evidence of a prior Russian presence in the area.

In 1818, Alexander Baranov, first governor of the Russian American colonies, sent an expedition to establish a permanent station on the Nushagak River. A fort was completed that year and was named Alexandrovsk, possibly after Alexander Baranov. A census conducted shortly after showed three Russian men and two Russian women at the post. Under Kolmaof, the Russians were reported to have made peace with the various cultural groups in the area by 1822, including the Aglemiut, who were said to be "warrior people". At that time, fur trade could be conducted without difficulty. A Russian Orthodox mission was established at Nushagak as early as 1837.

[255] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

The Bristol Bay population grew as the fur trade proliferated. The first official Census in Alaska in 1880 reported populations of 178 at Nushagak, and 142 at nearby Kanulik. In 1884, the Arctic Packing Company established the first salmon cannery in the Bristol Bay region at Nushagak. The next year, another cannery was constructed on the west bank of the Bay, close to the junction of the Wood and Nushagak Rivers. In 1886, yet another cannery was built at a site which would eventually become the city of Dillingham. In that year, a Moravian Church was established near Kanulik. Aside from missionary activities, the church operated as a hospital and school. In the 1890 census, the mission had a population of 189. A post office was established in Nushagak in 1899. In 1904, the Moravians ceased operations, in part because of the entrenched Russian Orthodoxy in the area.

By 1900, most of the population and economic activity shifted to the west side of Nushagak Bay and the Moravian Mission and village of Kanulik were largely deserted. In 1901, a new cannery was constructed at Wood River Village, north of present day Dillingham, while continued emigration occurred in Nushagak. Between 1908 and 1910, there were about 10 canneries in Nushagak Bay. During that time, there was a small hospital in the area operated at the village of Kanakanak. The post office of Dillingham was established on Snag Point in 1904. At that time, the town of Dillingham was located 3 mi southwest at what is now known as "Olsonville".

The 1918-19 influenza epidemic hit the region hard and by 1920, the population of Nushagak Bay had been reduced to around 500. Most of the residents of Kanakanak died of influenza and an orphanage was constructed to care for children orphaned by the epidemic. The 1920 census recorded 36 people in Kanakanak, compared to 250 in 1918. Villages along the Wood River were virtually wiped out by influenza. People did not begin to move back into the area until the late 1920s.

The present location of Dillingham is the former location of a village known as Ahleknuguk (also known as Chogiung). Dillingham was named in 1904 for the U.S. Senator William Paul Dillingham. Around 1944, the post office was closed at Kanakanak and the name "Dillingham" was transferred to Snag Point where the post office had been assigned since 1904. By 1950, the population of Dillingham reached 577 and by 1962, a boat harbor and high school had been completed. A sewer system and disposal plant was completed in 1964. By 1970, the population grew to 914.[256]

Traditionally a Yup'ik Eskimo area with Russian influences, Dillingham is now a highly mixed population of both Alaska Native and non-Alaska Native residents. The outstanding commercial fishing opportunities in the Bristol Bay area are the focus of the local culture.[257]

Natural Resources and Environment

The primary climatic influence is marine; however, the arctic climate of the Interior also affects the Bristol Bay coast. Average summer temperatures range from 37 to 66 °F (3 to 19 °C). Average winter temperatures range from 4 to 30 °F (-16 to -1 °C). Annual precipitation averages 26 inches, and annual snowfall averages 65 inches. Heavy fog is common in July and August.

[256] Tryck, Nyman & Hayes. (1985). *City of Dillingham Comprehensive Plan.* Retrieved March 9, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-1985.pdf.
[257] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Winds of up to 60-70 mph may occur between December and March. The Nushagak River is ice-free from June through November.[258]

Located just outside the Togiak National Wildlife Refuge (TNWR), Dillingham rests in an area characterized by a mixture of wet lowlands, gentle hills, and moraine deposits. Steep sloped areas are rare aside from coastal peat bluffs that extend from the city to the end of Wood River Road. Soils around Dillingham are familiar to those found in previously glaciated areas. The city itself lies on rolling moraine hills covered by silty loess. Lowlands are dominated by wetlands and muskeg.[259] Vegetation consists of a mix of moist tundra and spruce stands. Tundra consists of mosses, lichens, and grasses. Spruce forests consist of white spruce and paper birch, and typically cover moraine hills. Other tree species in the greater area include quaking aspen, black spruce, and cottonwood.[260]

Terrestrial wildlife around the TNWR includes moose, caribou, brown and black bears, wolves coyotes, red and arctic fox, wolverines, lynx, otters, mink and weasels, marten, marmot, beavers, muskrat, ground and red squirrels, hares, porcupine, shrews, voles, mice, and lemmings. Marine mammals include spotted seals, harbor seals, ribbons seals, ringed seals, bearded seals, Pacific walrus, Steller sea lions, fur seals, and a wide variety of whales. There are many species of fish within the TNWR which have both economic and subsistence importance. These include all five species of Pacific salmon, lake trout, arctic char, Dolly Varden char, arctic grayling, rainbow trout, northern pike, blackfish, burbot, cisco, whitefish, herring, smelt, sculpin, stickleback, and flounder.[261]

Beyond fishing, there are few environmental resources being exploited in the Dillingham area. There are thought to be oil and gas deposits within the Bristol Bay lowlands, however it is uncertain whether they are economically viable. Mineral prospects in the immediate area are slim; however, there are mineral claims outside the lowland areas. These include gold, copper, lead, zinc, arsenic, and molybdenum deposits and Shotgun Hills; tin, tungsten, silver, copper, zinc, arsenic, and bismuth deposits at Sleitat (80 mi west); iron, titanium, platinum, and palladium deposits at Kemuk Mountain (40 mi northwest); and mercury and antimony deposits at Cinnabar Creek an Kagati Lake.[262]

Local natural hazards come primarily in the form of flooding and erosion. Most flooding in the area is a result of storm surges. These storm surges often cause seasonal flooding in lowlands west of Dillingham, as well as along most shorelines. Erosion is most prevalent along the Nushagak Bay coastline and around the entrance to the Dillingham boat harbor. Steep bluffs are undercut by waves during high tide and southerly currents erode low-lying silt shorelines which complicates shoreline development.[263]

The Alaska Department of Environmental Conservation (DEC) reports that no significant environmental remediation projects were being undertaken as of 2010. However, they reported

[258] Ibid.
[259] City of Dillingham. (2006). *City of Dillingham Comprehensive Plan.* Retrieved March 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.
[260] Palcsak, B.B. and Dorava, J. M. (1994). *Overview of Environmental and Hydrogeologic Conditions at Dillingham, Alaska.* Retrieved February 9, 2012 from: http://www.dggs.alaska.gov/webpubs/usgs/of/text/of94-0482.PDF.
[261] U.S. Fish and Wildlife Service. (n.d.). Retrieved March 13, 2012 from: http://togiak.fws.gov.
[262] See footnote 259.
[263] Ibid.

several smaller cleanup projects in Dillingham, most of which involved limited petroleum contamination of soils and groundwater.[264]

Current Economy[265]

In a survey conducted by the AFSC in 2011, community leaders reported that Dillingham's economy is reliant on commercial fishing. Most of the city's economy is centered on its involvement in Bristol Bay fisheries and its place as an economic, transportation, and public service center for the region. Commercial fishing, fish processing, cold storage, and fishing support services are all mainstays for residents. Dillingham's role as a regional center helps stabilize the economy, and provides year-round employment. Many residents also supplement wage earnings with subsistence activities. Trapping beaver, otter, mink, lynx, and fox provide cash income. Salmon, grayling, pike, moose, bear, caribou, and berries are also harvested for food.[266] Top employers[267] in 2010 included Bristol Bay Area Health Corp. (BBAHC); Bristol Bay Native Association; Dillingham City School Dist.; Bristol Bay Housing Authority; State of Alaska; City of Dillingham; Nushagak Electric & Tele Coop Inc.; University of Alaska; Omni Enterprises Inc.; and S.A.F.E Inc.

In 2010,[268] the per capita income in Dillingham was estimated at $34,156 and the median household income was estimated at $74,828, compared to $21,537 and $51,458 in 2000, respectively. After accounting for inflation by converting 2000 values to 2010 dollars,[269] the real per capita income ($28,321) and real median household income ($67,667) indicate a rise in both individual and household earnings. In that year, Dillingham ranked 36th of 305 communities from which per capita income was estimated, and 35th of 299 communities from which median household income was estimated.

Dillingham's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[270] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the DOLWD. According to the ALARI database, residents earned $43.97 million in total wages in 2010.[271] When matched with the population in 2010, the per capita income equals $18,879, which was significantly lower than the 2010 ACS

[264] Alaska Department of Environmental Conservation. (n.d.). *List of contaminated site summaries by region.* Retrieved March 13, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.
[265] Unless otherwise noted, all monetary data are reported in nominal values.
[266] See footnote 259.
[267] Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[268] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[269] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[270] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[271] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

estimates and suggests that caution should be used when comparing 2010 ACS and 2000 Census figures.[272]

According to 2006-10 ACS estimates,[273] 83.7% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 5.8%, compared to an estimated 5.9% statewide; and 13.2% of residents were estimated to be living below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. Of those employed, an estimated 58% worked in the private sector, an estimated 37% worked in the public sector, and an estimated 5% were self-employed. By industry, Dillingham's economy was relatively diverse in 2010. In that year, most residents were estimated to be working in education services, health care, and social assistance sectors (40.1%), followed by public administration sectors (11.7%) and transportation, warehousing, and utilities sectors (8.4%). An estimated 3.9% of employed residents worked in agriculture, forestry, fishing, hunting, and mining sectors. However, the number of individuals employed in farming, fishing, and forestry occupations and industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. By occupation type, most (49.5%) employed residents were estimated to hold management or professional positions in 2010, followed by sales or office positions (21.7%); natural resources, construction, or maintenance positions (12.9%); service potions (10.9%); and production, transportation, or material moving positions (5%). There was little significant change in employment by industry between 2000 and 2010. There was a small decline in the agriculture, forestry, fishing, hunting, and mining sectors in that time from 5.1% in 2000, to an estimated 3.9% in 2010. There were only modest changes in occupation types in that time, although there was significant growth in management or professional positions. Information regarding employment trends can be found in Figures 3 and 4. According to 2010 ALARI estimates compiled by DOLWD,[274] most (23.4%) employed residents were estimated to work in education and health service sectors; followed by local government (17.4%) and trade, transportation, and utilities sectors (14.9%).

[272] See footnote 267.
[273] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[274] See footnote 267.

Figure 3. Local Employment by Industry in 2000-2010, Dillingham (U.S. Census).

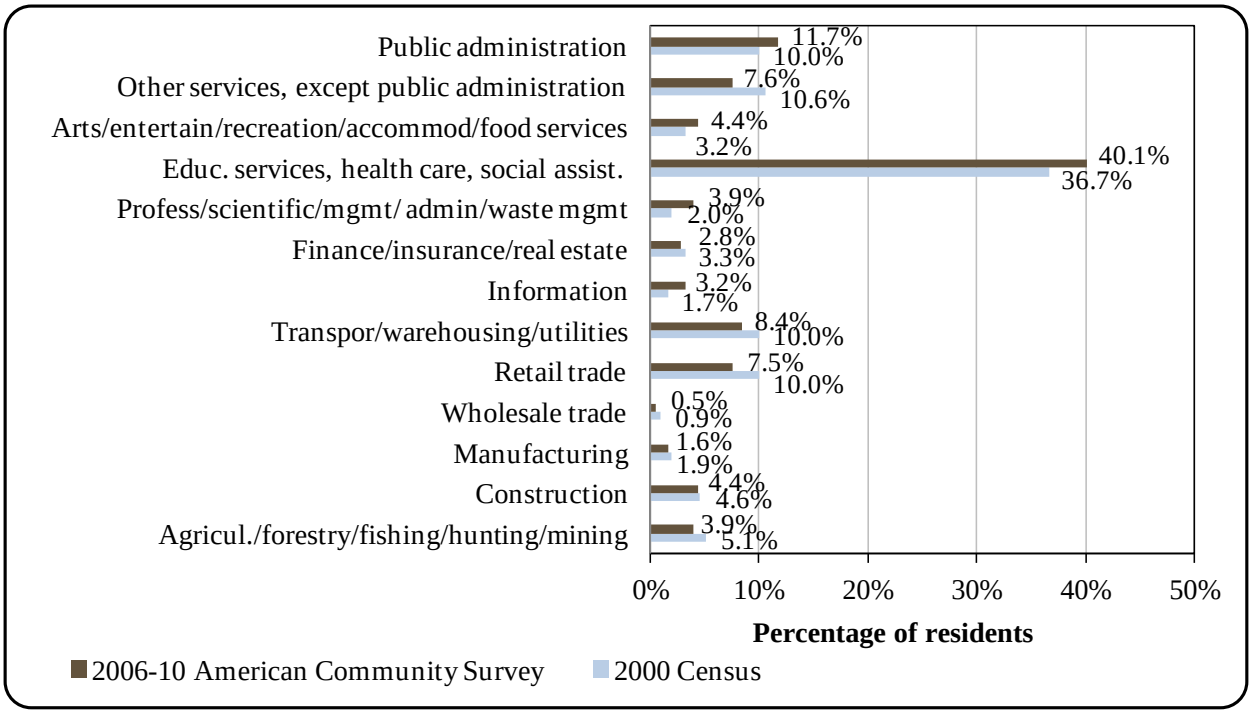
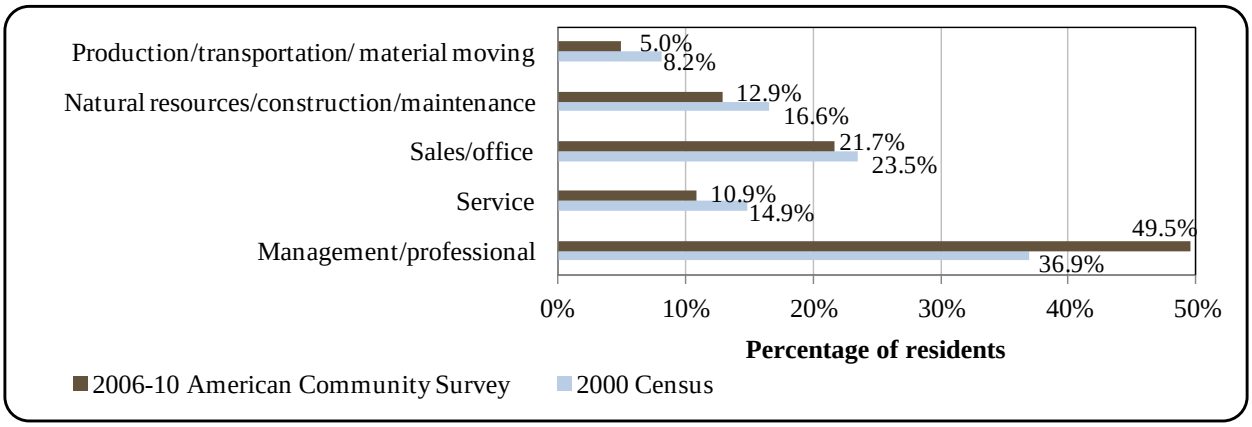


Figure 4. Local Employment by Occupation in 2000-2010, Dillingham (U.S. Census).



Governance

Dillingham is a First-class city with a mayoral form of government. There is a federally recognized Native village council (Curyung Tribal Council) and an ANCSA chartered Native village corporation (Choggiung Limited). Bristol Bay Native Corporation is the regional ANCSA for-profit corporation. Other organizations and Tribal councils in Dillingham include the Knagnuk Tribal Council, the Native Village of Ekuk, Olsonville Inc., Bristol Bay Area Health Corporation, Bristol Bay Housing Authority, Alaska Department of Transportation, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game (ADF&G), and Bristol Bay Native Association. The closest National Marine Fisheries Service (NMFS) field office is located in

Bethel, 160 mi northwest. The closest U.S. Bureau of Citizenship and Immigration Services is located in Anchorage, 327 mi northeast.

In 2010, Dillingham administered a 6% sales tax, 13 mills property tax, and a 10% accommodations tax. In that year, most general fund revenues were collected from sales taxes, followed by property taxes, jail contract revenues, and payments in lieu of taxes. The 2010 municipal budget was $10.1 million, compared to $9.9 million in 2000 representing a 20.5% decrease after accounting for inflation (Table 2).[275] Total sales tax revenue in 2010 was $2.4 million, which accounted for 24% of total municipal revenues that year. This was a proportional increase from 2000 when $1.6 million accounted from 16.6% of total revenues. Dillingham received $209,543 in state allocated Community Revenue Sharing in 2010, which accounted for 2.6% of total revenues that year. This was also an increase from 2000 when $54,468 in State Revenue Sharing accounted for less than one-percent of total revenues. Fisheries-related state and federal grants awarded to Dillingham between 2000 and 2010 include: $4.1 million for dock projects; $1.9 million for harbor projects, $57,000 for a cold storage project, $195,000 for a small boat harbor project, $1 million for bulkhead extension, $350,000 for small boat harbor ramps construction, $5.2 million for construction of an all-tide dock, $1.4 million for ice and fish quality maintenance and market expansion, and $1 million for harbor dredging. In addition, the Bristol Bay Economic Development Corporation (BBEDC) contributed $600,000 for portable ice machines. Further information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Dillingham from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$9,856,680	$1,633,393	$54,468	$1,229,345
2001	$8,735,387	$1,717,094	$46,724	$1,452,550
2002	$7,867,575	$1,892,967	$49,467	$532,777
2003	$7,555,483	$1,838,724	$48,306	$3,514,992
2004	$7,239,929	$2,014,814	-	$3,955,913
2005	$7,361,692	$2,110,190	-	$439,212
2006	$7,578,172	$2,206,634	-	$492,935
2007	$8,092,899	$2,295,601	-	$547,226
2008	$8,931,832	$2,407,193	-	$622,400
2009	$9,994,760	$2,132,402	$215,730	$1,892,075
2010	$10,130,963	$2,427,974	$209,543	$780,635

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[275] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.

Infrastructure

Connectivity and Transportation

Dillingham can be reached by air and sea. The state-owned airport provides a 6,400-ft long by 150-ft wide paved runway and regular jet flights are available from Anchorage. Airline services include Alaska Airlines, Grant Aviation, and Peninsula Airways. The price of round-trip airfare between Anchorage and Dillingham in June 2012 was $452.[276] A seaplane base owned by the U.S. Bureau of Land Management is available 3 mi west at Shannon's Pond.. A heliport is available at Kanakanak Hospital. There is a city-operated small boat harbor with 320 berths, a dock, barge landing, boat launch, and boat haul-out facilities, however it is a tidal harbor and only available for seasonal use. Two barge lines make scheduled trips from Seattle. There is a 23-mi Alaska Department of Transportation maintained gravel road to Aleknagik that was constructed in 1960.[277]

Airfreight accounts for almost a quarter of total freight moved through Dillingham. Airfreight is limited to smaller or time sensitive goods, and heavier freight is moved by sea. Air transportation is the principle means of moving people throughout the region, and improving winter services has been a consistent challenge. A lack of long-distance road systems within the Dillingham Census Area has kept communities isolated from the rest of the state. While approximately three quarters of freight in the area is moved by barge, limited facilities and large tidal ranges often produce challenges. Dillingham lacks deepwater port facilities and at times, barges are grounded during low tide while freight is offloaded.[278] In a survey conducted by the AFSC in 2011, community leaders reported that while there was no public dock space available for permanent moorage, 600-700 ft was available for transient moorage. Vessels up to 85 ft in length can use moorage in Dillingham.

Facilities

Around 90% of homes are fully plumbed. Dillingham's water is derived from three deep wells. Water is treated, stored in tanks (capacity is 1.25 million gallons), and distributed. Approximately 40% of homes are served by the city's piped water system; 60% use individual wells. The core townsite is served by a piped sewage system; waste is treated in a sewage lagoon. However, the majority of residents (75%) have septic systems. Dillingham Refuse, Inc., a private firm, collects refuse three times a week. The senior center collects aluminum for recycling, and National Auto Parts Association (NAPA) recycles used batteries. The Chamber of Commerce coordinates recycling of several materials, including fishing web. Nushagak Electric owns and operates a diesel plant in Dillingham that also supplies power to Aleknagik. Visitor accommodations include the Bristol Inn, Beaver Creek Bed & Breakfast, Bristol Bay Lodge, Coho Bed & Breakfast, and Aleknagik Schoolhouse Inn. Public safety services are provided by City Department of Public Safety and a local state troopers post. Fire and rescue services are provided by Dillingham Volunteer Fire and Rescue Squad, and local medevac. Youth services

[276] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).
[277] Alaska Department of Community and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[278] City of Dillingham (2006). *City of Dillingham Comprehensive Plan.* Retrieved March 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.

include a local youth center and Boys and Girls Club. Senior services include a senior center and housing. There is one museum and three libraries located in town. Communications services include cable television and internet, radio, local television, and local and long distance telephone.[279]

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed or in progress as of 2010 included: construction of new dock space, dock improvements, dockside water utilities, dock access, harbor dredging, public water and sewer pipeline improvements, sewage treatment improvements, water treatment improvements, and improvements to education facilities. There are also plans for a fish cleaning station, dockside electrical facilities, a new breakwater, new haul-out facilities, broadband internet service, alternative energy projects, a new landfill/solid waste site, new community center/library, improvements to public safety, improvements to communications services, bikes for the harbor, road improvements, and additional pedestrian facilities. Fisheries-related businesses and services available in Dillingham include: seafood processing plants, fishing gear sales, boat repair (i.e., electrical, welding, mechanical services, machine shop, hydraulics), small vessel haul-out facilities, commercial and recreational fishing vessel moorage, marine refrigeration, fish lodges, fishing related bookkeeping, boat fuel sales, fishing gear repair, fishing gear storage, ice sales, seaplane services, and air taxi. Residents typically go to Seattle, Anchorage, or Naknek for services not available locally. Additional public services available in Dillingham include medical services, a food bank, job placement services, publically subsidized housing, assisted living, alcoholism treatment, an abuse shelter, and a senior center.

Medical Services[280]

Kanakanak Hospital is a qualified Acute Care Facility providing generalized, long term, and specialized care. Public Health Services provides generalized health care and additional health assistance. Jake's Place and BBAHC's "Our House" provide crisis counseling and respite services. Mental health services are available through BBAHC community mental health center. Regional Emergency Medical Services is available.

Educational Opportunities

Dillingham Elementary School offers preschool through 5th grade instruction. As of 2011, there were 226 students in attendance and 19 teachers employed. Dillingham Middle/High School offers 6th through 12th grade instruction. As of 2011 there were 253 students in attendance and 19 teachers employed.[281] The University of Alaska Fairbanks operates a satellite campus in Dillingham. The Bristol Bay campus offers a variety of certificate, Associate's, Bachelor's, and Master's degree programs mostly focusing on business and rural development.[282]

[279] See footnote 277.
[280] Ibid.
[281] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[282] University of Alaska Fairbanks (n.d.). *Bristol Bay Campus Homepage.* Retrieved March 14, 2012 from: http://www.uaf.edu/bbc/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries[283]

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population. In 1819, Russian fur traders established a trading post at Nushagak Point. Salmon was mostly harvested for local consumption although small amounts of salted salmon were exported. In 1864, canning techniques were being developed in California and by 1878 Alaska's first salmon cannery was built in Klawock.

In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product then there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached five million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.

The Spanish-American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth centuries. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. For the next 7 years, production would range between 20 and 25 million. Fueled by demand for canned salmon during WWI, canneries operated 24 hours a day, seven days a week, and recorded record profits. This caused a major crash in sockeye runs throughout Bristol Bay in 1919.

Following the salmon crash, the White Act of 1924 assigned the federal government with managing the Alaska salmon fishery and mandated a 50% escapement rate. This prompted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps. However, new regulations being put in place were rarely enforced during the early years following the passage of the White Act.

Commercial salmon fishing prospered in the 1920s and early 1930s and accounted for 80% of tax revenues collected by the territorial government. However, variable runs, foreign encroachment, and the Great Depression stressed the industry and in 1935, only three million salmon were caught almost prompting a total shut-down of the Bristol Bay salmon fishery.

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted canneries to hire local labor and fishermen, and communities began to organize. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential processing industry. Following World War II, salmon runs were once again in decline, although the Pacific Decadal Oscillation coupled with lower ocean productivity was to blame this time. However, further threats faced the industry from overfishing in the Bering Sea. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches on the other hand, averaged at 6.7 million sockeye annually during the 1950s. At

[283] The Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery.* Retrieved March 14, 2012 from: http://www.bbsalmon.com/FinalReport.pdf.

this point, many seafood producers switched to more lucrative tuna, which became the iconic fish of the baby boom years.

Following statehood in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this meant more aggressive forms of in-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. Despite rigorous management, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested. The state's response was both a scathing indictment of Japanese fishing effort and limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the U.S. asserted jurisdiction over much of the outer continental shelf surrounding its coastlines. The 200-mi exclusive economic zone, along with revised Bering Sea fishing boarders and favorable environmental conditions, set the stage for salmon recovery.

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity. Sockeye returned in force the following year, and strong demands elevated prices over $1.00 per pound. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to $2.40 per pound. Average gross earnings by drift boats exceeded $100,000 and the value of Bristol Bay drift permits surged to almost $250,000. As permit value rose, entry into the fishery became increasingly contested and litigated, resulting in additional permits being issued. However, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming would soon subvert the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to $1.09 per pound. By 1991, seafood processors were offering $0.50 per pound which resulted in fishermen striking. Once again, the Japanese were the focus of ire, with many fishermen making accusations of price-fixing from Japanese-owned seafood processors. During that time, Bristol Bay still maintained record salmon harvests, with 45 million fish taken in 1995. Revenues remained high despite low prices due to large harvests. However, once again the fishery would falter, and once again the Pacific Decadal Oscillation was to blame.

In previous lean years, production shortages would drive prices up. However, the abundance of farmed fish within the market changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to $63 million. Runs in years following were characterized by modest rebounds followed by more declines. In that time, Bristol Bay was declared both a state and federal disaster area and many permit holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at $250,000 was valued at less than $20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.

Today, Bristol Bay salmon prices are slowly recovering thanks to increased demand for "Wild" Alaskan salmon, and a willingness by consumers to pay a premium for them. In a survey conducted by the AFSC in 2011, community leaders reported that Dillingham does not participate directly in the fisheries management process in Alaska; although one City Council member is a state salmon fishery manager. Instead, it relies on regional organizations such as the BBEDC and Bristol Bay Regional Seafood Development Association (RSDA) to provide information on fisheries management issues. Dillingham is eligible to participate in the Community Development Quota (CDQ) program and is represented by the BBEDC. The CDQ

program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[284] Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

The city is located in Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, three shoreside processing plants were in operation in 2010. This includes plants operated by Peter Pan Seafoods, Snopac Products, and Dancing Salmon Company LLP.

Peter Pan Seafoods is the largest sockeye salmon processing plant in the world. The Dillingham facility, which first began operations in 1901, processes sockeye salmon from early June to early August. The plant is the oldest continually operating cannery in Alaska. The facility employs a maximum of 395 workers each year people. The plant relies on public water services, power/electricity, and waste management services.[285]

Snopac Products purchased the Dillingham facility in 2008 from Dragnet Fisheries. Snopac is an independent, family-owned, Seattle-based company. The plant processes primarily salmon and some halibut and employs a maximum of 340 workers each year. It relies on public docks, water services, power/electricity, and waste management services.[286] The Dillingham facility is Snopac's fist shore-based Alaska plant, although Snopac has operated a 336-ft floating salmon processor in Bristol Bay since 2005.[287]

Dancing Salmon Company LLP also operates a seafood processing plant in Dillingham; however, no further information is known about the plant.

Fisheries-Related Revenue

In 2010, Dillingham collected $584,671 in fisheries-related revenue. Most of this was collected through Shared Fisheries Businesses Taxes; however, raw fish taxes, Fisheries Resource Landings Taxes, gear storage fees, and harbor usage fees were collected as well. In a survey conducted by the AFSC in 2011, community leaders reported that fees collected by harbor use is put towards maintaining harbor facilities, as well as providing a crane, ice machine, and police and fire services. In addition, Dillingham received $150,000 in funding from its CDQ entity (BBEDC) in 2010. Information regarding fisheries-related revenue can be found in Table 3.

[284] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.
[285] This information is based on the results of a processing plant survey conducted by the Alaska Fisheries Science Center in 2011.
[286] Ibid.
[287] SeafoodSource.com (n.d.). *Snopac Acquires Dillingham, Alaska, Facility*. Retrieved January 18, 2008 from: http://www.seafoodsource.com/newsarticledetail.aspx?id=1413.

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

Popular commercial fisheries in Dillingham include salmon, herring, and halibut. There were 302 residents who held commercial crew licenses in 2010, compared to 481 in 2000. In addition, residents held majority ownership of 123 vessels that year, compared to 276 vessels in 2000. In 2010, 274 residents, 11.8% of the population, held 308 permits issued by the Commercial Fisheries Entry Commission (CFEC), compared to 321 and 477 in 2000, respectively. Of the CFEC permits issued in 2010, 80% were for salmon, compared to 56% in 2000; 16% were for herring, compared to 34% in 2000; and 4% were for halibut, compared to 9% in 2000. In addition, six residents held six Federal Fisheries Permits (FFP) although none were active that year. In 2010, residents held 1.52 million shares of halibut quota on 5 accounts, compared to 970,022 shares held on 10 accounts in 2000. Also in that year, residents held 3.18 million shares of sablefish quota on 2 accounts, compared to 3.18 million shares held on 1 account in 2000; accounting for 2.4% of statewide sablefish quota. Finally, residents held 23.43 million shares of crab quota on 1 account in 2010, compared to 19.97 million shares on 1 account in 2000; accounting for 4.4% of statewide crab quota that year.

Of the CFEC permits issued in 2010, 65% were actually fished. This varied by fishery from 78% of salmon permits, to 16% of herring and 0% of halibut permits. Fisheries prosecuted by residents of Dillingham in 2010 included: Bristol Bay purse seine herring roe, Bristol Bay gillnet herring roe, Alaska Peninsula drift gillnet salmon, and Bristol Bay drift and set gillnet salmon.[288]

In 2010, a total of 51.3 million pounds of fish were landed in Dillingham, valued at $44.6 million. This represented a significant increase in ex-vessel value of total landings from 2001, when 50.5 million pounds landed was valued at $5.7 million. Much of this can be attributed to the herring roe fishery which dominated landings in 2001 and 2002. Landings in Dillingham between 2003 and 2010 were made up almost entirely of salmon, and in 2010 Dillingham ranked 13th of 76 Alaskan communities in terms of total pounds landed within the community and 10th of 67 communities in terms of total ex-vessel value of landings. Although the species composition of landings is not available, it is assumed that landings were composed mostly of sockeye salmon. In 2010, 51.3 million pounds of salmon valued at $44.6 million were landed, compared to 6.3 million pounds valued at $2.4 million in 2001; representing an increase of $0.31 per pound landed after adjusting for inflation.[289]

Landings by residents of Dillingham, regardless of location made, saw similar increases in the ex-vessel value of salmon landings. In 2010, residents landed 7.7 million lb of salmon valued at $6.6 million ex-vessel, compared to 5.5 million pounds valued at $2.1 million; representing an increase of $0.32 per pound landed after adjusting for inflation.[290] In addition,

[288] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[289] Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.
[290] Ibid.

residents landed 2.6 million pounds of herring valued at $195,338 ex-vessel, compared to 2.2 million poounds valued at $224,600 in 2000; representing a decrease of $0.06 per pound landed after accounting for inflation.[291]

In 2007, Bristol Bay salmon accounted for almost a third of the total value of all Alaska salmon, and continues to be the single most valuable salmon fishery in the state. However, the ex-vessel value of sockeye salmon in Bristol Bay is typically lower than other regions. To address this, efforts have been made by the RSDA and other organizations to improve marketing and value of Bristol Bay salmon.[292] The herring sac roe fishery in Dillingham declined between 2000 and 2010, marked by a decline in herring permits issued to residents and price paid for landings. In response to market declines, some processors eventually opted out of buying herring, which put additional strain on the industry.[293] Local and regional efforts to increase the value of herring are undertaken continuously. While halibut permit activity reduced to 0% in 2010, the BBEDC offers halibut quota to local residents for a small fee.

In a survey conducted by the AFSC in 2011, community leaders reported that on average, herring seasons run from May to June, halibut seasons run from March 12th to November 18th, and salmon seasons run from June to August. Since 2005, there had been a large increase in commercial fishing vessels smaller than 35 ft in length, and somewhat more vessels between 35 and 125 ft in length. This was attributed to the increase of fish and markets in the Nushagak River area. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[291] Ibid.
[292] City of Dillingham. (2006). *City of Dillingham Comprehensive Plan.* Retrieved March 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.
[293] Carlson, S. (2005). *Changes in Roe Herring Markets: A Review of Available Evidence.* CFEC Report Number 05-5N. Retrieved March 15, 2012 from: http://www.cfec.state.ak.us/RESEARCH/05-5N/RoeMarkets_CFEC05-5N.pdf.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Dillingham: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$153,647	$200,000	$200,000	$150,000	$50,000	$75,000	$100,000	$125,000	$150,000	$162,000	$176,000
Shared fisheries business tax[1]	$166,932	$226,238	$197,233	$66,228	$94,742	$118,059	$177,092	$175,259	$210,233	$209,720	$218,655
Fisheries resource landing tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$120	$311	$1,215	$2,056	$2,128
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	$93,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$102,958*
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$84,930
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$413,579*	*$426,238*	*$397,233*	*$216,228*	*$144,742*	*$193,059*	*$277,212*	*$300,570*	*$361,448*	*$373,776*	*$584,671*
Total municipal revenue[5]	*$9.86 M*	*$8.74 M*	*$7.87 M*	*$7.56 M*	*$7.24 M*	*$7.36 M*	*$7.58 M*	*$8.09 M*	*$8.93 M*	*$9.99 M*	*$10.13 M*

Note: n/a indicates that no data were reported for that year.

**Reported by community leaders in a survey conducted by the AFSC in 2011.*

[1] Alaska Department of Community and Economic Development (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Dillingham: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	1	2	2	2	2	2	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	0%	0%	0%	0%	0%	0%	n/a
	Total permit holders	0	0	0	0	1	1	1	1	1	1	0
Crab (LLP) [1]	Total permits	0	0	0	0	1	2	2	2	2	2	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	0%	0%	0%	0%	0%	0%	n/a
	Total permit holders	0	1	2	3	1	1	1	1	1	1	0
Federal Fisheries	Total permits	0	0	0	0	0	0	0	0	13	6	6
Permits [1]	Fished permits	0	0	0	0	0	0	0	0	1	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8%	0%	0%
	Total permit holders	0	1	2	3	4	5	6	7	12	6	6
Crab (CFEC) [2]	Total permits	0	0	1	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	1	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	44	38	33	31	27	26	26	24	27	16	13
	Fished permits	14	11	16	12	10	10	8	11	12	4	0
	% of permits fished	32%	29%	48%	39%	37%	38%	31%	46%	44%	25%	0%
	Total permit holders	44	38	33	31	27	26	26	24	27	16	13
Herring (CFEC) [2]	Total permits	164	139	93	93	75	74	73	61	58	53	50
	Fished permits	49	34	18	20	14	17	13	8	8	8	8
	% of permits fished	30%	24%	19%	22%	19%	23%	18%	13%	14%	15%	16%
	Total permit holders	105	95	70	73	62	64	59	56	54	47	47

Table 4 cont'd. Permits and Permit Holders by Species, Dillingham: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	4	4	2	1	0	0	0	1	2	0	0
	Fished permits	0	0	0	0	0	0	0	1	1	0	0
	% of permits fished	0%	0%	0%	0%	n/a	n/a	n/a	100%	50%	n/a	n/a
	Total permit holders	4	4	2	1	0	0	0	1	2	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	265	268	269	259	261	248	249	250	246	243	245
	Fished permits	243	224	171	192	185	187	194	198	195	182	191
	% of permits fished	92%	84%	64%	74%	71%	75%	78%	79%	79%	75%	78%
	Total permit holders	292	291	285	279	276	271	270	263	260	248	256
Total CFEC Permits[2]	*Permits*	*477*	*449*	*398*	*384*	*363*	*348*	*348*	*336*	*333*	*312*	*308*
	Fished permits	*306*	*269*	*205*	*224*	*209*	*214*	*215*	*218*	*216*	*194*	*199*
	% of permits fished	*64%*	*60%*	*52%*	*58%*	*58%*	*61%*	*62%*	*65%*	*65%*	*62%*	*65%*
	Permit holders	*321*	*315*	*308*	*304*	*297*	*291*	*291*	*284*	*280*	*267*	*274*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Dillingham: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Dillingham[2]	Total Net Lb Landed In Dillingham[2,5]	Total Ex-Vessel Value Of Landings In Dillingham[2,5]
2000	481	3	2	276	408	396	--	--
2001	399	18	2	220	387	477	50,541,247	$5,682,688
2002	282	28	3	205	348	571	47,737,422	$10,459,433
2003	325	20	3	203	348	622	47,731,864	$22,334,806
2004	321	22	4	201	366	545	43,897,018	$20,918,381
2005	336	29	4	146	201	708	50,069,177	$27,996,395
2006	304	23	3	141	209	748	71,789,825	$43,568,239
2007	315	25	3	138	217	694	54,429,801	$33,316,897
2008	333	27	3	134	214	549	43,459,968	$30,380,555
2009	302	26	3	126	203	464	51,575,899	$38,226,534
2010	302	18	3	123	204	597	51,311,403	$44,649,994

Note: Cells showing "–" indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Dillingham: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	10	970,022	242,054
2001	9	1,605,875	381,689
2002	10	1,607,745	365,290
2003	8	1,513,783	352,523
2004	8	1,513,783	304,252
2005	8	1,513,783	276,068
2006	9	1,603,788	252,021
2007	9	1,603,788	244,186
2008	7	1,612,806	256,288
2009	5	1,522,529	231,605
2010	5	1,522,529	229,615

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Dillingham: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	1	3,176,112	286,564
2001	1	3,176,112	283,355
2002	1	3,176,112	295,459
2003	1	3,176,112	361,419
2004	1	3,176,112	391,744
2005	1	3,176,112	362,767
2006	1	3,176,112	356,742
2007	1	3,176,112	345,785
2008	2	3,181,804	304,986
2009	2	3,181,804	277,243
2010	2	3,181,804	263,166

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Dillingham: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	1	19,973,229	626,024
2006	1	21,805,680	596,431
2007	1	21,805,680	962,981
2008	1	21,805,680	902,472
2009	1	23,425,807	772,070
2010	1	23,425,807	823,238

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Dillingham: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	2,765	--
Herring	--	44,279,805	29,347,509	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	6,261,442	18,389,913	47,731,864	43,896,787	50,069,177	71,789,825	54,429,801	43,459,968	51,573,134	51,311,403
Total[2]	--	*50,541,247*	*47,737,422*	*47,731,864*	*43,896,787*	*50,069,177*	*71,789,825*	*54,429,801*	*43,459,968*	*51,575,899*	*51,311,403*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	$11,790	--
Herring	--	$3,235,982	$2,172,037	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	$2,446,705	$8,287,397	$22,334,806	$20,918,378	$27,996,395	$43,568,239	$33,316,897	$30,380,555	$38,214,744	$44,649,994
Total[2]	--	*$5,682,688*	*$10,459,433*	*$22,334,806*	*$20,918,378*	*$27,996,395*	*$43,568,239*	*$33,316,897*	*$30,380,555*	*$38,226,534*	*$44,649,994*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Dillingham Residents: 2000-2010.

	***Total Net Pounds*[1]**										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	17,477	48,120	61,091	29,301	27,390	22,736	20,592	28,256	15,236	--	--
Herring	2,171,928	1,955,361	1,508,979	2,906,603	1,679,834	1,730,147	3,065,831	2,302,803	2,385,579	1,813,068	2,605,163
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	9,149,312	5,499,959	2,584,279	6,582,093	8,620,831	8,622,274	9,917,811	8,631,223	7,565,248	7,983,915	7,721,233
Total[2]	*11,338,717*	*7,503,440*	*4,154,349*	*9,517,997*	*10,328,055*	*10,375,157*	*13,004,234*	*10,962,282*	*9,966,063*	*9,796,983*	*10,326,396*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	$43,012	$80,720	$130,942	$52,552	$62,853	$41,526	$39,154	$54,281	$50,592	--	--
Herring	$224,600	$149,508	$113,050	$220,580	$119,962	$139,120	$222,092	$162,172	$176,695	$135,980	$195,388
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$5,871,078	$2,051,655	$1,128,208	$3,065,251	$4,106,991	$4,836,521	$6,009,522	$5,270,159	$5,174,092	$5,914,562	$6,580,455
Total[2]	*$6,138,690*	*$2,281,883*	*$1,372,201*	*$3,338,383*	*$4,289,807*	*$5,017,167*	*$6,270,767*	*$5,486,612*	*$5,401,379*	*$6,050,542*	*$6,775,842*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that sportfishing is conducted on private boats owned by local residents, private boats owned by non-residents, and guided boats on the Nushagak River. There has been a significant increase in the number of personal boats and skiffs on the Wood and Nushagak Rivers since 2005. In 2010, there were four sport fish guide businesses registered in Dillingham, of which none were active. Between 2000 and 2010, there were only two years (2002 and 2003) in which there were active sport fish guide businesses. There were 24 sport fish guide licenses held in Dillingham in 2010, compared to 24 in 2000. Also In that year, 1,629 sportfishing licenses were sold in the community, compared to 1,213 in 2000. In addition, residents were sold 696 sportfishing licenses, compared to 684 in 2000. No kept/released charter information is available for Dillingham.

Dillingham is located within the Nushagak, Wood River and Togiak ADF&G Harvest Survey Area, which includes the Nushagak River, Mulchatna River, Wood River, and Tilchik Lake drainages, as well as water westward to Cape Newenham.[294] Overall, there was a steady decline in freshwater angler days fished in the survey area between 2000 and 2010. In 2010, freshwater resident and non-Alaska resident angler days fished totaled 23,385 days, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 89% of angler days fished, compared to 73% in 2000. Between 2000 and 2010, there was significantly less saltwater angler days fished than freshwater. In 2009, there was 147 total saltwater angler days fished, compared to 429 in 2000. According to ADF&G Harvest Survey data,[295] local private anglers target all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, arctic grayling, northern pike, Pacific halibut, rockfish, smelt, and other finfish. Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Dillingham: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Dillingham[2]
2000	0	24	684	1,213
2001	0	21	737	1,702
2002	1	24	700	1,897
2003	1	24	617	2,051
2004	0	19	670	2,229
2005	0	23	640	2,004
2006	0	23	678	2,091
2007	0	27	700	2,058
2008	0	20	680	1,829
2009	0	36	691	1,767
2010	0	24	696	1,629

[294] Alaska Department of Fish and Game. (n.d.). Alaska Sport Fishing Survey. Retrieved February 13, 2012 from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home

[295] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 11 cont'd. Sport Fishing Trends, Dillingham: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	n/a	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Many residents in Dillingham participate in subsistence activities. Fish and shellfish harvested in the Bristol Bay region include salmon, herring, halibut, cod, crab, clams, mussels, and freshwater fish. Moose, caribou, black and brown bear, Dall sheep, seal, ducks, geese, and spruce hen are hunted in the region. Beaver, otter, muskrat, hares, porcupine, fox, weasel, mink, and wolverine are all harvested for pelts. Plants and berries harvested include blueberries, cranberries, salmonberries, and crowberries, wild celery, wild spinach, and fiddlehead ferns.[296] In a survey conducted by the AFSC in 2011, community leaders reported that important subsistence resources harvested by Dillingham residents include: salmon, halibut, clams, seals, beluga whales, ducks, and geese. According to the ADF&G *Community Subsistence Information System*,[297] residents of Dillingham have harvested and/or used butter clams, Dungeness crab, king crab, razor clams, shrimp, Tanner crab, harbor seal, Steller sea lion, blackfish, burbot,

[296] Lowe, M. (2007). *Socioeconomic Review of Alaska's Bristol Bay Region.* Retrieved March 15, 2012 from: http://www.iser.uaa.alaska.edu/Publications/bb-socio-review.pdf.

[297] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

capelingcod, Dolly Varden, Arctic grayling, herring, lake trout, northern pike, rainbow trout, smelt, and whitefish.

According to ADF&G household surveys conducted in 2010, 19% of households harvested or used halibut, 15% harvested or used marine invertebrates, 20% harvested or used marine mammals, 80% harvested or used non-salmon fish, and 80% harvested or used salmon. In that year, estimated harvests in pounds per capita totaled 417.89 (Table 12). Data are also available regarding total harvests of salmon, halibut and marine mammals. In 2008, 327 subsistence salmon permits were issued to households in Dillingham. By, sockeye salmon made up the majority of recorded subsistence salmon harvests in 2008, followed by Chinook, coho, chum, and pink salmon. In that year, reported harvests totaled 25,907 salmon, compared to 26,823 in 2000 (Table 13).

In addition, 46 residents were issued Subsistence Halibut Registration Certificates (SHARC) by NMFS in 2009, although there no reported harvests that year. SHARC halibut harvests peaked in 2005 at an estimated 1,135 lb and declined to half that in 2007 (Table 14). No information was reported regarding subsistence harvests of other fish species or marine invertebrates.

Between 2000 and 2008, an estimated 37 beluga whales were harvested, although no harvests were reported following 2006. In addition, an estimated 20 walruses were harvested during those years. One sea otter was reported harvested in 2008. Finally, an estimated 83 spotted seals and 6 harbor seals were harvested between 2000 and 2008, with spotted seal harvests increasing steadily during those years. Information regarding subsistence trends can be found in Tables 12 through 15.

Additional Information

In a survey conducted by the AFSC in 2011, community leaders reported that local funding and shoreline erosion are current challenges for the portion of Dillingham's economy that is based on fishing. Small rural communities in the region feel that when federal infrastructure projects are undertaken, local conditions and needs are not adequately considered. Shoreline erosion is of critical concern to the City, and community leaders felt like conditions were not adequately addressed when building harbor and bulkhead infrastructure. Because of this, the City is responsible for maintaining infrastructure that is rapidly deteriorating. Moreover, the current state of Dillingham's shoreline has become such that harbor facilities relied on by the local fishing industry are being threatened along with other critical infrastructure. Finally, cost of living associated with high fuel and ice prices has impacted the commercial fishing fleet's ability to improve product quality.

Overall, community leaders felt that fisheries are managed well. The state has made successful efforts to accommodate subsistence and grants provided through the CDQ program have made positive impacts. Areas which need attention include regulatory enforcement and salmon bycatch. Locals are concerned over trawl vessels coming to close to shore and impacting halibut and salmon resources. In addition, regulations allowing duel permits to be fished on boats has impacted local employment.

When asked about potential future fisheries policy or management concerns, community leaders expressed concern over the proposed Pebble Mine and offshore oil exploration which they worry may jeopardize the local salmon fishery.

Table 12. Subsistence Participation by Household and Species, Dillingham: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	80%	19%	20%	15%	80%	417.89

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Dillingham: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	342	326	4,908	1,279	4,185	1,286	15,165	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	2	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	308	271	8,185	1,668	2,276	1,268	8,911	n/a	n/a
2005	307	280	5,807	1,149	3,385	192	10,409	n/a	n/a
2006	283	248	4,649	1,733	2,071	1,329	11,614	n/a	n/a
2007	315	265	6,988	1,272	1,736	199	14,552	n/a	n/a
2008	327	294	6,626	1,640	3,165	1,275	13,201	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Dillingham: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	35	10	395
2004	48	7	90
2005	62	11	1,135
2006	64	8	914
2007	75	18	654
2008	56	5	n/a
2009	46	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Dillingham: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	5	n/a	3	n/a	n/a	n/a	n/a
2001	8	n/a	2	n/a	n/a	5	1
2002	1	n/a	1	n/a	n/a	n/a	4
2003	8	n/a	3	n/a	n/a	n/a	6
2004	4	n/a	5	n/a	n/a	n/a	8
2005	7	n/a	3	n/a	n/a	n/a	12
2006	4	n/a	n/a	n/a	n/a	n/a	15
2007	n/a	n/a	n/a	n/a	n/a	n/a	15
2008	n/a	1	3	n/a	n/a	1	22
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Egegik (*EE-guh-gick*)

People and Place

Location [298]

Egegik is located on the south bank of the Egegik River on the Alaska Peninsula, 100 mi southeast of Dillingham and 326 air mi southwest of Anchorage. The area encompasses 32.8 sq mi of land and 101.2 sq mi of water. Egegik was incorporated as a Second-class city in 1995 and is under the jurisdiction of the Lake and Peninsula Borough.

Demographic Profile [299]

In 2010, there were 109 residents ranking Egegik 237th of 352 communities in terms of population size. Between 1990 and 2010, the population declined by 10.7%. Between 2000 and 2009, the population fell by 37.1% with an average annual growth rate of -4.0%; which was much lower than the statewide average of 0.75% and indicative of a steeply declining population during those years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that there were 50 full time residents according to a village count by Tribal staff. In addition, there were an estimated four to five thousand seasonal workers living in Egegik in 2010. On average, the community has seasonal workers living there between June and August. Seasonal population peaks, which occur between June and July, are thought to be driven entirely by employment in fisheries sectors. The seafood industry's effect on seasonal population levels is a likely source of the disparity between U.S. Census figures, Alaska Department of Labor estimates, and local estimates. Information regarding population trends can be found in Table 1.

Racial and ethnic composition was somewhat evenly split between Alaska Natives and Whites in 2010. In that year, 47.7% of residents identified themselves as White, compared to 19% in 2000; 39.4% identified themselves as American Indian or Alaska Native, compared to 57.8% in 2000; 4.6% identified themselves as Native Hawaiian or Other Pacific Islander, compared to 0% in 2000; and 7.3% identified themselves as two or more races, compared to 22.4% in 2000. In addition, 1.8% of residents were Hispanic or Latino, compared to 6.9% in 2000. Again, the variability of racial and ethnic representation in Egegik between 2000 and 2010 can likely be attributed to affects by the seafood industry and generally low population size. Information regarding racial and ethnic composition can be found in Figure 1.

[298] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[299] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

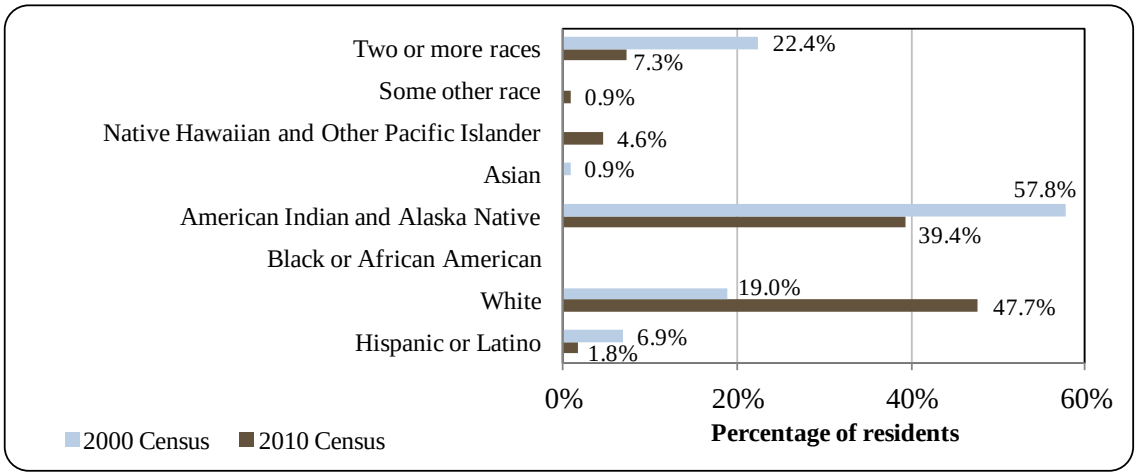
Table 1. Population in Egegik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	122	-
2000	116	-
2001	-	80
2002	-	87
2003	-	82
2004	-	77
2005	-	81
2006	-	76
2007	-	63
2008	-	63
2009	-	73
2010	109	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Egegik: 2000-2010 (U.S. Census).



In 2010, the average household size was 2.48, a decrease from 2.5 in 1990 and 2.64 in 2000. In that year, there was 256 housing units total, compared to 66 in 1990 and 286 in 2000. Of the household surveyed in 2010, 9% were owner-occupied, compared to 13% in 2000; 2% were renter-occupied, compared to 2% in 2000; 3% were vacant, compared to 6% in 2000; and 86% were occupied seasonally, compared to 83% in 2000. In that year, 37 residents lived in group quarters, compared to none in 2000.

The gender distribution in 2010 was significantly uneven at 72.5% male and 27.5% female, and less even than the distribution statewide (52% male, 48% female) and distribution in 2000 (59.5% male, 40.5% female). In that year, the median age was 47.3 years, which was much older than the statewide median of 33.8 years and 2000 median of 35.3 years.

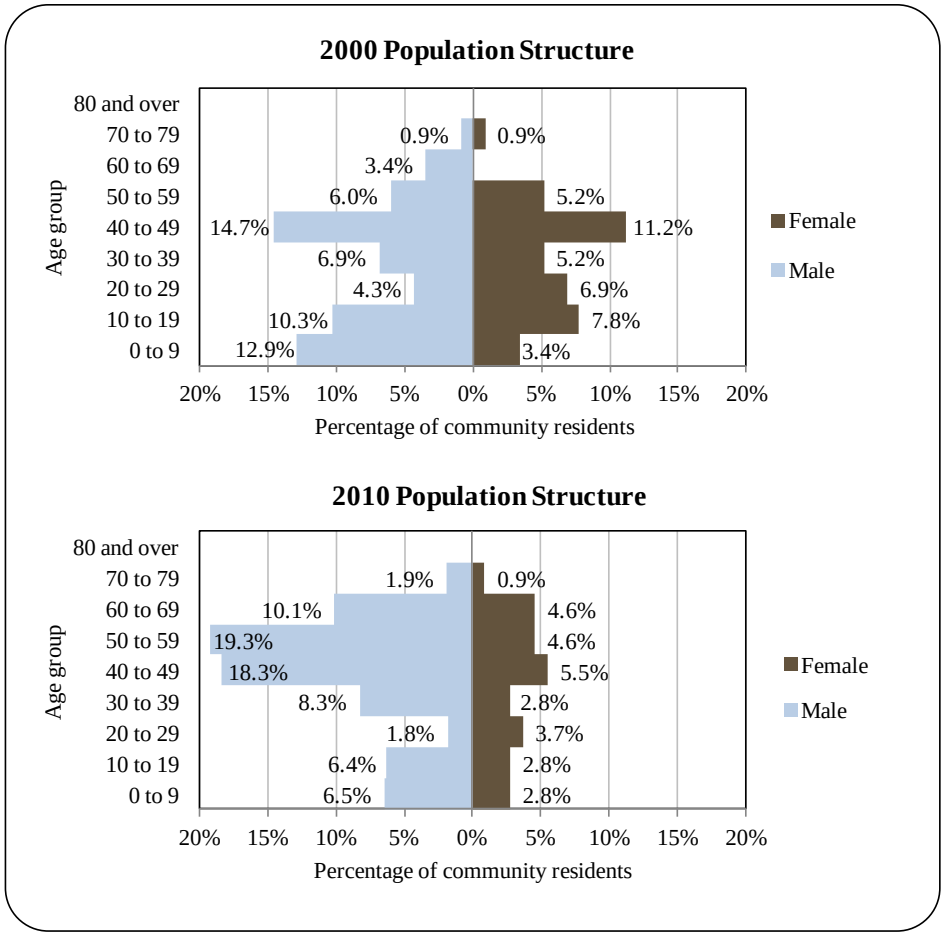
Compared to 2000, the population structure in 2010 was significantly more constricted. In that year, 18.5% of residents were under the age of 20, compared to 34.4% in 2000; 17.5% were over the age of 59, compared to 5.2% in 2000; 58.8% were between the ages of 30 and 59, compared to 49.2% in 2000; and 5.5% were between the ages of 20 and 29, compared to 11.2% in 2000. In addition, there was noticeably few residents aged 10 to 19 in 2000 transitioning into the 20 to 29 range in 2010, perhaps indicating low youth retention.

Gender distribution by age cohort was notably less even in 2010 than in 2000, with male biases prevalent along most age ranges. The greatest absolute gender difference that year occurred within the 50 to 59 range (19.3% male, 4.6% female), followed by the 40 to 49 (18.3% male, 5.5% female) and 60 to 69 (10.1% male, 4.6% female) rages. Of those three, the greatest relative gender difference occurred in the 50 to 59 range. Overall, population structures in both 2000 and 2010 appear consistent with communities whose populations are heavily impacted by local seafood processors. It should be noted that because of Egegik's small and variable population, trends are difficult to discern. Information regarding Egegik's population structure can be found in Figure 2.

In terms of education attainment, the U.S. Census' American Community Survey (ACS)[300] estimated that 63% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 18.5% had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 18.5% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 11.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; and an estimated 11.1% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall. No residents were estimated to hold an Associate's, graduate or professional degree.

[300] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

Figure 2. Population Age Structure in Egegik Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture

According to anthropologists, settlement of the Bristol Bay region first occurred over 6,000 years ago. Yup'ik Eskimos and Athabascan Indians jointly occupied the area, although Aleuts arrived in later years. The first recorded contact with Russian fur traders occured between 1818 and 1867. The village was first reported by Russians as a fish camp called "Igagik" (meaning "throat") in 1876. Local people would travel each year from Kanatak on the gulf coast through a portage pass to Becharof Lake and then hike or kayak on to the Egegik Bay area for summer fish camp. In 1895, an Alaska Packers Association salmon saltery was established at the mouth of Egegik River and a town was developed around the former fish camp. During the influenza outbreaks beginning in 1918, Natives from other villages moved to Egegik in an attempt to isolate themselves from the disease. During World War II, men from Egegik were enlisted to help build the King Salmon Airport, with many subsequently serving in Dutch Harbor and elsewhere. Egegik later grew into a major salmon production port.[301]

[301] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Today, the economy in Egegik is based on commercial fishing and fish processing, providing seasonal employment from May to August. The population swells by 1,000 to 2,000 fisherman and cannery workers during the commercial fishing season. Five on-shore processors are located on the Egegik River and numerous floating processors participate in the Egegik fishery. Local working tours of the Bristol Bay set-net fishery are available.[302]

Natural Resources and Environment

Egegik's predominantly maritime climate is characterized by cool, humid, and windy weather. Average summer temperatures range from 41to 60 °F (5 to 16 °C); winter temperatures range from 20 to 37 °F (-7 to 3 °C). Annual precipitation averages 20 to 26 inches, with 45 inches of snow. [303]

Egegik lies approximately 20 mi west of the Becharof National Wildlife Refuge (BNWR), which occupies around 1.16 million acres of the Alaska Peninsula. Local and regional topography is shaped by the Aleutian Range spanning the length of the Alaska Peninsula and Aleutian island chain. The community sits on flat lowland occupied by shallow lakes, wetlands, and tundra; while the rugged crests of the Kejulik Mountains provide a backdrop to the east. The coastal plain Egegik occupies is flat, with lakes and meandering streams, although the remains of glacial moraines provide limited relief. Local geology is volcanic in nature and soils are characterized by a mixture of ash and glacial deposits which result in a clay-like material. Organic soils occur in wet areas and consist of sedge peat and sphagnum.[304]

Vegetation in the area is characteristic of transitional coastal/tundra plant communities. This includes mostly low shrub and grasses, with low grass tundra. Near the BNWR boundary to the west, there are areas of low shrub and grass tundra. Trees in the area are typically stunted, and low alders and willows dominate deciduous species.[305]

The 2,740 sq mi Egegik River drainage is home to more than 1,000 salmon-producing streams. Estimated productivity of this drainage exceeds 30 million fish. Resident fish species include all five species of Pacific salmon, rainbow trout, steelhead, lake trout, Dolly Varden, Arctic char, Arctic grayling, whitefish, northern pike, and burbot. Terrestrial wildlife in the BNWR includes weasels, red fox, coyote, snowshoe hare, beaver, wolverine, otter, mink, lynx, wolves, brown bears, caribou, moose, and host of small smaller mammals. Marine mammals include harbor seals, Steller sea lions, sea otters, porpoise, and killer, gray, minke, pilot, and beluga whales. Over 200 species of birds use the BNWR as migratory or permanent habitat.[306]

Natural resources in the area primarily include local wildlife and the environments that sustain them, included the BNWR and Bristol Bay. Oil and gas exploration is active in both Bristol Bay and the BNWR. Oil and gas seeps have been found to occur in the Becharof Lake area. Twenty-five onshore and one offshore exploratory wells have been drilled around the

[302] Lake and Peninsula Borough (n.d.). *Egegik.* Retrieved March 21, 2012 from: http://www.lakeandpen.com/.
[303] See footnote 301.
[304] U.S. Fish & Wildlife Service (2005). *Revised Comprehensive Conservation Plan and Environmental Impact Statement: Alaska Peninsula and Becharof National Wildlife Refuges.* Retrieved March 21, 2012 from: http://alaska.fws.gov/nwr/planning/pdf/apb/APB%20Revised%20CCP-EIS_090605.pdf.
[305] Ibid.
[306] Ibid.

refuges as of 2005, and the U.S. Bureau of Land Management (BLM) has cited lowlands along the Bristol Bay coast and Egegik Bay as having potential hydrocarbon accumulations.[307]

Environmental hazards include coastal and riverine erosion, volcanic eruptions, severe weather, wildfire, and earthquakes. As of 2009, erosion was threatening the seawall near the cannery as well as the city dock. Coastal erosion and undercutting along the banks of the Egegik River are immediate hazards to the community. Severe weather comes in the form of cyclonic windstorms out of the west and southwest. Each winter, windstorms cause considerable damage to the community with sustained winds of 100 mph and gusts up to 140 mi per hour being recorded during the winter of 2000. Active volcanoes within the Katmai National Park threaten the community directly through local ash fallout and indirectly through potential impacts to the salmon fishery. Ash fallout has the potential to disrupt travel, impact water utilities, and affect valuable salmon producing watersheds. While the community is relatively safe from forest fires, residents are concerned over potential tundra fires. Wildland fires have the potential to destroy property, harm livestock and pets, and impact vegetation and waterways. The potential for earthquakes in Egegik is relatively low, and there is no historical precedence of a catastrophic damage resulting from a quake. The chance of an earthquake within Egegik is greater than 10% but less than 20% each calendar year.[308]

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation sites active within Egegik in 2010.[309]

Current Economy[310]

The economy is based primarily on commercial fishing and fish processing. During the commercial fishing season, the population swells by 1,000 to 2,000 fishermen and cannery workers. There are a number of shore-based processors located within the Egegik Fishing District. Icicle Seafoods on the south shore of the Egegik River, and Coffee Point Seafoods on the north side of the river are the two largest processors in the area. Numerous tenders operate in the Egegik Fishery, transporting fish to floating processors in Bristol Bay as well as shore-based processors in Naknek and Dillingham. Subsistence hunting and fishing activities are also an important part of the lifestyle and local diet. Seal, beluga, salmon, trout, smelt, grayling, clams, moose, bear, caribou, porcupine, waterfowl, and ptarmigan are utilized. Locals also gather berries and wild greens each season.[311] Top employers[312] in 2010 included: the City of Egegik, the Village of Egegik, Lake and Peninsula School District, and Bristol Bay Native Association.

[307] Ibid.
[308] Lake and Peninsula Borough (2009). *Multi-Hazard Mitigation Plan.* Retrieved March 22, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[309] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved June 29, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.
[310] Unless otherwise noted, all monetary data are reported in nominal values.
[311] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[312] Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network.* Retrieved January 20, 2012 from: http://live.laborstats.alaska.gov/alari/.

In 2010,[313] the estimated per capita income was $21,571 and the estimated median household income was $74,167, compared to $16,352 and $46,000 in 2000, respectively. However, after accounting for inflation by converting 2000 values into 2010 dollars,[314] the real per capita income ($21,503) and real median household income ($60,489) indicate that while individual earnings remained unchanged, household earnings grew. In that year, Egegik ranked 137th of 305 communities from which per capita income was estimated, and 36th of 299 communities from which median household income was estimated. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Egegik do not reflect the value of subsistence to the local economy.

Egegik's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[315] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents eared $933,198 in total wages in 2010.[316] When matched with the population in 2010, the per capita income equals $8,561, which is significantly less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Census figures.[317]

According to 2006-2010 ACS estimates,[318] 87.1% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 3.2%, compared to an estimated 5.9% statewide; and an estimated 14.3% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. It is possible that the 2010 ACS misrepresented unemployment in Egegik because of the community's small population size. According to 2010 ALARI estimates, local unemployment was 12.3% based on unemployment insurance claimants.

Of those employed in 2010, an estimated 57.7% worked in the private sector and an estimated 42.3% worked in the public sector. By industry, most (34.6%) of those employed were estimated to work in transportation, warehousing, or utilities sectors; followed by professional, scientific, management, administration, or waste management sectors (19.2%) (Figure 3). By occupation type, most (42.3%) of those employed were estimated to hold service positions; followed by sales or office positions (19.2%); production, transportation, or material moving positions (15.4%); natural resources, construction, or maintenance positions (11.5%); and management or professional positions (11.5%) (Figure 4). According to 2010 ALARI employment estimates, most (71.9%) employed residents worked in local government sectors; followed by trade, transportation, and utilities (9.4%) and manufacturing (6.3%) sectors.

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[313] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[314] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

[315] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[316] ALARI estimates are based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

[317] See footnote 312.

[318] See footnote 315.

Figure 3. Local Employment by Industry in 2000-2010, Egegik (U.S. Census).

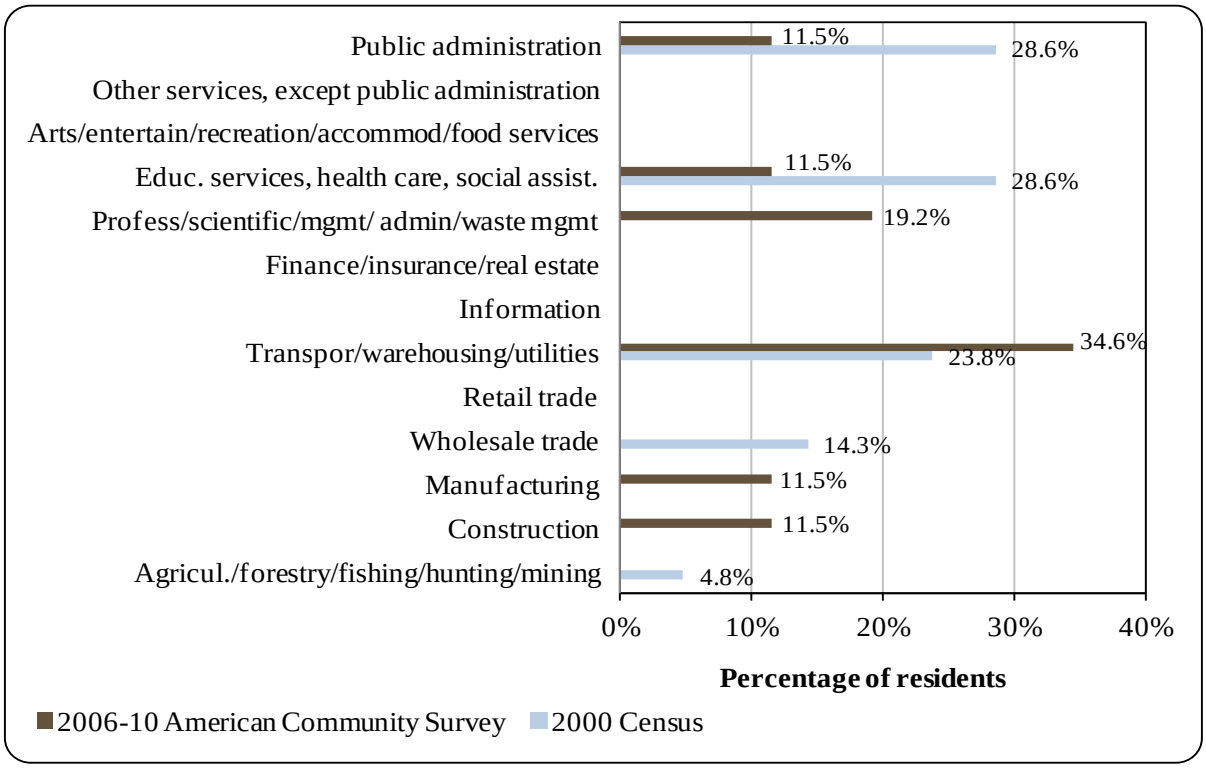
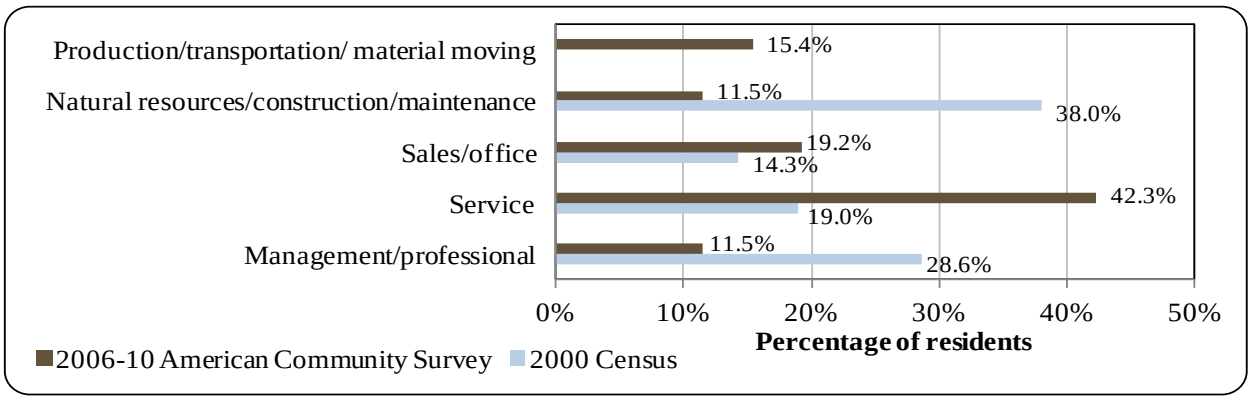


Figure 4. Local Employment by Occupation in 2000-2010, Egegik (U.S. Census).



Between 2000 and 2010 there were strong shifts in employment both by industry sector and by occupation type. Public administration, education service, health care, social assistance, and wholesale trade sectors declined significantly, while there was significant growth in professional, scientific, management, administrative, waste management, manufacturing, and construction sectors. In addition, there was significant growth in service, production, transportation, and material moving positions; and significant declines in natural resources, construction, maintenance, management, and professional positions. It is possible that extreme

shifts in industry sector and occupation representation are attributed to high population turnover. However, it should also be noted that many resource based sectors, including commercial fishing, are seasonal or transient in nature. This makes tracking them by Census and ACS survey methods difficult in some instances, especially given the known importance of commercial fishing to local residents (see *Commercial Fishing* section below).

Governance

Egegik is a Second-class city with a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized Native village council and an Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Becharof Corporation). The Bristol Bay Native Corporation is the regional ANCSA chartered corporation. The closest Alaska Department of Fish and Game (ADF&G) office is located in King Salmon 40 mi northeast. The closest National Marine Fisheries Service and U.S. Bureau of Citizenship and Immigration Services (BCIS) are located in Kodiak, 188 mi west.

In 2010, Egegik administered a 3% Raw Fish Tax, $3 per person/day Guide Tax, and a $1 per person/day lodge Guide Tax. In addition, the borough administered a 2% Raw Fish Tax and 6% Bed Tax. When adjusted for inflation,[319] total municipal revenues declined by 22.6% between 2000 and 2010, from $2.34 million to $2.35 million. However, it should be noted that in major revenue sources differed in both of those years. In 2010, almost half of revenues collected came from taxes, while most revenues were generated from capital projects in 2000. Other major sources of locally generated revenues in 2010 include municipal service charges, investments, and leases and grants. Major outside revenue sources included state and borough revenue sharing. In that year, approximately 4.2% of total municipal revenues were collected from state allocated Community Revenue Sharing, compared to 1.3% from State Revenue Sharing in 2000.

Between 2000 and 2010, Egegik received one fisheries-related state/federal grant. This included $92,621 in fisheries disaster relief associated with the Bristol Bay sockeye salmon crash in the early 2000s. Information regarding municipal finances can be found in Table 2.

Infrastructure

Connectivity and Transportation

The community is accessible by air and water. A new City-owned 5,600-ft long by 100-ft wide lighted gravel runway with crosswind airstrip is located approximately two mi south of Egegik. Scheduled and charter flights are available. Roundtrip airfare between Anchorage and Egegik in June 2012 was $712.[320] There is also a private 2,800-ft airstrip across from Coffee Point. A boat haul-out is available and the City has a deep water dock that that services barges from Anchorage and Seattle. Two privately-owned docks and marine storage are also available. Motorized vehicles used by residents include automobiles, trucks, skiffs, ATVs and snowmobiles.[321]

[319] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.
[320] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).
[321] Lake and Peninsula Borough. (2009). *Multi-Hazard Mitigation Plan.* Retrieved March 22, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Egegik from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$2,344,162	n/a	$29,433	$92,621
2001	$4,302,728	n/a	$28,492	n/a
2002	$3,241,646	n/a	$28,759	n/a
2003	$639,495	n/a	$28,779	n/a
2004	$484,865	n/a	-	n/a
2005	$901,421	n/a	-	n/a
2006	$767,000	n/a	-	n/a
2007	$628,828	n/a	-	n/a
2008	$1,292,947	n/a	-	n/a
2009	$2,755,560	n/a	$99,163	n/a
2010	$2,345,501	n/a	$99,661	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System.* Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Facilities

The City of Egegik operates a public water/sewer system. Egegik's water is supplied by a combination of three wells. Two storage tanks are used, comprised of an indoor 8,000 gal tank and an outside 100,000 gal tank. Most households and public facilities are plumbed and connected to the public water and sewer system. The Icicle Seafoods processing facility derives water from School Lake and obtains water for general use from the City. A seven-acre landfill is available, with a batch oxidation incinerator. Visitor accommodations include the Fun & Wash Hotel and Becharof Lodge. Public safety services are provided by the City police department and state troopers based in King Salmon. Fire and rescue services are provided by Egegik First Responders. Additional facilities include a recreational center and community center. Communications services include local television, radio, and internet.[322]

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed or underway between 2000 and 2010 include dock improvements, broadband internet access, road construction, airport improvements, water and sewer pipelines, sewage and water treatment, alternative energy, landfill improvements, community center/library, public safety, and emergency response. Fisheries-related businesses or

[322] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

services available in the community include fish processing plants, fishing gear sales, boat repair (electrical, welding, mechanical services, machine shop, hydraulics), small and large vessel haulout facilities, commercial cold storage, dry dock storage, fish lodges, boat fuel sales, fishing gear repair, fishing gear storage, ice sales, and air taxi. Additional public services include medical and a food bank. Residents travel to Naknek, Dillingham, Anchorage, or Seattle for businesses and services not available in the community.

Medical Services[323]

The Egegik Village Clinic is a Community Health Aid Program (CHAP) site, providing general health services. Acute, long-term, and specialized health care is provided in Dillingham.

Educational Opportunities[324]

Egegik School provides preschool through 12th grade instruction. As of 2011, there were 10 students enrolled and 1 teacher employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The community of Egegik has participated in North Pacific fisheries since Yup'ik and Athabascans first arrived in the area. Traditionally, subsistence harvesting was the sole method of participation before commercial fishing was introduced. The Bristol Bay region is justifiably famous for the salmon, trout, char, and grayling that abound in its lakes, streams, and marine waters. The world's largest sockeye salmon runs pass along the Alaska Peninsula and through Bristol Bay enroute to their spawning grounds in the streams and lakes of the region.[325]

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye salmon (91.2% of all salmon), about 880,000 chum salmon (4.7%), about 550,000 pink salmon (3.0%), about 120,000 coho salmon (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Sockeye salmon are the most important commercial fish in the region, and large runs occur in Egegik and Nushagak River drainages. These fish return to Bristol Bay in late June and early July with most adults entering their spawning stream by late July or early August. In addition, research has shown that the largest outmigrating sockeye salmon smelts in the Bristol Bay area are from the Egegik River system.[326]

Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The

[323] Ibid.
[324] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[325] LaRoche & Associates. (2011). *Lake & Peninsula Borough Coastal Management Plan.* Retrieved March 22, 2012 from: http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[326] Ibid.

Togiak River continuously exceeds minimum escapement goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.[327]

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purses seine and gillnet fleets harvest the spawning herring in a sac roe fishery, and spawn-on-kelp harvests are also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million pounds between 1998 and 2002.[328]

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.[329]

In a survey conducted by the AFSC in 2011, community leaders reported that Egegik participates in the fisheries management process in Alaska through a representative who participates in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process. In addition, Egegik has a representative that attends ADF&G meetings. The community is eligible to participate in the Community Development Quota (CDQ) program and is represented by the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[330] Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, there are four shore-based processing plants operating in Egegik. Alaska General Seafoods' Egegik location is commercial fleet staging camp in support of the company's Naknek cannery, providing housing, mess hall, vessel storage, and repair services to independent commercial fishing vessels. This site was originally a saltery in the early 1930s. A cannery was established in the 1940s by a different company and has changed hands over time (San Juan Fish Packing, New England Fish Company, and Ocean Beauty/Diamond E). Ocean Beauty began to operate the facility as a fish camp soon after the late 1970s (and transferred the canning lines to the Diamond E plant in Egegik). The facility was purchased by Nelbro Co. in 1986 and it continued to operate as a commercial fleet staging camp. Nelbro built a new bunkhouse and warehouse. Nelbro Packing Co. merged with Kanaway Seafoods and Alaska General Seafoods to form Alaska General Seafoods in 1999. Alaska General's full summer season in Bristol Bay lasts from mid-June to late July. The facility which

[327] Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[328] Woodby, D. et al. (2005). *Commercial Fisheries in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[329] Ibid.
[330] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.

is supported by the Egegik fish camp processes herring and all five species of salmon. The Egegik fish camp provides boat repair services, housing and a mess hall to its independent fishing fleet. At the peak of the fishing season, Alaska General Seafoods employs more than 700 people throughout all of its shore-side operations, including the Bristol Bay area.[331]

Big Creek Fisheries operates a fish processing plant in Egegik, although little is known about its operation. Big Creek Fisheries generally processes all five species of Pacific salmon.[332]

Coffee Point Seafoods processes sockeye salmon and salmon roe (sujiko). Their season runs from mid-June to the end of July. After a successful 2002 Bristol Bay salmon season (marketed by Double E Foods), the owners of Clark's Fish company and Joe Kelso came together and moved into a larger facility to accommodate an increase in product volume for the 2003 season at which point they became Coffee Point Seafoods. The following products are processed in or near the Bristol Bay region: sockeye salmon (May-September at Bristol Bay plants), Chinook salmon (year-round at Bristol Bay plant), and salmon roe (May-September at Bristol Bay plant.[333]

The Egegik facility of Icicle Seafoods Inc. is located on the south bank of the Egegik River. The canning and freezing facility processes sockeye salmon. The season runs from mid-June through the beginning of August, employing 200 fish processing workers. As the Bristol Bay season winds down the crew size decreases. The facility was purchased in 2005, but the cannery was established in the 1890s. Icicle provides free laundry service, work-gear, and room and board to its fish processing workers. Air transportation from and to Seattle is also provided, but is dependent on workers fulfilling their contractual obligations.[334]

Fisheries-Related Revenue

In 2010, Egegik collected $1.65 million in fisheries-related revenue, most of which came from a raw fish tax. That year accounted for the highest amount of fisheries-related revenue collected since 2000 when $394,758 was collected. In addition to raw fish tax revenue, Egegik received revenue from the Shared Fisheries Business Tax, Fisheries Resource Landing Tax, and fees collected from public fishing gear storage (Table 3).[335]

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that there has been a significant increase in the number of commercial fishing vessels in Egegik since 2005. In terms of size, there has been an increase of vessels shorter than 35 ft, while vessels longer than 125 ft have declined in number. The sockeye salmon season typically runs from June 1st through

[331] Alaska General Seafoods. (n.d.). *Egegik.* Retrieved from: http://www.akgen.com.
[332] Alaska Seafood Marketing Institute. 2011. Directory of Alaska Seafood Suppliers. Retrieved December 12, 2011 from http://www.alaskaseafood.org/industry/suppliers/index.cfm.
[333] Google's March 15, 2009 cache of http://www.eefoods.com/id108.htm
[334] Icicle Seafoods. (n.d.). Retrieved from: http://www.icicleseafoods.com/locations/vsl/about.aspx.
[335] Fisheries-related revenue as a proportion of municipal revenue cannot be accurately reported due to conflicts between reported fisheries-related taxes and fees and municipal budgets provided by Alaska Taxable.

July 31st, while the coho salmon season typically runs from July 26th through August 13th.

In 2010, 26 residents, or 23.9% of the population, held 24 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 55 residents held 86 CFEC permits. Of the CFEC permits issued that year, 100% were for salmon, compared to 56% in 2000. Halibut permits were held in the community until 2009 and herring until 2004. Between 2000 and 2010 no residents held License Limitation Program (LLP) permits for groundfish or crab. Two residents held Federal Fisheries Permits (FFP) from 2000 to 2002. No residents held halibut, sablefish, or crab quota between 2010 and when the programs began.

There were 27 residents who held commercial crew licenses in 2010, compared to 48 in 2000. In addition, residents held majority ownership of 20 vessels that year, compared to 40 in 2000. Of the CFEC salmon permits issued in 2010, 71% were fished, compared to 92% in 2000. Fisheries prosecuted in 2010 by residents of Egegik included Bristol Bay drift and set gillnet salmon.[336]

In 2010, 29.4 million pounds of fish were landed in Egegik valued at $27.7 million ex-vessel, compared to 13.2 million valued at $5.3 million in 2000. The number of vessels making landings in Egegik peaked in 2010 at 718 although pounds landed was at its lowest since 2003. On the other hand, landings peaked in 2009 when 539 vessels landed 67.9 million pounds. Total value of landings that year was $54 million. In 2010, Egegik ranked 15th of 67 Alaskan communities in terms of total pounds landed and 16th in terms of ex-vessel value of landings. Between 2000 and 2010, the price of salmon in Egegik increased by $0.12 per pound landed ex-vessel, after accounting for inflation[337] and without considering the species composition of landings. Residents of Egegik landed 503,567 lb of salmon valued at $449,942 ex-vessel in 2010, compared to 905,790 lb valued at $602,045 in 2000; a decrease of $0.02 per pound landed after accounting for inflation[338] and without considering the species composition of landings. In a survey conducted by the AFSC in 2011, community leaders reported that residents are concerned with fish returns, markets and prices. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[337] Inflation calculated using the 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.
[338] Ibid

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Egegik: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	$330,810	$381,616	$55,120	$313,063	$202,571	$412,575	$792,763	$475,289	$434,367	$1.05 M	$1.57 M
Shared Fisheries Business Tax[1]	$62,748	$33,912	$35,953	$81,471	$38,273	$39,428	$32,508	$33,661	$78,512	$68,512	$67,801
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$19	$51	$194	$349	$333
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	$1,200	$1,200	$1,200	$1,000	$1,930	$1,000	$7,000	$6,000	$3,500	$2,000	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$10,000
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$394,758*	*$416,728*	*$92,273*	*$395,534*	*$242,774*	*$453,003*	*$832,290*	*$515,001*	*$516,573*	*$1.12 M*	*$1.65 M*
Total municipal revenue[5]	*$2.34 M*	*$4.30 M*	*$3.24 M*	*$639,195*	*$484,865*	*$901,421*	*$767,000*	*$628,828*	*$1.29 M*	*$2.76 M*	*$2.35 M*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Egegik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	2	2	2	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	2	2	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	11	6	5	4	4	4	2	3	1	1	0
	Fished permits	3	1	3	2	1	1	0	0	0	0	0
	% of permits fished	27%	17%	60%	50%	25%	25%	0%	0%	0%	0%	n/a
	Total permit holders	11	6	5	4	4	4	2	3	1	1	0
Herring (CFEC) [2]	Total permits	23	12	8	1	2	0	0	0	0	0	0
	Fished permits	13	8	2	0	1	0	0	0	0	0	0
	% of permits fished	57%	67%	25%	0%	50%	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	13	6	5	1	2	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Egegik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	3	0	0	0	0	0	0	1	0	0	0
	Fished permits	0	0	0	0	0	0	0	1	0	0	0
	% of permits fished	0%	n/a	n/a	n/a	n/a	n/a	n/a	100%	n/a	n/a	n/a
	Total permit holders	3	0	0	0	0	0	0	1	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	48	38	37	34	30	28	29	24	23	24	24
	Fished permits	44	28	26	24	21	24	23	17	17	14	17
	% of permits fished	92%	74%	70%	71%	70%	86%	79%	71%	74%	58%	71%
	Total permit holders	51	41	39	37	30	31	34	25	23	23	26
Total CFEC Permits[2]	*Permits*	*86*	*56*	*50*	*39*	*36*	*32*	*31*	*28*	*24*	*25*	*24*
	Fished permits	*60*	*37*	*31*	*26*	*23*	*25*	*23*	*18*	*17*	*14*	*17*
	% of permits fished	*70%*	*66%*	*62%*	*67%*	*64%*	*78%*	*74%*	*64%*	*71%*	*56%*	*71%*
	Permit holders	*55*	*42*	*40*	*38*	*31*	*31*	*34*	*26*	*23*	*23*	*26*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Egegik: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Egegik[2]	Total Net Lb Landed In Egegik[2,5]	Total Ex-Vessel Value Of Landings In Egegik[2,5]
2000	48	6	4	40	129	600	13,210,430	$5,251,922
2001	38	14	4	30	117	574	11,375,007	$4,672,430
2002	32	20	2	25	102	378	23,218,722	$11,344,570
2003	34	13	2	26	116	561	14,274,413	$7,206,033
2004	27	16	3	20	104	693	61,293,040	$31,325,919
2005	35	16	5	21	102	611	49,578,496	$30,580,575
2006	33	13	3	21	107	530	43,374,102	$28,223,187
2007	28	15	4	19	109	575	39,759,242	$26,094,073
2008	22	19	4	17	105	391	42,094,548	$31,085,066
2009	21	20	4	16	104	539	67,851,799	$53,975,342
2010	27	13	4	20	109	718	29,436,776	$27,667,099

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Egegik: 2000-2010.

Year	Number Of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Lb)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Egegik: 2000-2010.

Year	Number Of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Lb)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Egegik: 2000-2010.

Year	Number Of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Lb)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Egegik: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	7,911,550	11,375,007	23,218,722	14,274,413	61,293,040	49,578,496	43,374,102	39,759,242	42,094,548	67,850,329	29,436,776
Total[2]	*7,911,550*	*11,375,007*	*23,218,722*	*14,274,413*	*61,293,040*	*49,578,496*	*43,374,102*	*39,759,242*	*42,094,548*	*67,850,329*	*29,436,776*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$4,721,748	$4,672,430	$11,344,570	$7,206,033	$31,325,919	$30,580,575	$28,223,187	$26,094,073	$31,085,066	$53,970,526	$27,667,099
Total[2]	*$4,721,748*	*$4,672,430*	*$11,344,570*	*$7,206,033*	*$31,325,919*	*$30,580,575*	*$28,223,187*	*$26,094,073*	*$31,085,066*	*$53,970,526*	*$27,667,099*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Egegik Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	309,873	484,388	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	905,790	539,937	559,173	391,287	814,890	818,644	572,727	469,551	462,221	799,926	503,567
Total[2]	*1,215,663*	*1,024,325*	*559,173*	*391,287*	*814,890*	*818,644*	*572,727*	*469,551*	*462,221*	*799,926*	*503,567*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	$32,881	$38,504	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$602,045	$223,040	$270,272	$194,250	$417,612	$500,034	$366,510	$310,817	$343,597	$634,653	$449,942
Total[2]	*$634,926*	*$261,544*	*$270,272*	*$194,250*	*$417,612*	*$500,034*	*$366,510*	*$310,817*	*$343,597*	*$634,653*	*$449,942*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that sportfishing and hunting were important aspects of Egegik's economy. Private anglers typically fish from shore or by private boats owned by both local residents and non-local residents. According to community leaders, species targeted locally include Chinook, coho, and sockeye salmon. In 2010, residents held 8 sportfishing licenses, compared to 15 in 2000. The number of sportfishing licenses held in the community declined steadily between 2000 and 2010. One sport fish guide business was registered in 2006 and another in 2009, although neither were active during those years. Two sport fish guide licenses were issued in 2009. No charter catch record information is available for Egegik.

Egegik is located within the Alaska Peninsula and Aleutian Islands ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages, between Cape Douglas and the community of Naknek. In 2010, overall angler days fished totaled 5,297 days for saltwater fisheries, compared to 10,534 days in 2000; and 33,635 days for freshwater fisheries, compared to 44,976 days in 2000. In that year, non-Alaska resident anglers accounted for 38.4% of saltwater and 58.4% of freshwater angler days fished, compared to 15.8% and 39.5% in 2000, respectively. According to ADF&G Harvest Survey data,[339] private anglers in Egegik target coho salmon. Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Egegik: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Egegik[2]
2000	0	0	15	0
2001	0	0	18	0
2002	0	0	19	0
2003	0	0	14	0
2004	0	0	12	0
2005	0	0	16	0
2006	0	1	14	0
2007	0	1	10	0
2008	0	0	8	0
2009	0	2	9	0
2010	0	0	8	0

[339] Alaska Department of Fish and Game. 2011. Alaska sportfishing Survey results, 2000 – 2010. ADF&G Division of sport fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 11 cont'd. Sport Fishing Trends, Egegik: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Residents of Alaska Peninsula communities harvest caribou from the Mulchatna and Alaska Peninsula herds. The subsistence harvest of moose in the Borough region occurs primarily in the Nushagak drainage, Iliamna Lake area, and on the Alaska Peninsula. Subsistence hunters also harvest small game and birds throughout the region with geese, ptarmigan, and ducks receiving the most attention. Residents of coastal communities along the Bristol Bay side of the peninsula gather seaweed, crab, cockles, clams, and marine fish year-round. In late summer and fall, people throughout the region pick blueberries, cranberries, huckleberries, blackberries, and salmon berries. In the spring, villagers gather wild celery, spinach, and bird eggs. During winter, a few residents of each community trap furbearers. The catch varies by area but beaver, land otter, mink, and fox are most commonly taken. Some meat is used for subsistence purposes, but the primary objective is to sell the furs to supplement their cash income.[340] In a survey conducted by the AFSC in 2011, community leaders reported that salmon, moose, and berries are the three most important subsistence resources to Egegik residents.

[340] LaRoche & Associates. (2011). *Lake & Peninsula Borough Coastal Management Plan.* Retrieved March 22, 2012 from: http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

Information regarding subsistence activity is limited, and data regarding subsistence harvest activity by household is unavailable (Table 12). However, data are available regarding total community reported harvests of salmon, halibut and some marine mammal species. Of the species listed by ADF&G in Table 13, sockeye salmon were harvested most, followed by coho, Chinook, chum, and pink salmon. In 2008, residents reported harvesting 1,022 salmon, compared to 572 in 2000. Reported salmon harvests peaked in 2004 at 2,874 fish. In that year, coho salmon made up the majority of salmon harvested at 1,356 fish (Table 13). In 2010, one resident held a Subsistence Halibut Registration Certificate (SHARC) although no halibut was harvested that year (Table 14). Between 2000 and 2008, and estimated 3 beluga whales, 1 walrus, and 38 harbor seals were harvested (Table 15).

According to ADF&G *Community Subsistence Information System*,[341] marine invertebrate species harvested or used by residents of Egegik include butter clams, chitons, cockles, Dungeness crab, king crab, mussels, octopus, razor clams, sea urchin, shrimp, and Tanner crab. Non-salmon fish harvested or used include capelingcod, Dolly Varden, flounder, grayling, herring, herring roe, herring roe on kelp, lake trout, rainbow trout, steelhead trout, and whitefish. Information regarding subsistence trends can be found in Tables 11 through 15.

Table 12. Subsistence Participation by Household and Species, Egegik: 2000-2010.

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[341] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Egegik: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	15	12	11	9	233	n/a	319	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	10	7	101	381	1,356	86	950	n/a	n/a
2005	20	15	35	216	439	n/a	963	n/a	43,027
2006	18	13	36	17	514	n/a	503	n/a	n/a
2007	7	7	118	57	260	25	198	n/a	n/a
2008	11	10	45	25	320	3	629	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Egegik: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	1	n/a	n/a
2010	1	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Egegik: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	4	n/a
2001	2	n/a	1	n/a	n/a	6	n/a
2002	n/a	n/a	n/a	n/a	n/a	2	n/a
2003	1	n/a	n/a	n/a	n/a	4	n/a
2004	n/a	n/a	n/a	n/a	n/a	15	n/a
2005	n/a	n/a	n/a	n/a	n/a	1	n/a
2006	n/a	n/a	n/a	n/a	n/a	3	n/a
2007	n/a	n/a	n/a	n/a	n/a	3	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	4	n/a
2010	n/a	n/a	n/a	n/a	n/a	6	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Ekuk (*EE-kuk*)

People and Place

Location [342]

Ekuk is located on the east coast of Nushagak Bay, 17 mi south of Dillingham. It is spread out for about 2 mi along a narrow gravel spit that extends from the Ekuk Bluffs in the shape of a hook. The area encompasses 4.7 sq mi of land. Ekuk is not incorporated into a municipality or under the jurisdiction of a borough. The community is located within the Dillingham Census Area.

Demographic Profile

Historically a Yup'ik Eskimo village, Ekuk is now used only as a summer commercial cannery and subsistence-use site.[343] Although not a Census Designated Place (CDP), the Census Bureau recognizes Ekuk as an Alaska Native Village Statistical Area (ANVSA). There were two permanent residents, a man and woman, living in Ekuk in both 2010 and 2000. It is likely that those residents were employed as caretakers for the local cannery, and had held that position at least since the 2000 Census was completed. The median age in 2010 was 82 years, compared to 75 years in 2000. There were a total of 53 housing units that year, compared to 73 in 2000. Of those, only one was owner-occupied.[344]

History, Traditional Knowledge, and Culture[345]

The word Ekuk means "the last village down," reflecting that Ekuk is the farthest village south on Nushagak Bay. The Village is mentioned in Russian accounts of 1824 and 1828 as Village Ekouk and Seleniye Ikuk. It is thought that Ekuk was a major Eskimo village at one time. Russians employed Natives as guides for their boats as they navigated up Nushagak Bay to the trading post at Aleksandrovsk after 1818. Before the North Alaska Salmon Company opened a cannery at Ekuk in 1903, many residents had moved to the Moravian Mission at Carmel. In addition, numerous canneries sprang up during 1888 and 1889 on the east and west sides of the bay, which drew many residents away from the village. Ekuk had a school from 1958 to 1974. Today, the cannery watchman's family are the only year-round residents. In the summer, the village comes alive with cannery crews, commercial fishing, and subsistence activities.

[342] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[343] Ibid.
[344] U.S. Census Bureau (n.d.). Profile of selected social, economic and housing characteristics of all places within Alaska. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[345] See footnote 342.

Natural Resources and Environment

Ekuk is in a climatic transition zone. The primary influence is maritime, although the arctic climate also affects the region. Average summer temperatures range from 37 to 66 °F (3 to 19 °C); winter temperatures range from 4 to 30 °F (-16 to -1 °C). Annual precipitation averages 20 to 26 inches. Fog and high winds are common during winter months. The Bay is ice-free from June through mid-November.[346]

The topography surrounding Ekuk was shaped by continental glaciers and consists of wet lowlands, rolling hills, and moraine deposits. Soils in the area are dominated by silty glacial deposits. Lowlands are characterized by streams, small lakes, and ponds associated with wetlands. Upland hills are covered with a thick layer of silty loess.[347] Vegetation consists of a mix of moist tundra and spruce stands. Tundra is covered with mosses, lichens, and grasses. Spruce forests are populated with white spruce and paper birch which typically cover moraine hills. Other tree species in the greater area include quaking aspen, black spruce, and cottonwood.[348]

While the community lacks a hazard mitigation plan, coastal flooding events and erosion have historically impacted the community, as well as the region as a whole. Exposed bluffs in the area are susceptible to erosion from tides and storm surges, often leading to coastal lowland flooding.[349] According to Dillingham's 2008 Multi-Hazard Mitigation Plan,[350] there is approximately a 0.05% chance of a 5.0 magnitude or above earthquake occurring in the area before 2017.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Ekuk as of 2010.[351]

Current Economy[352]

The Wards Cove Packing Company closed its Ekuk location in 2002. During the cannery's peak, it employed 200 workers each summer and provided a market for about 80 commercial fishing boats and over 160 beach set net sites.[353] As of 2010, Ekuk's economy remained dependant on commercial and subsistence fisheries. Ekuk Fisheries is a main source of seasonal employment. In 2000, per capita income was $25,000 and the median household income was $51,250. Median household and per capita income for 2010 is unavailable.

[346] Ibid.
[347] City of Dillingham. (2006). *City of Dillingham Comprehensive Plan.* Retrieved February 9, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf.
[348] Palcsak, B.B. and Dorava, J. M. (1994). *Overview of Environmental and Hydrogeologic Conditions at Dillingham, Alaska.* Retrieved February 9, 2012 from: http://www.dggs.alaska.gov/webpubs/usgs/of/text/of94-0482.PDF.
[349] See footnote 347.
[350] City of Dillingham. (2008). *City of Dillingham Multi-Hazard Mitigation Plan.* Retrieved February 10, 2012 from: http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Dillingham_HMP.pdf.
[351] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*
[352] Unless otherwise noted, all monetary data are reported in nominal values.
[353] Bristol Bay Economic Development Corporation. (n.d.). *Our Communities: Ekuk*. Retrieved October 24, 2013 from http://www.bbedc.com/web/communities/ekuk.html.

Governance

Ekuk is unincorporated and not under the jurisdiction of a borough. However, there is a U.S. Bureau of Indian Affairs recognized Tribal government and Choggiung, Ltd. is the Alaska Native Claims Settlement Act (ANCSA) chartered village corporation. The regional ANCSA chartered corporation is the Bristol Bay Native Corporation. The regional ANCSA non-profit corporation is the Bristol Bay Native Association. The closest Alaska Department of Fish and Game (ADF&G) office is located in Dillingham, 17 mi to the north. The closest National Marine Fisheries Service field office is located in Bethel, 170 mi to the northwest. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Kodiak, 235 mi to the southeast.

Infrastructure

Connectivity and Transportation[354]

Air transport is the most frequent means of getting to Ekuk. The Ekuk Village Council owns a 1,200-ft long by 40-ft wide dirt/gravel airstrip. Scheduled and charter flights are available from Dillingham during the summer months. The village has a small dock on the south side. Other private docks are in use. The cannery has two docks and a boat haul-out. Clark's Point, 2 mi to the north, can be reached by snowmachine during winter. The price of round-trip airfare between Anchorage and Dillingham in June 2012 was $452.[355] Chartered flights are available by appointment from Dillingham.

Facilities[356]

As a seasonally-used area, there are no central facilities in Ekuk. One resident has a well. A central electric system is not available. Ward's Cannery operates its own water and sewer system and electrical generator. Their water is drawn from a lake east of the village. Public safety services are provided by state troopers based in Dillingham. Communications services include local and long-distance telephone, local television, and local radio.

Medical Services[357]

Basic medical services are provided in Clark's Point. Additional acute, long-term and specialized services are provided in Dillingham.

[354] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[355] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).
[356] See footnote 354.
[357] Ibid.

Educational Opportunities[358]

There are no schools located in Ekuk.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The commercial fishing industry has had a large impact on populations living around Nushagak Bay. In 1883, the schooner, Neptune, sailed into Nushagak Bay and conducted a salmon salting operation. In 1884, the first salmon cannery was built by Arctic Packing Company in the community of Kanulik, about 4 mi north of Nushagak Point. In 1888, the Nushagak Packing Company established a cannery on the Clark's Point spit. John W. Clark operated a salting station at the spit prior to the establishment of the cannery. In 1901, the Columbia River Packers Association, the Alaska-Portland Packers Association, and the Alaska Salmon Company built canneries in Nushagak Bay. In 1903, the North Alaska Salmon Company opened a cannery at Ekuk. These canneries operated continuously until the early 1930s.

The commercial salmon fishery peaked between 1908 and 1910. There were approximately 10 canneries operating along the bay at that time, and population in the Nushagak Bay region was likely around 700 to 800 people; a number that was seasonally augmented by imported labor. Communities were built in association with canneries, and by 1920, the number of canneries in the areas peaked at 25. However, overfishing and commercial fishing restrictions in the 1930s led to their decline and by 1938 only six were still in operation.

The vast majority of commercial fishermen came seasonally from outside the region and state. However, a labor shortage during World War II resulted in more local and indigenous labor being used. By the 1960s, a substantial portion of the Bristol Bay fleet was operated by Nushagak Eskimo fishermen.

Historical sources and oral histories indicate that Nushagak Bay was the site of extensive subsistence activity during the nineteenth century. People living around the bay participated in seasonal activities including caribou hunting trips up the Mulchatna River, ice fishing for ling cod and blackfish, trout fishing on Lake Aleknagik, trapping, seal hunting, dip netting for smelt, and salmon fishing. Nushagak River people would travel to the coast in the late spring to hunt seal, and fish. Fish traps and weirs were used to catch salmon at the mouth of the Nushagak River, and spearing and dip netting were used on the upper Nuyakuk.

Ekuk is located in Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. Ekuk is eligible for participation in the Community Development Quota (CDQ) program and is represented by the Bristol Bay Economic Development Corporation. The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[359] Managers of CDQ organizations

[358] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

[359] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.

authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

Processing Plants

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list, Baltimore-based Friedman Family Fisheries has a small operation in Ekuk. Product is caught, smoked or filleted, processed, and shipped to Maryland for storage. In addition, Ekuk Fisheries processes sockeye, coho, pink, chum, and Chinook salmon.[360]

Fisheries-Related Revenue

No fisheries-related revenue was collected in Ekuk.

Commercial Fishing

Between 2000 and 2010, no residents held commercial fishing permits. The only two permanent residents during those years were employed as caretakers of the cannery. In 2010, two vessels made landings in Ekuk, compared to 116 in 2000. Eleven vessels were homeported in Ekuk that year, compared to 22 in 2000. Landings made in the community between 2000 and 2010 are considered confidential. Information regarding commercial fishing trends can be found in Tables 1 and 2.

Recreational Fishing

Based on data reported by the ADF&G Division of Sport Fish, there is no evidence of sportfishing taking place in Ekuk. No visitor accommodations or sport fish guide business were recorded as present in the community. No sportfishing licenses were sold in the community or to residents of the community between 2000 and 2010.

Subsistence Fishing

Ekuk is a popular site for subsistence salmon harvesting; however, no data are available regarding subsistence activities. Since the community ceased to be recognized as a Census Designated Place, ADF&G subsistence data for Ekuk are now combined with Clark's Point.[361]

[360] Ekuk Fisheries. (n.d.). Retrieved May 31, 2012 from http://www.ekukfisheries.com/.
[361] Fall, J. A.; Krieg, T. M.; and Holen, D. (2009). *An Overview of the Subsistence Fisheries of the Bristol Bay Management Area.* Retrieved July 5, 2012 from: http://www.subsistence.adfg.state.ak.us/specialpubs/SP2_SP2009-007.pdf.

Table 1. Characteristics of the Commercial Fishing Sector in Ekuk: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Ekuk[2]	Total Net Lb Landed In Ekuk[2,5]	Total Ex-Vessel Value Of Landings In Ekuk[2,5]
2000	0	2	2	0	22	116	--	--
2001	0	1	2	0	21	134	--	--
2002	0	0	2	0	18	0	--	--
2003	0	0	1	0	18	0	--	--
2004	0	0	2	0	14	0	--	--
2005	0	1	2	0	14	0	--	--
2006	0	0	2	0	14	0	--	--
2007	0	1	3	0	13	0	--	--
2008	0	3	3	0	12	0	--	--
2009	0	0	3	0	11	0	--	--
2010	0	1	2	0	11	2	--	--

Note: Cells showing "–" indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 2. Landed Pounds and Ex-vessel Revenue, by Species, in Ekuk: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	0	0	0	--	0	--	--	0	--
Halibut	--	--	0	0	0	--	0	--	--	0	--
Herring	--	--	0	0	0	--	0	--	--	0	--
Other Groundfish	--	--	0	0	0	--	0	--	--	0	--
Other Shellfish	--	--	0	0	0	---	0	--	--	0	--
Pacific Cod	--	--	0	0	0	--	0	--	--	0	--
Pollock	--	--	0	0	0	--	0	--	--	0	--
Sablefish	--	--	0	0	0	--	0	--	--	0	--
Salmon	--	--	0	0	0	--	0	--	--	0	--
Total[2]	--	--	*0*	*0*	*0*	--	*0*	--	--	*0*	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	--	--	$0	$0	$0	--	$0	--	--	$0	--
Halibut	--	--	$0	$0	$0	--	$0	--	--	$0	--
Herring	--	--	$0	$0	$0	--	$0	--	--	$0	--
Other Groundfish	--	--	$0	$0	$0	--	$0	--	--	$0	--
Other Shellfish	--	--	$0	$0	$0	--	$0	--	--	$0	--
Pacific Cod	--	--	$0	$0	$0	--	$0	--	--	$0	--
Pollock	--	--	$0	$0	$0	--	$0	--	--	$0	--
Sablefish	--	--	$0	$0	$0	--	$0	--	--	$0	--
Salmon	--	--	$0	$0	$0	--	$0	--	--	$0	--
Total[2]	--	--	*$0*	*$0*	*$0*	--	*$0*	--	--	*$0*	--

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net lb refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Ekwok (*ECK-wock*)

People and Place

Location [362]

Ekwok is located along the Nushagak River, 43 mi northeast of Dillingham and 285 mi southwest of Anchorage. The area encompasses 16.0 sq mi of land and 1.4 sq mi of water. The community was incorporated as a Second-class city in 1974, is located in the Dillingham Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [363]

In 2010, there were 115 residents, ranking Ekwok 231st of 352 communities in terms of population size. Between 1990 and 2010 the population grew by 49.4%. Between 2000 and 2009 the population fell by 16.2% with an average annual growth rate of -2.3%, which was much lower than the statewide average of 0.75% and indicative of an overall decline in population during those years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that there were 108 permanent residents and 6 non-permanent school teachers living in Ekwok in 2010. The community's population reaches its annual peak in September and is driven by subsistence, recreational, and charter fishing. Information regarding population trends can be found in Table 1.

The racial composition of Ekwok is predominately Yup'ik Eskimo. In 2010, 90.4% of residents identified themselves as American Indian or Alaska Native, compared to 91.5% in 2000. Also in that year, 5.2% of residents identified themselves as White, compared to 6.2% in 2000; and 4.3% identified themselves as two or more races, compared to 2.3% in 2000. Hispanics and Latinos made up 2.6% of the population that year (Figure 1).

In 2010, the average household size was 3.11, compared to 2.50 in 1990 and 3.10 in 2000. In that year, there were 51 total housing units, compared to 39 in 1990 and 56 in 2000. Of the households surveyed in 2010, 55% were owner-occupied, compared to 63% in 2000; 18% were renter-occupied, compared to 13% in 2000; 10% were vacant, compared to 16% in 2000; and 18% were occupied seasonally, compared to 9% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

Gender distribution was slightly skewed in 2010 at 53.0% male and 47.0% female, and similar to both the statewide distribution that year (52.0% male, 48.0% female) and distribution in 2000 (53.1% male, 46.9% female). The median age that year was 27.3 years, which was younger than the statewide median of 33.8 years and 2000 median of 31.5 years.

[362] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[363] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

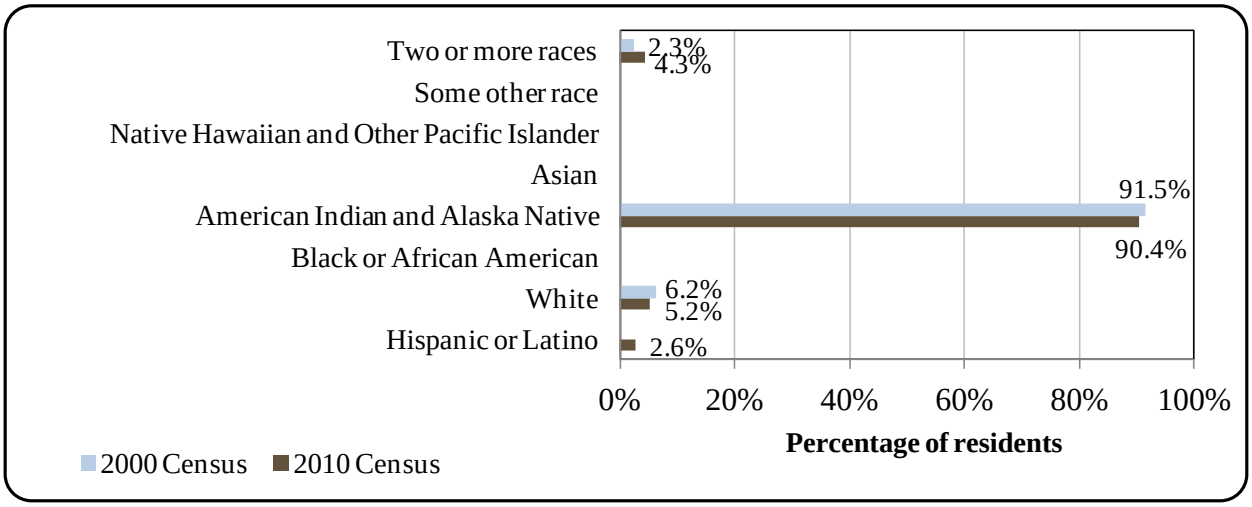
Table 1. Population in Ekwok from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	77	-
2000	130	-
2001	-	119
2002	-	116
2003	-	128
2004	-	127
2005	-	118
2006	-	116
2007	-	108
2008	-	121
2009	-	109
2010	115	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

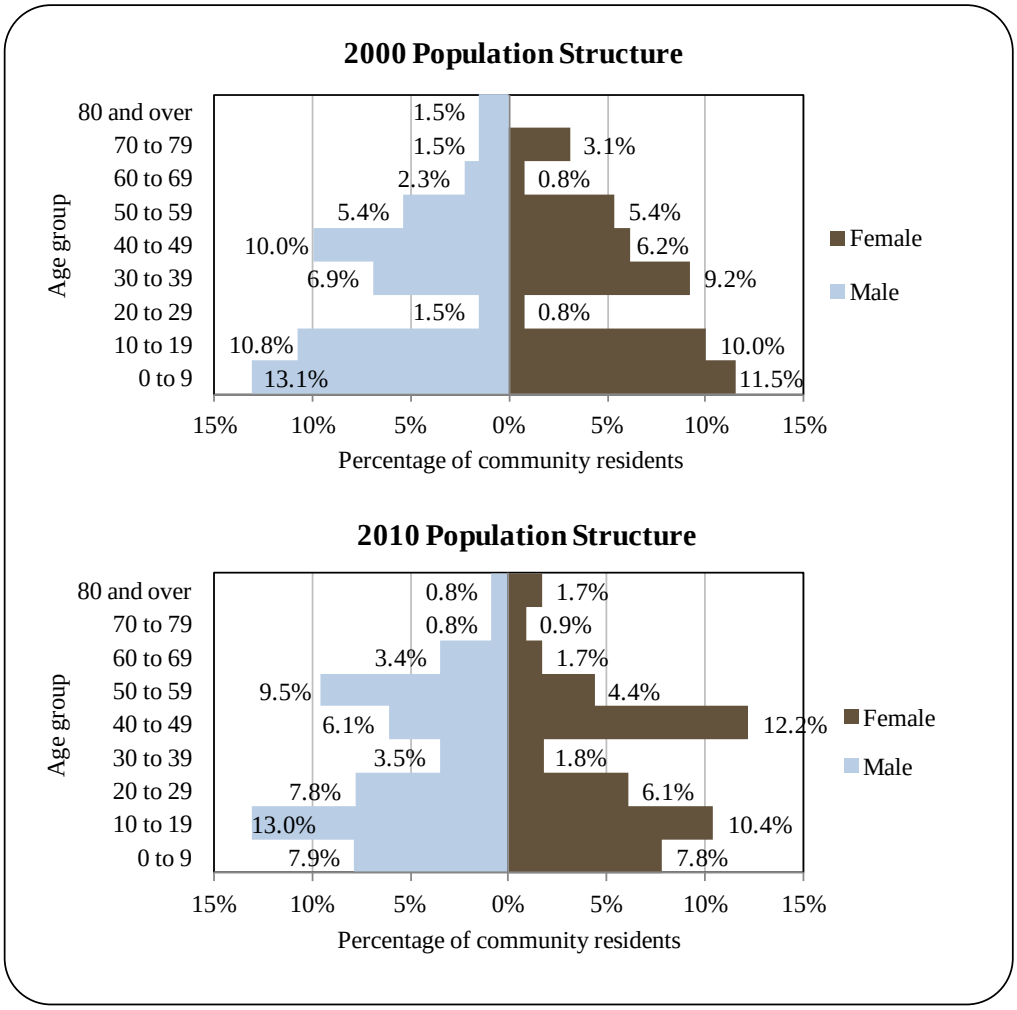
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Ekwok: 2000-2010 (U.S. Census).



Compared with 2000, Ekwok's population structure was less expansive in 2010. In that year, 39.1% of residents were under the age of 20, compared to 45.4% in 2000; 9.3% of residents were over the age of 59, compared to 9.2% in 2000; 34.5% were between the ages of 30 and 59, compared to 43.1% in 2000; and 13.9% were between the ages of 20 and 29, compared to 2.3% in 2000.

Figure 2. Population Age Structure in Ekwok Based on the 2000 and 2010 U.S. Decennial Census.



Gender distribution by age cohort was significantly more skewed in 2010 than it was in 2000. In that year, the greatest absolute gender difference occurred in the 40 to 49 range (12.2% female, 6.1% male), followed by the 50 to 59 (9.5% male, 4.4% female) and 10 to 19 (13% male, 10.4% female) ranges. Of those three, the greatest relative gender difference occurred in the 50 to 59 range. Information regarding Ekwok's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006 to 2010 American Community Survey (ACS)[364] estimated that 72.7% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 21.2% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 6.1% had a ninth to twelfth grade education but

[364] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 23.2% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 7.1% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 11.1% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 5.1% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

In 1818, the Russian-America Company established the region's first trading post at the mouth of the Nushagak River.[365] Ekwok means "end of the bluff" and is the oldest continuously-occupied Yup'ik Eskimo village on the Ekwok River. During the 1800s, the settlement was used by residents as a fish camp in the spring and summer, and as base for berry picking in the fall. By 1923, it was the largest settlement along the river. In 1930, a U.S. Bureau of Indian Affairs (BIA) school was constructed. Mail was delivered by dog sled from Dillingham until a post office opened in 1941. Many of the earliest homes in Ekwok were located on a low flat area near the riverbank. After a severe flood in the early 1960s, villagers relocated to the current location on higher ground.[366]

Natural Resources and Environment[367]

Ekwok is located in a climatic transition zone. The primary influence is maritime, although continental influences impact weather as well. Average summer temperatures range from 30 to 66 °F (-1 to 19 °C) and winter temperatures average from 4 to 30 °F (-16 to -1 °C). Precipitation averages 20 to 35 inches each year. Extremely strong winds are common during winter months. Fog is prevalent during summer months. The Nughagak River is ice-free from June through mid-November and flooding is common in the spring.[368]

The Nushagak River Lowlands province is largely glaciofluvial with outwash deposits consisting of poorly sorted gravel, sand, and silt. According to local sources, Ekwok has an abundance of gravel. The deposits originated as debris eroded by glacial action and were reworked, partially sorted, and distributed by streams into the Nushagak Valley. In many places, moss or other vegetation cover the terrain. The topography around Ekwok is relatively flat with lowlands on the Nushagak River and rolling terrain to the north.[369]

Vegetation around Ekwok consists of mixed woodland forest comprised of black spruce, paper birch, and quaking aspen. Typical understory vegetation includes low shrubs such as bog blueberry and dwarf arctic birch. Herbaceous plants include crowberry and lowbush cranberry.[370]

Avian populations from the North American Pacific Flyway and several Asiatic routes funnel through Bristol Bay semiannually on their way to and from northern nesting grounds.

[365] Schichnes, J. and Chythlook, M. (1991). *Contemporary Use of Fish and Wildlife In Ekwok, Koliganek, and New Stuyahok, Alaska.* Retrieved July 2, 2012 from: http://www.arlis.org/docs/vol1/A/25794521.pdf.
[366] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[367] Ibid.
[368] Ekwok Village Council; Ekwok Natives Ltd.; and City of Ekwok. (2005). *Ekwok Community Comprehensive Plan.* Retrieved March 26, 2012 from: http://www.commerce.state.ak.us/dca/plans/Ekwok-CP-2005.pdf.
[369] Ibid.
[370] Ibid.

Ekwok area wetlands support significant populations of these migratory waterfowl, swans, shorebirds, and cranes. Resident bird species include yellow warblers, Wilson's warblers, common redpolls, fox sparrows, spruce grouse, black-bill magpies, common ravens, tree swallows, and American robins.[371] Terrestrial wildlife includes moose, caribou, brown and black bears, wolves coyotes, red and arctic fox, wolverines, lynx, otters, mink and weasels, marten, marmot, beavers, muskrat, ground and red squirrels, hares, porcupine, shrews, voles, mice, and lemmings. Fish on the Nushagak River and tributaries include all five species of Pacific salmon, rainbow trout, Dolly Varden, Arctic char, Arctic grayling, and northern pike.[372]

Beyond subsistence fisheries, there are no active natural resource exploits in the immediate vicinity of Ekwok. However, the proposed Pebble Mine would impact the community if constructed.[373] On a regional level, it is possible that Pebble Mine could have impacts on subsistence activity, perception of local landscapes, population dynamics, resource availability, and overall community character.[374] The probability and magnitude of these impacts were still under review as of April 2012.

Riverine flooding and erosion are the most prevalent environmental hazards facing Ekwok. The Nushagak River experiences seasonal flooding resulting from ice break-up during the spring and flooding can impact drinking water, waste disposal sites, and local infrastructure.[375]

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation projects active within Ekwok as of 2010.[376]

Current Economy[377]

In a survey conducted by the AFSC in 2011, community leaders reported that Ekwok's economy is reliant on fishing.

The entire population depends on subsistence activities for various food sources. Salmon, pike, moose, caribou, duck, and berries are harvested. A few residents trap, and summer gardens are also popular since families typically do not leave the village to fish for subsistence purposes. Most residents are not interested in participating in a cash economy. The village corporation owns a fishing lodge 2 mi downriver. Gravel is mined near the community.[378] Top employers in 2010[379] included Ekwok Village Council, Southwest Region Schools, City of Ekwok, Bristol Bay Area Health Corp., Ekwok Natives Ltd., Ekwok Village Council Public Health Facilities, Bristol Bay Native Association, and Peninsula Airways Inc.

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[371] Ibid.
[372] U.S. Fish and Wildlife Service. (n.d.). *Togiak National Wildlife Refuge.* Retrieved March 13, 2012 from: http://togiak.fws.gov.
[373] Bristol Bay Native Association. (n.d.). *Homepage.* Retrieved March 26, 2012 from: http://www.bbna.com/landres/).
[374] Langdon, S.; Colt, S.; King, M.; and Sharp, S. (2006). *BBNA Pebble Mine Technical Assistance Project.* Final Report. Retrieved March 26, 2012 from: http://www.arlis.org/docs/vol1/C/719684256/719684256.pdf.
[375] See footnote 368.
[376] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved April 16, 2012 from: http://dec.alaska.gov/spar/csp/list.htm#Bristol.)
[377] Unless otherwise noted, all monetary data are reported in nominal values.
[378] See footnote 366.
[379] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

In 2010,[380] the estimated per capita income in Ekwok was $23,636 and the estimated median household income was $71,875, compared to $11,512 and $16,250 in 2000, respectively. After accounting for inflation by converting 2000 values into 2010 dollars,[381] the real per capital income ($14,569) and real median household income ($21,369) indicate that there were substantial increases in both individual and household earnings between 2000 and 2010. In 2010, Ekwok ranked 122nd of 305 communities from which per capita income was estimated and 44th of 299 communities from which median household income was estimated.

Ekwok's small population size may have prevented the ACS from accurately portraying economic conditions.[382] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $877,612 in total wages in 2010.[383] When matched with the population in 2010, the per capita income equals $7,631, which is significantly lower than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Census figures.[384] In addition, the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. [385] However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,[386] 59.2% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 4.8%, compared to an estimated 5.9% statewide; and an estimated 17.2% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Again, ACS estimates may have misrepresented economic conditions in Ekwok. According to 2010 ALARI estimates, unemployment was 29.3% (based on unemployment insurance claimants).

Of those employed, an estimated 13.2% worked in the private sector, an estimated 75.0% worked in the public sector, and an estimated 11.8% were self-employed. If accurate, the high proportion of self-employed residents estimated by the 2010 ACS may have impacted the accuracy of ALARI estimates, which do not account for self-employed workers.

By industry, most (33.8%) employed residents were estimated to work in public administration sectors; followed by education services, health care and social assistance (26.5%); transportation, warehousing, and utilities (11.8%); arts, entertainment, recreation, accommodations, and food service (11.8%); and agriculture, forestry, fishing, hunting, and

[380] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[381] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[382] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[383] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[384] See footnote 379.
[385] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.
[386] See footnote 382.

mining (7.4%) sectors (7.4%). By occupation type, most employed residents were estimated to hold management or professional positions (32.4%); followed by service (27.9%); sales or office (20.6%); production, transportation, or material moving (11.8%); and natural resources, construction, or maintenance (7.4%) positions (Figure 4). Between 2000 and 2010, employment shifted significantly among several sectors. Most notably, there were declines in service (non-public), education services, health care, and social assistance sectors; and growth in agriculture, forestry, fishing, hunting, mining, professional, scientific, management, administrative, and waste management sectors. Most occupation types experienced modest declines during that period although there was an increase in natural resources, construction, and maintenance positions. Again, it should be noted that Ekwok's relatively small population size may have affected 2006-2010 ACS results for local employment resulting in figures not entirely reflective of local conditions. According to 2010 ALARI estimates, most (63.6%) employed residents worked in local government sectors; followed by education and health service (12.7%); and "other" unclassified (10.9%) sectors.

Figure 3. Local Employment by Industry in 2000-2010, Ekwok (U.S. Census).

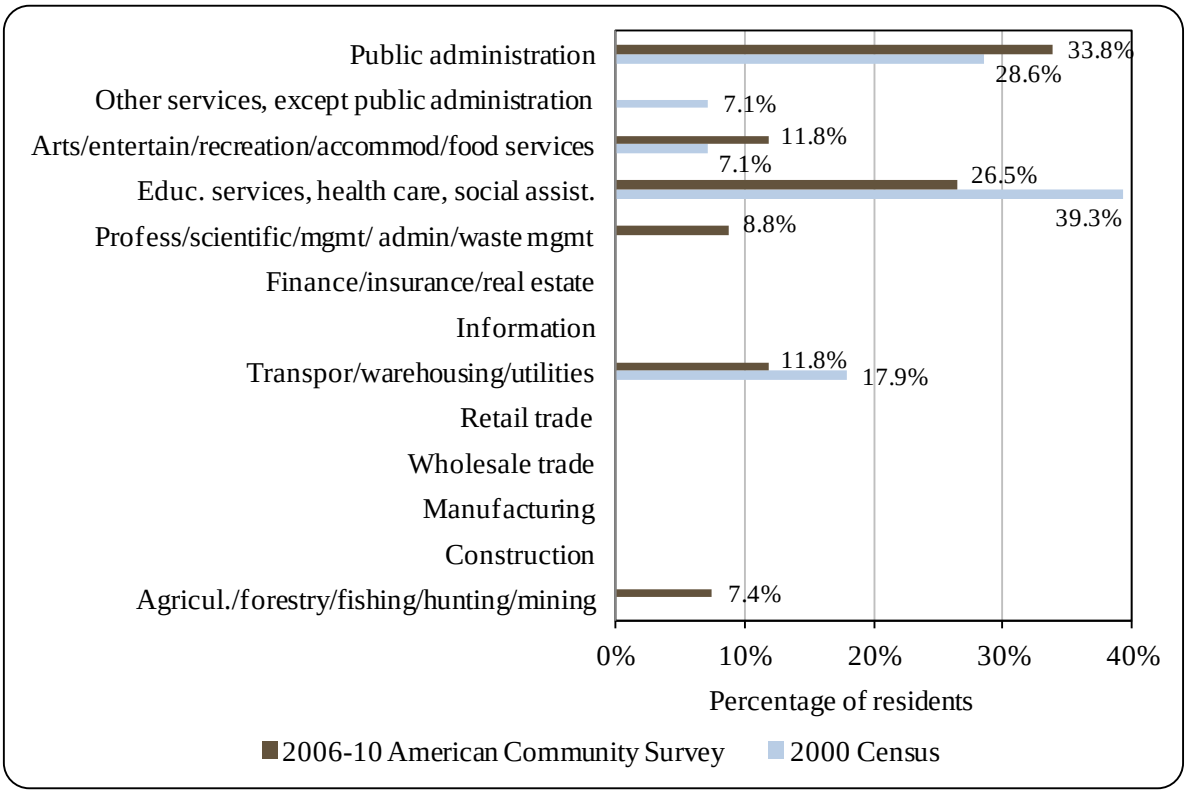
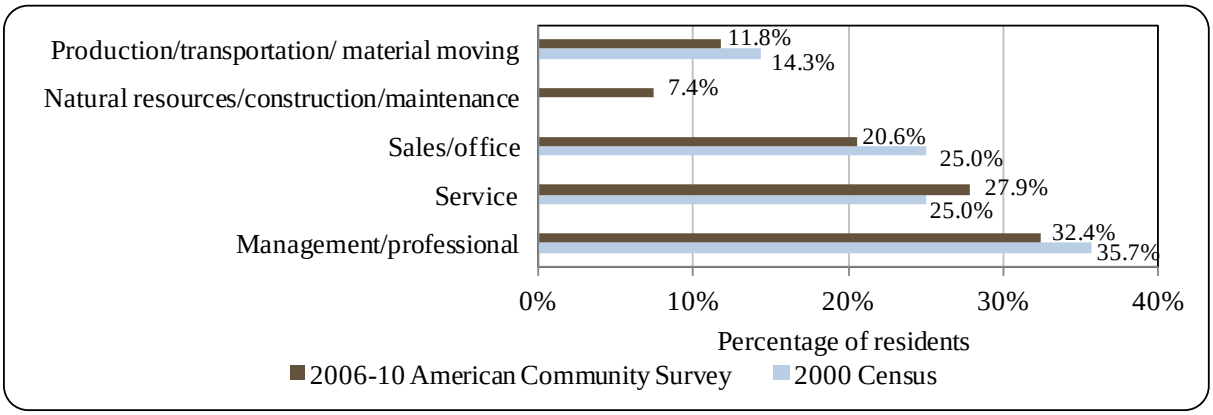


Figure 4. Local Employment by Occupation in 2000-2010, Ekwok (U.S. Census).



Governance

Ekwok is a Second-class city with a mayoral form of government. There is a federally recognized Tribal government and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Ekwok Natives Limited). The regional ANCSA corporation is the Bristol Bay Native Corporation (BBNC). The regional non-profit Native organization is the Bristol Bay Native Association (BBNA). The closest Alaska Department of Fish and Game (ADF&G) office is located in Dillingham, 43 mi southwest. The closest National Marine Fisheries Service (NMFS) office is located in Bethel, 180 mi northwest. The closest U.S. Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 285 mi northeast.

When adjusted for inflation,[387] total municipal revenues increased by 7.0% between 2000 and 2010 from $333,859 to $462,018. Inflation adjusted revenues peaked in 2006 at $537,971 ($592,114 after adjusting for inflation.) In 2010, most locally generated revenues were collected from utility rents and fuel sales. Most outside are collected from Community Revenue Sharing and payments in lieu of taxes. In that year, Ekwok received $101,467 in state allocated Community Revenue Sharing, which accounted for 22.0% of total municipal revenues that year. This represented an increase from 2000, when $25,605 of State Revenue Sharing accounted for 7.7% of total revenues. Information regarding community finances can be found in Table 2.

[387] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Ekwok from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$333,859	n/a	$25,605	n/a
2001	$385,146	n/a	$24,618	n/a
2002	$438,743	n/a	$26,131	n/a
2003	$429,061	n/a	$25,909	n/a
2004	$468,161	n/a	-	n/a
2005	$517,489	n/a	-	n/a
2006	$537,971	n/a	-	n/a
2007	$499,050	n/a	-	n/a
2008	$478,650	n/a	-	n/a
2009	$488,410	n/a	$102,173	n/a
2010	$462,018	n/a	$101,467	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation[388]

Air transport is most frequently used to reach Ekwok. Regular and charter flights are available from Dillingham. The state-owned 3,300-ft long by 75-ft wide gravel runway was rebuilt and lengthened in 2005. Roundtrip airfare between Anchorage and Dillingham in June 2012 was $452.[389] Air charters to Ekwok are available by appointment and float planes land on the Nushagak River. Cargo is brought in during ice-free months from Dillingham by Coastal Marine Transport barge service. There are no docking facilities, but a barge off-loading area exists. Skiffs, All Terrain Vehicles (ATVs), and snowmachines are used for local transportation to other villages.

[388] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[389] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).

Facilities

Individual wells provide water for the majority of the community. Twenty Housing and Urban Development (HUD) homes have individual wells and a piped septic system. The City operates a piped sewage system with a sewage lift station, which connects to 16 additional residences. The remaining homes use septic systems or a flush/haul system; a sewage pumper is available. Thirty-six of 42 homes have complete plumbing. Refuse collection services are provided. Visitor accommodations include Ekwok Lodge and Maalug's Lodge. Public safety services are provided by a local Village Public Safety Officer (VPSO) and state troopers based in Dillingham. Fire and rescue services are provided by Ekwok Fire and Emergency Medical Services. Additional public facilities include a community center, city hall, Village Council building, school gym, and city jail. Communications services include local and long distance phone, local television and radio, and internet.[390]

In a survey conducted by the AFSC in 2011, community leaders reported that there is no public dock space available for transient or permanent vessel moorage. Fisheries-related businesses and services located in the community include fish lodges and boat fuel sales. For services not available in Ekwok, residents travel to Dillingham, Anchorage, and Seattle.

Medical Services[391]

The Ekwok Clinic is a Community Health Aid Program (CHAP) site which provides basic health care. Acute, long term and specialized care is provided in Dillingham.

Educational Opportunities[392]

William "Sonny" Nelson School provides kindergarten through 8th grade instruction. In 2011, there were 10 students enrolled and 1 instructor employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Ekwok's involvement in North Pacific Fisheries is closely tied to participation in subsistence harvesting. Semi-nomadic Yup'ik Eskimos (known as *Kiatagmiut*) originally settled around Nushagak and Mulchatna rivers revolving around spring trapping trips to the mountainous interior regions; followed by a transition to fish camps to prepare for salmon fishing. Many families traveled to the coasts in the summer to trade for ivory and seal oil. Once the fur trade was established, these products were exchanged for processed foods and gunpowder. By early September, many returned to winter villages. However, interior hunting and trapping continued until the first snowfall in October. During the winter, whitefish were taken with traps under the ice and grayling with hooks through holes in the ice.

[390] See footnote 388.
[391] Ibid.
[392] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye (91.2% of all salmon), about 880,000 chum (4.7%), about 550,000 pink (3.0%), about 120,000 coho (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Sockeye salmon are the most important commercial fish in the region, and large runs occur in Egegik and Nushagak River drainages. These fish return to Bristol Bay in late June and early July with most adults entering their spawning stream by late July or early August.[393]

Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The Togiak River continuously exceeds minimum escapement goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.[394]

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purses seine and gillnet fleets harvest the spawning herring in a sac roe fishery, and a spawn-on-kelp harvests are also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million lb between 1998 and 2002.[395]

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.[396]

The commercial salmon fishery began in the Nushagak region in the 1880s. Local residents of the region were drawn into the seafood processing sector as a source of wage employment. After World War II, all Native cannery crews were common. By the 1960s, Natives has made up a significant portion of local commercial harvesters as well. Earnings from commercial fishing and cannery work became a major annual source of income for many Native families in Bristol Bay.[397] In a survey conducted by the AFSC in 2011, community leaders reported that Ekwok does not participate in the fisheries management process in Alaska. However, the community is eligible for the Community Development Quota (CDQ) program and is represented by the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[398]

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[393] LaRoche & Associates. (2011). *Lake & Peninsula Borough Coastal Management Plan.* Retrieved March 22, 2012 from: http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[394] Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[395] Woodby, D. et al. (2005). *Commercial Fisheries in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf..
[396] Ibid.
[397] Schichnes, J. and Chythlook, M. (1991). *Contemporary Use of Fish and Wildlife In Ekwok, Koliganek, and New Stuyahok, Alaska.* Retrieved July 2, 2012 from: http://www.arlis.org/docs/vol1/A/25794521.pdf.
[398] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.

Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Ekwok does not have a registered processing plant. The nearest seafood processor is located in Dillingham.

Fisheries-Related Revenue

Between 2000 and 2010, Ekwok received fisheries-related revenue primarily from Shared Fisheries Business Taxes. In 2010, the community received $5,982, compared to $4,972 in 2000. Fisheries-related revenues peaked in 2001 at $8,875. In a survey conducted by the AFSC in 2011, community leaders reported that Ekwok received $100,000 from the BBEDC in 2010. Information regarding fisheries-related revenue trends can be found in Table 3.

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that vessels under 35 ft long use Ekwok as a base of operations during fishing seasons. There were five residents who held commercial crew licenses in 2010, compared to thirteen in 2000. In addition, residents held priority ownership of one vessel that year, compared to nineteen in 2000.

In 2010, three residents, or 2.6% of the population, held three permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, six residents, or 4.6% of the population, held seven CFEC permits. All of the permits held by residents in 2010 were for salmon, compared to 2000 when 71% were for salmon and 29% were for herring. Of the CFEC salmon permits issued in 2010, 67% were fished, compared to 80% in 2000. Bristol Bay drift gillnet salmon was the only fishery prosecuted by residents of Ekwok in 2010.[399] The herring fishery in Ekwok has been in decline since 1990 when residents held approximately equal numbers of both herring and salmon permits.[400] By 2003, no herring permits were held by residents. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) groundfish or crab permits. In addition, no residents held halibut, sablefish, or crab quota between 2010 and when the programs began.

No commercial landings were reported in Ekwok between 2000 and 2010. While landings were made in other ports by residents of Ekwok in those years, all information pertaining to poundage and ex-vessel value of landings is considered confidential. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[399] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[400] See footnote 397.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Ekwok: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$2,486	$4,437	$3,835	$3,800	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	$2,486	$4,437	$3,835	$3,136	$2,744	$3,310	$4,073	$4,836	$4,563	$5,681	$5,602
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$21	$55	$209	n/a	$380
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$4,972*	*$8,875*	*$7,671*	*$6,936*	*$2,744*	*$3,310*	*$4,095*	*$4,891*	*$4,773*	*$5,681*	*$5,982*
Total municipal revenue[5]	*$333,859*	*$385,146*	*$438,743*	*$429,061*	*$468,161*	*$517,489*	*$537,971*	*$499,050*	*$478,650*	*$488,410*	*$462,018*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Ekwok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	2	1	1	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	1	1	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Ekwok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	5	4	3	3	3	3	3	3	3	3	3
	Fished permits	4	3	2	3	2	3	2	2	2	2	2
	% of permits fished	80%	75%	67%	100%	67%	100%	67%	67%	67%	67%	67%
	Total permit holders	5	4	3	4	3	3	3	3	3	3	3
Total CFEC Permits[2]	*Permits*	*7*	*5*	*4*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*
	Fished permits	*4*	*3*	*2*	*3*	*2*	*3*	*2*	*2*	*2*	*2*	*2*
	% of permits fished	*57%*	*60%*	*50%*	*100%*	*67%*	*100%*	*67%*	*67%*	*67%*	*67%*	*67%*
	Permit holders	*6*	*4*	*3*	*4*	*3*	*3*	*3*	*3*	*3*	*3*	*3*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Ekwok: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Ekwok[2]	Total Net Lbs Landed In Ekwok[2,5]	Total Ex-Vessel Value Of Landings In Ekwok[2,5]
2000	13	0	0	19	16	0	0	$0
2001	6	0	0	19	16	0	0	$0
2002	1	0	0	17	15	0	0	$0
2003	2	0	0	14	12	0	0	$0
2004	6	0	0	15	13	0	0	$0
2005	3	0	0	2	2	0	0	$0
2006	7	0	0	2	2	0	0	$0
2007	4	0	0	3	2	0	0	$0
2008	2	0	0	3	3	0	0	$0
2009	1	0	0	1	1	0	0	$0
2010	5	0	0	1	1	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Ekwok: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Ekwok: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Ekwok: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (lbs)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Ekwok: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Ekwok Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net lbs refers to the landed weight recorded in fish tickets.
2 Totals only represent non-confidential data.

Recreational Fishing

Sportfishing on the Nushagak River is popular with both Alaska residents and non-Alaska residents and Ekwok's relatively close proximity to Dillingham makes it a popular destination for private anglers. In a survey conducted by the AFSC in 2011, community leaders reported that there are six recreational fishing lodges within close range of Ekwok. In 2010, there were two sport fish guide businesses, compared to three in 2000. However, no registered sport fish guide businesses were active between 2000 and 2010. Also in 2010, four sport fish guide licenses were issued, compared to five in 2000. The number of sport fish guide licenses issued in the community peaked in 2004 at seven. Finally, 33 sportfishing licenses were issued to residents and 66 sold in the community, compared to 26 and 51 in 2000, respectively. Local sales of sportfishing licenses peaked in 2004 at 102 licenses sold.

Ekwok is located within the Nushagak, Wood River and Togiak ADF&G Harvest Survey Area, which includes the Nushagak River, Mulchatna River, Wood River, and Tilchik Lake drainages, as well as water westward to Cape Newenham.[401] Overall, there was a steady decline in freshwater angler days fished in the survey area between 2000 and 2010. In 2010, total freshwater angler days fished totaled 23,385 days, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 89% of angler days fished, compared to 73% in 2000. Between 2000 and 2010, there was significantly less saltwater angler days fished than freshwater. In 2009, there was 147 total saltwater angler days fished, compared to 429 in 2000. No kept/released charter data are available for Ekwok.

In a survey conducted by the AFSC in 2011, community leaders reported that sportfishing in the area is conducted by private boats owned by both local residents and non-local residents. Private anglers target all five species of Pacific salmon, rainbow trout, northern pike, and Arctic grayling.[402] Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Ekwok: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Ekwok[2]
2000	0	5	26	51
2001	0	4	28	46
2002	0	4	33	41
2003	0	5	33	73
2004	0	7	30	102
2005	0	5	33	100
2006	0	4	37	68
2007	0	5	43	62
2008	0	4	39	72
2009	0	2	39	54
2010	0	4	33	66

[401] Alaska Department of Fish and Game. (n.d.). *Alaska Sport Fishing Survey.* Retrieved February 13, 2012 from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home.
[402] River King Outfitters. (n.d.). *Homepage.* Retrieved March 27, 2012 from: http://www.riverkingoutfitters.com/.

Table 11 cont'd. Sport Fishing Trends, Ekwok: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	n/a	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence is of central importance to the community of Ekwok for reasons both cultural and economic. In a survey conducted by the AFSC in 2011, community leaders reported that the subsistence season typically runs from the beginning of May through the end of September. The community of Ekwok is part of a larger network of subsistence communities which rely heavily on the Nushagak River system of drainages and areas north of Lake Iliamna. Subsistence activities are concentrated heavily within the Newhalen and Nondalton areas northeast of Ekwok.[403] According to the ADF&G *Community Subsistence Information System,*[404] marine invertebrates used and/or harvested by Ekwok residents includes butter and razor clams; marine mammals use and/or harvested includes bearded seal, bowhead whale, harbor seal, and Steller

[403] Stephen R. Braund & Associates and ADF&G Division of Subsistence. (2012). *Subsistence & Traditional Knowledge Studies.* Retrieved July 2, 2012 from: http://www.arlis.org/docs/vol2/Pebble/2012%20Agency%20Meetings/29%20Subsistence%20and%20Traditional%20Resources%20-%20Steven%20Braund.pdf.

[404] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

sea lion; and non-salmon fish used and/or harvested includes blackfish, burbot, Dolly Varden, flounder, Arctic grayling, herring (roe and food), lake trout, northern pike, rainbow trout, smelt, sucker, and whitefish. Salmon harvesting is conducted primarily by gillnet within the Bristol Bay region. Blackfish and burbot are harvested by use of traps and set hooks. Handline jigging through ice is popular in winter fishing for Arctic grayling, Arctic char, Dolly Varden, lake trout, rainbow smelt, rainbow trout, whitefish, and northern pike. Set gillnets are used for Arctic grayling, Arctic char, Dolly Varden, lake trout, longnose suckers, rainbow trout, northern pike, burbot, and whitefish. Dip nets are used for rainbow smelt.[405]

Contemporary research of subsistence activities in Ekwok is very limited. In 2006, ADF&G attempted to conduct a household subsistence survey in Ekwok; however, the community declined to participate.[406] Information regarding subsistence participation by household and subsistence participation in halibut, marine invertebrate, non-salmon fish, and marine mammal harvests are unavailable. A 1991 study by ADF&G found that Ekwok residents had some of the highest subsistence harvests in the state of Alaska at 797 lb per capita. In that study, 57% of the overall harvest consisted of salmon, followed by moose and caribou.[407]

Of the species listed by ADF&G in Table 13, Chinook salmon was harvested most by residents, followed by sockeye, coho, chum, and pink salmon. In 2008, residents reported harvesting 1,902 salmon, compared to 3,946 in 2000; which was the year salmon harvests peaked. In 2008, 23 residents, or 19% of the population, held subsistence salmon permits. That year represented the highest proportion of subsistence salmon permits held between 2000 and 2008. Information regarding subsistence trends can be found in Tables 12 through 15.

Table 12. Subsistence Participation by Household and Species, Ekowk: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[405] Fall, J. A. et al. (2008). *Alaska Subsistence Salmon Fisheries 2008 Annual Report.* Retrieved July 2, 2012 from: http://www.adfg.alaska.gov/techpap/TP359.pdf.
[406] Northern Dynasty Mines Inc. (2007). *Draft Environmental Baseline Studies Proposed 2007 Study Plans.* Retrieved July 2, 2012 from: http://dnr.alaska.gov/mlw/mining/largemine/pebble/plans/2007-plans/2007sp13.pdf.
[407] Schichnes, J. and Chythlook, M. (1991). *Contemporary Use of Fish and Wildlife In Ekwok, Koliganek, and New Stuyahok, Alaska.* Retrieved July 2, 2012 from: http://www.arlis.org/docs/vol1/A/25794521.pdf.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Ekwok: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	19	19	669	780	731	165	1,601	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	1	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	19	15	960	77	77	47	730	n/a	n/a
2005	22	20	778	72	111	n/a	428	n/a	n/a
2006	15	13	616	68	249	14	552	n/a	n/a
2007	19	18	647	72	226	n/a	322	n/a	n/a
2008	23	22	781	165	247	48	661	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Ekwok: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Ekwok: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Igiugig *(ig-ee-UH-gig)*

People and Place

Location [408]

Igiugig is located on the Alaska Peninsula on the south shore of the Kvichak River, which flows from Iliamna Lake. It is 50 mi northeast of King Salmon and 48 mi southwest of Iliamna. The community occupies 19.8 sq mi of land and 1.3 sq mi of water. It is unincorporated and under the jurisdiction of the Lake and Peninsula Borough.

Demographic Profile [409]

In 2010, there were 50 residents, ranking Igiugig 296th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population increased by 51.5%. Between 2000 and 2009, the population fell by 9.4% with an average annual growth rate of 1.25%, indicating a variable population trend. Information regarding population trends can be found in Table 1.

Historically an Eskimo village, the population is now primarily Alutiiq. In 2010, 40.0% of residents identified themselves as American Indian or Alaska Native, compared to 71.7% in 2000; 28.0% identified themselves as White, compared to 17.0% in 2000; and 32.0% identified themselves as two or more races, compared to 11.3% in 2000. In addition, 12% of residents identified themselves as Hispanic or Latino, compared to 1.9% in 2000. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 3.13, compared to 2.50 in 1990 and 3.31 in 2000. In that year, there were a total of 19 housing units, compared to 16 in 1990 and 20 in 2000. Of the households surveyed in 2010, 42% were owner-occupied, compared to 65% in 2000; 42% were renter-occupied, compared to 15% in 2000; 5% were vacant, compared to 0% in 2000; and 11% were occupied seasonally, compared to 20% in 2000. No residents lived in group quarters between 1990 and 2010.

The gender distribution was biased towards females in 2010 at 52.0% female and 48.0% male. This was more skewed towards females than the statewide distribution (52.0% male, 48.0% female), although less skewed than the distribution in 2000 (56.6% female, 43.4% male). Also in 2010, the median age was 22.0 years, which was significantly younger than both the statewide median of 33.8 years, and 2000 median of 36.3 years.

The population structure was more expansive in 2010 than in 2000. In that year, 40.0% of residents were under the age of 20, compared to 35.1% in 2000; 8.0% were over the age of 59,

[408] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[409] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

compared to 7.4% in 2000; 30.0% were between the ages of 30 and 59, compared to 46.9% in 2000; and 22.0% were between the ages of 20 and 29, compared to 0.0% in 2000.

Gender distribution by age cohort was less even in 2010, than in 2000. In that year, the greatest absolute gender difference occurred with both the 0 to 9 (10.0% male, 6.0% female) and 10 to 19 (14.0% female, 10.0% male) ranges, followed by the 50 to 59 (6.0% female, 2.0% male) and 70 to 79 (4.0% male, 2.0% female) ranges. Of those three, the greatest relative gender difference occurred within the 70 to 79 range (Figure 2).

Table 1. Population in Igiugig from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	33	-
2000	53	-
2001	-	55
2002	-	43
2003	-	50
2004	-	55
2005	-	50
2006	-	53
2007	-	32
2008	-	40
2009	-	48
2010	50	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Igiugig: 2000-2010 (U.S. Census).

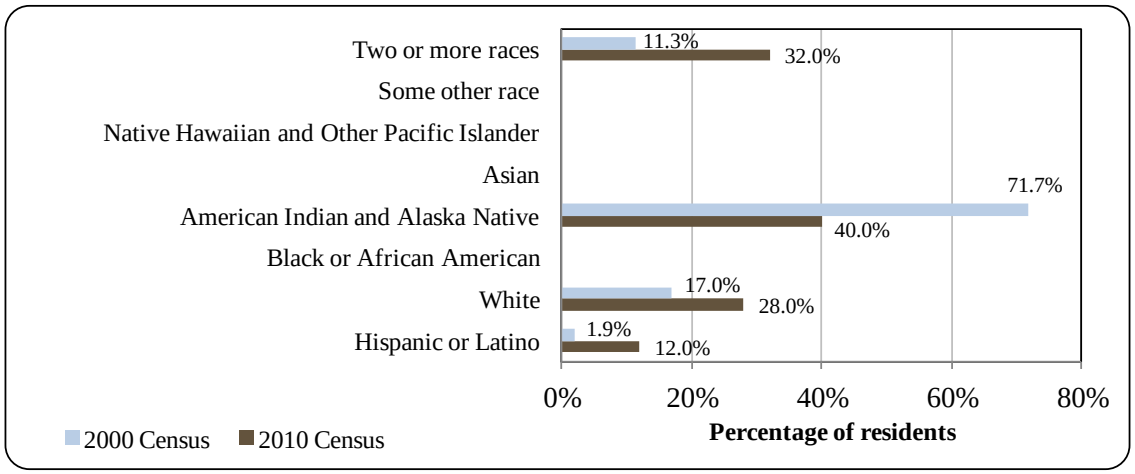
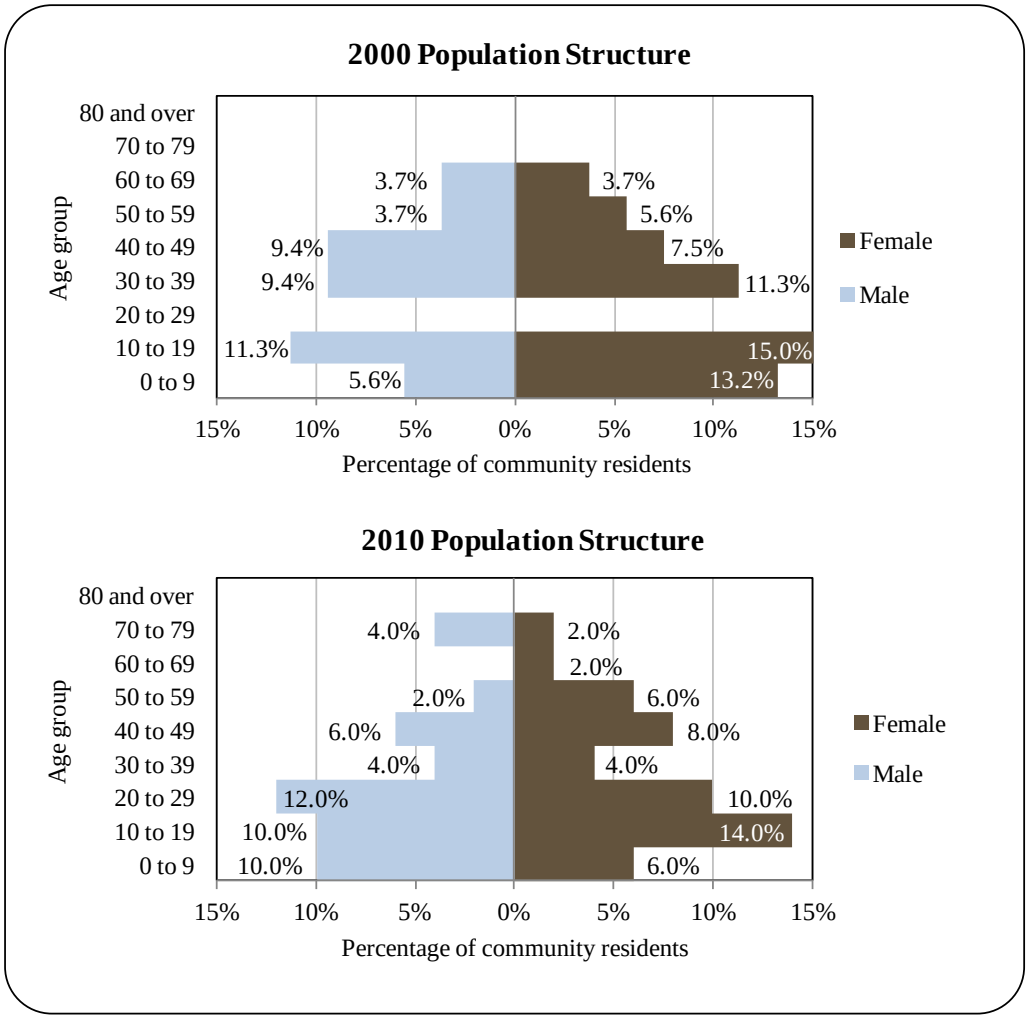


Figure 2. Population Age Structure in Igiugig Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[410] estimated that 23.5% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 76.5% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; no resident had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and no resident had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; and no resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall.

[410] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture[411]

In Yup'ik, Igiugig means "like a throat that swallows water," which describes its location at the mouth of the Kvichak River where is draws water from Lake Iliamna.[412] Kiatagmuit Eskimos originally lived on the north bank of the Kvichak River in the village of Kaskanak and used Igiugig as a summer fish camp. At the turn of the century, these people moved upriver to the present site of Igiugig. People from Branch also moved to Igiugig as it began to develop. Around 1905, Laplander reindeer stations were built near the village. Today, about one-third of residents can trace their roots back to the Branch River village. A post office was established in 1934 but was discontinued in 1954.[413]

Igiugig is a close knit village centered on family and community. Traditional subsistence values and lifestyles continue to sustain their culture and many residents continue to engage in traditional trades like skin sewing, basket making, and ivory carving.[414]

Natural Resources and Environment

Igiugig lies within the transitional climatic zone. Average summer temperatures range from 42 to 62 °F; winter temperatures average 6 to 30 °F. The record high is 91 °F, and the record low is -47 °F. Precipitation averages 26 inches annually, with 64 inches of snow.[415]

Igiguig lies on the west end of Lake Iliamna at the head of the Kvichak River, north of the Katmai National Park and Preserve. Important Kvichak River drainages include Kashanak, Yellow, and Bear creeks. The mixed landscape includes mountains, rivers, tundra, marshy lowlands, and ponds. Bedrock consists of middle Tertiary volcanic rock. Lake Iliamna covers more than 1,000 sq mi of the Alaska Peninsula region, and is more than 2,000 ft deep in areas. Uplands consist of tundra and barrens, and elevations above 1,500 ft are sparsely vegetated.[416]

All five species of Pacific salmon spawn in the Kvichak and Alagnak river systems. Other freshwater species within the area include Northern pike, blackfish, burbot, whitefish (round/white), rainbow trout, Dolly Varden, lake trout, Arctic grayling, smelt, and least cisco. Mammals include brown bears, moose, caribou, red fox, wolf, lynx, wolverine, river otter, mink, marten, weasel, porcupine, snowshoe hare, red squirrel, beaver, and freshwater seal.[417]

Two mineral occurrences exist on opposite sides of Lake Iliamna. The Anelon gold prospect is located near Newhalen on the north side of the lake. The Aukney gold prospect is located on the north site of Big Mountain.[418] The Pebble copper/molybdenum prospect site is located approximately 25 mi north of Newhalen, at the divide between the Koktuli River and

[411] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[412] Community of Iliamna. (2001). *Igiugig Village Community Comprehensive Strategic Plan.* Retrieved October 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Igiugig-SAP-2001.pdf.
[413] See footnote 411.
[414] See footnote 412.
[415] See footnote 411.
[416] Alaska Department of Natural Resources. (n.d.). *Region 10: Western Iliamna Lake, Kvichak River.* Retrieved October 17, 2012 from: http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap_ch3_reg10.pdf
[417] National Park Service. (n.d.). *Katmai National Park and Preserve: Animals*. Retrieved October 17, 2012 from: http://www.nps.gov/katm/naturescience/animals.htm.
[418] See footnote 416.

Upper Talarik Creek.[419] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion pounds of copper, 66.9 million ounces of gold and 3.3 billion pounds of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion pounds of copper, 40.4 million ounces of gold and 2.3 billion pounds of molybdenum.[420] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, an important salmon-producing watershed in the Bristol Bay area.[421] The Alaska Peninsula-Bristol Bay region is underlain by gold lain Mesozoic and Tertiary sediments which support potential coal bed methane and oil deposits in shallow areas. Most potential oil and gas reserves lie between Kvichak Bay and Lake Iliamna. Although not suitable for commercial harvest, timber resources are located along the Kvichak and Alagnak River valleys.[422]

According to the *Lake and Peninsula Borough Hazard Mitigation Plan*, erosion and wildfire are of chief concern to residents. River bank erosion and wave action from Lake Iliamna constantly alter the local landscape and residents report that the beach, fish camp, and smoke house have all been lost. Residents also believe that the lake level has been rising. The power house and bulk fuel facilities are in immediate danger of erosion, and eventually the entire community will be threatened. Mitigation measures include geotextile fabricated roads, riprap along shorelines and riverbanks, and structure relocation. Wildfire from dry vegetation and high winds create additional risks to the community. Mitigation measures include the acquisition of a fire engine, and the construction of a firebreak around the community.[423]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Igiugig in 2010.[424]

Current Economy[425]

Igiugig's economy is dependent on commercial and subsistence fishing and most residents participate in both activities. Seasonal employment, such as tourism and construction, is also available and there are several locally-owned hunting/fishing lodges within the vicinity of Igiugig. Local government and the school provide year-round employment.[426] On a regional level, many residents within the Lake Iliamna area travel to Naknek each summer to fish or work in the seafood processing industry.[427]

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[419] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[420] Northern Dynasty Minerals Limited. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[421] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[422] See footnote 418.
[423] Missal, J. and M. Smith. (2009). *Lake and Peninsula Borough Multi-Hazard Mitigation Plan.* Retrieved September 6, 2012 from:
http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[424] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved October 17, 2012 from: http://dec.alaska.gov/spar/csp/sites/big_mountain.htm.
[425] Unless otherwise noted, all monetary data are reported in nominal values.
[426] See footnote 412.
[427] See footnote 416.

In 2010,[428] the estimated per capita income was $7,171 and the estimated median household income was $23,250, compared to $13,172 and $21,750 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[429] the real per capita income ($17,321) and real median household income ($28,601) indicate significant declines in both personal and household earnings. In 2010, Igiugig ranked 302nd of 305 communities from which per capita income was estimated, and 266th of 299 communities from which median household income was estimated. This ranked Igiugig among the lowest of Alaskan communities in terms of collective earnings.

However, Igiugig's small population size may have prevented the ACS from accurately portraying economic conditions.[430] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $725,383 in total wages in 2010.[431] When matched with the 2010 Decennial Census population, the per capita income equals $14,508, which is significantly greater than the 2010 ACS estimate. This suggests that caution should be used when comparing 2000 Decennial Census and 2010 ACS figures.[432]

According to 2006-2010 ACS estimates,[433] an estimated 50.0% of residents aged 16 and older were part of the civilian labor force in 2010. Of those employed, an estimated 100% worked in the public sector. Also in that year, unemployment was estimated at 0.0%, compared to 5.9% statewide; and an estimated 23.4% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Again, Igiugig's small population may have prevented the ACS from accurately capturing economic conditions, including the unemployment rate. According to 2010 ALARI estimates,[434] the local unemployment rate was 11.9% based on unemployment insurance claimants. It should be noted that employment and worker characteristics data compiled within ALARI estimated that there were 42 residents aged 16 and over in Igiugig in 2010; which also conflicts with 2010 Decennial Census population statistics.

By industry, most (85.7%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by an estimated 14.3% in public administration sectors. Between 2000 and 2010, there was a strong consolidation of employment in education, health care, and social assistance sectors; while transportation, warehousing, and utilities sectors experienced significant declines (Figure 3). According to 2010 ALARI estimates, most (67.6%) employed residents worked in local government sectors; followed by construction

[428] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[429] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[430] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[431] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[432] Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[433] See footnote 430.
[434] See footnote 432.

(17.6%); education and health service (5.9%), and trade, transportation, and utilities sectors (2.9%). By occupation type, most (71.4%) employed residents held management or professional positions; followed by service positions (28.6%). Between 2000 and 2010, there were significant gains in service, management, and professional occupations; while production, transportation, material moving, sales, and office positions experienced significant declines (Figure 4).

No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

Figure 3. Local Employment by Industry in 2000-2010, Igiugig (U.S. Census).

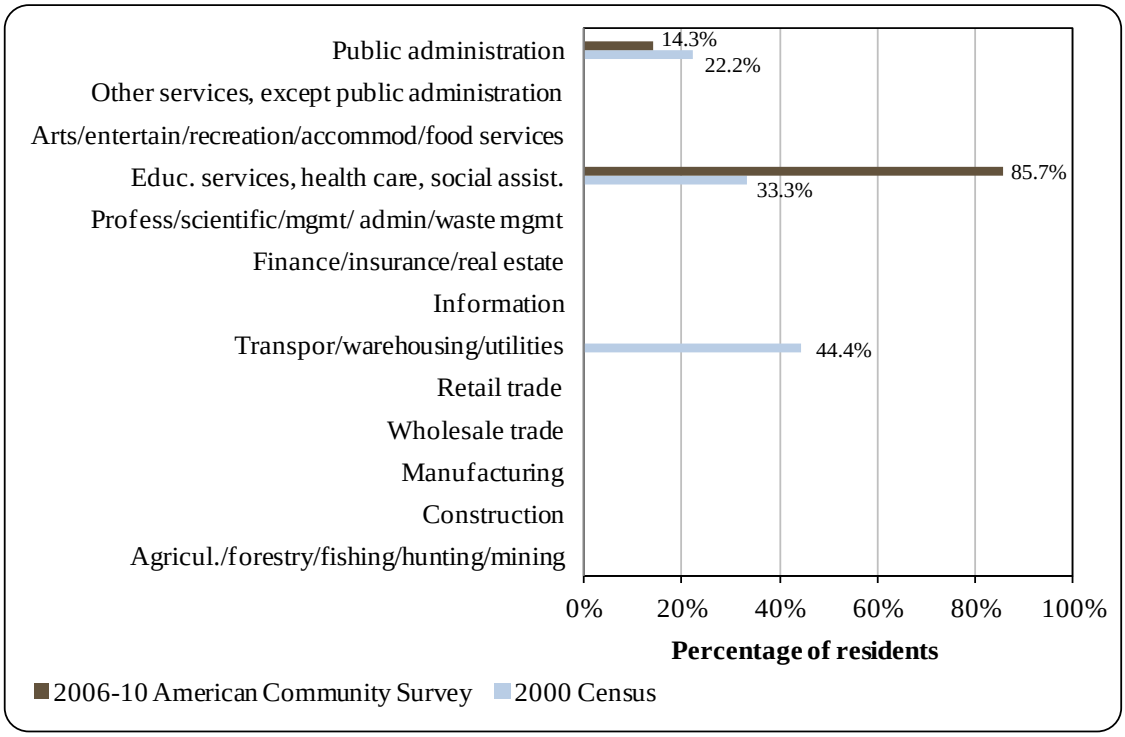
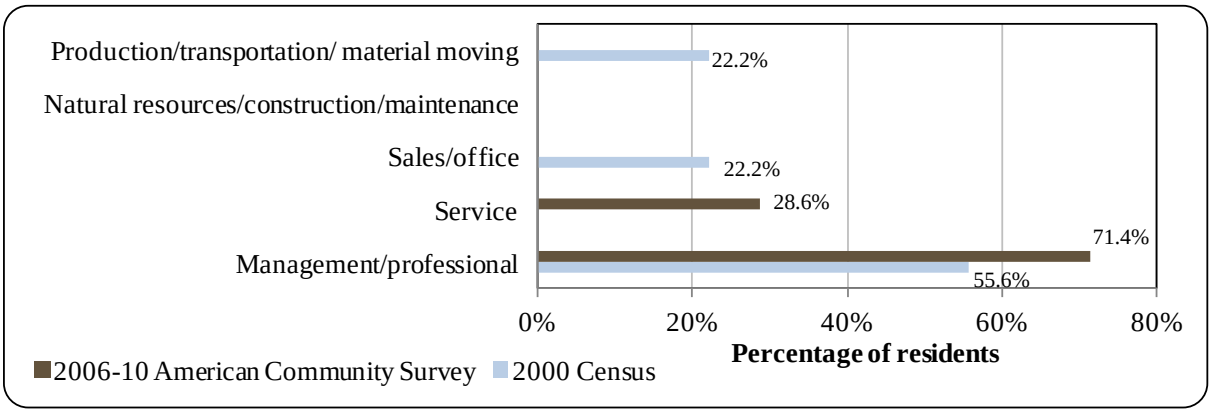


Figure 4. Local Employment by Occupation in 2000-2010, Igiugig (U.S. Census).



Governance

Igiugig is unincorporated although under the jurisdiction of the Lake and Peninsula Borough. There is a U.S. Bureau of Indian Affairs recognized tribal council and Alaska Native Claims Settlement Act (ANCSA) chartered village corporation (Igiugig Native Corporation). The ANCSA-recognized regional corporation is the Bristol Bay Native Corporation and the local ANCSA-chartered non-profit is the Bristol Bay Native Association.

The nearest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage. The closest Alaska Department of Fish and Game (ADF&G) office is located in King Salmon. The nearest National Marine Fisheries Service (NMFS) enforcement office is located in Homer.

Because it is unincorporated, Igiugig is unable to collect local taxes or fees (Table 2). However, the Lake and Peninsula Borough administers a 2% raw fish tax, 6% accommodations tax, $3 per person/day guide tax, and a $1 per person/day lodge and day guide tax.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Igiugig from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

Igiugig is accessible by water and air. Charter flights are available from Iliamna and King Salmon. The state owns and maintains a 3,000-ft long by 75-ft wide gravel runway. A small public dock is available. Barges deliver goods from Naknek or Dillingham in the fall. Igiugig Corporation operates a barge system on Lake Iliamna.[435] Roundtrip airfare from Anchorage to Dillingham (the nearest airport where charters fly for access to Igiugig) in June 2012 costs $452.[436]

Facilities

Water is derived from the Kvichak River. Attempts to drill community wells in the 1970s found inadequate water supplies. There is a recreation center and a public library. The village operates a piped water and sewer system, but not all homes are connected. The Igiugig Electric Company, operated by the village council, provides diesel-generated power to the community. Visitor accommodations include Alaska's Clearwater Lodge at Bristol Bay, Kvichak Cabin, and Igiugig Boarding House. Public safety services are provided by local Village Public Safety Officer. Fire and rescue services are provided by Igiugig Village Response Team. Additional public facilities include a recreation center and public library. Communications services include local and long distance telephone, internet (school only) local television, and local radio.[437]

Medical Services

The Igiugig Village Health Clinic provides residents with medical services and Emergency Services have lake and air access. The clinic is owned by the village council and operated by the Bristol Bay Area Health Corporation. Emergency service is provided by a health aid. The closest hospital is located in Dillingham.[438]

Educational Opportunities

Igiugig school is part of the Lake and Peninsula School district and offers preschool through 12th grade instruction. In 2011, there were 18 students enrolled and 3 teachers employed.[439]

[435] Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[436] Airfare calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).
[437] See footnote 435.
[438] Ibid.
[439] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The region surrounding Iliamna Lake is both a historic and contemporary subsistence use area this is heavily used by villages along the Lake and Nushagak/Mulchatna drainages. Most subsistence activity in the region is concentrated around the Nondalton area, north of Kokhanok.[440] Iliamna Lake and surrounding drainages and lakes provide popular subsistence areas, and many locals rely on sockeye salmon and freshwater seal. Igiugig is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 3A, and the Bering Sea Sablefish Regulatory Area. Igiugig is not eligible for either the Community Quota Entity program or the Community Development Quota program.

Igiugig residents participate exclusively in the Bristol Bay salmon fishery, which began in 1888 (although residents did not participate until later). In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product then there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached 5 million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.[441]

The Spanish American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth Century's. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye salmon. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. From 1912 to 1917, production ranged between 20 and 25 million. The demand for canned salmon during World War I caused canneries to operate 24 hours a day, seven days a week, and allowed them to report record profits. However, in 1919, ultimately this caused a major crash in sockeye runs throughout Bristol Bay.[442]

Following the salmon crash, the White Act of 1924 was passed, which mandated a 50% escapement rate and turned the Alaskan salmon fishery over to the federal government to manage. The federal government in turn instituted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps; however, the new regulations were rarely enforced during the years immediately following the passage of the White Act.[443]

Commercial salmon fishing was strong in the 1920s and early 1930s and accounted for 80% of tax revenues collected by local and state governments. However, in 1935, variable runs, foreign encroachment, and the Great Depression stressed the industry and resulted in only 3

[440] The Pebble Partnership. (2012). *Subsistence & Traditional Knowledge Studies.* Retrieved September 7, 2012 from: http://www.arlis.org/docs/vol2/Pebble/2012%20Agency%20Meetings/29%20Subsistence%20and%20Traditional%20Resources%20-%20Steven%20Braund.pdf.
[441] The Bristol Bay Economic Development Corporation. (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery.* Retrieved March 14, 2012 from: http://www.bbsalmon.com/FinalReport.pdf.
[442] Ibid.
[443] Ibid.

million salmon caught by commercial fishermen, which came close to a total shut-down of the Bristol Bay salmon fishery.[444]

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted processing plants to hire local labor and local fishermen. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential industry. Following World War II, salmon runs were once again in decline; however, the Pacific Decadal Oscillation and lower ocean productivity was thought to be the cause. Overfishing in the Bering Sea also contributed to declines. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches, averaged at 6.7 million sockeye annually during the 1950s.[445]

After Alaska became a state in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this translated into stricter-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. However, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested commercially. In response, the state blamed Japanese fishing effort and established limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the United States asserted jurisdiction over much of the outer continental shelf surrounding its coastlines, encompassing the 200-mi Exclusive Economic Zone. The combination of state revisions to the borders of Bering Sea fishing areas and favorable environmental conditions allowed for the beginning of salmon recovery.[446]

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity for the region. Sockeye returned in force the following year, and strong demands elevated prices over $1.00 per pound. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to $2.40 per pound and average gross earnings by drift boat exceeded $100,000 and the value of Bristol Bay drift permits surged to almost $250,000. As permit value rose, entry into the fishery became increasingly contested and litigated and resulted in the state issuing additional permits.[447]

In addition, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming began to threaten the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to $1.09 per pound. By 1991, seafood processors were offering $0.50 per pound. This resulted in many fishermen striking. Many Alaskan fishermen made accusations of price-fixing from Japanese-owned seafood processors. However, during that time, Bristol Bay still maintained record salmon harvests, with 45 million salmon taken in 1995. Revenues remained high despite low prices due to large harvests.

In previous lean years, production shortages drove prices up. However, the abundance of farmed fish changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to $63 million. Runs immediately after this had modest rebounds followed by more declines. Bristol Bay was declared both a state and federal disaster area and many permit

[444] Ibid.
[445] Ibid.
[446] Ibid.
[447] Ibid.

holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at $250,000 was valued at less than $20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.[448]

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Igiugig does not have a registered processing plant. The closest seafood processor is located in Naknek.

Fisheries-Related Revenue

Between 2000 and 2010, there was no known fisheries-related revenue generated for the community of Igiugig (Table 3).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Igiugig: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Community and Economic Development (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Department of Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[448] Ibid.

Commercial Fishing

In 2010, five residents, or 10% of the population, held five commercial fishing permits issued by the Commercial Fisheries Entry Commission. Between 2000 and 2010, the number of CFEC permits held in the community decreased from its peak of nine in 2000. During those years, no residents held Federal Fisheries Permits (FFP), License Limitation Program (LLP) permits, or crab, halibut, or sablefish quota share. Of the CFEC permits held in 2010, 100% were for salmon, compared to 67% in 2000. CFEC herring permits were held between 2000 and 2003; however, they were only actively fished in 2000.

Residents held four commercial crew licenses in 2010, compared to eight in 2000; which was also the year in which the number of crew licenses held in the community peaked. Residents held majority ownership of one commercial fishing vessel in 2010, which was a significant decline from 2000, when residents held majority ownership of 14 vessels. In addition, the number of commercial fishing vessels homeported in Igiugig declined significantly from 35 in 2000 to 1 in 2006. No commercial fishing vessels were homeported in the community between 2007 and 2010.

Of the CFEC permits held in 2010, 80% were actively fished, compared to 89% in 2000; which was also the year in which permit activity peaked. The Bristol Bay drift gillnet salmon fishery was the only fishery prosecuted by Igiugig residents in 2010. Between 2000 and 2010, no landings were reported in Igiugig. Landings reported by residents are considered confidential with the exception of salmon landings in 2000 and 2001. In 2001, residents landed 152,055 lb of salmon valued at $64,008 ex-vessel, compared to 155,553 lb valued at $100,510 in 2000. Information regarding commercial fishing trends can be found in Tables 4 through 10.

Table 4. Permits and Permit Holders by Species, Igiugig: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	3	1	1	0	0	0	0	0	0	0	0
	Fished permits	2	0	0	0	0	0	0	0	0	0	0
	% of permits fished	67%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	1	1	0	0	0	0	0	0	0	0

Table 4 Cont. Permits and Permit Holders by Species, Igiugig: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	6	6	5	4	6	6	4	4	4	4	5
	Fished permits	6	4	3	2	4	2	2	1	3	2	4
	% of permits fished	100%	67%	60%	50%	67%	33%	50%	25%	75%	50%	80%
	Total permit holders	6	6	5	4	6	7	4	4	5	4	5
Total CFEC Permits[2]	*Permits*	*9*	*7*	*6*	*4*	*6*	*6*	*4*	*4*	*4*	*4*	*5*
	Fished permits	*8*	*4*	*3*	*2*	*4*	*2*	*2*	*1*	*3*	*2*	*4*
	% of permits fished	*89%*	*57%*	*50%*	*50%*	*67%*	*33%*	*50%*	*25%*	*75%*	*50%*	*80%*
	Permit holders	*7*	*6*	*5*	*4*	*6*	*7*	*4*	*4*	*5*	*4*	*5*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Igiugig: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Igiugig[2]	Total Net Lb Landed In Igiugig[2,5]	Total Ex-Vessel Value Of Landings In Igiugig[2,5]
2000	8	0	0	14	35	0	0	$0
2001	3	0	0	14	29	0	0	$0
2002	2	0	0	12	20	0	0	$0
2003	1	0	0	10	26	0	0	$0
2004	0	0	0	9	27	0	0	$0
2005	3	0	0	1	1	0	0	$0
2006	2	0	0	2	1	0	0	$0
2007	2	0	0	1	0	0	0	$0
2008	2	0	0	1	0	0	0	$0
2009	2	0	0	1	0	0	0	$0
2010	4	0	0	1	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Igiugig: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lb)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Igiugig: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lb)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Igiugig: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (lb)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Igiugig: 2000-2010.

	Total Net Lb[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Igiugig Residents: 2000-2010.

	Total Net Lb[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	155,553	152,055	--	--	--	--	--	--	--	--	--
Total[2]	155,553	152,055	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$100,510	$64,008	--	--	--	--	--	--	--	--	--
Total[2]	$100,510	$64,008	--	--	--	--	--	--	--	--	--

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net lb refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

The Bristol Bay salmon sportfishing season typically begins by the end of May when Chinook salmon begin to enter Bristol Bay drainages. Dolly Varden, Arctic char, and grayling can often be found feeding on out-migrating salmon fry, and northern pike are active as well. Most of the Kvichak River and drainages flowing into Iliamna Lake remain closed to fishing until June 8, when rainbow trout fishing opens in eastern sections of the river. Chinook become more accessible in eastern portions of Bristol Bay drainages, and Arctic char, Dolly Varden, northern pike, and grayling remain active. Sockeye salmon become popular targets for anglers in July, and are plentiful in the Kvichak River early in the month. Chum salmon are found in abundance by mid-July, and some coho may be found by the end of the month. Chinook salmon are closed to sportfishing in most Bristol Bay drainages by the end of July. Coho salmon are most plentiful in August and September, and by October, sportfishing opportunities are primarily limited to resident fish. Throughout the winter months rainbow trout, Dolly Varden, grayling, smelt, Arctic char, and northern pike can be targeted. [449]

While very little sportfishing is conducted from Igiugig, the Kvichak River is one of the most popular sportfishing destinations in Alaska. Many lodges line the river from Igiugig to Naknek, and four residents held sport fish guide licenses in 2010. No sport fish guide businesses were registered in Igiugig between 2006 and 2010, and no locally registered sport fish guide businesses were active between 2000 and 2010. The number of sportfishing licenses sold to residents remained relatively constant, averaging 11 per year between 2000 and 2010, and peaking at 15 in 2010.

Igiugig is located in the Kvichak River Drainage ADF&G Harvest Survey Area, which includes all lakes and tributaries of the Kvichak River drainage. In 2010, there was a total of 25,681 freshwater angler days fished, compared to 31,145 in 2000. In that year, non-Alaska residents accounted for 78.1% of freshwater angler days fished, compared to 66.9% in 2000. Total angler days fished peaked in 2007 at 33,417. In each year, Alaska residents accounted for significantly less freshwater angler days fished than non-Alaska residents. Saltwater sportfishing made up a comparatively insignificant portion of angler days fished within the Survey Area. In 2010, there were 22 saltwater angler days fished, compared to 236 in 2000. In that year, non-Alaska residents accounted for 100% of saltwater angler days fished, compared to 28.8% in 2000. The number of saltwater angler days fished peaked in 2002 at 449. Further information regarding sportfishing trends can be found in Table 11.

[449] Alaska Department of Fish and Game. (n.d.). *Sport Fish Area Fishing Report – Bristol Bay.* Retrieved September 10, 2012 from:
http://www.adfg.alaska.gov/sf/FishingReports/index.cfm?ADFG=R2.summary&Area_key=19&RecordID=40.

Table 11. Sport Fishing Trends, Igiugig: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Igiugig[2]
2000	0	2	13	0
2001	0	2	14	0
2002	0	1	12	0
2003	0	0	12	0
2004	0	0	12	0
2005	0	2	10	0
2006	0	2	12	0
2007	0	1	8	0
2008	0	4	7	0
2009	0	4	4	0
2010	0	4	15	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Residents of Igiugig follow a seasonal subsistence pattern. In the summer, sockeye salmon is heavily relied upon, while fall and winter involves hunting for caribou and moose. Species commonly harvested for subsistence purposes include all five species of Pacific salmon, rainbow trout, whitefish, Arctic grayling, and blackfish. Most community members use drift or set nets for catching salmon, and once harvested, fish are generally cooked fresh, smoked, or frozen.[450]

There are several fish camps located along the Kvichak River where sockeye, coho, and Chinook salmon are harvested. During the winter, Dolly Varden, Northern pike, Arctic grayling and trout are harvested. In 2005, 91% of households were estimated to participate in subsistence activities involving salmon, 49% were estimated to participate in activities involving marine mammals, and 56% were estimated to participate in subsistence activities involving non-salmon fish. Another account by Krieg et al[451] found that 100% of Igiugig households harvested salmon and non-salmon fish. In addition, beluga whales and freshwater harbor seals were harvested in 2005 (beluga whales were harvested outside of Naknek and freshwater seals were harvested within the Kvichak River). There is no record of residents harvesting marine invertebrates. Halibut was used by 25% of households in 2005, although it was not harvested directly.[452]

Of the species listed by ADF&G in Table 13, residents reported harvesting sockeye salmon the most, followed by chum, Chinook, coho, and pink salmon. In 2008, residents reported harvesting 1,710 salmon, compared to 2,022 in 2000; which was also the year in which reported salmon harvests peaked. The number of subsistence salmon permits issued to residents remained relatively constant between 2000 and 2008. In 2005, an estimated 2,606 lb of non-salmon fish was harvested. No residents were issued Subsistence Halibut Registration Certificates between 2003 and 2009. In terms of marine mammals, an estimated six beluga whales were harvested between 2000 and 2010. In addition, residents reported harvesting five freshwater seals in 2005.[453]

According to ADF&G *Community Subsistence Information System* records,[454] species which residents have historically used include: butter clams, Dungeness crab, freshwater clams, horse clams, octopus, littleneck clams, pinkneck clams, razor clams, shrimp, Tanner crab, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, broad whitefish, bullhead sculpin, burbot, char, Dolly Varden, flounder, grayling, herring, humpback whitefish, lake trout, least cisco, lingcod, rainbow trout, rockfish, round whitefish, smelt, steelhead, stickleback, sucker, cod, and pike. Information regarding subsistence trends can be found in Tables 12 through 15.

[450] Igiugig Village Council. (n.d.). *Subsistence Living.* Retrieved October 18, 2012 from: http://www.igiugig.com/village-life/life-in-igiugig/subsistance-living.
[451] Krieg, T. M., Holen, D. L.; and Koster, D. (2009). *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.* Alaska Department of Fish and Game. Technical Paper No. 322. Retrieved October 19, 2012 from: http://www.subsistence.adfg.state.ak.us/techpap/TP322.pdf
[452] Ibid.
[453] Ibid.
[454] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Igiugig: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	91%	n/a	49%	n/a	56%	265
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Igiugig: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lb of Marine Inverts[2]	Lb of Non-Salmon Fish[2]
2000	8	8	5	14	19	3	1,981	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	7	7	2	n/a	n/a	n/a	1,336	n/a	n/a
2005	6	6	2	n/a	1	14	1,017	n/a	2,606
2006	7	5	n/a	n/a	n/a	n/a	1,252	n/a	n/a
2007	7	6	1	2	n/a	n/a	1,828	n/a	n/a
2008	8	8	8	29	n/a	n/a	1,673	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Igiugig: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Igiugig: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	1	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	3	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	2	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Iliamna (*ill-ee-AM-nuh*)

People and Place

Location [455]

Iliamna is located on the northwest side of Iliamna Lake, 225 miles southwest of Anchorage. It is near the Lake Clark Park and Preserve. Iliamna is located in the Lake and Peninsula Borough and the Iliamna Recording District.

Demographic Profile [456]

In 2010, there were 109 inhabitants in Iliamna, making it the 238th largest of 352 total Alaskan communities with recorded populations that year. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 10.8% (Table 1). However, population estimates from the U.S. Decennial Census in 2000 and 2010 show a positive growth rate (Table 1), indicating that caution should be used when comparing the decennial and annual estimates. Overall between 1990 and 2010, Decennial Census records show a population increase of 16% in Iliamna.

According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, Iliamna community leaders estimated that approximately 100 seasonal workers or transients are also present in Iliamna each year between May and October to participate in mining/exploration activities. They also noted that Iliamna's yearly population peak occurs in July when these seasonal workers are present. In addition to mining activity, community leaders reported that the peak in population is slightly driven by employment in fishing sectors, including commercial, subsistence and/or recreational industries.

In 2010, just over half of Iliamna residents identified themselves as American Indian and Alaska Native (54.1%), along with 33% who identified themselves as White, and 12.8% who identified as two or more races. In addition, 3.7% identified themselves as Hispanic or Latino in 2010 (Figure 1). Compared to 2000, there was a slight decrease in the percentage of the population that identified as White, and a proportional increase in the percentage identifying as American Indian or Alaska Native or as two or more races. It also appears that the Hispanic and Latino community was not represented in Iliamna in 2000.

[455] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[456] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

The increasing population in Iliamna between 1990 and 2010 is reflecting in the rising number of occupied households in the community during the period, from 30 in 1990 to 35 in 2000, and 39 in 2010. Over the same period, the average number of persons per household decreased, from 3.1 in 1990 to 2.91 in 2000, and 2.79 in 2010, suggesting that the increase in total occupied housing was also due in part to diminishing household size. Of the 58 housing units surveyed for the 2010 U.S. Census, 48.3% were owner-occupied, 19% were renter-occupied, and 32.8% were vacant, mostly due to seasonal use. Between 1990 an 2010, no Iliamna residents were reported to be living in group quarters.

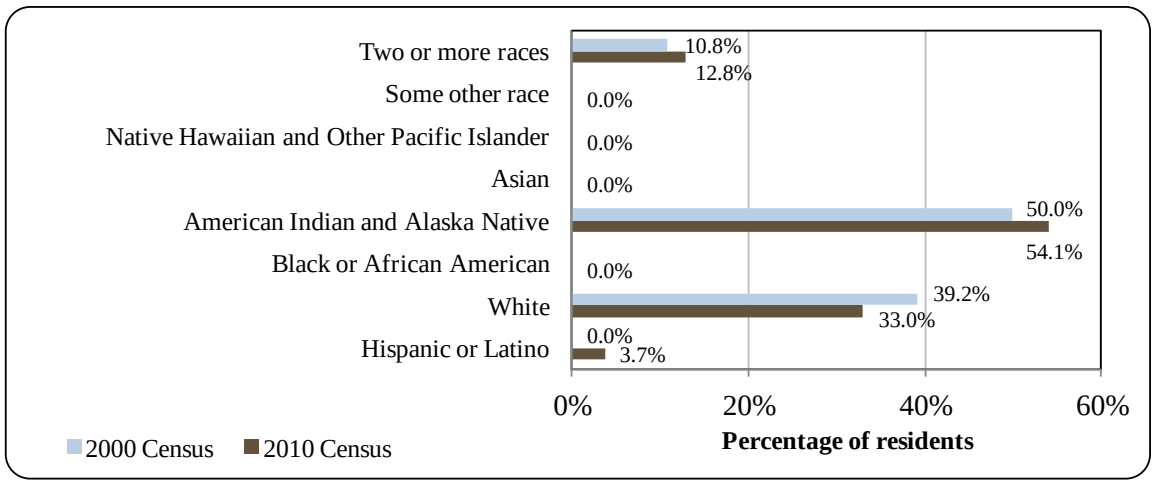
Table 1. Population in Iliamna from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	94	-
2000	102	-
2001	-	95
2002	-	98
2003	-	92
2004	-	90
2005	-	86
2006	-	82
2007	-	87
2008	-	93
2009	-	91
2010	109	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

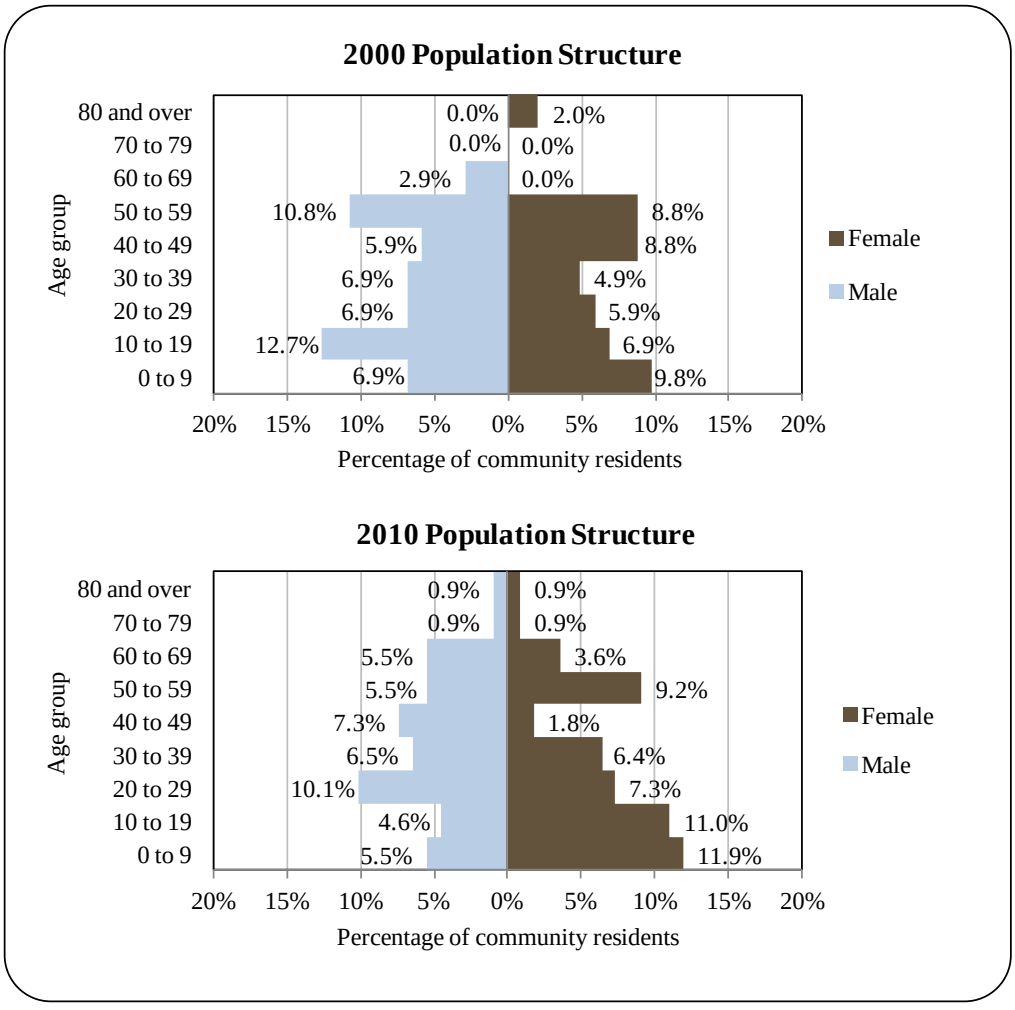
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Iliamna: 2000-2010 (U.S. Census).



In 2010, there were more women than men residing in Iliamna, with a gender balance of 46.7% males and 53.2% female. This is unusual when compared to the state as a whole, which had more males than females overall in 2010 (52% male, 48% female). It is important to note that, in 2000, the gender balance of Iliamna's population (52.9% male, 47.1% female) was closer to the balance of the state population, which was 51.7% male and 48.3% female. In 2010, the median age in Iliamna was estimated to be 29.9 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 12.7% of the Iliamna population was age 60 or older. The overall population structure of Iliamna in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Iliamna Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[457] estimated that 90% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, no resident had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 10% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 40% had attended some college but not received a degree, compared to an estimated 28.3% of Alaskan residents overall; no Iliamna resident held Associate's or Bachelor's degrees, compared to an estimated 8% and 17.4% of Alaskan residents overall, respectively; and 23.3% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

The Iliamna Lake area has been occupied by humans since prehistory. Two distinct indigenous populations historically inhabited the region: the Central Yup'ik Eskimos south and west of the lake, and the Dena'ina Athabascans on the northern and eastern shores. Distinctions between Native populations were blurred during European contact as a result of population decline due to epidemic disease and movement of people to participate in activities surrounding the fur trade and emerging commercial salmon fishery in Bristol Bay.[458]

In the early 1900s, George Seversen operated a roadhouse at the present site of the community of Iliamna. The 'Seversen Roadhouse' served as an important source of goods and services at a crossroads of the Williamsport-Pile Bay Trail,[459] a primary route by which supplies and vessels have been transported between Cook Inlet and Bristol Bay.[460] In the early 1900s, a small community of Yup'ik people was also living at the mouth of the Newhalen River, near the present communities of Iliamna and Newhalen.[461] The modern community of Iliamna developed around the Seversen Roadhouse, when villagers relocated there in 1935 from "Old Iliamna," and traditional Athabascan village located approximately 40 miles away at the eastern end of Iliamna Lake.[462] The new community of Iliamna continued to grow through the 20th century as fishing and hunting lodges were built in the area. Today, Iliamna has a mixed population of Tanaina

[457] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[458] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.

[459] U.S. Dept. of the Interior, Bureau of Land Management. 2004. *Memorandum: Navigability of Kvichak River and Iliamna Lake in the Bristol Bay Region*. Retrieved October 8, 2012 from http://dnr.alaska/gov/mlw/nav/rdi/kvichakgroup/kvichakgroup_blmnav.pdf.

[460] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[461] See footnote 458.

[462] McDowell Group, Buell, Jim, and Stephen R. Braund & Associates. 2009. *Pebble Project Environmental Baseline Document. Chapter 21: Socioeconomics, Bristol Bay Drainages*. Retrieved October 8, 2012 from http://www.arlis.org/docs/vol2/Pebble/2004-2008%20EBD/CH21%20Socioeconomics%20BB.pdf.

Athabascans, Alutiiq and Yup'ik Eskimos, and non-Native residents.[463] Subsistence harvest is also important to the local economy and way of life.[464,465] The sale of alcohol is prohibited in the community.[466]

Natural Resources and Environment

Iliamna is located in a climatic transition zone, influenced by both maritime and continental weather patterns. Summer temperatures average between 42 and 62 °F, and winter temperatures between 6 and 30 °F. Iliamna receives 26 inches of rain and 64 inches of snow on average per year.[467] The immediate landscape in Iliamna is rolling tundra.[468] The Newhalen River valley contains areas of spruce woodlands and shrubs, as well as open spruce forest-shrub-bog mosaic in some places.[469]

The Iliamna Lake and Kvichak River drainage is the single most important source of salmon in the Bristol Bay area, producing approximately 50% of the sockeye salmon caught in the Bristol Bay salmon fishery.[470] The Newhalen River and its source, Lake Clark, are a major sockeye salmon spawning area, producing 16% of the world's wild sockeye salmon commercial harvest.[471] A large number of sport fishermen travel to the Iliamna Lake area every year to participate in a trophy rainbow trout fishery[472] along with other sport fisheries (see the *Recreational Fishing* section of this profile). A number of lodges are present along the Newhalen River for sport hunters and fishermen.[473]

The area across Iliamna Lake to the south is protected as Katmai National Park and Preserve, a 7,383 square mile wilderness area known for its high concentration of brown bears and the Valley of 10,000 Smokes. Katmai National Park tourism does not affect Newhalen directly, as visitors primarily pass through the King Salmon airport to access the park.[474] Lake Clark National Park and Preserve is located northeast of Iliamna, occupying 4 million acres at the north end of the Alaska Peninsula. This National Park and Preserve was established to protect scenic beauty, wild rivers and waterfalls, populations of fish and wildlife, watersheds essential for sockeye salmon, and the traditional lifestyle of local residents. Subsistence activities are

[463] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[464] See footnote 458.
[465] Lake and Peninsula Borough. 2012. *Iliamna Community Action Plan*. Retrieved October 5, 2012 from http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Iliamna_CommunityPlan_9-17-12a.pdf.
[466] See footnote 463.
[467] Ibid.
[468] LaRoche and Associates. March 2011. La*ke and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[469] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[470] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[471] See footnote 469.
[472] See footnote 463.
[473] See footnotes 469 and 470.
[474] National Park Service. 2011. *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.

permitted in Lake Clark National Park and Preserve. The National Park Service works closely with state and federal fish and wildlife management agencies to determine seasons, bag limits, and similar harvest controls.[475] A diversity of fish and wildlife are found in both of these National Parks and Preserves, including bears, caribou, moose, wolves, lynx, sea mammals, salmon, Arctic char, Arctic grayling, Dolly Varden, Northern pike, lake trout, rainbow trout, burbot, and whitefish.[476]

It is also of note that Iliamna Lake is home to a freshwater population of harbor seals.[477] Seal numbers consistently range between 150 and 220 during molting season, and some portion of the population over-winters in the lake. Local subsistence hunters harvest a small number of these seals each year.[478]

Significant mineral resources are present in the region, including the Pebble copper-gold-molybdenum deposit. The Pebble site is located approximately 19 miles northwest of Iliamna, at the divide between the Koktuli River and Upper Talarik Creek.[479] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion pounds of copper, 66.9 million ounces of gold and 3.3 billion pounds of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion pounds of copper, 40.4 million ounces of gold and 2.3 billion pounds of molybdenum.[480] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[481] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble mine is copper. Dissolved copper is known to be toxic to fish.[482]

With regard to natural hazards, Iliamna was rated at high risk of severe weather, medium risk of earthquake, volcanic activity, and wildfire, and low risk of tsunami, erosion, and flooding. Avalanche and landslide hazard was not identified in the immediate area. In addition to the direct impact of earthquakes, Iliamna residents are concerned about secondary hazards such as seiche[483] and flooding. Flooding is also a threat during ice break-up, when ice jams and ice overflows may funnel water into the community. Severe weather in the form of high winds (70-100 mph) affects the community approximately twice a year. Tundra and brush fires are a serious

[475] National Park Service. 2011. *Lake Clark National Park & Preserve Management*. Retrieved June 13, 2012 from http://www.nps.gov/lacl/parkmgmt/index.htm.
[476] See footnotes 474 and 475.
[477] See footnote 469.
[478] Withrow, David and Kymberly Yano, Jennifer Burns, Courternay Gomez, and Tatiana Askoak. 2011. *Freshwater Harbor Seals of Lake Iliamna, Alaska. Do They Pup and Over-Winter in the Lake?* Poster presented at the 2011 Alaska Marine Science Symposium. Retrieved January 18, 2012 from ftp://ftp.afsc.noaa.gov/posters/pWithrow04_freshwater-seals_2011.pdf.
[479] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[480] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[481] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[482] See footnote 479.
[483] A seiche is a "wave that oscillate in partially or totally enclosed body of water." (See footnote 484.)

concern in the community, particularly in areas with standing dead trees that resulted from an outbreak of spruce bark beetles.[484]

According to the Alaska Department of Environmental Conservation, one active environmental cleanup site was located on the south shore of Iliamna Lake as of May 2012. In 1956, the U.S. Air Force constructed a radio relay station on the southern shore of Iliamna Lake as part of a defense communication network and aircraft warning system throughout the State of Alaska. Hazardous materials were stored at the site, including diesel fuel and gasoline, oils, antifreeze, solvents, batteries, asbestos, and electrical transformers containing polychlorinated biphenyls (PCBs). Excavation and thermal treatment of petroleum-contaminated soils was undertaken in 2004 and 2005, removing the source of potential future groundwater contamination. Groundwater wells were also dug to monitor water quality at the site. [485]

Current Economy[486]

Sportfishing and tourism are currently important economic drivers in Iliamna.[487] Visitors come to the Iliamna area both for sportfishing and other forms of outdoor recreation.[488] Lodges for sport hunting and fishing are common in the area,[489] although most lodge employees are not local residents.[490] Commercial fishing is also a mainstay of the economy, and many workers travel to Bristol Bay each summer to participate in the sockeye salmon fishery.[491] Between 2000 and 2010, the number of salmon permit holders in Iliamna was equivalent to between 17% and 23% of the total local population per year. However, in the 2011 AFSC survey, community leaders indicated that the community derives minimal income from commercial fishing.

Community leaders also noted that mining is an increasingly important industry in Iliamna. Mining-related employment has increased in the Iliamna area as Northern Dynasty Minerals, Ltd. started conducting exploration of the Pebble Mine site, a significant copper-gold-molybdenum deposit located just northwest of Iliamna. If the project moves forward, the mine could provide a range of well-paid jobs for Iliamna residents.[492] Community leaders reported in the 2011 AFSC survey that mining also brings a large number of seasonal workers to Iliamna during summer months. However, further development of the mine remains controversial due to concerns about environmental impacts.[493]

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[484] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[485] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved October 4, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[486] Unless otherwise noted, all monetary data are reported n nominal values.
[487] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[488] Lake and Peninsula Borough. 2012. *Iliamna Community Action Plan*. Retrieved October 5, 2012 from http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Iliamna_CommunityPlan_9-17-12a.pdf.
[489] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[490] See footnote 481.
[491] See footnote 487.
[492] See footnote 488.
[493] See footnotes 479 and 488.

Based on household surveys conducted for the 2006-2010 ACS,[494] in 2010, per capita income in Iliamna was estimated to be $21,181 and the median household income was estimated to be $103,750, a significant increase when compared to $19,741 and $60,625 reported in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[495] the real per capita income in 2000 is shown to have been $25,959 and the real 2000 median household income was $79,721, showing a slight increase in per capita income and substantial increase in median household income over the 2000-2010 period. Median household income in 2010 ranked among the highest in the State, at 8th out of 299 Alaskan communities with household income data that year. In contrast, the 2010 per capita income estimate was close to the State average of $21,618, ranking 139th of 305 Alaskan communities with per capita income that year.

Although Iliamna's small population size may have prevented the ACS from accurately portraying economic conditions,[496] support for the 2006-2010 ACS per capita income estimate is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Iliamna in 2010 is $28,184.[497,498] This estimate is higher than the 2006-2010 ACS estimate, providing additional evidence for a rise in per capita income between 2000 and 2010. In addition, Iliamna did not meet the Denali Commission's criteria for a 'distressed community' in 2011.[499] It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, 75% of the Iliamna population age 16 and older was estimated to be in the civilian labor force, higher than the statewide rate of 68.8%. That year, approximately 9.9% of local residents were living below the poverty line, similar to the rate of Alaskans overall (9.6%), and the unemployment rate was estimated to be 0%, compared to a statewide unemployment rate of 5.9%. The lack of unemployment in Iliamna estimated by the 2006-2010 ACS conflicts with data reported in the ALARI database, which indicates that unemployment in Iliamna was 27.7%, more than twice ALARI's statewide unemployment rate estimate of 11.5%.[500]

Also based on the 2006-2010 ACS, over half of the Iliamna workforce was estimated to be employed in the private sector (54.5%), along with 36.4% employed in the public sector

[494] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[495] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[496] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[497] See footnote 494.
[498] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[499] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[500] See footnote 498.

(54.5%), and 9.1% estimated to be self-employed. Out of 33 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in transportation, warehousing, and utilities (36.4%), construction (18.2%), educational services, health care, and social services (15.2%), professional, scientific, management, and administrative and waste management services (15.2%), public administration (6.1%), and other services, except public administration (9.1%). In 2010, none of the workforce was estimated to be working in the agriculture, forestry, and fishing industries. The number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly.

Compared to employment statistics in 2000, the distribution of employment by industry in 2010 appears to have shifted heavily toward transportation, warehousing, and utilities, construction, and professional, scientific, management, and administration and waste management industries. In addition, employment in various industries appears to have been eliminated. Categories represented in 2000 that were no longer represented in 2010 were arts, entertainment, recreation, accommodation and food services, retail trade, information, and finance and insurance, real estate, and rental and leasing industries. The complete loss of estimated employment in these areas may be due to inaccuracy of ACS estimates in communities with small populations.[501] These shifts in employment by industry are displayed in Figure 3.

Viewing employment from the perspective of occupation, 2006-2010 ACS estimates indicate that the greatest number of Iliamna workers were employed in production, transportation, and material moving occupations (30.3%) and management, business, science, and arts occupations (27.3%), while 18.2% were employed in service occupations, 18.2% in natural resources, construction, and maintenance occupations, and 6.1% in sales and office occupations. The increases in transportation, warehousing, and utilities and construction industries noted above are reflected in a shift toward production, transportation, and material moving and natural resource, construction, and maintenance occupations in Iliamna between 2000 and 2010 (Table 4).

ALARI estimates of employment by industry conflict with 2006-2010 ACS estimates. The ALARI database reports a higher number of employed residents in Iliamna (95) than were estimated by the ACS (33). ALARI data suggest that higher percentages of the 2010 labor force worked in professional and businesses services (40%), and local government (22.1%) compared to ACS estimates. ALARI estimates also showed some employment in industries that were not represented by the 2006-2010 ACS, including 1.1% of the workforce employed in information, 1.1% in financial activities, and 1.1% in leisure and hospitality. In addition, ALARI showed 12.6% of the workforce employed in trade government and trade, transportation, and utilities, 9.5% in education and health services, 8.4% in natural resources and mining, 3.2% in state government, and 1.1% in other industries.[502] It should be noted that both ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[501] See footnote 496.
[502] See footnote 498.

Figure 3. Local Employment by Industry in 2000-2010, Iliamna (U.S. Census).

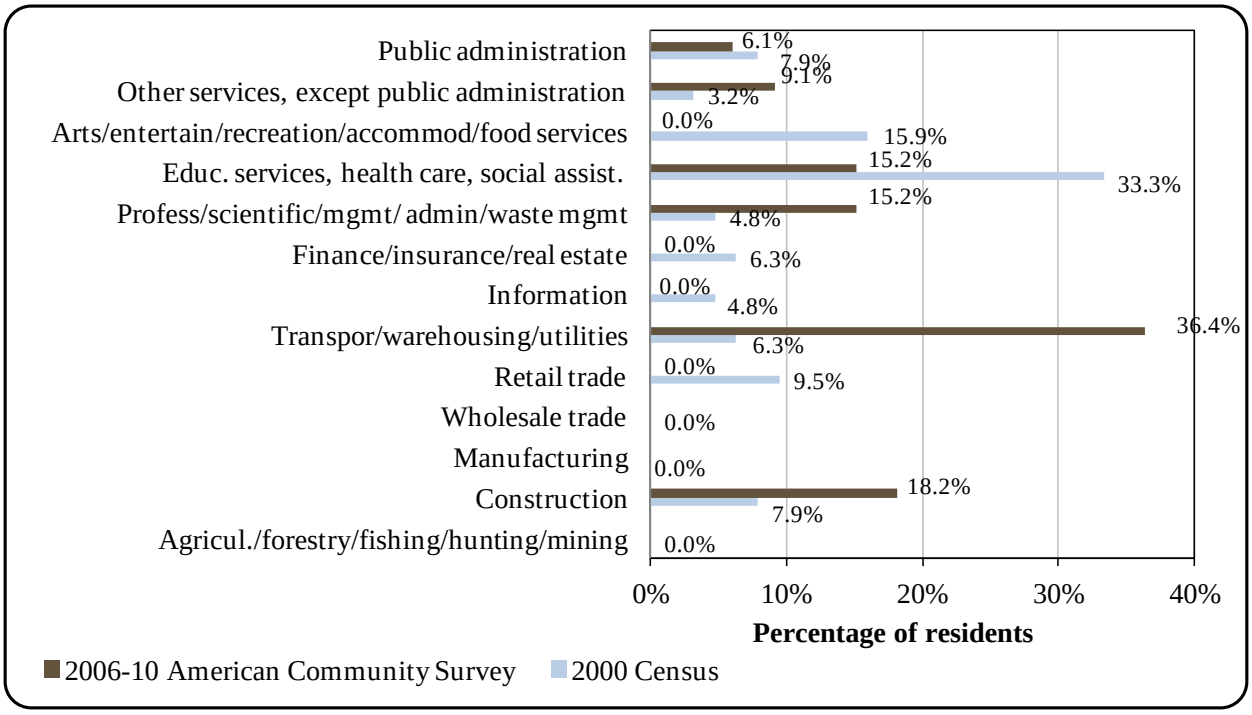
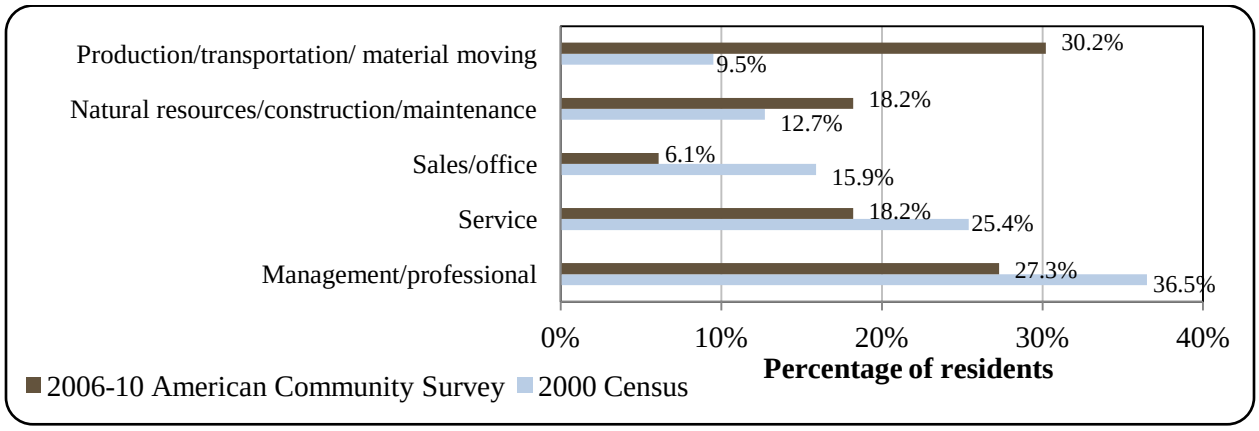


Figure 4. Local Employment by Occupation in 2000-2010, Iliamna (U.S. Census).



Governance

Iliamna is an unincorporated community under the jurisdiction of the Lake and Peninsula Borough. There is no local taxing authority, but the Borough does administer a 2% fish tax, 6% bed tax, $3 per person/day guide tax, and $1 person/day lodge guide tax.[503] Given that Iliamna has no municipal government, no municipal revenues were reported for the community. In

[503] Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved January 24, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm.

addition, no State or Community Revenue Sharing contributions or fisheries-related grants were reported as received by Iliamna between 2000 and 2010 (Table 2).

Iliamna was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Iliamna Village Council. The local village Native corporation is Iliamna Natives, Limited, which manages 73,059 acres of land. The regional Native corporation to which Iliamna belongs is the Bristol Bay Native Corporation (BBNC).[504] In addition to the local Village Council, Iliamna is one of seven villages in the Iliamna Lake region that joined to form the Nilavena Tribal Consortium.[505] The Consortium is involved in providing health and cultural services to the Iliamna Lake tribes.[506,507]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Iliamna from 2000 to 2010.

Year	Total municipal revenue[1]	Sales tax revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-related grants (state and federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[504] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[505] Nilavena Tribes website. (n.d.). *Home.* Retrieved October 5, 2012 from http://nilavenatribes.com/**.**
[506] Anchorage Native News. May 2003. "Construction of Iliamna clinic nears completion." The Newsletter of the Southcentral Foundation, Vol. 4, Issue 3. Retrieved October 8, 2012 from https://www.scf.cc/May%202003.pdf.
[507] Agnew::Beck. (n.d.). *Nilvena Community Cultural + Visitors Center.* Retrieved October 8, 2012 from http://www.agnewback.com/pages-portfolio/bristolbay/nilavena-ccvc.htm.

Iliamna is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[508] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[509]

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon, and the Alaska Department of Commerce, Community, and Economic Development also has an office in Dillingham. Kodiak and Homer have the nearest offices of the Alaska Department of Natural Resources and the National Marine Fisheries Service (NMFS), and Kodiak is also the location of the nearest Bureau of Citizenship and Immigration Services office. However, the Anchorage offices of these agencies are perhaps more accessible for the people of the Iliamna Lake region.

Infrastructure

Connectivity and Transportation

Due to a lack of infrastructure in the Iliamna area, travel between communities is usually by small plane, and seasonally by boat, four-wheeler, or snowmobile. Individuals also use personal vehicles, ATVs, and skiffs.[510] Barges deliver bulk goods to the area via the Kvichak River. An improvised barge landing area is currently available at Iliamna. A breakwater, boat harbor, and dock are also available, although the dock is in poor condition.[511,512]

A state-owned airport with two gravel airstrips is located several miles west of Iliamna. One airstrip measures 5,086 feet long by 100 feet wide, and the other is 4,800 feet by 100 feet. Iliamna Air Taxi, Inc. provides scheduled mail, freight, and passenger air service to several Iliamna Lake communities.[513] As of June 2012, a roundtrip flight from the Iliamna Airport to Anchorage cost $460.[514] Birchwood Air Service and Lake and Peninsula Air also offer charter and some scheduled air service between Anchorage and Iliamna.[515,516] In addition to the state-

[508] Bristol Bay Native Association. (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from www.bbna.com.
[509] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[510] Bristol Bay Native Association. 2011. *Bristol Bay Comprehensive Economic Development Strategy, 2011-2016.* Funded by the U.S. Department of Commerce, Economic Development Administration. Retrieved January 17, 2012 from http://www.bbna.com/website/BBCEDS_2011-10-31.pdf.
[511] Lake and Peninsula Borough. 2012. *Iliamna Community Action Plan*. Retrieved October 5, 2012 from http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Iliamna_CommunityPlan_9-17-12a.pdf.
[512] See footnote 504.
[513] Ibid.
[514] Personal communication, Iliamna Air Taxi reservation agent, June 13, 2012.
[515] Lake & Pen Air. (n.d.). *Charters & Fares*. Retrieved October 5, 2012 from http://www.lakeandpenair.com/www.lakeandpenair.com/Booking.html.
[516] Holliday Air. 2009. *Welcome Packet 2009*. Retrieved October 5, 2012 from http://www.hollidayair.com/2009/WelcomePacket2009.pdf.

owned airport, a private airstrip is located at the Iliamna Roadhouse, and Summit Lake provides private float plane access.[517]

A paved road connects Iliamna to the Iliamna airport, as well as the community of Newhalen located several miles to the south.[518] During the winter, a road is passable between Iliamna and Nondalton, 15 miles to the north, although the road is only paved half way.[519] Construction of a bridge is proposed at the western end of Six Mile Lake, which would provide year-round access to Nondalton.[520] In addition, an unimproved trail, the Williamsport-Pile Bay Trail, runs along the northern shore of Iliamna Lake, connecting Iliamna and Newhalen with the communities of Pedro Bay and Pile Bay Village to the east. Pile Bay Village is also connected to Cook Inlet by road. This corridor is used to transportfishing boats and supplies between Cook Inlet and Bristol Bay, but is considered difficult to use.[521]

Facilities

Water in Iliamna is derived from well sources. A 270-foot deep well provides water to the community building, village office, and Village Council-operated washeteria, and private households retrieve water from individual wells. There is no piped water or sewer system, although 85% of homes are fully plumbed. Some households have septic tanks, while others use honeybuckets or outhouses. The Village Council assists residents with sewage treatment by providing septic pump services. The Village Council also maintains a landfill, but refuse collection services are not provided. Garbage must be hauled to the landfill by residents. Electricity is provided to Iliamna through the Tazimina Hydroelectric Project which also provides electricity to communities of Nondalton and Newhalen.[522] The Iliamna – Newhalen - Nondalton Electric Cooperative owns 50 miles of distribution line connecting the three member communities, and also owns a backup diesel powerhouse in Newhalen.[523] According to the 2011 AFSC survey, community leaders indicated that improvements are expected to alternative energy power sources within the next decade. There are plans to expand the existing electrical intertie to include other communities in the region, linking to additional wild and hydroelectric power sources. Iliamna residents also support installation of insulated power lines. Current underground lines experience frequent power outages.[524]

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[517] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[518] Ibid.
[519] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[520] See footnote 511.
[521] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[522] See footnote 517.
[523] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew::Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[524] Lake and Peninsula Borough. 2012. *Iliamna Community Action Plan*. Retrieved October 5, 2012 from http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Iliamna_CommunityPlan_9-17-12a.pdf.

Police services are provided in Iliamna the locally-stationed state troopers Village Public Safety Officer. Fire and rescue services are provided by the Iliamna Volunteer Fire Department and the Iliamna/Newhalen Rescue Squad. Telephone and internet service is available in Iliamna, but no cable providers offer local service.[525] A fiber optic cable is currently being extended to Iliamna.[526] Community facilities include several sport hunting and fishing lodges, a recreation center, and a community hall/village office building.[527,528] Community leaders indicated in the 2011 AFSC survey that a post office was also built within the last 10 years.

With regard to fisheries-related infrastructure, community leaders reported that 100 feet of dock space is available for permanent vessel moorage, while no moorage is available for transient or public moorage. They reported that construction of new dock space was completed within the last 10 years, as well as new roads serving the dock. They also indicated that dock facilities at Iliamna are not capable of handling regulated vessels such as Coast Guard, ferries, or HAZMAT vessels. Fisheries-related businesses and services noted to be available in Iliamna included sales of boat fuel, bait, and tackle. Community leaders indicated that local residents can access additional fisheries-related businesses and services at area fishing lodges.

Medical Services

The Iliamna Health Clinic, operated by the Bristol Bay Area Health Corporation, provides Iliamna residents with basic medical services. The Clinic is part of the Community Health Aide Program.[529] In addition, the Nilavena Subregional Clinic (NSC) is located in Iliamna. The NSC offers primary care, radiology, laboratory, pharmacy, and immunization services to residents of Iliamna and six other communities in the Lake and Peninsula Borough. The NSC is funded by a federal grant, and offers medical services on a sliding fee schedule based on household income and size.[530] Local emergency services are provided by the community health aide and volunteers, and additional emergency services have limited highway, lake, and air access to Iliamna. Alternative health care is provided by the Iliamna/Newhalen Rescue Squad Emergency service is provided by volunteers and the health aide.[531]

Educational Opportunities

No schools are located directly in Iliamna. The nearby Newhalen School, located several miles south in the community of Newhalen, serves Iliamna students.[532] The Newhalen School offers a pre-school through 12th grade education. As of 2011, there were 8 teachers and 77 students attending the school.[533]

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[525] See footnote 517.
[526] See footnote 524.
[527] See footnote 517.
[528] Lake and Peninsula Borough. 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[529] See footnote 517.
[530] Southcentral Foundation website. 2012. *Nilavena Subregional Clinic*. Retrieved October 4, 2012 from https://www.scf.cc/services/nilavena.ak.
[531] See footnote 517.
[532] See footnote 528.
[533] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important for residents of the Iliamna Lake region since prehistory. Commercial exploitation of salmon resources began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, along with several other species harvested in lower volumes.[534] Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of Nushagak River near the village of Togiak.[535]

Subsistence harvest continues to be an important foundation for the local economy in Iliamna,[536] and tourism related to sportfishing activity has grown in importance in the Iliamna Lake region,[537,538] as outlined below in the *Subsistence Fishing* and *Recreational Fishing* sections of this profile.

Bristol Bay is the nearest marine area to the community of Iliamna. The Bay is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Iliamna is not eligible to participate in the Community Development Quota program or the Community Quota Entity program. According to the 2011 AFSC survey, community leaders reported that Iliamna does not actively participate in fisheries management processes in Alaska.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Iliamna does not have a registered processing plant. However, several processing facilities were listed in nearby communities in Bristol Bay, including Naknek, Egegik, and Dillingham.

Fisheries-Related Revenue

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Iliamna (Table 3).

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[534] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.

[535] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.

[536] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[537] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[538] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew::Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.

Commercial Fishing

In the 2011 AFSC survey, community leaders reported that the Bristol Bay sockeye salmon fishery is the primary commercial fishery in which Iliamna residents are involved. They indicated that the fishery takes place between June and October, with October harvest focused primarily on subsistence. Iliamna residents have also been involved in the Bristol Bay herring fishery.

Between 2000 and 2010, Iliamna residents were involved in commercial fisheries as state permit holders, crew license holders, and vessel owners. Numbers of permit holders remained stable over the period, varying between 17 and 22 permit holders per year. In 2010, 19 permit holders held a total of 16 state-issued Commercial Fisheries Entry Commission (CFEC) permits. Of these 15 were held in the Bristol Bay salmon fishery, including 9 drift gillnet and 6 set gillnet permits. In addition, one permit was held in the Bristol Bay herring gillnet fishery. The herring permit was held from 2003 to 2010, but was not actively fished in any of these years. In contrast, a high percentage of salmon permits were actively fished each year, varying from a low of 53% of Bristol Bay salmon permit actively fished in 2002 to a high of 100% fished in 2008. Information about CFEC permits is presented in Table 4).

According to data reported by ADF&G and the Alaska Commercial Fisheries Entry Commission (CFEC), declining trends were observed in total crew license holders and vessel ownership in Iliamna over the decade. In 2000, ADF&G reported 45 crew license holders and the CFEC reported 46 vessels primarily owned by Iliamna residents. These numbers fell to 28 crew licenses held and 7 vessels owned in 2010 (Table 5). According to the CFEC, the number of vessels homeported in Iliamna also declined over the period, falling from 58 in 2000 to 4 in 2010. This information about vessels conflicts somewhat with information reported by community leaders in the 2011 AFSC survey, who indicated that the number of fishing vessels present in Iliamna had not changed in recent years.

No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Iliamna residents between 2000 and 2010. This permit information is presented in Table 4. Between 2000 and 2010, no quota share accounts or quota shares were held by Iliamna residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

No fish buyers or processing plants were present in Iliamna between 2000 and 2010 (Table 5), and no ex-vessel revenue was generated in the community (Table 9). Iliamna vessel owners delivered their catches elsewhere. In 2010, Iliamna vessel owners landed 450,395 net pounds of salmon, earning $399,945 in ex-vessel revenue. This was higher than average for salmon landings and ex-vessel revenue over the 2000-2010 period. Information about landings and ex-vessel revenue generated by Iliamna fishermen in other fisheries is considered confidential due to the small number of participants. This information is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Iliamna: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Iliamna: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries	Total permits	0	0	0	0	0	0	0	0	0	0	0
Permits [1]	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	1	1	1	1	1	1	1	1

Table 4 cont'd. Permits and Permit Holders by Species, Iliamna: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	19	19	17	17	17	16	16	17	18	19	15
	Fished permits	17	17	9	10	13	12	14	14	18	17	13
	% of permits fished	89%	89%	53%	59%	76%	75%	88%	82%	100%	89%	87%
	Total permit holders	19	19	19	17	18	17	19	17	19	22	19
Total CFEC Permits[2]	*Permits*	*19*	*19*	*17*	*18*	*18*	*17*	*17*	*18*	*19*	*20*	*16*
	Fished permits	*17*	*17*	*9*	*10*	*13*	*12*	*14*	*14*	*18*	*17*	*13*
	% of permits fished	*89%*	*89%*	*53%*	*56%*	*72%*	*71%*	*82%*	*78%*	*95%*	*85%*	*81%*
	Permit holders	*19*	*19*	*19*	*17*	*18*	*17*	*19*	*17*	*19*	*22*	*19*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Iliamna: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Iliamna[2]	Total Net Pounds Landed In Iliamna[2,5]	Total Ex-Vessel Value Of Landings In Iliamna[2,5]
2000	45	0	0	46	58	0	0	$0
2001	35	0	0	47	59	0	0	$0
2002	21	0	0	52	62	0	0	$0
2003	28	0	0	48	66	0	0	$0
2004	25	0	0	59	77	0	0	$0
2005	22	0	0	11	9	0	0	$0
2006	18	0	0	11	7	0	0	$0
2007	34	0	0	10	5	0	0	$0
2008	32	0	0	10	5	0	0	$0
2009	36	0	0	10	3	0	0	$0
2010	28	0	0	7	4	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Iliamna: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Iliamna: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Iliamna: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Iliamna: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Iliamna Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	273,279	213,085	100,507	176,181	235,985	281,238	325,921	653,261	581,999	389,554	450,395
Total[2]	*273,279*	*213,085*	*100,507*	*176,181*	*235,985*	*281,238*	*325,921*	*653,261*	*581,999*	*389,554*	*450,395*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$181,187	$89,462	$48,112	$86,566	$118,786	$170,436	$213,657	$434,104	$419,469	$310,807	$399,945
Total[2]	*$181,187*	*$89,462*	*$48,112*	*$86,566*	*$118,786*	*$170,436*	*$213,657*	*$434,104*	*$419,469*	*$310,807*	*$399,945*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

The Newhalen River attracts a large number of recreational fishermen each year to participate in the trophy rainbow trout fishery on Iliamna Lake, as well as fisheries for other species such as salmon. Numerous sportfishing and hunting lodges are present in the Iliamna area.[539,540,541] Although few active sport fish guide businesses were located in Iliamna during the 2000-2010 period, numerous licensed sport fish guides were present in the community throughout the decade. The number of licensed guides varied from 7 to 18 per year. The number of sportfishing licenses sold to Iliamna residents ranged from 54 to 90 per year, while the number of sportfishing licenses sold in the community varied from 364 to 493 per year. The higher number of sportfishing licenses sold in Iliamna than were purchased by local residents provides evidence that sportfishing is one of the primary activities drawing visitors to the Iliamna area.[542]

In a survey conducted by the AFSC in 2011, community leaders reported that both local residents and visitors use private boats for sportfishing, and non-residents also fish out of lodges. They also indicated that sockeye salmon is the primary salmon species targeted by recreational fishers. The Alaska Statewide Harvest Survey,[543] conducted by ADF&G between 2000 and 2010, confirmed this and noted the following species targeted by private anglers in Iliamna-Newhalen: sockeye salmon, rainbow trout, Dolly Varden, and Arctic grayling. No kept/release logbook data were reported for fishing charters out of Iliamna between 2000 and 2010.[544]

Iliamna is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater between 2000 and 2010, reflective of the large amount of sportfishing-related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 between 2000 and 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297. This information about the sportfishing sector in and near Iliamna is displayed in Table 11.

[539] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[540] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[541] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew::Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[542] Lake and Peninsula Borough. 2012. *Iliamna Community Action Plan*. Retrieved October 5, 2012 from http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Iliamna_CommunityPlan_9-17-12a.pdf.
[543] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).
[544] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Iliamna: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Iliamna[2]
2000	0	8	68	427
2001	0	10	75	427
2002	0	10	78	364
2003	0	10	90	417
2004	0	7	72	414
2005	0	14	54	466
2006	0	11	58	412
2007	1	15	68	477
2008	1	18	77	493
2009	0	15	88	410
2010	0	10	76	386

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest is an important part of the Iliamna economy. Several fish species are of primary importance, along with land animals such as moose, caribou, bear, porcupine, and rabbits.[545] During fieldwork for a 2004 survey of subsistence resource use in Iliamna and surrounding communities, researchers recorded current resource concerns in the communities of Newhalen and Iliamna. Local residents' concerns centered on caribou, and particularly the Mulchatna Herd. They expressed concern about overharvest of the herd by nonlocal hunters, and were also concerned about lichen being too thin to support the formerly large herd of caribou near the Mulchatna River. They indicated that lichen was thicker around the Nushagak River, and felt that the herd may not return to the Mulchatna River for 10 years.[546]

In addition to caribou, sockeye salmon are one of the most important subsistence resource in Iliamna, as they return in great numbers to the Newhalen River. In a survey conducted by the AFSC in 2011, community leaders reported that sockeye salmon is the most important aquatic subsistence resource for residents of Iliamna. Other salmon species are also used for subsistence purposes, along with trout and Arctic grayling. In addition, harbor seals are utilized for subsistence purposes by Iliamna residents.[547] Iliamna Lake is home to a freshwater population of harbor seals.[548] Local subsistence hunters harvest a small number of these seals each year.[549,550]

In 2004, the only year between 2000 and 2010 that a subsistence focused household survey was conducted by ADF&G in the community of Iliamna, 100% of households were recorded as participating in salmon subsistence, 23% in halibut subsistence, 31% in marine mammal subsistence, 46% in marine invertebrate subsistence, and 56% in non-salmon fish subsistence (other than halibut). The per capita annual subsistence harvest of land- and sea-based resources in Iliamna was 470 pounds in 2004. Information about per capita subsistence harvest and subsistence participation by household and species is presented in Table 12. In 2004, a Iliamna residents harvested a total of 117 pounds of marine invertebrates and 2,388 pounds of non-salmon fish (Table 13).

Specific species of marine invertebrates harvested by Iliamna residents in 2004 included razor and butter clam, while specific species of non-salmon fish included Dolly Varden, rainbow trout, Arctic grayling, lake trout, pike, burbot, humpback whitefish, round whitefish, and sucker. It is of note that a number of species were reported as used by a greater percentage of households

[545] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[546] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[547] Ibid.
[548] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[549] Ibid.
[550] Withrow, David and Kymberly Yano, Jennifer Burns, Courternay Gomez, and Tatiana Askoak. 2011. *Freshwater Harbor Seals of Lake Iliamna, Alaska. Do They Pup and Over-Winter in the Lake?* Poster presented at the 2011 Alaska Marine Science Symposium. Retrieved January 18, 2012 from ftp://ftp.afsc.noaa.gov/posters/pWithrow04_freshwater-seals_2011.pdf.

than reported direct involvement in harvest, suggesting that additional households received these fish through sharing networks.[551]

Information about subsistence salmon permits is available for 6 years between 2000 and 2008. During this period, the number of subsistence salmon permits issued to Iliamna households varied between 26 and 35. Sockeye salmon was by far the most heavily harvested salmon species in the area. Information about subsistence salmon harvest is presented in Table 13. No information was reported regarding the number of Subsistence Halibut Registration Certificates (SHARC) issued to residents of Iliamna between 2003 and 2010 (Table 14), despite the fact that ADF&G reported a high percentage of households participating in halibut subsistence (Table 12).

Some information about subsistence harvest of marine mammals was reported in several years during the 2000-2010 period. According to data reported by NMFS, beluga whales were harvested in 5 different years, with total harvest ranging from two to five animals. No information was reported by management agencies regarding subsistence harvest of sea otter, walrus, polar bear, Steller sea lion, harbor seal, or spotted seal (Table 15).

Additional Information

Many of Iliamna's earliest residents relocated from the village of "Old Iliamna" in 1935. Old Iliamna was a traditional Athabascan village located approximately 40 miles east of the current site, near the mouth of the Iliamna River at the east end of Iliamna Lake. In 1794, The Russian Lebedev-Lastochkin Company established a fur trading post near Old Iliamna, which was destroyed by Native groups in 1798. The trading post was reestablished by the Russian American Company in the early 1800s. Today, Old Iliamna is a seasonal camp.[552]

[551] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[552] McDowell Group, Buell, Jim, and Stephen R. Braund & Associates. 2009. *Pebble Project Environmental Baseline Document. Chapter 21: Socioeconomics, Bristol Bay Drainages*. Retrieved October 8, 2012 from http://www.arlis.org/docs/vol2/Pebble/2004-2008%20EBD/CH21%20Socioeconomics%20BB.pdf.

Table 12. Subsistence Participation by Household and Species, Iliamna: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	100%	23%	31%	46%	56%	470
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	81%	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Iliamna: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	32	31	3	n/a	n/a	n/a	3,769	n/a	n/a
2001	2	2	n/a	2	n/a	n/a	4	n/a	n/a
2002	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3,325
2004	28	28	10	n/a	n/a	n/a	6,649	117	2,388
2005	29	26	n/a	n/a	n/a	n/a	5,588	n/a	n/a
2006	26	25	n/a	n/a	n/a	n/a	5,500	n/a	n/a
2007	35	34	1	n/a	n/a	n/a	5,388	n/a	n/a
2008	31	31	n/a	n/a	n/a	n/a	7,128	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Iliamna: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

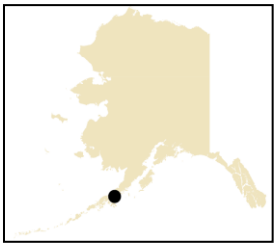
Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Iliamna: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	2	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	2	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	3	n/a	n/a	n/a	n/a	n/a	n/a
2009	3	n/a	n/a	n/a	n/a	n/a	n/a
2010	5	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Ivanof Bay (*EYE-van-off*)



People and Place

Location [553]

The community of Ivanof Bay is situated on the Pacific side of the Alaska Peninsula, nestled inside Ivanof Bay, the water-body after which it was named. It is 500 miles southwest of Anchorage and 250 miles southeast of Dillingham. The community is located in the Lake and Peninsula Borough and the Aleutian Islands Recording District.

Demographic Profile [554]

According to the 2010 Decennial Census, there were 7 inhabitants in Ivanof Bay, making it the 344th largest of 352 total Alaskan communities with populations recorded that year. According to Alaska Department of Labor and Workforce Development (DOLWD) estimates, there were zero residents in Ivanof Bay from 2006 to 2009, down from 22 residents in 2000 (Table 1). The average annual growth rate between 2000 and 2009 was -13.42%, reflecting the 100% decline in population over the period. Ivanof Bay first appeared in U.S. Census records in 1960 with 15 individuals and appears to have reached a population peak of 48 in 1970. In 2000, 4.5% of Ivanof Bay residents identified themselves as White, and the remaining 95.5% identified as American Indian and Alaska Native. By 2010, 100% of residents identified as American Indian and Alaska Native, and no White residents appeared to be present in the community (Figure 1).

The decline in population since 1990 is reflected in housing statistics. In 1990, there were nine occupied housing units in Ivanof Bay, with an average of 3.8 persons per household. In 2000, the number of households remained stable at 9, but the average household size declined to 2.44. By 2010, there were only two occupied housing units in Ivanof Bay, with an average of 3.5 persons per household. Of the 12 total housing units surveyed for the 2010 U.S. Decennial Census, two (16.7%) were owner-occupied, and the remaining 83% were vacant due to seasonal use. From 1990 to 2010, no Ivanof Bay residents were recorded as living in group quarters.

In 2010, the gender makeup of Ivanof Bay's population was 57.1% male and 42.9% female, which was more heavily weighted toward males than the population of the State as a whole (52% male, 48% female). That year, the median age was estimated to be 57.3 years, higher than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, four of the seven residents recorded in Ivanof Bay were between the ages of 50 and 69, and three were between 0 and 29 years of age. Compared to 2000, a higher percentage of Ivanof Bay residents were over the age of 50 in 2010 (Figure 2).

[553] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[554] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

Table 1. Population in Ivanof Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	35	-
2000	22	-
2001	-	13
2002	-	3
2003	-	3
2004	-	5
2005	-	2
2006	-	0
2007	-	0
2008	-	0
2009	-	0
2010	7	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Ivanof Bay: 2000-2010 (U.S. Census).

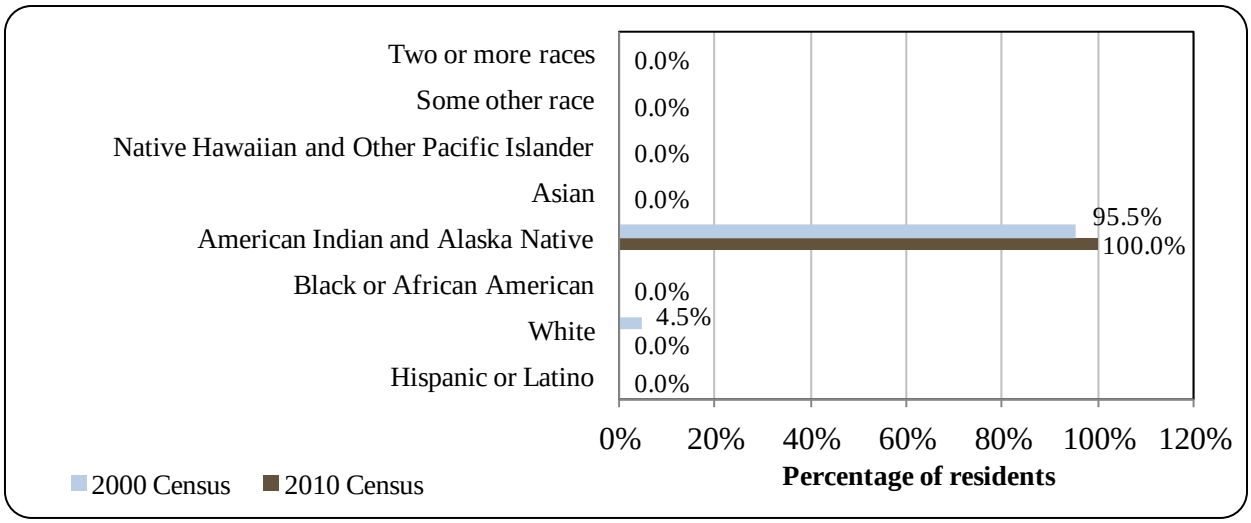
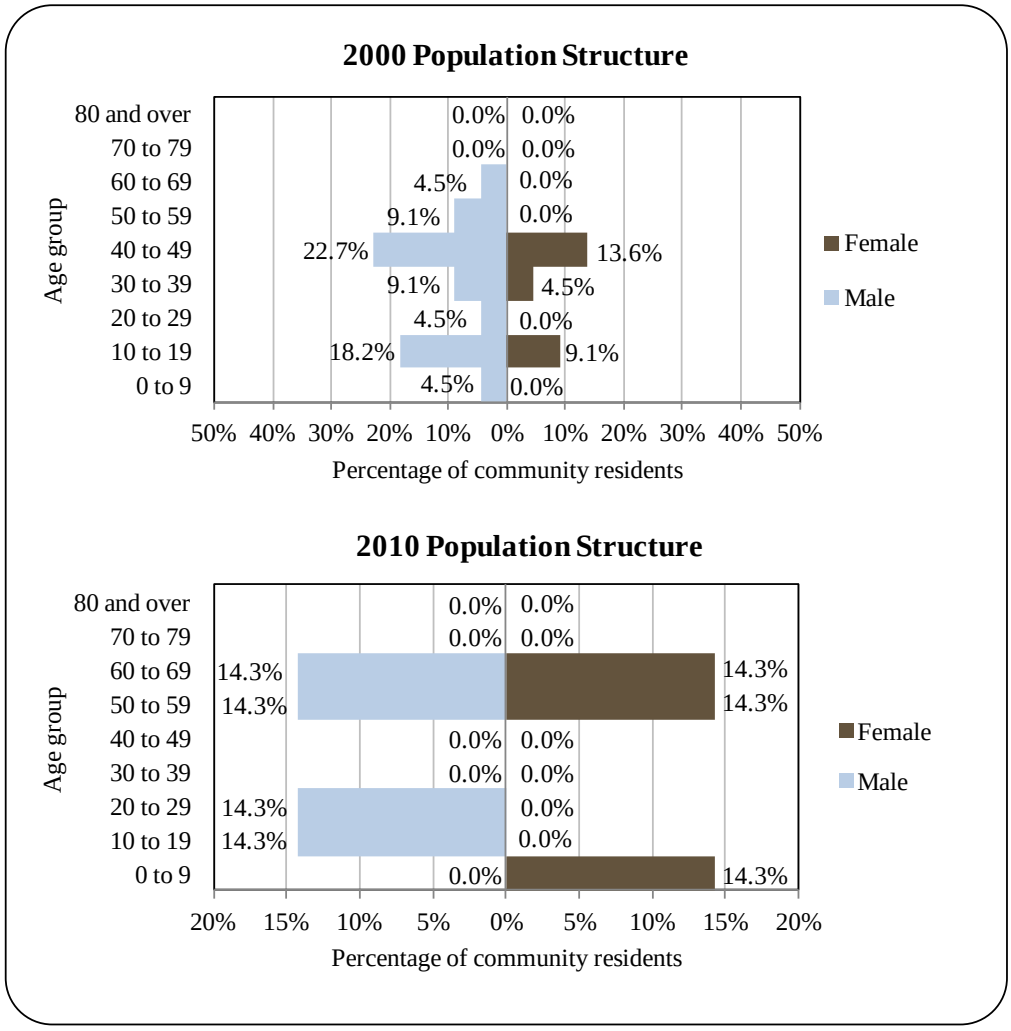


Figure 2. Population Age Structure in Ivanof Bay Based on the 2000 and 2010 U.S. Decennial Census.



The U.S. Census' 2006-2010 American Community Survey (ACS) did not provide any information regarding educational attainment in Ivanof Bay in 2010. Although the U.S. Decennial Census recorded seven individuals as permanent residents in Ivanof Bay in 2010, the ACS estimated a population of zero.[555] Given the small population of Ivanof Bay in 2010, it is useful to look back at education statistics in the year 2000 as well, when the population was slightly higher. In 2000, Census sample data for 'Selected Social Characteristics' estimated that there were 22 individuals aged 25 or older residing in Ivanof Bay in 2000, 5 of which had less than a 9th grade education, 3 which had between a 9th and 12th grade education, 7 holding high school diplomas, and 7 which held high school diplomas and had attended some college without receiving a degree. It is important to note that, as in the case of 2006-2010 ACS data, the small

[555] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

population of permanent residents in Ivanof Bay in the 2000 Decennial Census (22 total residents recorded) was not accurately represented by Census sample data (which estimated 30 total residents, including 22 residents aged 25 and older).

History, Traditional Knowledge, and Culture

Archaeological evidence suggests that Aleut (Unanga and Alutiiq) peoples have occupied the Alaska Peninsula for approximately 9,000 years.[556,557] Subsistence harvest of marine mammals and salmon has historically been of primary importance for the Aleut, and today salmon, Pacific halibut, octopus, shellfish, seal, and sea lion are an important part of the subsistence diet, along with some harvest of land mammals.[558]

Ivanof Bay received its name in 1880, when Lieutenant Dall of the U.S. Coastal and Geodetic Survey mapped the area. Ivanof Bay was briefly a place of refuge for Alutiiq people driven away from their villages by the eruption of Mt. Katmai in 1912. Captain Perry, in command of the ship, "Manning," transported surviving villagers from Douglas and Katmai to Ivanof Bay. Later, they were moved to a new village site to the east that was named Perryville.[559]

The construction of a cannery at Ivanof Bay in 1930 led to a more permanent population there. The cannery operated until the 1950s. Ivanof Bay first showed up in Census records in 1960 with a population of 15.[560] The size of the community grew considerably after six households (approximately 40 individuals) relocated to Ivanof Bay from Perryville in 1965.[561] Reasons for the move included a search of better water sources and hunting grounds, as well as the opportunity to pursue a peaceful lifestyle with religious freedom. All of the families that relocated to Ivanof Bay were members of the Slavic Gospel Mission.[562]

Today, Ivanof Bay remains a traditional Alutiiq community. Residents practice a subsistence lifestyle. Important subsistence resources in Ivanof Bay include salmon, trout, crab, clams, moose, caribou, bear, porcupine, and seals. Many residents leave Ivanof Bay in the summer to live and fish near the community of Chignik to the northeast.[563]

Natural Resources and Environment

Ivanof Bay's maritime climate is characterized by cool summers, warm winters, and rainy weather. Average summer temperatures range from 39 to 60 °F; winter temperatures average 21 to 50 °F. Low clouds, rain squalls, fog, and snow showers frequently limit visibility.

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[556] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

[557] WHPacific. 2010. *Aleutians East Multi-Jurisdictional/Multi-Hazard Mitigation Plan.* Retrieved December 7, 2011 from: http://www.aleutianseast.org/.

[558] Alaska Native Heritage Center. (n.d) *The Unangax & Alutiiq (Supiaq) People - Who We Are*. Retrieved January 4, 2012 from http://www.alaskanative.net/en/main_nav/education/culture_alaska/unangax/.

[559] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[560] Ibid.

[561] Morris, Judith Marek. 1987. *Fish and Wildlife Uses in Six Alaska Peninsula Communities: Egegik, Chignik, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay*. Alaska Dept. of Fish and Game, Technical Paper No. 151. Retrieved October 18, 2012 from http://www.arlis.org/docs/vol1/A/20700109.pdf.

[562] See footnotes 559 and 561.

[563] See footnote 559.

Average annual precipitation is 127 inches, with 58 inches of snow.[564] Local topography is steep, rugged, and mountainous, with headlands that jut into the ocean. Mt. Veniaminof, a 7,075 feet high active volcano located 20 miles inland from Ivanof Bay, provides an impressive backdrop.[565]

Ivanof Bay is located within the boundaries of the Alaska Peninsula National Wildlife Refuge (NWR), which extends as far west as False Pass and east beyond Chignik Bay, and includes a separate unit south of Ugashik. Between the two units of the Alaska Peninsula NWR laies Aniakchak National Monument and Preserve, and, extending along the southern coast of the Peninsula, the Alaska Maritime NWR, which stretches from the Aleutian Islands to the Southeast Alaska Panhandle. All three protected areas were formed under the Alaska National Interest Land Conservation Act (ANILCA) of 1980.[566]

The 3.7 million acre Alaska Peninsula NWR hosts a dramatic landscape of towering mountain peaks, including a number of active volcanoes, rolling tundra, and rugged coastlines. Salmon return to the rivers of the Alaska Peninsula NWR, supporting brown bear populations. Other land mammals include wolverine, the 7,000-animal Northern Alaska Peninsula caribou herd, wolves, and moose. It is of note that no black bears are found in the Alaska Peninsula NWR. Marine mammals living along the coastline include sea otters, harbor seals, sea lions, and migrating whales. The Alaska Peninsula NWR also provides important habitat for migrating birds.[567]

The Alaska Maritime NWR hosts a similar array of species in the Alaska Peninsula region. However, it contains a greater diversity overall, as it stretches from the tip of the Aleutian Islands to the Southeast Alaska Panhandle, and includes St. Matthew Island in the Bering Sea, Hagemeister Island in northern Bristol Bay, and two units bordering the Chukchi Sea. It was created in part to promote a program of scientific research on marine ecosystems. The Alaska Maritime NWR "protects breeding habitat for seabirds, marine mammals, and other wildlife on more than 2,500 islands, spires, rocks, and coastal headlands."[568]

Aniakchak National Monument and Preserve was established to recognize the unique geological significance of a six-mile wide, 2,500 feet deep caldera formed by a massive eruption that took place 3,500 years ago. The explosion caused the loss of approximately 3,000 feet of the upper mountain. The Aniakchak volcano was last active in 1931, when a small explosion pockmarked the caldera floor.[569] This National Monument calls attention to the highly active tectonic zone in which Ivanof Bay is located. The Alaska Peninsula and Aleutian Island chain

[564] Ibid.
[565] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[566] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge*. Retrieved March 23, 2012 from http://www.fws.gov/refuges/profiles/index.cfm?id=74512.
[567] Ibid.
[568] USFWS (n.d.). *Alaska Maritime National Wildlife Refuge.* Retrieved January 4, 2012 from http://alaskamaritime.fws.gov/.
[569] National Park Service. 2011. *Aniakchak National Monument & Preserve*. Retrieved March 23, 2012 from http://www.nps.gov/ania/.

form part of the Pacific "Ring of Fire," one of the most active earthquake areas in the world.[570] Some of these earthquakes are associated with explosive volcanic eruptions.[571]

The region of the Alaska Peninsula in which Ivanof Bay is located has at least 49 identified occurrences of base and precious metal deposits, as well as the Chignik and Herendeen Bay coalfields. Estimates of coal resources range from 200 million to 3 billion short tons. Reserves of oil and natural gas are thought to be present on the outer continental shelf (OCS) in the Bristol Bay Basin along the northern edge of the Aleutian Islands and Alaska Peninsula.[572] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010, Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[573] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, for both exploratory or production purposes, through 2017.[574] The Proposed OCS Oil & Gas Leasing Program for 2012-2017 does not include any lease sales adjacent to National Monument or NWR boundaries along the Alaska Peninsula. The Alaska Peninsula Unit of the Alaska Maritime NWR has been identified as an area of special concern, in which a large oil spill could have negative impacts on coastal habitats and fauna, and could affect subsistence use, commercial or recreational fisheries, and tourism.[575]

A hazard analysis conducted for communities in the Lake and Peninsula Borough determined that the Ivanof Bay area is at high risk of tsunami, volcanic activity, and severe weather, and at medium risk of earthquake and wildfire.[576]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Ivanof Bay as of October, 2012.[577]

Current Economy[578]

Ivanof Bay residents are involved in commercial fisheries, and also depend on subsistence hunting and fishing. Many residents trap during winter months.[579] Although the U.S.

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[570] Sykes, Lynn R., Jerome B. Kisslinger, Leigh House, John N. Davies and Klaus H. Jacob. 1980. "Rupture Zones and Repeat Times of Great Earthquakes along the Alaska-Aleutian Arc, 1784-1980." *Science* 19 December 1980, Vol. 210 no. 4476 pp. 1343-1345.

[571] U.S. Geological Survey. 1998. "Can Another Great Volcanic Eruption Happen in Alaska?" Retrieved December 5, 2011 from http://volcanoes.usgs.gov/about/publications/factsheets.php.

[572] See footnote 565.

[573] Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.

[574] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

[575] Minerals Management Service. November, 2011. *Proposed Outer Continental Shelf Oil and Gas Leasing Program 2012-2017*. Retrieved February 2, 2012 from http://www.boem.gov/uploadedFiles/Proposed_OCS_Oil_Gas_Lease_Program_2012-2017.pdf.

[576] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

[577] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved October 18, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

[578] Unless otherwise noted, all monetary data are reported in nominal values.

[579] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Decennial Census reported seven permanent residents in 2010, including five that were age 16 or older; household surveys conducted for the 2006-2010 ACS did not collect any economic data from this these residents. The civilian labor force was estimated to be zero and no earnings or employment statistics were reported for Ivanof Bay in 2010.[580,581] In addition, no information is available from DOLWD's Alaska Local and Regional Information (ALARI) database maintained regarding employment or earnings in Ivanof Bay in 2010.[582]

Income and employment information was reported for Ivanof Bay in the 2000 Census. In 2000, the per capita income in Ivanof Bay was reported to be $21,983 and the median household income was $91,977. Taking inflation into account by converting the 2000 values to 2010 dollars,[583] the real per capita income in 2000 is shown to have been $28,907, and the real median household income in 2000 was $120,949. Hobart Bay ranked 72nd of 344 Alaskan communities with per capita income data in 2000, and 3rd in median household income, out of 341 Alaskan communities with household income data that year. In 2000, no Ivanof Bay residents were below the poverty level, compared to 9.4% of Alaskan residents overall, and the local unemployment rate was 0%, compared to a statewide rate of 6.1%.

Sample data from the 2000 U.S. Census estimated that there were 16 residents aged 16 and older in Ivanof Bay, all of which were employed in the civilian labor force that year. Of these, 15 were estimated to be employed in public sector, and 1 in the private sector. The industry in which a majority of Ivanof Bay residents were estimated to be employed was public administration (10 residents, 62.5% of the civilian labor force), while 3 residents (18.8%) were employed in educational, health, and social service industries, and 3 (18.8%) were employed in 'other services' (not including public administration) (Figure 3). The top three occupations were service (5 residents employed; 31.3% of the civilian labor force), sales and office work (5 residents; 31.3%), and construction, extraction, and maintenance (5 residents; 31.3%). In addition, one Ivanof Bay resident was estimated to be employed in a management, professional, or other related occupation (Figure 4). As in the case of 2006-2010 ACS estimates,[584] sample data from the 2000 U.S. Census may not provide an entirely accurate representation of communities with very small populations, as reflected by the conflicting numbers between the total population in Hobart Bay (22) and the number of residents estimated to be age 25 or older in the 2000 Census economic sample data (25).

[580] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[581] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[582] Alaska Dept. of Labor and Workforce Dev. (n.d.). *Alaska Local and Regional Information.* Retrieved May 22, 2012 from: http://live.laborstats.alaska.gov/alari/..
[583] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[584] See footnote 580.

Figure 3. Local Employment by Industry in 2000-2010, Ivanof Bay (U.S. Census).

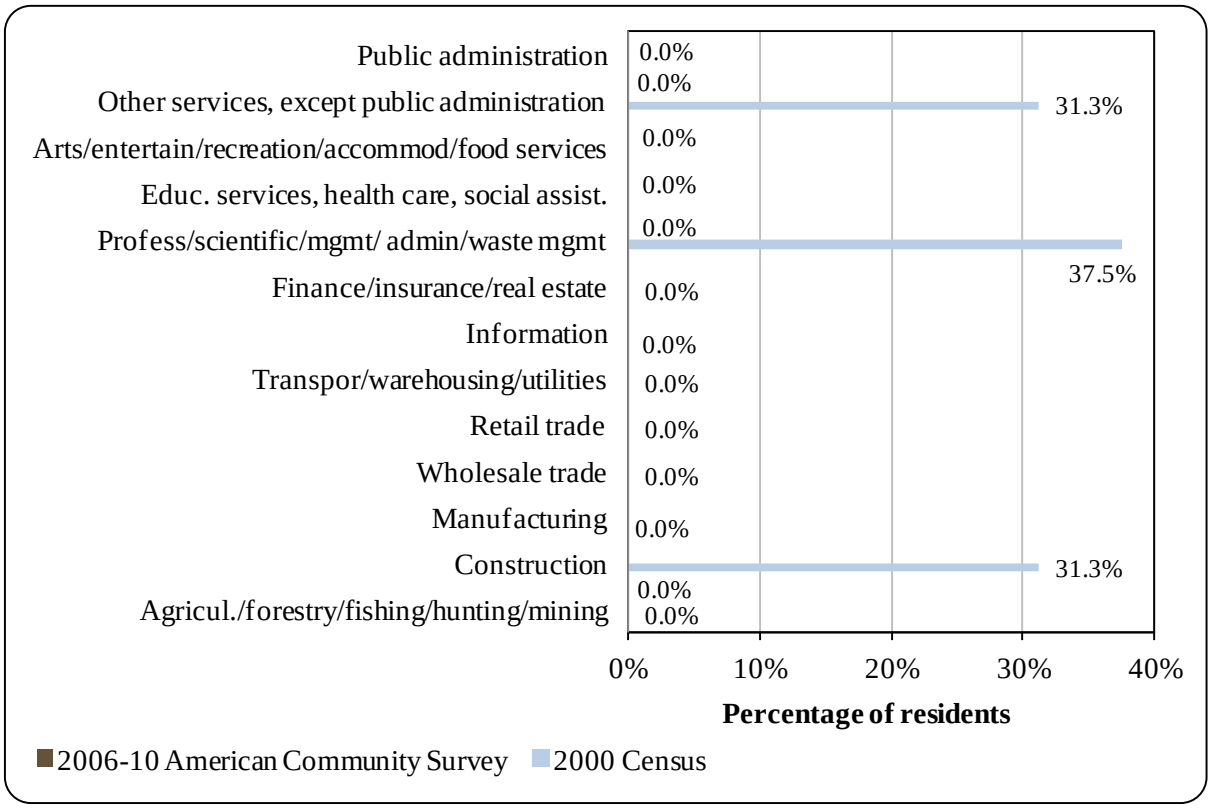
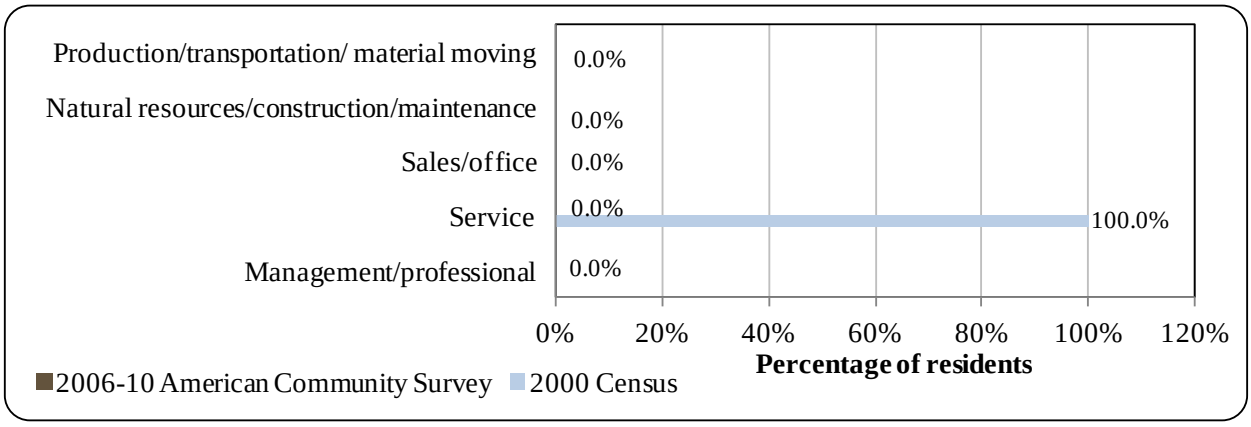


Figure 4. Local Employment by Occupation in 2000-2010, Ivanof Bay (U.S. Census).



Governance

Ivanof Bay is an unincorporated community under the jurisdiction of the Lake and Peninsula Borough. Given that Ivanof Bay does not have a municipal government, no information is reported regarding municipal revenue sources (Table 2). No sales or property tax is collected in Ivanof Bay, but the Borough does administer a 2% fish tax, a 6% Bed Tax, a $3 per person/day guide tax, and a $1 per person/day lodge guide tax.[585]

Table 2. Selected Municipal, State or Federal Revenue Streams for the Community of Ivanof Bay from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Ivanof Bay was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity recognized by the Bureau of Indian Affairs (BIA) is the Ivanof Bay Village.[586] The Village Council is responsible for providing basic services in the community, and is likely to continue to be the local provider of services unless the community incorporates as a city in the future.[587] The Native village

[585] Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved November 16, 2011 from http://www.dced.state.ak.us/dca/commdb/CF_COMDB.htm.
[586] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[587] LaRoche and Associates. March 2011. *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

corporation is Bay View, Inc., which manages 81,502 acres of land. The regional Native corporation to which Ivanof Bay belongs is the Bristol Bay Native Corporation (BBNC).[588]

Ivanof Bay is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the tribes and the Native people of Bristol Bay.[589] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[590]

The closest regional office of the Alaska Department of Fish and Game (ADF&G) is located in Sand Point. Kodiak has the nearest National Marine Fisheries Service (NMFS) office, including a NOAA Fisheries Sustainable Fisheries Division and Enforcement Office, as well as the nearest office of the Alaska Department of Natural Resources (DNR). The nearest Alaska Department of Commerce, Community, and Economic Development (DCCED) office is in Dillingham, and the closest offices of the U.S. Bureau of Citizenship and Immigration Services are located in Unalaska and Kodiak. However, the Anchorage offices of these agencies may be more accessible to people from the Alaska Peninsula region.

Infrastructure

Connectivity and Transportation

Ivanof Bay is accessible via air or water, and there is no overland connection. A private 1,500 gravel airstrip, owned by Bay View, Inc., is present in the community, and float planes can land on Ivanof Bay.[591] There are no scheduled commercial flights to Ivanof Bay; the community is only accessible by charter flights.[592] The nearest port with barge service is Chignik Bay. No public dock or harbor is available in Ivanof Bay. Local residents use ATVs and skiffs as primary modes of transportation.[593]

Ivanof Bay and other communities on the Alaska Peninsula are currently very isolated. The Southwest Alaska Transportation Plan published in November 2002 prioritized development of a transportation corridor along the Alaska Peninsula. The desired corridor would link the communities of Egegik, Pilot Point, Ugashik, and Port Heiden via an overland route to Chignik on the south coast, from which fuel and supplies could be disbursed to these communities. The corridor would also extend west from Chignik to the communities of Perryville and Ivanof Bay, and east to Naknek.[594]

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[588] See footnote 586.
[589] Bristol Bay Native Association. (n.d.). *Homepage*. Retrieved November 16, 2011 from www.bbna.com.
[590] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[591] See footnote 586.
[592] Lake and Peninsula Borough. (n.d.). *Borough Communities*. Retrieved October 17, 2012 from http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC=%7BAFCFD48C-BDE5-47FF-BD61-FB50625F46CE%7D.
[593] See footnote 586.
[594] Parsons Brinkerhoff. 2002. *Southwest Alaska Transportation Plan Final Edition*. Prepared for the Alaska Department of Transportation and Public Facilities. Retrieved April 4, 2012 from http://www.dot.state.ak.us/stwdplng/areaplans/pub/SWplanfinalnov02.pdf.

Facilities

Water in Ivanof Bay is sourced from a community well and a nearby stream and is stored in a 20,000-gallon tank. No water treatment system is in place. The school building has its own well. All other facilities and homes are connected to the Village Council-operated piped water system. No piped sewage system is available, and residents use individual septic tanks, outhouses, or "honeybuckets". Sewage is hauled by individuals to a sludge disposal site. A landfill is operated by the Village Council, but no refuse collection services are provided; individuals haul their own garbage to the landfill. The Ivanof Bay Village Council operates the electric utility. Electricity is generated using a diesel powerhouse. There is no local police service in Ivanof Bay.[595] The nearest state trooper posts are located in King Salmon and Kodiak.[596] Local fire and rescue services are provided by the Ivanof Bay Fire House and the Ivanof Bay First Responders. Other community facilities include the Council Building. Telephone service is available in Ivanof Bay, and internet is available at the school building only. No cable service providers offer service locally.[597]

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no public dock or harbor facilities are present in Ivanof Bay.[598]

Medical Services

Medical services are provided in Ivanof Bay at the Ivanof Bay Clinic. The clinic is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. It is a Community Health Aid Program site. Emergency Services have coastal, floatplane, and air access. Local emergency service is provided by a health aide, and alternative health care is available from the Ivanof Bay First Responders.[599]

Educational Opportunities

There are currently no schools in Ivanof Bay, which is located in the Lake and Peninsula Borough School District.[600] The Ivanof Bay School last operated during the 1999-2000 school year. It was closed in 2000 due to insufficient student enrollment numbers.[601]

[595] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[596] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[597] See footnote 595.
[598] Ibid.
[599] Ibid.
[600] Ibid.
[601] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest has been important to residents of the Ivanof Bay area for thousands of years. Villages and fish camps were often located at mouths of streams for access to both fresh water and abundant salmon runs.[602] During Alaska's Russian period, salmon remained a subsistence resource, but soon after the purchase of Alaska by the United States in 1867, commercial exploitation of salmon was initiated.[603] Herring was one of the earliest commercial fisheries, along with salmon, during the period when the product was salted for storing and shipment to be used for human consumption. Commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.[604] Halibut and groundfish fisheries began to develop in the Alaska Peninsula region by the 1920s with the development of diesel engines, which allowed fishing vessels to undertake longer trips.[605,606]

Salmon harvest at Chignik Lagoon is a mainstay of the Alaska Peninsula economy, and Ivanof Bay fishermen and their families often relocate to Chignik during the salmon season.[607,608] The Chignik salmon harvesting area extends along the south side of the Alaska Peninsula between Kilokak Rocks and Kupreanof Point. In the early years of this salmon fishery, pile traps were the primary harvest method, and historical harvest activity was focused in Chignik Lagoon and Chignik Bay. Fish traps were the primary harvest method until 1954. Starting in 1955, only purse seine gear has been permitted in the Chignik salmon fishery. Sockeye salmon makes up the greatest percentage of salmon catch in the Chignik area. Between 1980 and 2004, Chignik salmon harvests made up only 1.81% of total commercial salmon harvest in Alaska. However, based on average market value in 2004, as determined from permit sales, the most valuable limited entry permit types in Alaska were purse seine permits in the Chignik area.[609] As of 2010, there were 91 total limited entry permits in the Chignik salmon fishery, a reduction from 99 in the year 2000.[610]

In the early 2000s, a group of permit holders in the Chignik salmon fishery proposed a new fisheries management strategy, and in 2002 the Alaska Board of Fisheries passed

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[602] Alaska Native Heritage Center. (n.d) *The Unangax & Alutiiq (Supiaq) People - Who We Are*. Retrieved January 4, 2012 from http://www.alaskanative.net/en/main_nav/education/culture_alaska/unangax/.
[603] Clark, McGregor, Mecum, Krasnowski, and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[604] Woodby, D., D. Carlile, S. Siddeek, F. Funk, J.H. Clark, and L. Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[605] See footnote 603.
[606] Thompson, W.F. and N.L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from http://ww.iphc.int/publications/scirep/Report0005.pdf.
[607] See footnote 595.
[608] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[609] See footnote 603.
[610] Alaska Dept. of Fish and Game (n.d.). *CFEC Public Lookup Database*. Retrieved March 22, 2012 from http://www.cfec.state.ak.us/plook/.

regulations allowing for a portion of salmon harvest to be allocated to a cooperative. The Chignik Salmon Cooperative (Co-op) formed that year. Of approximately 100 limited entry permit holders in the Chignik salmon fishery in 2002, more than three-quarters joined the Co-op between 2002 and 2005. Approximately 20 of the Co-op member fishermen were hired to fish the Co-op's allocation annually, and all Co-op members were paid equal shares of the Co-op's profits. The Co-op was opposed by a minority of permit holders. It was eventually ended in 2006, after the Alaska Supreme Court ruled that it violated a state law requiring permit holders to operate their own vessels.[611]

In addition to salmon, in some years during the 2000-2010 period, Ivanof Bay residents were active in commercial fisheries for miscellaneous saltwater finfish, halibut, and herring. Groundfish fisheries target a variety of species, including pollock, Pacific cod, sablefish, Atka mackerel, lingcod, and various rockfish and flatfish species. Herring are harvested for bait in the vicinity of Unalaska when Togiak-spawning herring are in residence during the summer feeding period. On occasion, a herring sac roe fishery occurs near Port Moller when aerial surveys determine that a sufficient quantity of herring is present, and if processing capacity is available.[612] In addition, commercial herring sac roe harvests occur in Kujulik Bay, Castle Bay, and Chignik Bay (east of Ivanof Bay), and herring sac roe (food/bait) harvest occurs in Stepovak Bay (west of Ivanof Bay).[613]

Ivanof Bay is located in Federal Statistical and Reporting Area 620, Pacific Halibut Fishery Regulatory Area 3B, and the Western Gulf of Alaska Sablefish Regulatory Area. The community is eligible for the Community Quota Entity (CQE) program, but as of October, 2012 had not created a CQE non-profit organization.[614] Ivanof Bay is not eligible to participate in the Community Development Quota program.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Ivanof Bay. However, the 2010 Intent to Operate list shows that active processing facilities are located in nearby communities of Chignik and Sand Point. More information about these processing facilities can be found in the profiles for each of these communities.

Fisheries-Related Revenue

No information was reported regarding fisheries-related revenue sources in Ivanof Bay between 2000 and 2010 (Table 3).

[611] Knapp, Gunnar. 2008. "The Chignik Salmon Cooperative." In *Case studies in fisheries self-governance*. Eds. R. Townsend, R. Shotton, and H. Uchida. FAO Fisheries Technical Paper 504.
[612] See footnote 604.
[613] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[614] NOAA Fisheries. 2012. *Name and Contact Information of Community Quota Entities*. Retrieved October 18, 2012 from http://alaskafisheries.noaa.gov/ram/daily/cqenamescontacts.pdf.

Commercial Fishing

In some years between 2000 and 2010, Ivanof Bay residents participated in commercial fisheries as permit and quota share account holders, crew members, and vessel owners. In 2000, two Ivanof Bay residents held a total of six Commercial Fisheries Entry Commission (CFEC) permits, while five CFEC permits were held by two permit holds in 2001, and three were held by one permit holder in 2005 (Table 4). Commercial crew licenses were held by several residents from 2000-2002, and a small number of fishing vessels were primarily owned by Ivanof Bay residents in 2000, 2001, and 2005. At least one vessel was listed as homeported in Ivanof Bay in all years during the 2000-2010 period. No fish buyers or shore-side processors were present in the community, and no vessels delivered landings during this period (Table 5).

One halibut CFEC permits was held in 2000, 2001, and 2005. In the first 2 years, the permit was associated with longline gear using vessels 60 feet in length or over, while the 2005 permit was for use on a vessel under 60 feet in length. All salmon permits held in Ivanof Bay during the 2000-2010 period were for the Chignik purse seine fishery, and all miscellaneous finfish permits were associated with mechanical jig gear and were valid for statewide use. The herring permit held in 2000 was for the Bristol Bay roe herring fishery. Between 2000 and 2010, no Ivanof Bay residents held federal License Limitation Permit (LLP) or Federal Fisheries Permits (FFP) Information about LLPs and FFPs held by Perryville residents is also presented in Table 4.

In 2000, one quota share account was held by an Ivanof Bay resident in the federal halibut catch share fishery. That year, a total of 14,638 halibut quota shares were held, and the annual halibut individual fishing quota (IFQ) allotment was 4,081 pounds. No residents held quota share accounts in the federal sablefish or crab catch share fisheries between 2000 and 2010. Further information about federal catch share participation is presented in Tables 6 through 8.

No landings or ex-vessel revenue were recorded in Ivanof Bay (Table 9), given the lack of fish buyers in the community (Table 5). Information about landings and ex-vessel revenue generated by vessels owned by Ivanof Bay residents is considered confidential due to the small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Ivanof Bay: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Ivanof Bay: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries	Total permits	0	0	0	0	0	0	0	0	0	0	0
Permits [1]	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	1	0	0	0	1	0	0	0	0	0
	Fished permits	1	0	0	0	0	1	0	0	0	0	0
	% of permits fished	100%	0%	-	-	-	100%	-	-	-	-	-
	Total permit holders	1	1	0	0	0	1	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	-	-	-	-	-	-	-
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Ivanof Bay: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished											
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	2	2	0	0	0	1	0	0	0	0	0
	Fished permits	1	1	0	0	0	0	0	0	0	0	0
	% of permits fished	50%	50%	-	-	-	%	-	-	-	-	-
	Total permit holders	2	2	0	0	0	1	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	2	2	0	0	0	1	0	0	0	0	0
	Fished permits	2	2	0	0	0	1	0	0	0	0	0
	% of permits fished	100%	100%	-	-	-	100%	-	-	-	-	-
	Total permit holders	2	2	0	0	0	1	0	0	0	0	0
Total CFEC Permits[2]	*Permits*	*6*	*5*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*0*
	Fished permits	*4*	*3*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*0*
	% of permits fished	*67%*	*60%*	-	-	-	*67%*	-	-	-	-	-
	Permit holders	*2*	*2*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Ivanof Bay: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in Ivanof Bay[2]	Total Net Pounds Landed in Ivanof Bay[2,5]	Total Ex-Vessel Value of Landings in Ivanof Bay[2,5]
2000	9	0	0	4	3	0	0	$0
2001	3	0	0	4	3	0	0	$0
2002	2	0	0	0	3	0	0	$0
2003	0	0	0	0	3	0	0	$0
2004	0	0	0	0	3	0	0	$0
2005	0	0	0	2	2	0	0	$0
2006	0	0	0	0	1	0	0	$0
2007	0	0	0	0	2	0	0	$0
2008	0	0	0	0	1	0	0	$0
2009	0	0	0	0	1	0	0	$0
2010	0	0	0	0	1	0	0	$0

Note: Cells showing – indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Ivanof Bay: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	1	14,638	4,081
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Ivanof Bay: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Ivanof Bay: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Ivanof Bay: 2000-2010.

***Total Net Pounds*[1]**											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ex-vessel Value (Nominal U.S. dollars)											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Ivanof Bay Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	0	0	0	-	0	0	0	0	0
Finfish	-	-	0	0	0	-	0	0	0	0	0
Halibut	-	-	0	0	0	-	0	0	0	0	0
Herring	-	-	0	0	0	-	0	0	0	0	0
Other Groundfish	-	-	0	0	0	-	0	0	0	0	0
Other Shellfish	-	-	0	0	0	-	0	0	0	0	0
Pacific Cod	-	-	0	0	0	-	0	0	0	0	0
Pollock	-	-	0	0	0	-	0	0	0	0	0
Sablefish	-	-	0	0	0	-	0	0	0	0	0
Salmon	-	-	0	0	0	-	0	0	0	0	0
Total[2]	-	-	*0*	*0*	*0*	-	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (Nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Finfish	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Halibut	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Herring	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Other Groundfish	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Other Shellfish	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Pacific Cod	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Pollock	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Sablefish	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Salmon	-	-	$0	$0	$0	-	$0	$0	$0	$0	$0
Total[2]	-	-	*$0*	*$0*	*$0*	-	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Very little sportfishing activity took place in Ivanof Bay between 2000 and 2010. No active sportfish guide businesses or licensed sport fish guides were present in the community, and no sportfishing licenses were sold locally. In some years, a small number of Ivanof Bay residents purchased sportfishing licenses in another community. No licenses were issued in 2010 (see Table 11). The Alaska Statewide Harvest Survey,[615] conducted by ADF&G between 2000 and 2010, did not provide information about species targeted by private anglers in Ivanof Bay. However, the survey did not sport harvest of Chinook salmon in freshwater and pink salmon in saltwater in nearby Perryville. Given the lack of sportfishing businesses, no kept/released log book data were reported for fishing charters out of Ivanof Bay between 2000 and 2010.[616]

Ivanof Bay is located within Alaska Sport Fishing Survey Areas R – Alaska Peninsula and Aleutian Islands. This area includes all Alaskan waters, plus drainages, between Cape Douglas and the community of Naknek. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Ivanof Bay is also displayed in Table 11.

Table 11. Sport Fishing Trends, Ivanof Bay: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Ivanof Bay[2]
2000	0	0	3	0
2001	0	0	2	0
2002	0	0	1	0
2003	0	0	0	0
2004	0	0	0	0
2005	0	0	0	0
2006	0	0	0	0
2007	0	0	0	0
2008	0	0	1	0
2009	0	0	0	0
2010	0	0	0	0

[615] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[616] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11, cont'd. Sport Fishing Trends, Ivanof Bay: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest remains fundamental to the Ivanof Bay economy and way of life. Residents of Ivanof Bay and other communities on the Pacific side of the Alaska Peninsula rely on subsistence food sources such as salmon, trout, marine fish, crab, clams, waterfowl, seal, moose, caribou, bear, porcupine, and berries.[617,618]

No information is available from ADF&G regarding per capita subsistence harvest or the percentage of Ivanof Bay households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, a survey of 1989 subsistence activity conducted by ADF&G provides information about harvest of marine invertebrates, non-salmon fish (not including halibut), and marine mammals at the household level. That year, the following species of marine invertebrates were harvested: cockles (100% of households reported harvest), sea urchin (100%), black chitons (86%), Dungeness crab (71%), pinkneck clams (71%), red chitons (71%), butter clams (57%), king crab (43%), razor clams (43%), octopus (29%), mussels (14%),

[617] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

[618] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

and Pacific littleneck clams (14%). Species of non-salmon fish (not including halibut) that were reported as harvested by Ivanof Bay households in 1989 included Dolly Varden (harvest reported by 71% of households), Pacific cod (57%), eulachon (hooligan candlefish) (43%), rainbow trout (29%), grayling (14%), herring (14%), and flounder (14%). Also in 1989, 43% of households were estimated to harvest harbor seal and 14% harvested Steller sea lion. In many cases, the number of households that reported using these subsistence resources was higher than the number of households involved in harvest, indicating the importance of sharing within the community.[619]

Some data are available regarding subsistence harvest of salmon and marine mammals by Ivanof Bay residents during the 2000-2010 period. In 2000, subsistence salmon permits were issued to 15 Ivanof Bay households. This number declined to five in 2001 and one in 2002, and very little information was reported regarding subsistence permits later in the decade. Coho was the most heavily harvested salmon species in these years, followed by sockeye, pink, and chum salmon. This information about subsistence harvest of salmon is presented in Table 13. With respect to subsistence harvest of marine mammals, Ivanof Bay harvest appears to have focused primarily on harbor seal and Steller sea lion. According to data reported in ADF&G's CSIS, between three and seven harbor seal were harvested each year (for those years in which data were available), and one Steller sea lion was harvested each year in 2001 and 2002. No information was reported by management agencies regarding harvest of beluga whale, sea otter, walrus, or spotted seal between 2000 and 2010. Information about subsistence harvest of marine mammals by Ivanof Bay residents is presented in Table 15.

No information was reported about total harvest of marine invertebrates or non-salmon fish between 2000 and 2010 (Table 13), and no data were available regarding participation in the Subsistence Halibut Registration Certificates program (Table 14).

[619] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Ivanof Bay: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in arine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Ivanof Bay: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	15	12	3	181	583	288	439	n/a	n/a
2001	5	5	2	41	295	35	105	n/a	n/a
2002	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	1	1	n/a	n/a	35	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Ivanof Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Ivanof Bay: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	3	n/a
2001	n/a	n/a	n/a	n/a	1	7	n/a
2002	n/a	n/a	n/a	n/a	1	7	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	3	n/a
2007	n/a	n/a	n/a	n/a	n/a	3	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	3	n/a
2010	n/a	n/a	n/a	n/a	1	7	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

King Salmon

People and Place

Location

King Salmon is a Census Designated Place (CDP) located on the north bank of the Naknek River, about 15 miles upriver from Naknek. It is 284 miles southwest of Anchorage. King Salmon CDP encompasses 168 square miles of land and 1.5 square miles of water. King Salmon is located in the Bristol Bay Borough, the Bristol Bay Borough Census Area, and the Kvichak Recording District.[620] King Salmon is also the seat of the Lake and Peninsula Borough, which provides services for communities from as far northeast as the Iliamna Lake region to as far southwest as Perryville and Ivanof Bay on the Alaska Peninsula.[621]

Demographic Profile [622]

In 2010, there were 374 residents in King Salmon, making it the 143rd largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population decreased by 46.3%. Between 2000 and 2009, there was an average annual growth rate of -0.53%, which was significantly under the statewide average of 0.75%.

In 2010, the majority of King Salmon residents identified themselves as White (61.2%), along with 27.8% identifying as American Indian and Alaska Native, 8.8% identifying with two or more races, 1.3% identified as Asian, and less than 1% identified either as Native Hawaiian and Other Pacific Islander or of 'some other race'. None of King Salmon's population identified as Black or African American that year. In addition, 2.7% of King Salmon residents identified themselves as Hispanic or Latino in 2010. The most substantial shift from 2000 to 2010 appears to have been an increase in the percentage of the population identifying with two or more races, and a commensurate decrease in the percentage identifying as either White or as American Indian and Alaska Native. In addition, the Black or African American population that was present in 2000 appears not to be represented in 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The number of households in King Salmon increased from 158 in 1990 to 196 in 2000, and then fell back to 157 occupied housing units by 2010. The average household size decreased from 2.7 persons per household in 1990 to 2.26 in 2000 and 2.28 in 2010. Of the 336 total housing units surveyed in 2010, 61 (18.2%) were owner-occupied households, 96 (28.6%) were renter-occupied, and179 housing units (53.3%) were vacant or used only seasonally. In 1990,

[620] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[621] Lake and Peninsula Borough website. (n.d.). *About the Lake & Peninsula Borough*. Retrieved September 19, 2012 from http://www.lakeandpen.com/.
[622] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

267 King Salmon residents lived in group quarters. This number fell to 0 by 2000, and then rose to 16 in 2010.

In 2010, the gender makeup in King Salmon was 56.1% male and 43.9% female, more heavily weighted toward males than the population of the state as a whole, which was 52.0% male and 48.0% female. The median age in 2010 was estimated to be 39.1 years, slightly higher than both the U.S. national average of 36.8 years and the median age for Alaska of 33.8 years.

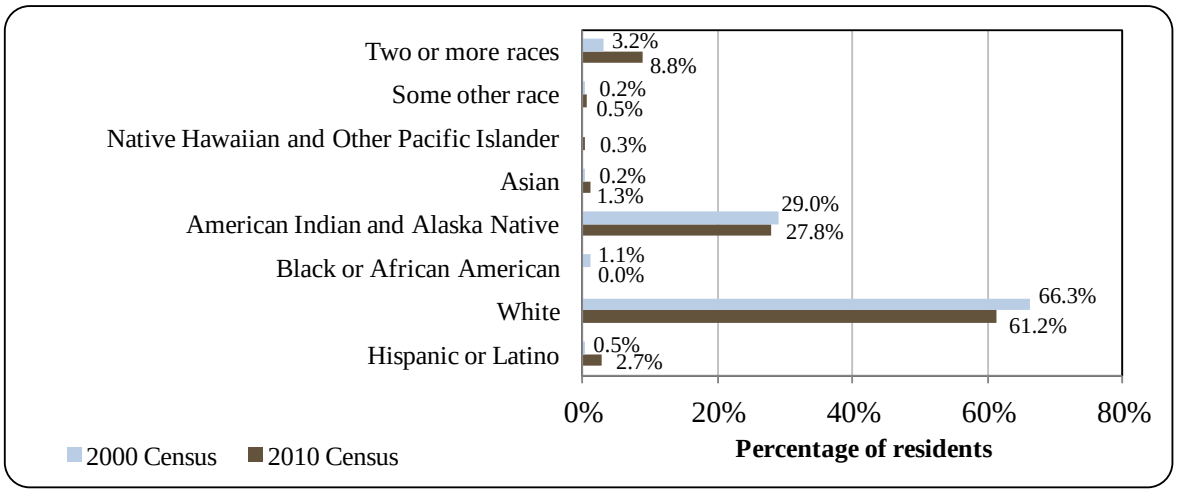
Table 1. Population in King Salmon from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	696	-
2000	442	-
2001	-	388
2002	-	397
2003	-	385
2004	-	396
2005	-	518
2006	-	400
2007	-	424
2008	-	410
2009	-	383
2010	374	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

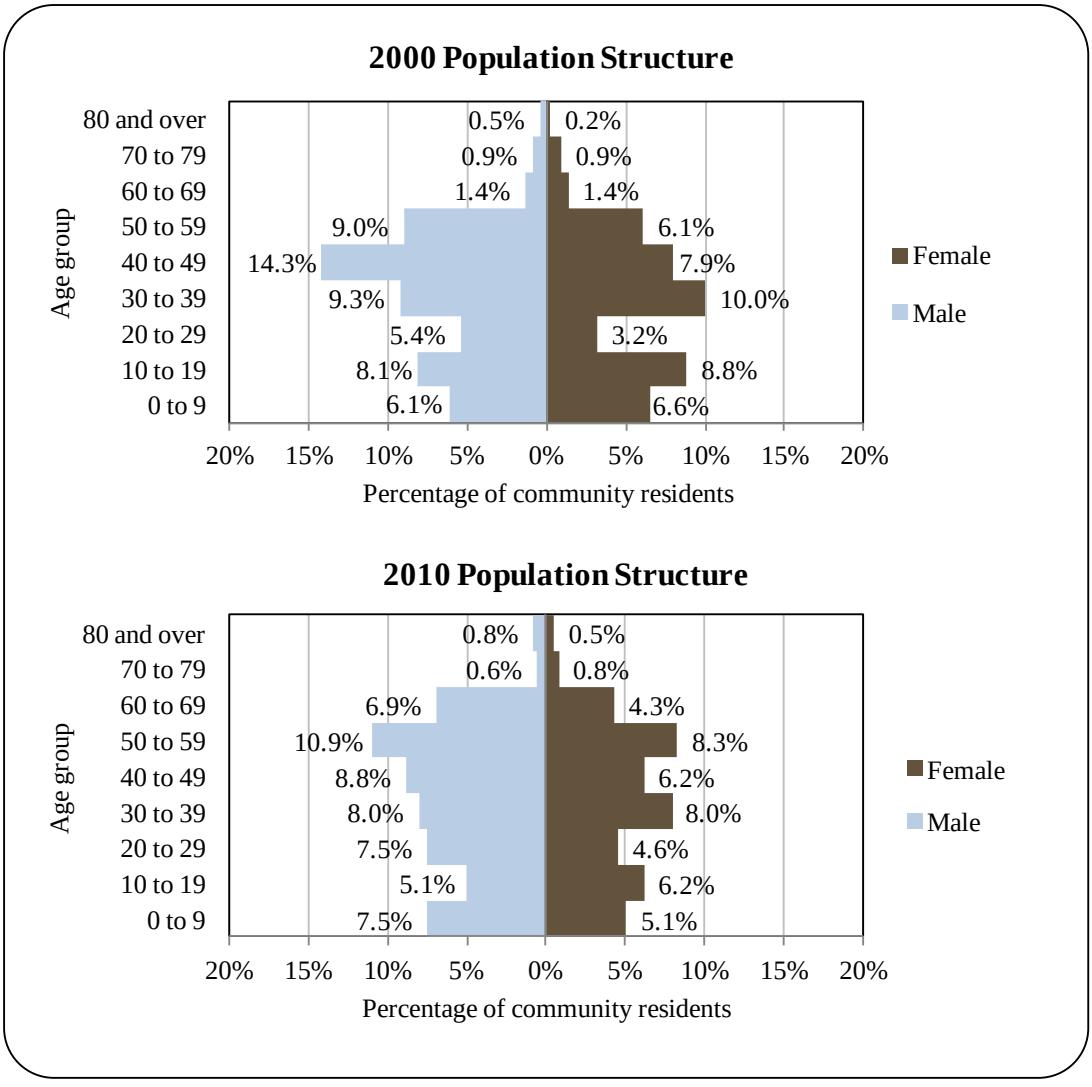
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, King Salmon: 2000-2010 (U.S. Census).



Compared with 2000, the population structure in 2010 was somewhat more constricted in the younger and older age groups and expanding the middle age groups. In that year, 23.9% of residents were under the age of 20, compared to 29.6% in 2000 and 50.2% were between the ages of 30 and 59, compared to 56.6% in 2000. At the same time, 13.9% of the population of King Salmon was over the age of 59, compared to 5.3% in 2000, while 12.1% were between the ages of 20 and 29, compared to 8.6% in 2000. Age distribution by gender cohort was slightly more even in 2010 than in 2000 (Figure 2). In that year, the greatest absolute gender difference occurred within the 20 to 29 age range (7.5% male, 5.1% female), closely followed by the 60 to 69 (6.9% male, 4.3% female) and 0 to 9 (7.5% male, 8.1% female) ranges. Females still continue to make up the smallest segment of the population.

Figure 2. Population Age Structure in King Salmon Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[623] estimated that 90.7% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 5.3% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 4.1% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 31.3% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 13.4% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 2.8% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

As early as 8,500 years ago, there is evidence of seasonal camps along the Naknek and Kvichak Rivers by people of the Paleo-Arctic tradition. These people likely arrived following herds of caribou. By 6,000 years ago, ancestors of the Kodiak and Aleutian traditions made seasonal use of the King Salmon area, probably utilizing both caribou and marine resources. By 1,800 B.C., ancestors of historic Yup'ik populations settled in the area. They were fishermen and hunters of caribou and marine mammals. Evidence of permanent settlements and river salmon fishing in the King Salmon area starts around 400 B.C. [624,625,626] By the time of European contact in the late 1700s, Yup'ik and Aleut residents of area villages used rivers to interact with each other and for transport in pursuit of seasonal subsistence resources.[627]

Many members of today's King Salmon Tribe are descended from inhabitants of "Old Savonoski", an Aleut village that was located at the eastern end of Naknek Lake, within the modern boundaries of Katmai National Park and Preserve. Old Savonoski was abandoned during the 1912 eruptions of Mt. Katmai and Mt. Novarupta. Villagers relocated to a site at the confluence of King Salmon Creek and the Naknek River, six miles east of today's South Naknek, which they called "New Savonoski". Today, many descendents of Old Savonoski live in the present-day villages of King Salmon and South Naknek.[628]

Soon after the purchase of Alaska by the United States, a commercial fishing industry began to develop in the region, and many canneries developed in Naknek and South Naknek, two communities located 15 miles down-river from King Salmon.[629] Native Alaskan inhabitants of

[623] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[624] Morris, J. 1985. "The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska." *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[625] Feldman, K.D. Ethnohistory and the IRA Tribal Status Application of King Salmon Natives, Alaska. *Alaska Journal of Anthropology*. 1(1):100-117. Retrieved October 18, 2013 from http://www.uaa.alaska.edu/anthropology/people/upload/King_Salmon.pdf.
[626] King Salmon Tribal Council. 2006. *King Salmon Community Plan*. Retrieved September 19, 2012 from www.commerce.state.ak.us/dca/plans/KingSalmon-GCP-2006.pdf.
[627] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[628] See footnotes 625 and 626.
[629] Ibid.

the area were joined by new residents who arrived to assist in the construction of canneries.[630] In the 1930s, an air navigation silo was built at King Salmon, and an Air Force Station was constructed in 1942. In 1949, the U.S. Army Corps of Engineers constructed a road between King Salmon and Naknek, and the King Salmon post office was established.[631,632] The Air Force Base provided many local jobs through much of the 1900s, serving as the engine for economic expansion. King Salmon also grew as a center for government offices, transportation, and the Bristol Bay salmon and recreational visitor industries. In 1993, the Air Force station went into a caretaker status. The Air Force is still one of the major tenants at the King Salmon airport. Other entities that utilize buildings at the old base includ the Bristol Bay Borough, State of Alaska, the Bristol Bay Housing Authority (BBHA), and the Southwest Alaska Vocational and Education Center (SAVEC).[633,634]

Today, King Salmon is a diverse community, with a majority of White residents, a mix of Aleut, Indian, and Eskimo people, as well as individuals of other racial and ethnic backgrounds. Although King Salmon's Native population was not included as a Native village under the 1971 Alaska Native Claims Settlement Act (ANCSA), the King Salmon Tribe became a federally recognized entity on December 29, 2000.[635,636]

Natural Resources and Environment

The climate in King Salmon is mainly maritime, characterized by cool, humid, and windy weather. Average summer temperatures range from 42 to 63 °F, and average winter temperatures range from 29 to 44 °F. Extreme temperatures have been recorded from -46 to 88 °F. Total precipitation averages 20 inches annually, with 45 inches of snowfall. Fog is common during summer months.[637]

King Salmon is located on the Alaska Peninsula, close to the Becharof National Wildlife Refuge (NWR) to the south, Katmai National Park and Preserve to the east, and the Alagnak National Wild and Scenic River to the northeast. The Becharof NWR covers an area of 1,157,000 acres and contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800 foot volcano. Wildlife present in the NWR includes brown bears, caribou, moose, and over 200 species of migratory and resident birds. It also provides an important nursery for Pacific salmon.[638] Katmai National Park and Preserve is a 7,383 square mile wilderness area known for its high concentration of brown bears, the volcanoes Mt. Katmai and Mt. Novarupta, and the Valley of 10,000 Smokes. The National Park and Preserve is also a popular sportfishing destination. A large number of visitors pass through King Salmon on their way to the National

[630] See footnote 624.
[631] Ibid.
[632] See footnote 627.
[633] Ibid.
[634] Information about entities using buildings at the old base provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[635] Ibid.
[636] See footnote 625.
[637] Ibid.
[638] U.S. Fish and Wildlife Service. 2011. *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.

Park and Preserve, as it is one of the primary departure points for charter flights.[639,640] The Alagnak River, also known as the 'Branch River,' is a 79-mile long river with headwaters in Katmai National Park and Preserve that joins the Kvichak River at Levelock. Sixty-seven miles of the Alagnak River are designated as wild.[641]

The Kvichak River system, including the Alagnak River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area, providing resources for commercial, subsistence and recreational fisheries. The Alagnak River attracts a large number of anglers each year for salmon, Arctic grayling, Arctic char, and lake trout fisheries. The Alagnak River's rainbow trout fishery has a world-class reputation.[642]

Significant mineral resources are present in the Bristol Bay region. Among the many mining claims that have been staked in the area is the Pebble copper-gold-molybdenum deposit. The Pebble Mine site is located northwest of King Salmon near Nondalton, at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[643] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion pounds of copper, 107.3 ounces of gold, and 5.6 billion pounds of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[644] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[645] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be toxic to fish.[646] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[647]

The immediate King Salmon area has no known mineral occurrences, but local potential exists for subsurface oil and gas resources. Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[648] The State of Alaska offers oil and gas lease sales on state land and offshore to the 3-mile limit of state waters, although no bids have been received in recent years.[649] In federal waters, no leases are currently being offered. Given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a

[639] National Park Service. 2011. *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.
[640] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[641] Lake Clark-Katmai Studies Center, National Park Service. *Alagnak Wild River: An Illustrated Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.
[642] See footnote 640.
[643] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[644] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[645] See footnote 640.
[646] See footnote 643.
[647] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[648] See footnote 640.
[649] Alaska Department of Natural Resources, Division of Oil and Gas. (2013). *Lease Sale Results*. Retrieved November 8. 2013 from http://dog.dnr.alaska.gov/Leasing/SaleResults.htm.

number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[650] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[651]

According to the Bristol Bay Coastal Management Plan, the King Salmon area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure and sea ice conditions. The Management Plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[652]

According to the Alaska Department of Environmental Conservation (DEC), one active environmental cleanup site is located in King Salmon. The King Salmon airport was originally constructed by the U.S. Army Air Forces at the beginning of World War II, and was purchased by the State of Alaska for use as a commercial airport in 1959. The U.S. Air Force continues to use the facility as well. Over the years, soil and groundwater surrounding the base became contaminated with petroleum and trichloroethene, some of which leached into the surrounding wetlands and water bodies. Response actions so far have included soil removal and remediation, capping, maintenance, and monitoring. Human health concerns include exposure through vapor inhalation, direct contact with skin, or ingestion of contaminated soil or water. The DEC notes that no private or public drinking water wells have been impacted by soil or groundwater contamination in King Salmon.[653] However, during community review of this profile in October 2013, a representative of the Bristol Bay Borough commented that many residents choose not to drink this water.

[650] Minerals Management Service. 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[651] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[652] Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[653] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved September 19, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[654]

As the seat of the Lake and Peninsula Borough and a transportation hub for eastern Bristol Bay, government and transportation jobs dominate King Salmon's economy. In addition to the Lake and Peninsula Borough offices, government agencies that provide employment in King Salmon include the Alaska Department of Fish and Game (ADF&G), U.S. Fish and Wildlife Service, National Park Service, Federal Aviation Administration, NOAA Weather Service, Alaska State Troopers, the Bristol Bay Borough Police, and the U.S. Postal Service.[655] Commercial fishing and fishing support services are also important economic drivers. The sockeye salmon harvest brings thousands of fishermen and processing employees through King Salmon each year, and herring and halibut are secondary fish species harvested in the region. King Salmon has also developed a great degree of tourism infrastructure. Sportfishing is popular in and near King Salmon, and there are many fishing lodges in the area, and the community serves as a departure point for access to Katmai National Park and Preserve, which includes attractions such as the McNeil River State Game Sanctuary, Brooks Camp, and the Valley of 10,000 Smokes.[656,657]

Based on household surveys conducted for the 2006-2010 ACS,[658] in 2010, per capita income in King Salmon was estimated to be $36,510 and the median household income was estimated to be $90,417, compared to $26,755 and $54,375 reported in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[659] the real per capita income in 2000 is shown to have been $35,182 and the real 2000 median household income was $71,502. This shows that per capita income stayed stable over the period, while there was a real increase in median per capita income. In 2010, King Salmon ranked 24th of 305 Alaskan communities with per capita income that year, and 13th out of 299 Alaskan communities with household income data.

However, King Salmon's small population size may have prevented the ACS from accurately portraying economic conditions.[660] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI)

[654] Unless otherwise noted, all monetary data are reported in nominal values.
[655] Information about government employment in King Salmon provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[656] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[657] Southwest Alaska Municipal Conference. (n.d.). *Bristol Bay Borough*. Retrieved December 21, 2011 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo.php.
[658] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[659] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[660] While ACS estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for King Salmon in 2010 is $22,676.[661,662] This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in King Salmon between 2000 and 2010. King Salmon did not meet the Denali Commission's criteria for a 'distressed community' in 2011.[663] It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, 66.4% of the King Salmon population age 16 and older was estimated to be in the civilian labor force, just under the statewide rate of 68.8%. That year, approximately 1.9% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall, and the unemployment rate was estimated to be 7.2%, slightly higher than the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in King Salmon in 2010 was 16.4%, slightly higher than the ALARI statewide unemployment rate estimate of 11.5%.[664]

Also based on the 2006-2010 ACS, the greatest percentage of the King Salmon workforce was estimated to be employed in the private sector (64.6%), along with 34.8% in the public sector, and 0.6% estimated to be self-employed. Out of 164 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in educational services, health care and social services (28.7%), transportation, warehousing and utilities (20.1%), and public administration industries (19.5%). None of the workforce was estimated to be working in the agriculture, forestry, and fishing industries in 2010. The number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. Compared to employment statistics in 2000, the distribution of employment by industry appears to have remained relatively stable in King Salmon. One notable shift was a 65% increase in the percentage of the King Salmon workforce employed in educational, health care and social assistance services, and greater than 50% reduction in the percentage of the workforce employed in either construction or professional, scientific, administrative, and waste management services. This information about employment by industry is presented in Figure 3.

Viewing employment from the perspective of occupation, 2006-2010 ACS estimates indicate that the greatest percentage of the King Salmon workforce was employed in service occupations (36%) and management, business, science and art occupations (32.3%), as well as 14.6% in service occupations, 14.6% working in natural resources, construction, and maintenance activities, and 2.4% in production, transportation, and material moving occupations. Between 2000 and 2010, the percentage of the workforce employed in sales and office occupations increased substantially, while the percentage employed in production, transportation, and material moving positions decreased. This information about employment by occupation is presented in Figure 4.

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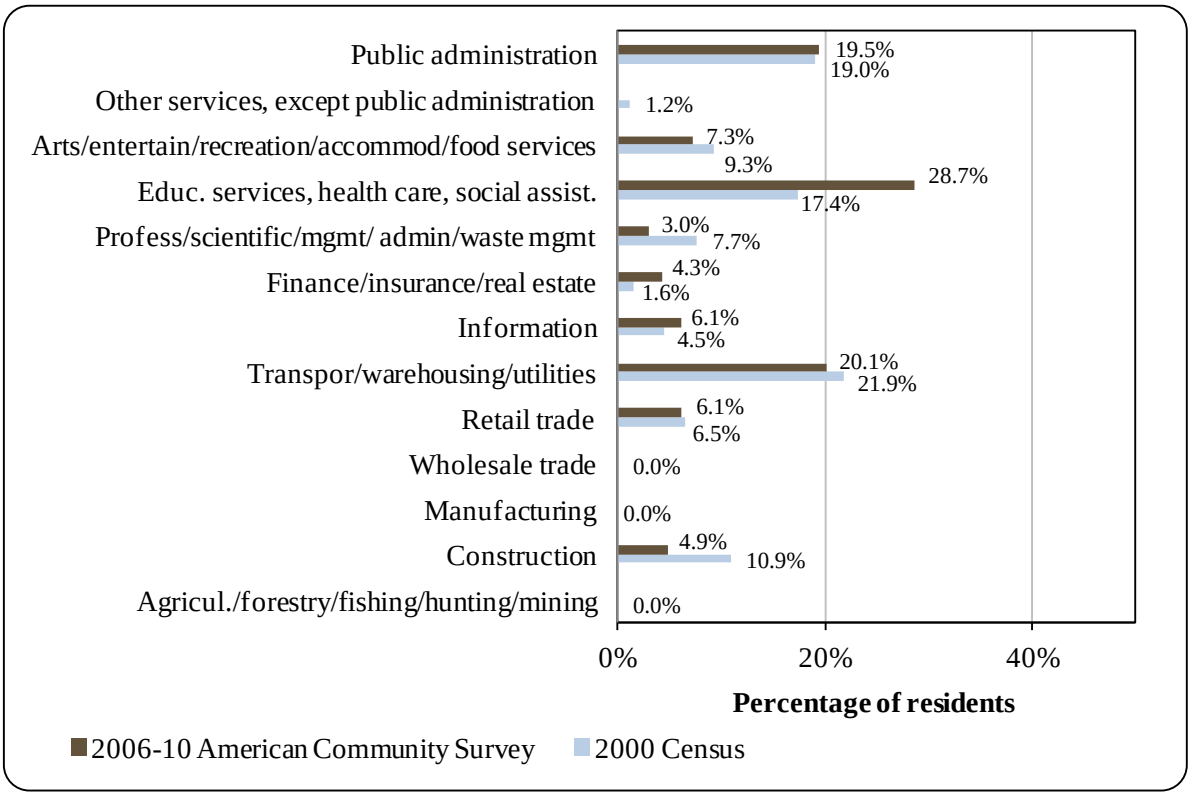
[661] See footnote 658.
[662] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[663] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[664] See footnote 662.

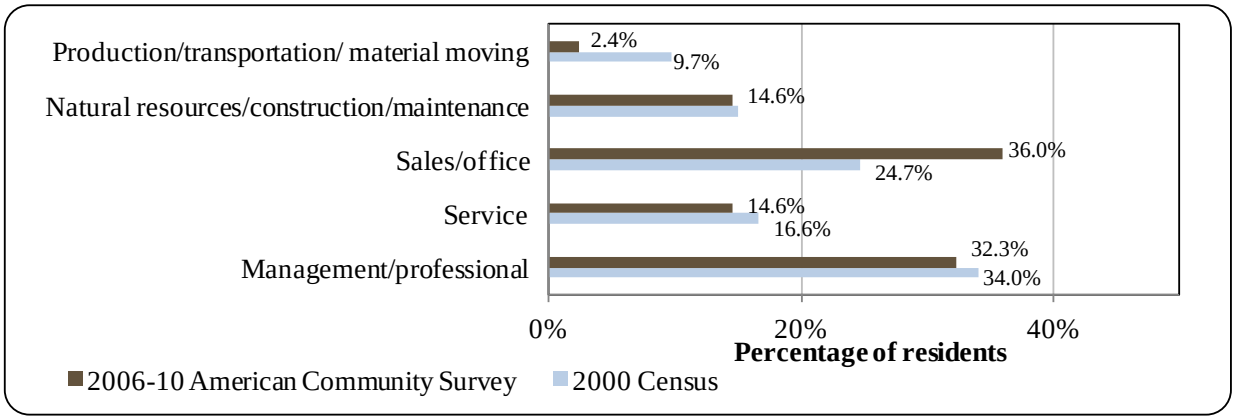
The 2010 ALARI estimate of employment by industry mirrors ACS estimates. Economic data compiled in the ALARI database indicate that there were 207 employed residents in King Salmon in 2010, of which 35.7% were employed in trade, transportation, and utilities, 22.7% in local government, 10.6% in professional and business services, 6.8% in state government, 5.3% in education and health services, 5.3% in leisure and hospitality, 4.8% in information, 4.8% in financial activities, 2.4% in construction, 0.5% in natural resources and mining, 0.5% in manufacturing, and 0.5% in unknown industries.[665] The ACS estimates conflict with economic data compiled in the ALARI database, which shows the greatest number of King Salmon residents employed in transportation and trade occupations, and the next greatest number employed in service occupations, construction, and maintenance activities, and administration. As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, King Salmon (U.S. Census).



[665] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

Figure 4. Local Employment by Occupation in 2000-2010, King Salmon (U.S. Census).



Governance

King Salmon is an unincorporated community. The Bristol Bay Borough serves as the governing body for King Salmon. The Borough was incorporated in 1962, making it the first borough in Alaska. It is also one of the smallest boroughs in the State. It contains three CDPs – King Salmon, Naknek, and South Naknek. The seat of the Bristol Bay Borough is located in Naknek.[666] It is important to note that, although King Salmon is located in the Bristol Bay Borough, the community is also the seat of the Lake and Peninsula Borough, which provides services for communities from as far northeast as the Iliamna Lake region to as far southwest as Perryville and Ivanof Bay.[667]

As of 2012, the Bristol Bay Borough did not administer a sales tax, but did levy a 12 mills property tax, 3% raw fish tax, and 10% bed tax (transient occupancy tax).[668,669] In addition to tax revenues, other locally-generated income sources received by the Bristol Bay Borough between 2000 and 2010 included building and equipment rental income, charges for services provided by the Borough such as water and sewer, ambulance fees, and pool fees, land sales, building permit fees, and investment income. Outside revenue sources included state and federal grants and revenue sharing programs, as well as some state contracts including jail and special services contracts. State of Alaska sources of shared revenue during the 2000-2010 period included the State Revenue Sharing program from 2000 to 2003, the Community Revenue Sharing program in 2009 and 2010, municipal energy assistance, and state fish tax refunds (see the *Fisheries-Related Revenue* section of this profile for more information). Federal shared

[666] Southwest Alaska Municipal Conference. (n.d.) *Bristol Bay Borough*. Retrieved October 21, 2013 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo/bristol-bay-borough.php.
[667] Lake and Peninsula Borough website. (n.d.). *About the Lake & Peninsula Borough*. Retrieved September 19, 2012 from http://www.lakeandpen.com/.
[668] Alaska Department of Commerce, Community, and Economic Development. 2013. *Alaska Taxable 2012*. Retrieved October 18, 2013 from http://commerce.alaska.gov/dnn/Portals/4/pub/OSA%20TAXABLE%202012%20-%20FINAL%202013-02-05.pdf.
[669] Tax information updated by a representative of the Bristol Bay Borough during community review of this profile in October 2013.

revenue sources included funds from the Payment In Lieu of Taxes program. A variety of special project and capital project grants were also received from the state and federal governments during this period.[670] Fisheries-related grants included a $30,000 grant from the Alaska Department of Commerce, Community, and Economic Development's (DCCED's) Division of Community and Regional Affairs (DCRA) in 2003. The $30,000 grant was received by the ADF&G to replace a retaining wall and dock along the Naknek River near King Salmon. In 2008, the DCRA awarded $70,671 to the Bristol Bay Borough for purchase of land for and development of a Fisherman's Dock and Industrial Park. Information regarding selected community revenue sources is reported in Table 2.

In addition to the Bristol Bay Borough, the King Salmon Tribe serves as a governing body for its members in the community. The King Salmon Tribe was formally recognized as a Tribal Council by the Bureau of Indian Affairs on December 29, 2000.[671] The Tribe was not included under the ANCSA of 1971. Despite this, King Salmon is included as a member of the Bristol Bay Native Association (BBNA), one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[672] The BBNA is headquartered in Dillingham, and provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[673]

King Salmon hosts an office of the ADF&G, as well as offices of the National Park Service and U.S. Fish and Wildlife Service. The nearest Alaska Department of Natural Resources office is a Division of Parks and Outdoor Recreation office in Homer, and the nearest DCCED office is a DCRA office located in Dillingham. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices, although Anchorage is also a potentially accessible office for the people of this area. The Alaska Department of Natural Resources and the U.S. Bureau of Citizenship and Immigration Services also have offices in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Bristol Bay Borough, including King Salmon, from 2000 to 2010.

Year	Total Borough Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[1,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$7,175,572	n/a	$29,923	n/a
2001	$6,318,332	n/a	$27,975	n/a
2002	$4,801,219	n/a	$27,960	n/a
2003	$4,163,996	n/a	$28,013	$30,000
2004	$6,098,710	n/a	n/a	n/a
2005	$4,213,625	n/a	n/a	n/a

[670] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[671] Feldman, K.D. Ethnohistory and the IRA Tribal Status Application of King Salmon Natives, Alaska. *Alaska Journal of Anthropology*. 1(1):100-117. Retrieved October 18, 2013 from http://www.uaa.alaska.edu/anthropology/people/upload/King_Salmon.pdf.
[672] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[673] Bristol Bay Native Association. (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from www.bbna.com.

2006	$5,475,184	n/a	n/a	n/a
2007	$6,248,803	n/a	n/a	n/a
2008	$8,374,133	n/a	n/a	$70,671
2009	$8,489,105	n/a	$498,484	n/a
2010	$8,839,652	n/a	$497,231	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

King Salmon is a transportation hub for Bristol Bay. Formerly an Air Force base, the state-owned airport has an 8,901 feet long by 150 feet wide paved, lighted runway, and a 4,018 feet long by 100 feet wide asphalt/gravel crosswind runway. Scheduled Alaska Airlines and Peninsula Air commercial flights serve the King Salmon airport, including summer jet service.[674,675] As of June 2012, roundtrip airfare from Anchorage to King Salmon costs $452.[676]

A 4,000-foot stretch of the Naknek River is designated for float plane use. A seaplane base is also located at Brooks Camp on Naknek Lake, east of King Salmon within the Katmai National Park and Preserve. Four docks are available on the Naknek River, owned by the U.S. Park Service, U.S. Fish and Wildlife Service, Alaska State Troopers, and the Bristol Bay Borough. Many fishing lodges also have private docks. Cargo goods are delivered to Naknek by barge and trucked upriver to King Salmon via a 15-mile connecting road. During winter, an ice road provides access to South Naknek. Vehicles are the primary means of local transportation, and during the summer residents use small fishing boats or skiffs for river travel.[677,678]

Facilities

Water in King Salmon is primarily sourced from individual wells, and 80% of households are fully plumbed. Federal Aviation Administration housing on the east side of the community has its own well and water treatment system. The Bristol Bay Borough operates a piped sewer system that serves 60% of King Salmon residents. The community also utilizes a separate piped

[674] Information about summer jet service updated by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[675] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[676] Airfare was calculated using lowest fare. http://www.travelocity.com (retrieved November 22, 2011).
[677] See footnote 675.
[678] Information updated by a representative of the Bristol Bay Borough during community review of this profile in October, 2013.

sewage system left by the former Air Force base. A sewage lagoon is operated by the Bristol Bay Borough. Some septic tanks are also in use in the community, and the Borough is available to provide septic pumping services. Electricity is provided by a diesel plant owned by Naknek Electric. The Borough also operates a permitted Class 2 landfill, incinerator, and balefill, located at mile 5 between King Salmon and Naknek for use by both communities. Private garbage collection services are available from Peterson Sanitation Company. Most residents haul their own garbage to the landfill.[679]

Public safety services are provided by the Bristol Bay Borough Police Department and a the Alaska State Troopers. Fire and rescue services are provided by Bristol Bay Borough Emergency Services. Visitor accommodations are available at the Ponderosa Inn, Rainbow Bend Cabin & Boat Rental, King Ko Inn, Antlers Inn, Alaska Enchanted Lake Lodge, and No See Um Lodge, among others. Local telephone and cable services are offered by Bristol Bay Telephone Cooperative (BBTC), and internet service is provided by GCI. Cellular service is available via BBTC or GCI. [680]

Medical Services

Local health care is provided at the Camai Community Health Center in Naknek and the King Salmon Clinic. The King Salmon Clinic is located in the King Salmon Village Council Building. It is operated by the Bristol Bay Area Health Corporation (BBAHC), primarily on behalf of tribal members. The King Salmon clinic is staffed by a community health aide with the support of BBAHC doctors.[681] Emergency Services have coastal, river, floatplane, and air access, as well as limited highway access. Ambulance and EMT services are provided by the Bristol Bay Borough Fire Department, which is supported by volunteers as well as paid staff. Emergency service is provided through a 911 Telephone System.[682] The nearest hospital is located in Dillingham.

Educational Opportunities

King Salmon students travel to school at the Bristol Bay Borough School in Naknek, 15 miles away on the Peninsula Highway.[683] The Bristol Bay Borough School has an Elementary School wing and a Middle/High School wing. As of 2011, the Elementary School (grades preschool through 6th) was attended by 93 students and had 7 teachers. That same year, the Middle/High School had 85 students and 8 teachers.[684] During community review of this profile, a representative of the Bristol Bay Borough noted that enrollment numbers have been steadily decreasing in the Bristol Bay School District system.

[679] See footnote 675.
[680] See footnotes 675 and 678.
[681] See footnote 678.
[682] See footnotes 675 and 678.
[683] See footnote 675.
[684] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

For as far back as 6,000 B.C., there is evidence of Ocean Bay peoples, ancestors of the Kodiak and Aleutian traditions, living in the Bristol Bay region. These people likely made use of marine resources along the coast. By 400 B.C., there is archaeological evidence of fishing activity by people of the Norton tradition in the King Salmon area. Notched pebbles used as sinkers allowed access to fishing sites along the Naknek River where deep, swift water made wading impossible.[685]

The commercial salmon fishery began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, although several other species are harvested in lower volumes.[686] The present community of King Salmon grew alongside the development of the commercial salmon fishing industry in Bristol Bay. An influx of workers arrived from outside Alaska to help in the construction of canneries and to provide a sufficient labor force for fishing and cannery jobs.[687] The lack of fishermen and cannery labor led to a practice of importing cannery crews and fishermen from outside Alaska. Historically this led to a lack of participation by local Native residents as fishermen in the Bristol Bay salmon fishery, although the start of World War II created a labor shortage in the U.S. and provided an opportunity for local residents to enter the fishery.[688,689] Today, over 80% of the workforce in a majority of processing facilities in nearby Naknek consists of non-residents,[690] and includes many foreign workers.[691]

Herring and halibut are important secondary commercial species in the Bristol Bay region.[692] The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of Nushagak River near the village of Togiak. Commercial herring fisheries were initiated soon after salmon fisheries, with original production oriented toward herring oil and herring meal. Catch of herring for bait began around 1900, and sac roe fisheries

[685] Morris, J. 1985. "The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska." *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[686] Clark, McGregor, Mecum, Krasnowski, and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[687] See footnote 685.
[688] Ibid.
[689] Bristol Bay Economic Development Corporation. March 2003. *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[690] Alaska Dept. of Labor and Workforce Development. January 2011. *Nonresidents Working in Alaska 2009*. Prepared by J. Hadland, Economist. Retrieved December 21, 2011 from http://www.cfec.state.ak.us/plook/.
[691] Public Radio International's The World. August 15, 2011. *Why Foreign Students are Hired for Alaskan Fish Processing*. Retrieved December 21, 2011 from http://www.theworld.org/.
[692] Southwest Alaska Municipal Conference website. (n.d.). *Bristol Bay Borough*. Retrieved December 21, 2011 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo.php.

developed in the 1970s.[693] Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.[694]

King Salmon is located along the Naknek River, which empties into Bristol Bay. The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. King Salmon participates in the Community Development Quota program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity program. A local advisory committee for the Alaska Board of Fisheries (BOF) is located in Naknek/Kvichak. The activities of the advisory committee include developing regulatory proposals; evaluating regulatory proposals and making recommendations to the BOF; providing a local forum for fish and wildlife conservation and use, including matters relating to habitat; advising the appropriate regional council on resources; and consulting with individuals, organizations, and agencies.[695]

Processing Plants

King Salmon is located within 15 to 20 miles of a large number of seafood processing facilities that line the shores of the Naknek River at both Naknek and South Naknek. ADF&G's 2010 Intent to Operate list does not list any processors with location codes in King Salmon, although one company – Wild Alaska Salmon and Seafood – has a business address in King Salmon. Wild Alaska Salmon and Seafood is a wholesaler fisherman/direct marketing company with a King Salmon address.[696] The company was founded in 2000 and specializes in processing sockeye salmon.[697]

Fisheries-Related Revenue

Between 2000 and 2010, the primary sources of revenue to the Bristol Bay Borough that were directly tied to fisheries included income from both a borough and a state raw fish tax, as well as revenue sharing from the state Fisheries Business Tax. Based on information reported in the Bristol Bay Borough's yearly audits, the local raw fish tax remained a more stable source of revenue than the state raw fish tax through the decade, and the shared Fisheries Business Tax increased in importance over time, rising to $1.5 million per year in several later years of the period. Information about fisheries-related revenue sources is presented in Table 3.

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[693] Woodby, D, D. Carlile, S. Siddeek, F. Funk, J. H. Clark, and L. Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.

[694] Thompson, W. F. and N. L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from http://ww.iphc.int/publications/scirep/Report0005.pdf.

[695] Southwest Alaska Municipal Conference. 2010. *Southwest Alaska Comprehensive Economic Development Strategy*. Prepared for the U.S. Department of Commerce Economic Development Association. Retrieved December 21, 2011 from http://www.swamc.org/.

[696] Alaska Seafood Marketing Institute. 2011. *Suppliers Directory*. Retrieved October 17, 2011 from http://www.alaskaseafood.org/industry/suppliers/index.cfm.

[697] Wild Alaska Salmon and Seafood. 2012. *History* and *About Us*. Retrieved September 24, 2012 from http://wildalaskasalmonandseafood.com/.

In addition, it is important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel, and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[698]

Commercial Fishing

During the 2000-2010 period, King Salmon residents were involved in commercial fisheries as permit and quota share account holders, crew license holders, and vessel owners. Commercial fishing participation statistics declined over the period, with the number of crew license holders falling from 70 in 2000 to 36 in 2010, the number of vessels primarily owned by residents falling from 166 to 28, and the number of vessels homeported in King Salmon decreasing from 114 to 32. No fish buyers were present in King Salmon between 2000 and 2010, and no vessels were reported to deliver landings. These statistics about the commercial fishing sector in King Salmon are presented in Table 5.

In 2010, a total of 41 King Salmon residents held 52 state-issued Commercial Fisheries Entry Commission (CFEC) permits. A majority of these permits (43) were held for Bristol Bay salmon drift and set gillnet fisheries, while 4 were held for herring fisheries, 2 for halibut fisheries, and 1 permit each in fisheries for crab, sablefish, and groundfish. More details regarding these permits is presented below, and CFEC permit numbers are displayed in Table 4.

The number of salmon CFEC permit holders and total salmon permits remained stable over the 2000-2010 period, with an increase between 2000 and 2006 followed by a decrease to levels close to 2000 numbers by 2010. Of the 43 salmon CFEC permits held in 2010, 24 were held in the Bristol Bay set gillnet fishery, and 19 in the Bristol Bay drift gillnet fishery. Overall, 35 (81%) were actively fished that year. All salmon permits held between 2000 and 2010 were held in Bristol Bay gillnet fisheries, and the percentage of salmon permits that were actively fished did not change substantially over this period.

Four herring CFEC permits were held in 2010 by two individuals, including two permits in the Bristol Bay roe herring fishery and two in the Security Cove roe herring fishery. None of these herring permits were actively fished in 2010. Herring permit numbers showed a substantial decrease over the 2000-2010 period, from 17 total herring permits held by 10 King Salmon residents in 2000. At least one herring permit was actively fished in all years during the 2000-2010 period, with the exception of 2010. The number of halibut CFEC permits and permit holders also declined over the period, from eight permit holders and eight total permits held in 2000 to two in 2010. During the 2000-2010 period, all halibut permits were held in the statewide longline fishery, and with the exception of one permit held for a larger vessel in 2000, all halibut permits were associated with vessels under 60 feet in length.

In addition to salmon, herring, and halibut permits, in 2010, King Salmon residents held one permit in the statewide sablefish longline fishery (not for use in Southeast Alaska or Prince William Sound), one permit in the Cook Inlet Dungeness crab fishery, and one statewide miscellaneous saltwater finfish (groundfish) permit associated with longline gear. The sablefish permit was held in 2004 and 2005 and from 2008 to 2010, and was actively fished in all of these years except 2008. Groundfish permits were held in all years of the 2000-2010 period except 2003 and 2006-2007, and at least one was actively fished in 2004-2005 and 2008-2009. Most of

[698] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

these permits were associated with longline gear, but it is important to note that at least one permit was associated with mechanical jig gear from 2000-2002 and in 2005. The Dungeness crab permit was held from 2004 to 2010, and was not actively fished in any of these years. One King Salmon resident also held a permit in the Dutch Harbor Tanner crab fishery in 2005 and 2008. The Tanner crab permit was actively fished in 2005 only. It is also important to note that, in 2008, one King Salmon resident also held a CFEC permit in the statewide pot gear fishery for octopi/squid. CFEC permit information is presented in Table 4.

In addition to CFEC permits, one King Salmon resident held a Federal Fisheries Permit (FFP) from 2000 to 2005, and again from 2008 to 2010. The FFP was not actively fished in any year during the 2000-2010 period. No federal License Limitation Permits (LLP) were held by King Salmon residents from 2000 to 2010 (Table 4).

King Salmon residents participated in the federal catch share fishery for halibut, with two quota share account holders residing in the community from 2000 to 2008, and one account holder in 2009 and 2010. During the period when two individuals held quota share accounts, the total number of quota shares held declined from 5,446 to 2,638. This number declined to 798 shares in the final 2 years of the 2000-2010 period, when only one quota share account holder remained. This information about halibut catch share participation is presented in Table 6. Between 2000 and 2010, no King Salmon residents participated in federal catch share fisheries for sablefish or crab (Tables 7 and 8).

While no landings or ex-vessel revenue was generated in King Salmon during the 2000-2010 period (Table 9), landings were delivered by vessel owners from King Salmon to many other delivery locations. Landings and revenue information for salmon landed by King Salmon vessel owners can be reported for all years during the 2000-2010 period. Herring landings may only be reported in 2000 and 2001. Landings and revenue data are considered confidential for other years for herring, and for all years for other species, due to the small number of participants in those fisheries in those years. Over the decade, King Salmon vessel owners landed an average of 1,179,195 net pounds of salmon per year, valued on average at $769,247 in ex-vessel revenue. The value of salmon ($ per pound) showed an increasing trend, which could reflect changes in species composition of the catch and/or changes in market prices over the decade. For the two years in which herring landings information can be reported, King Salmon vessel owners landed an average of 423,349 net pounds, for an average ex-vessel revenue of $38,568. This information about landings and ex-vessel revenue generated by King Salmon residents is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Bristol Bay Borough: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Borough raw fish tax[1]	$1,376,536	$529,759	$337,112	$131,111	$311,369	$464,884	$729,623	$838,199	$1,143,108	$1,587,484	$1,170,907
State raw fish tax[1]	$789,759	$1,439,586	$918,305	$504,399	n/a	n/a	n/a	n/a	n/a	n/a	n/a
State Shared Fisheries Business Tax[1]	$8,232	$14,275	$12,108	n/a	$393,836	$460,752	$834,661	$1,178,357	$29,353	$1,581,617	$1,559,831
State Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue received by the Bristol Bay Borough[4]	*$2,174,527*	*$1,983,620*	*$1,267,525*	*$635,510*	*$705,205*	*$925,636*	*$1,564,284*	*$2,016,556*	*$1,172,461*	*$3,169,101*	*$2,730,738*
Total municipal revenue reported by the Bristol Bay Borough[5]	*$7,175,572*	*$6,318,332*	*$4,801,219*	*$4,163,996*	*$6,098,710*	*$4,213,625*	*$5,475,184*	*$6,248,803*	*$8,374,133*	*$8,489,105*	*$8,839,652*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the Bristol Bay Borough reports each year in its audit. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, King Salmon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	1	1	1	1	1	1	0	0	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	-	-	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	0	0	1	1	1
Crab (CFEC) [2]	Total permits	0	0	0	0	1	2	1	1	2	1	1
	Fished permits	0	0	0	0	0	1	0	0	0	0	0
	% of permits fished	-	-	-	-	0%	50%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	1	2	1	1	2	1	1
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	1	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	0%	-	-
	Total permit holders	0	0	0	0	0	0	0	0	1	0	0
Halibut (CFEC) [2]	Total permits	8	5	4	3	3	3	3	2	1	2	2
	Fished permits	3	0	2	1	0	1	1	0	0	1	1
	% of permits fished	38%	0%	50%	33%	0%	33%	33%	0%	0%	50%	50%
	Total permit holders	8	5	4	3	3	3	3	2	1	2	2
Herring (CFEC) [2]	Total permits	17	11	6	6	4	6	4	1	1	4	4
	Fished permits	11	7	2	4	3	5	1	1	1	2	0
	% of permits fished	65%	64%	33%	67%	75%	83%	25%	100%	100%	50%	0%
	Total permit holders	10	6	4	5	3	4	3	1	1	2	2

Table 4 cont'd. Permits and Permit Holders by Species, King Salmon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	1	1	0	0	1	1	1
	Fished permits	0	0	0	0	1	1	0	0	0	1	1
	% of permits fished	-	-	-	-	100%	100%	-	-	0%	100%	100%
	Total permit holders	0	0	0	0	1	1	0	0	1	1	1
Groundfish (CFEC) [2]	Total permits	2	2	1	0	1	2	0	0	1	1	1
	Fished permits	0	0	0	0	1	2	0	0	1	1	0
	% of permits fished	0%	0%	0%	-	100%	100%	-	-	100%	100%	0%
	Total permit holders	2	2	1	0	1	1	0	0	1	1	1
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	41	40	45	47	47	44	48	46	44	43	43
	Fished permits	39	32	33	41	41	40	44	38	36	36	35
	% of permits fished	95%	80%	73%	87%	87%	91%	92%	83%	82%	84%	81%
	Total permit holders	41	41	43	45	44	43	47	46	43	42	39
Total CFEC Permits[2]	*Permits*	*68*	*58*	*56*	*56*	*57*	*58*	*56*	*50*	*51*	*52*	*52*
	Fished permits	*53*	*39*	*37*	*46*	*46*	*50*	*46*	*39*	*38*	*41*	*37*
	% of permits fished	*78%*	*67%*	*66%*	*82%*	*81%*	*86%*	*82%*	*78%*	*75%*	*79%*	*71%*
	Permit holders	*43*	*42*	*44*	*46*	*46*	*45*	*48*	*47*	*45*	*44*	*41*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in King Salmon: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in King Salmon[2]	Total Net Pounds Landed in King Salmon[2,5]	Total Ex-Vessel Value of Landings in King Salmon[2,5]
2000	70	0	1	166	114	0	0	$0
2001	52	0	2	163	117	0	0	$0
2002	51	0	1	164	100	0	0	$0
2003	49	0	2	116	108	0	0	$0
2004	49	0	1	128	122	0	0	$0
2005	56	0	0	26	30	0	0	$0
2006	45	0	1	31	33	0	0	$0
2007	40	0	1	29	29	0	0	$0
2008	35	0	1	30	27	0	0	$0
2009	28	0	0	27	27	0	0	$0
2010	36	0	0	28	32	0	0	$0

Note: Cells showing – indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in King Salmon: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	2	5,446	583
2001	2	5,446	674
2002	2	5,446	693
2003	2	5,446	692
2004	2	4,234	577
2005	2	2,763	352
2006	2	2,763	335
2007	2	2,638	333
2008	2	2,638	324
2009	1	798	80
2010	1	798	73

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation in King Salmon: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation in King Salmon: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in King Salmon: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (Nominal U.S. Dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by King Salmon Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	379,247	467,450	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	1,134,045	817,217	457,332	693,917	1,279,830	1,303,691	1,471,440	1,865,511	1,201,613	1,340,890	1,405,660
Total[2]	*1,513,292*	*1,284,667*	*457,332*	*693,917*	*1,279,830*	*1,303,691*	*1,471,440*	*1,865,511*	*1,201,613*	*1,340,890*	*1,405,660*
	Ex-vessel Value (Nominal U.S. Dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	$40,256	$36,879	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$734,347	$337,164	$220,354	$344,633	$649,648	$801,553	$928,027	$1,219,346	$876,470	$1,060,976	$1,289,196
Total[2]	*$774,603*	*$374,043*	*$220,354*	*$344,633*	*$649,648*	*$801,553*	*$928,027*	*$1,219,346*	*$876,470*	*$1,060,976*	*$1,289,196*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

Sportfishing for salmon and rainbow trout is one of the King Salmon area's top visitor attractions.[699] The number of licensed sport fish guides present in King Salmon increased between 2000 and 2010, from 33 in 2000 to a high of 68 in 2008. In contrast, few "active" sport fish guide businesses were present in the community.[700] In general, the number of sportfishing licenses sold in King Salmon vastly outweighed the number of licenses sold to residents (irrespective of point of sale), providing additional evidence that sportfishing attracts a large number of visitors to King Salmon and the surrounding region. Further information is presented in Table 11.

King Salmon is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average).

The Alaska Statewide Harvest Survey,[701] conducted by ADF&G between 2000 and 2010, noted species targeted by private anglers in King Salmon. In fresh water, sport fishermen caught all five species of Pacific salmon, rainbow trout, Dolly Varden char, Arctic grayling, northern pike, and smelt. In saltwater, they targeted Pacific halibut and Pacific cod. The survey also noted sport harvest of razor clams by King Salmon residents. No kept/release log book data were reported for fishing charters out of King Salmon between 2000 and 2010.[702]

[699] King Salmon Tribal Council. 2006. *King Salmon Community Plan*. Retrieved September 19, 2012 from www.commerce.state.ak.us/dca/plans/KingSalmon-GCP-2006.pdf.
[700] A charter business is considered "active" if ADF&G received at least one logbook data page that reported targeted effort. (See Sigurdsson D. and Powers B. (2011). Participation, Fishing Effort, and Harvest in the Sport Fish Business/Guide Licensing and Logbook Programs, 2010. Alaska Department of Fish and Game, Division of Sport and Commercial Fisheries. Retrieved November 8. 2013 from http://www.adfg.alaska.gov/FedAidpdfs/FDS11-31).
[701] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).
[702] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, King Salmon: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in King Salmon[2]
2000	0	33	340	0
2001	0	31	325	100
2002	1	33	328	640
2003	0	29	295	2,101
2004	0	31	303	2,265
2005	0	40	304	2,192
2006	0	47	293	2,176
2007	0	64	266	2,249
2008	1	68	281	2,266
2009	1	56	273	1,992
2010	0	55	258	1,967

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Traditional activities including subsistence harvest and food preparation remain an important part of community identity in King Salmon. Local people utilize marine and land-based resources, including salmon, halibut, waterfowl, moose, and caribou.[703,704] Statistics presented in this section relate to marine subsistence resource harvest only.

In 2007, the only year that a subsistence survey was conducted by ADF&G in the community of King Salmon between 2000 and 2010, 51% of households were recorded as participating in salmon subsistence activities, 12% in halibut subsistence, 22% in non-salmon fish subsistence (other than halibut), 4% in marine mammal subsistence, and 13% in marine invertebrate subsistence. Per capita, residents of King Salmon harvested 85 pounds of land and sea-based subsistence resources that year (Table 12). These levels of participation in subsistence activities are lower than in nearby Naknek for all categories.

Individual species harvest data is also available from the 2007 ADF&G subsistence survey for non-salmon fish (other than halibut), marine invertebrates, and marine mammals. That year, the non-salmon fish species harvested by the greatest percentage of King Salmon households included rainbow trout, smelt, Dolly Varden char, lake trout, and northern pike; the marine invertebrate species harvested by the greatest percentage of households included softshell and razor clams and red king crab; and a small percentage of King Salmon households also reported involvement in harvest of harbor seals.[705] It is important to note than in many cases, the number of households reporting use of these subsistence resources was greater than the number involved in harvest, suggesting the presence of sharing networks between households in King Salmon households, and also between communities.

Data are available between 2000 and 2010 regarding subsistence salmon and halibut permits, as well as additional information regarding harvest numbers of some marine mammal species. In years for which data were reported between 2000 and 2010, an average of 77 subsistence salmon permits was issued to King Salmon households. Sockeye salmon was the primary species harvested using subsistence permits (an average of 4,743 sockeye per year), along with several hundred Chinook, chum, coho, and pink salmon each year. In addition, in 2007, total harvest of marine invertebrates was 970 pounds, and total harvest of non-salmon fish was 864 pounds in King Salmon. Information about total subsistence harvest of salmon, marine invertebrates, and non-salmon fish (not including halibut) is presented in Table 13.

Between 2003 and 2010, an average of three Subsistence Halibut Registration Certificates (SHARC) were issued to King Salmon residents. No information was reported regarding the number of SHARC cards returned or total pounds harvested during these years (Table 14).

Based on information reported by the U.S. Fish and Wildlife Service, between one and five walrus were harvested per year by King Salmon residents for subsistence purposes from 2001 to 2004. In addition, ADF&G reported harbor seal harvests varying from one to nine animals per year during the 2000-2010 period. No information was reported by management

[703] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[704] Information about species utilized updated during community review of this profile in October 2013.
[705] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

agencies regarding harvest of beluga whale, sea otter, Steller sea lion, or spotted seal between 2000 and 2010 (Table 15).

Table 12. Subsistence Participation by Household and Species, King Salmon: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	51%	12%	4%	13%	22%	85
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, King Salmon: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	116	109	228	170	332	274	7,122	n/a	n/a
2001	n/a	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	3	3	n/a	n/a	n/a	n/a	12	n/a	n/a
2004	88	67	197	78	135	126	4,588	n/a	n/a
2005	86	76	189	58	246	46	6,141	n/a	n/a
2006	79	67	176	153	233	177	4,904	n/a	n/a
2007	93	81	131	91	270	42	5,182	970	864
2008	76	68	124	55	118	51	5,251	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, King Salmon: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	3	n/a	n/a
2004	4	n/a	n/a
2005	4	n/a	n/a
2006	2	n/a	n/a
2007	2	n/a	n/a
2008	2	n/a	n/a
2009	2	n/a	n/a
2010	2	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, King Salmon: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	3	n/a
2001	n/a	n/a	5	n/a	n/a	9	n/a
2002	n/a	n/a	2	n/a	n/a	3	n/a
2003	n/a	n/a	3	n/a	n/a	7	n/a
2004	n/a	n/a	1	n/a	n/a	5	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	7	n/a
2007	n/a	n/a	n/a	n/a	n/a	1	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Kokhanok (*KOCK-hone-ack*)

People and Place

Location [706]

Kokhanok is located on the south shore of Iliamna Lake, 22 miles south of Iliamna, 88 miles northeast of King Salmon, and 207 miles southwest of Anchorage. The community occupies 21.3 square miles of land and 0.1 square miles of water. Kokhanok is unincorporated and is located in the Lake and Peninsula Borough.

Demographic Profile [707]

In 2010, there were 170 residents in Kokhanok ranking it as the 211th largest of 352 Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 11.8%. Between 2000 and 2009, the population grew by 5.8% and there was an average annual growth rate of 0.14%, which was lower than the statewide average of 0.75% and indicative of modest growth. However, the population declined between 2000 and 2010; highlighting differences between U.S. Decennial Census and State estimates. Information regarding population trends can be found in Table 1.

The population of Kokhanok is primarily Yup'ik, Athabascan, and Aleut. In 2010, 80.0% of residents identified themselves as American Indian or Alaska Native, compared to 86.8% in 2000; 9.4% identified themselves as White, compared to 8.0% in 2000; 10.0% identified themselves as two or more races, compared to 4.0% in 2000; and 0.6% identified themselves as some other race, compared to 1.1.% in 2000 (Figure 1). In addition, 1.8% of residents identified themselves as Hispanic or Latino, compared to 1.1% in 2000.

In 2010, the average household size in Kokhanok was 3.27, compared to 4.0 in 1990 and 3.35 in 2000. In that year, there were a total of 65 housing units, compared to 41 in 1990 and 59 in 2000. Of the households surveyed in 2010, 54% were owner-occupied, compared to 54% in 2000; 26% were renter-occupied, compared to 34% in 2000; 5% were vacant, compared to 2% in 2000; and 15% were occupied seasonally, compared to 10% in 2000. No residents lived in group quarters between 1990 and 2010.

In 2010, the gender distribution of Kokhanok was 47.1% male and 52.9% female. This was more female biased than both the gender distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (51.3% male, 48.7% female). The median age that year was estimated to be 27.0 years, which was lower than both the statewide median of 33.8 years and 2000 median of 29.5 years.

[706] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[707] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

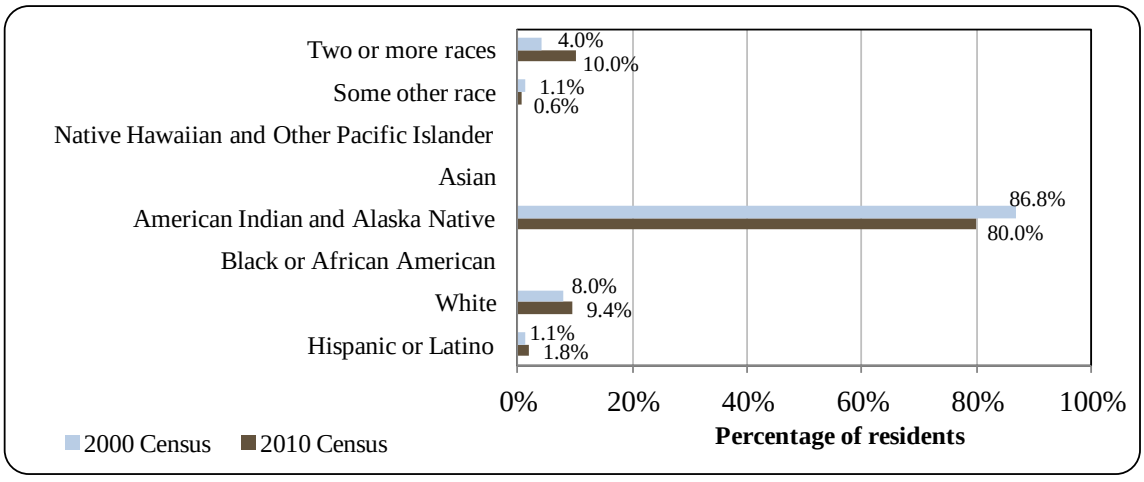
Table 1. Population in Kokhanok from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	152	-
2000	174	-
2001	-	172
2002	-	179
2003	-	181
2004	-	167
2005	-	179
2006	-	169
2007	-	174
2008	-	177
2009	-	184
2010	170	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Kokhanok: 2000-2010 (U.S. Census).

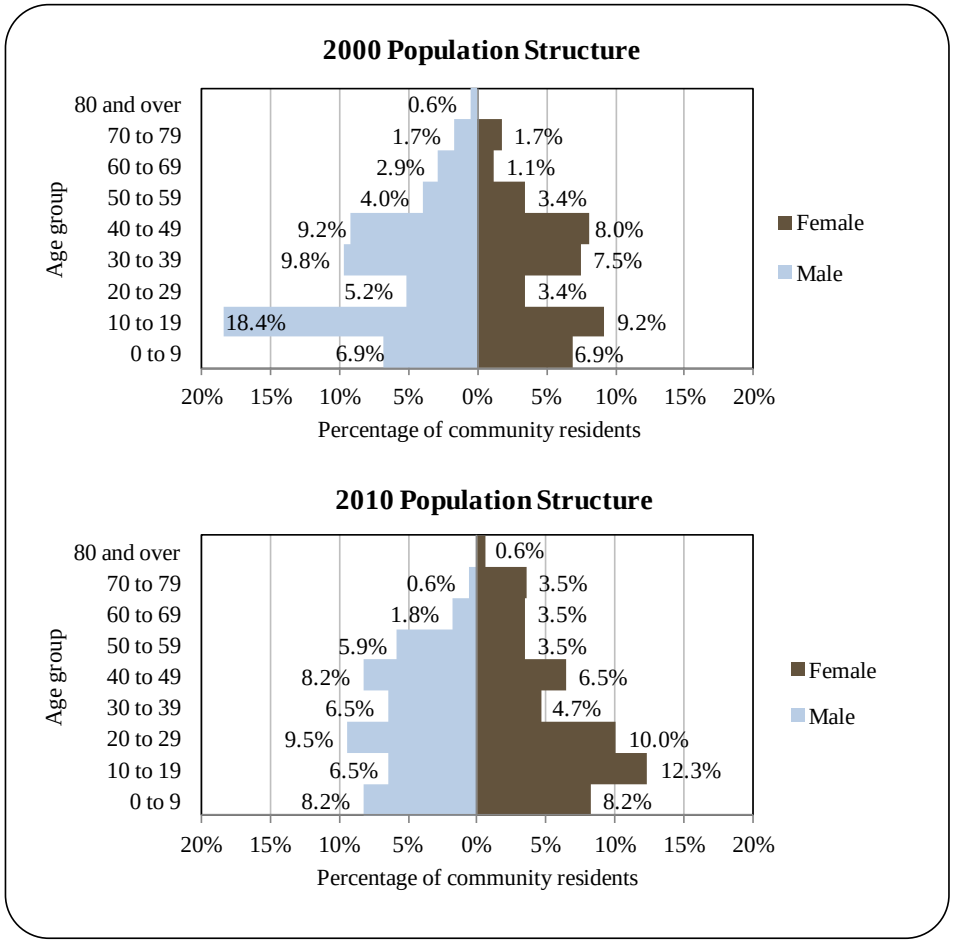


Compared with 2000, the population structure in 2010 was somewhat more constricted. In that year, 35.2% of residents were under the age of 20, compared to 41.4% in 2000; 6.5% were over the age of 59, compared to 8% in 2000; and 35.3% were between the ages of 30 and 59, compared to 41.9% in 2000. The largest change in distribution from 2000 to 2010 occurred in the 10 to 19 age group (18.8% in 2000 compared to 27.6% in 2000) and the 20 to 29 age group (19.5% in 2010 compared to 8.6% in 2000).

Gender distribution by age cohort was slightly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 10 to 19 age range (6.5% male,

12.3% female), followed by the 70 to 79 (0.6% male, 3.5% female) and 40 to 49 (8.2% male, 6.5% female) ranges. Of those three, the greatest relative gender difference occurred within the 10 to 19 range. Further information regarding trends in Kokhanok's population structure can be found in Figure 2.

Figure 2. Population Age Structure in Kokhanok Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the 2006-2010 American Community Survey (ACS)[708] estimated that 93.8% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, no resident had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 6.3% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 50% had some college but no

[708] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

degree, compared to an estimated 28.3% of Alaskan residents overall; 3.1% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and no resident held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

The Dena'ina people have occupied the Iliamna Lake region historically. During the early 1800s, Russian fur traders moved into the area, and conflicts with local inhabitants ensued. There are 14 historic, 14 prehistoric, and 2 mixed historic/prehistoric sites within the region.[709]

According to oral history, Kokhanok was founded by a group of "misfits" who were looking for a place to call home, where hunting and fishing were good. The village began as two settlements of familial groups living along the south shore of Lake Iliamna.[710]

This fishing village was first listed in the U.S. Census in 1890 by A.B. Schanz. The community was relocated to higher ground a few years ago when the rising level of Iliamna Lake threatened several community buildings.[711]

Natural Resources and Environment

Kokhanok lies in the transitional climatic zone. Average summer temperatures range from 40 to 64 °F (4 to 18 °C); winter temperatures average 3 to 30 °F (-16 to -1 °C). The record high is 84 °F (29 °C) and the record low -47 °F (-44 °C). Precipitation averages 32 inches annually, with 89 inches of snowfall. Wind storms and ice fog are common during winter.[712]

The region surrounding Kokhanok is characterized by a variety of landscapes, including mountains, fast-flowing rivers, tundra, marshy lowlands, and ponds. Most of the land is covered by, depending on elevation and location, alpine tundra, low or tall shrublands, or areas of mixed broadleaf and spruce trees. The region is characterized by steep and mountainous terrain except for the major river drainages and areas around the larger lakes. Drainage basins on the east end of Iliamna Lake include the Pike, Iliamna, and Copper rivers. Major waterbodies include east Iliamna Lake and Gibraltar, Kokhanok, Meadow, Moose, and Upper and Lower Copper lakes. Topographic relief is significant with over 4,600 feet from Iliamna Lake to the summit of Three Sisters Mountain, all within about six miles of the shore. Vegetation consists of alpine tundra and barrens at higher elevations, and a mixture of short and tall shrub thickets throughout the remainder. Riparian areas are populated by mixed spruce and broadleaf stands.[713]

Most of the region's resources are associated with subsistence uses by local communities, and commercial recreation related to sportfishing during the summer. There are no known areas of state land with grazing, agriculture, or commercial harvest potential.[714]

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[709] Alaska Dept. of Natural Resources. (n.d.). *Region 9: Eastern Iliamna Lake. Summary of Resources and Uses in the Region.* Retrieved September 6, 2012 from: http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap_ch3_reg09.pdf.

[710] Kokhanok Tribal Council. (2004). *A Well Made Basket: The Kokhanok Community Plan.* Retrieved September 6, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kokhanok-GCP-2004.pdf.

[711] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[712] Ibid.

[713] See footnote 709.

[714] Ibid.

Mineral resources in the area are associated with mafic intrusive occurring north of Pedro Bay and east of Kokhanok. A wide range of minerals are represented by these occurrences including copper, molybdenum, gold, silver, and arsenic. Fog Lake presents the most significant gold deposit in the area, with secondary occurrences of silver and minor copper values. There has also been significant exploration. There is little oil and gas potential in the area as the bedrock in the region consists predominately of a mix of volcanic, intrusive, and metamorphic terrains. Wildlife within the region includes significant moose and caribou populations as well as many species of freshwater and anadromous fish. Moose rutting area occur near Kokhanok, on non-state lands, and calving areas occur along the Pile River. Caribou frequent small portions of the region, although there are no known rutting or calving areas. Brown bears concentrate along streams throughout the region. Freshwater sport fish are generally prolific and, along with sockeye salmon, provide the basis for the commercial and sport fish industries.[715]

According to the *Lake and Peninsula Borough Hazard Mitigation Plan*, wildfire is the community's number one concern in terms of environmental hazards. The community is located in a heavily vegetated area, with a high concentration of standing dead spruce trees resulting from widespread spruce bark beetle infestation. Hot wildfires can easily be intensified by high winds, which are commonplace in the community. The village has responded to several wildfires in the past, although residents report that fire response equipment is nonexistent. In addition to wildfires, the community is also concerned about effects from nearby volcanism. These effects could manifest in the form of ash fallouts and reduced air quality.[716]

The Pebble copper-gold-molybdenum site is located approximately 25 miles north of Newhalen, at the divide between the Koktuli River and Uppler Talarik Creek.[717] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lbs of copper, 66.9 million ounces of gold and 3.3 billion lbs of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lbs of copper, 40.4 million ounces of gold and 2.3 billion lbs of molybdenum.[718] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[719]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active within Kokhanok in 2010.[720]

[715] Ibid.
[716] Missal, J.; and Smith, M. (2009). *Lake and Peninsula Borough Multi-Hazard Mitigation Plan.* Retrieved September 6, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[717] Parker, G. Y., F. M. Raskin, C. A. Woody, and L. Trasky. 2008. Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.
[718] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[719] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[720] Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved September 6, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[721]

Kokhanok's economy is largely subsistence based, as wage employment is limited. The largest year-round employer in the community is the local school, followed by the local Village Council. Commercial fishing provides seasonal employment, and many residents seek additional wage employment outside of Kokhanok in areas such as the North Slope oil fields. Residents identified several areas of potential economic growth including tourism, retail, construction, and other local services.[722]

In 2010,[723] the per capita income was estimated at $10,388 and the median household income was estimated at $30,125, compared to $7,732 and $19,583 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[724] the real per capita income ($10,167) and real median household income ($25,751), indicating that while individual earnings remained largely the same, household earnings declined. In 2010, Kokhanok ranked 268th of 305 communities from which per capita income was estimated, and 247th of 299 communities from which median household income was estimated.

However, Kokhanok's small population size may have prevented the ACS from accurately portraying economic conditions.[725] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $1.54 million in total wages in 2010.[726] When matched with the 2010 Decennial Census population, the per capita income equals $9,088, which is slightly less than what the ACS estimated.[727] This low level of per capita income led the Denali Commission to qualify the community as "distressed," indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[728]

According to 2006-2010 ACS estimates,[729] 55.0% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 8.8%, compared to an estimated 5.9% statewide; and an estimated 40.3% of residents lived below the poverty level, compared to an estimated 9.5% of Alaskan residents overall. Again, Kokhanok's small population size may have prevented the ACS from accurately capturing economic

[721] Unless otherwise noted, all monetary data are reported in nominal values.
[722] Lake and Peninsula Borough. (n.d.). *Kokhanok Community Action Plan.* Retrieved September 6, 2012 from: http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Kokhanok_Community_Plan(2).pdf.
[723] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[724] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[725] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[726] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[727] Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[728] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.
[729] See footnote 725.

conditions. Based on 2010 ALARI estimates, which were based on unemployment insurance claimants, the unemployment rate (26.5%) was over three times the ACS estimate. In 2005, only 16% of employed residents were employed year-round.[730] It should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy. An elevated poverty or unemployment rate can be misleading considering that many residents are working full time in the subsistence economy. Nevertheless, opportunities for wage employment are still important considering that many supplies necessary for daily life require purchasing.

Of those employed in 2010,[731] an estimated 51.4% worked in the private sector and an estimated 48.6% worked in the public sector. By industry, most (37.8%) were estimated to work in public administration sectors; followed by transportation, warehousing, and utilities sectors (21.6%); and agriculture, forestry, fishing, hunting, and mining sectors (16.2%). Between 2000 and 2010, local employment by industry sector diversified significantly. In 2000, most employed residents worked in education services, healthcare, and social assistance sectors (66.7%), with public administration sectors and transportation, warehousing, and utilities sectors accounting for 5.1% and 7.7% of sector employment, respectively. By 2010, estimated employment in education services, healthcare, and social assistance sectors had declined to 8.1%. According to 2010 ALARI estimates,[732] most (65.3%) employed residents worked in local government sectors; followed by natural resources and mining sectors (7.1%); professional and business sectors (5.1%); and educational and health service sectors (5.1%). Both the ACS and DCRA estimates conflict with Lake and Peninsula Borough's report that the local school is the community's largest employer.[733] This may be attributed to the fact that many residents hold positions outside the community. Therefore, ALARI employment statistics on occupations may be more representative of regional employers than local ones.

According to 2010 ALARI estimates, most employed residents held education related occupations; followed by construction or labor, oil and gas, and janitorial occupations. According to ACS, estimates of occupational employment, most (32.4%) employed residents held sales or office positions; followed by production, transportation, or material moving (27.0%); management or professional (18.9%); service (10.8%); and natural resources, construction, or maintenance positions (10.8%). As with employment by industry sector, employment by occupation type diversified between 2000 and 2010. In 2000, a significant proportion of employed residents held management or professional positions (61.5%). However, by 2010, only an estimated 18.9% of residents held those occupation types, while all other occupations (with the exception of service occupations) experienced significant proportional gains. Information regarding ACS employment trends can be found in Figures 3 and 4.

[730] Krieg, T. M.; Holen, D. L.; and Koster, D. (2009). *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.* Technical Paper No. 322. Retrieved September 7, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf.
[731] See footnote 723.
[732] See footnote 727.
[733] See footnote 722.

Figure 3. Local Employment by Industry in 2000-2010, Kokhanok (U.S. Census).

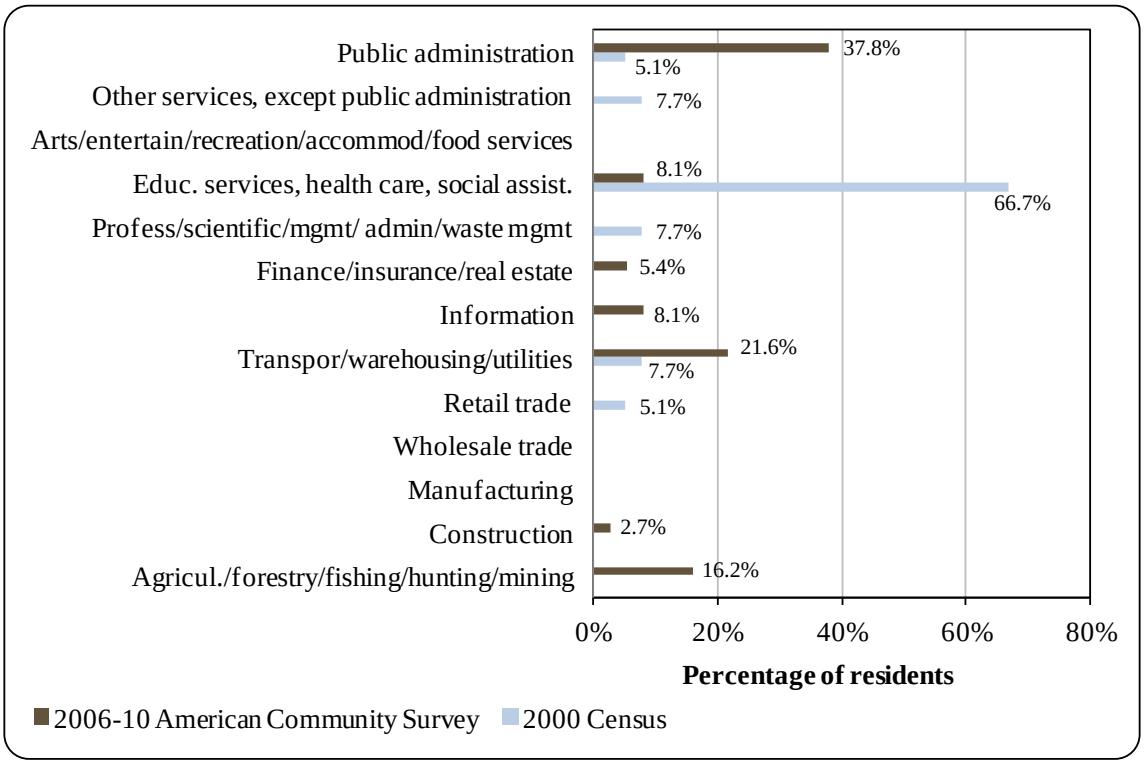
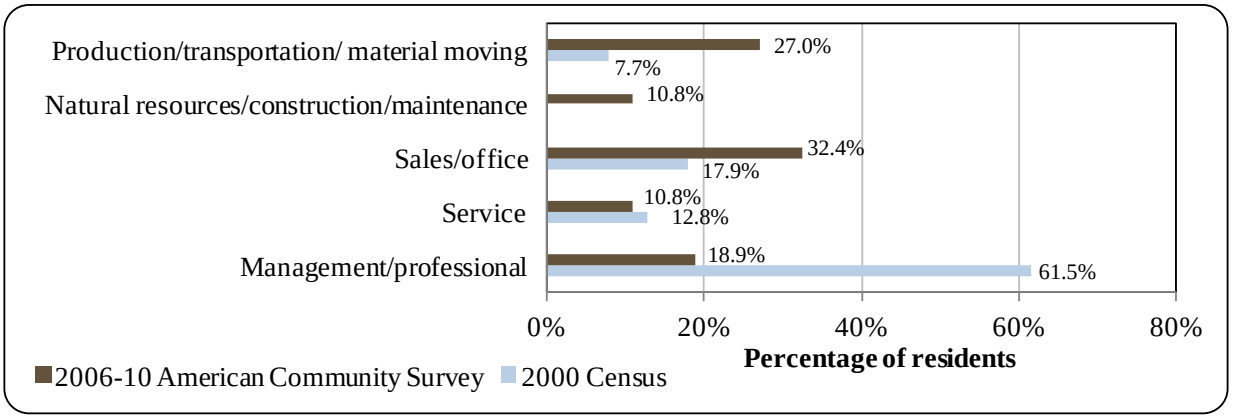


Figure 4. Local Employment by Occupation in 2000-2010, Kokhanok (U.S. Census).



Governance

Kokhanok is an unincorporated village under the jurisdiction of the Lake and Peninsula Borough. In addition, there is a federally recognized tribal government located in Kokhanok. The sale of alcohol is prohibited within the community. Kokhanok is unincorporated and unable to collect municipal taxes or fees. However, it was reported that in 2002, the community was awarded $2.5 million in public grants for a harbor feasibility and design project (Table 2)

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kokhanok from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	$2,500,000
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Kokhanok is the Bristol Bay Native Corporation, and the local ANCSA chartered non-profit is the Bristol Bay Native Association. The ANCSA chartered village corporation is Alaska Peninsula Corporation. Kokhanok is also a member of the Nilavena Consortium of Villages.

The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage, 207 miles northeast. The closest Alaska Department of Fish and Game (ADF&G) office is located in King Salmon, 88 miles southwest.

Infrastructure

Connectivity and Transportation[734]

Kokhanok is accessible by air and water. There is a state-owned 3,300-ft long by 75-ft wide gravel airstrip and a seaplane base. Freight service is provided by air and barge, and large amounts of freight are delivered in the summer by barge either up the Kvichak River from

[734] Kokhanok Tribal Council. (2004). *A Well Made Basket: The Kokhanok Community Plan.* Retrieved September 6, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kokhanok-GCP-2004.pdf.

Naknek, or by Cook Inlet or Pile Bay portages. Small freight is delivered by Desert Air, Iliamna Air Taxi, or Lake and Peninsula Air.

Residents can generally travel to Iliamna and Anchorage through Iliamna Air Taxi or Birchwood Air Service, with Iliamna Air Taxi providing scheduled air service. Travel to Dillingham, King Salmon, and other communities typically require chartering. Local travel is done primarily by ATV, skiff, or snowmobile.

Facilities

Kokhanok generates power only during the summer months; in winter, electricity is purchased from the school district. Kokhanok Electric is operated by the village council. The village council also operates a piped water and sewer system that serves 35 households. Water is also available through a central watering point, a community well source, and individual wells. Water is neither filtered nor chlorinated before distribution. The school operates its own well and water treatment facility. The Kokhanok Improvement Corporate operates a "washeteria" in the community, and privies pits and sewage pits are available in the community. The Village Council collects refuse.[735]

Safety services are provided by a Village Public Safety Officer in Kokhanok and a state trooper post in McGrath. The community also maintains its own volunteer fire department with equipment provided through Project Code Red and additional fire and rescue services provided by the Kokhanok First Responders. Kokhanok also has a post office and local and long-distance telephone services provided by Alaska Communications Systems of the Northland and AT&T. Internet access is currently only available in the school and is provided by GCI.[736]

Kokhanok lacks port or harbor infrastructure. There is a local boat landing area, and a new barge landing is scheduled for completion in 2013.[737]

Medical Services[738]

The Kokhanok Clinic provides residents with basic medical needs and is operated by the Bristol Bay Area Health Corporation. Kokhanok is an isolated location it is part of the Southern Emergency Medical Services Region. Emergency services are provided by a community health aide. Additional long-term, specialized, and acute medical services are provided in Dillingham and Anchorage.

Educational Opportunities

Kokhanok School provides preschool through 12th grade instruction. As of 2011, there were 28 students enrolled and 6 teachers employed.[739] Some residents participate in distance

[735] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[736] Ibid.
[737] Lake and Peninsula Borough. (n.d.). *Kokhanok Community Action Plan.* Retrieved September 6, 2012 from: http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Kokhanok_Community_Plan(2).pdf.
[738] See footnote 735.
[739] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

learning opportunities through the Rural Alaska Native Adult Program provided by the University of Alaska and Alaska Pacific University.[740]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The region surround Iliamna Lake is both a historic and contemporary subsistence use area and is heavily used by villages along the Lake and Nushagak/Mulchatna drainages. Most subsistence activity in the region is concentrated around the Nondalton area, north of Kokhanok.[741] Iliamna Lake and surrounding drainages and lakes provide popular subsistence areas, and many locals rely on sockeye salmon and freshwater seal.

Kokhanok residents participate exclusively in the Bristol Bay salmon fishery, which began in 1888 (although residents did not participate until later). In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product then there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached five million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.[742]

The Spanish American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth century's. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. For the next seven years, production would range between 20 and 25 million. Fueled by demand for canned salmon during World War I, canneries operated 24 hours a day, seven days a week, and recorded record profits. This caused a major crash in sockeye runs throughout Bristol Bay in 1919.[743]

Following the salmon crash, the White Act of 1924 assigned the federal government with managing the Alaska salmon fishery and mandated a 50% escapement rate. This prompted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps. However, new regulations being put in place were rarely enforced during the early years following the passage of the White Act.[744]

Commercial salmon fishing prospered in the 1920s and early 1930s and accounted for 80% of tax revenues collected by the territorial government. However, variable runs, foreign

[740] See footnote 734.
[741] The Pebble Partnership. (2012). *Subsistence & Traditional Knowledge Studies.* Retrieved September 7, 2012 from: http://www.arlis.org/docs/vol2/Pebble/2012%20Agency%20Meetings/29%20Subsistence%20and%20Traditional%20Resources%20-%20Steven%20Braund.pdf.
[742] The Bristol Bay Economic Development Corporation. (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery.* Retrieved March 14, 2012 from: http://www.bbsalmon.com/FinalReport.pdf.
[743] Ibid.
[744] Ibid.

encroachment, and the Great Depression stressed the industry and in 1935, only 3 million salmon were caught almost prompting a total shut-down of the Bristol Bay salmon fishery.[745]

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted canneries to hire local labor and local fishermen and communities began to organize. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential industry. Following World War II, salmon runs were once again in decline, although the Pacific Decadal Oscillation coupled with lower ocean productivity was to blame this time. However, further threats faced the industry from overfishing in the Bering Sea. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches on the other hand, averaged at 6.7 million sockeye annually during the 1950s. At this point, many seafood producers switched to more lucrative tuna, which became the iconic fish of the baby boom years.[746]

Following statehood in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this meant more aggressive forms of in-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. Despite rigorous management, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested. The state's response was both a scathing indictment of Japanese fishing effort and limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the U.S. asserted jurisdiction over much of the outer continental shelf surrounding its coastlines. The 200-mile exclusive economic zone, along with revised Bering Sea fishing boarders and favorable environmental conditions, set the stage for salmon recovery.[747]

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity for the region. Sockeye returned in force the following year, and strong demands elevated prices over $1.00 per lb. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to $2.40 per lb. Average gross earnings by drift boat exceeded $100,000 and the value of Bristol Bay drift permits surged to almost $250,000. As permit value rose, entry into the fishery became increasingly contested and litigated, resulting in additional permits being issued. However, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming would soon subvert the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to $1.09 per lb. By 1991, seafood processors were offering $0.50 per lb which resulted in fishermen striking. Once again, the Japanese were the focus of ire, with many fishermen making accusations of price-fixing from Japanese-owned seafood processors. During that time, Bristol Bay still maintained record salmon harvests, with 45 million fish taken in 1995. Revenues remained high despite low prices due to large harvests. However, once again the fishery would falter, and once again the Pacific Decadal Oscillation was to blame.

In previous lean years, production shortages would drive prices up. However, the abundance of farmed fish within the market changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to $63 million. Runs in years following were characterized by modest rebounds followed by more declines. In that time, Bristol Bay was

[745] Ibid.
[746] Ibid.
[747] Ibid.

declared both a state and federal disaster area and many permit holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at $250,000 was valued at less than $20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.[748]

Kokhanok is located in Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf of Alaska Sablefish Regulatory Area. The community is not eligible for the Community Quota Entity program or the Community Development Quota program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Kokhanok does not have a registered processing plant. The closest seafood processing facility is located in Naknek.

Fisheries-Related Revenue

Between 2000 and 2010 there was no known fisheries-related revenue received by the community of Kokhanok (Table 3).

Commercial Fishing

In 2010, 11 residents, or 6.5% of the population, held 10 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2010, eight residents held nine CFEC permits. The number of CFEC permits held in the community peaked in 2007 at 12. Of the CFEC permits held in 2010, 100% were for salmon and were used to fish in the Bristol Bay drift and set gillnet salmon fisheries.[749] Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, no residents held halibut, crab, or sablefish quota between 2010 and when the programs began.

Residents held 21 commercial crew licenses in 2010, compared to 32 in 2000; which was also the year the number of crew licenses held in the community peaked. Also in 2010, residents held majority ownership of one commercial fishing vessel, compared to four in 2000.

No commercial landings were reported in Kokhanok between 2000 and 2010. Landings reported by residents of Kokhanok between 2000 and 2010 are considered confidential, with the exception of salmon landings in 2000 and 2001. In 2001, residents reported landing 134,415 lbs of salmon valued at $56,641, compared to 115,309 lbs valued at $75,642 in 2000. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[748] Ibid.
[749] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kokhanok: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Kokhanok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Kokhanok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	9	9	10	10	8	9	9	12	11	11	10
	Fished permits	8	8	7	8	6	8	8	11	9	9	7
	% of permits fished	89%	89%	70%	80%	75%	89%	89%	92%	82%	82%	70%
	Total permit holders	8	9	10	10	8	9	9	12	11	11	11
Total CFEC Permits[2]	*Permits*	*9*	*9*	*10*	*10*	*8*	*9*	*9*	*12*	*11*	*11*	*10*
	Fished permits	*8*	*8*	*7*	*8*	*6*	*8*	*8*	*11*	*9*	*9*	*7*
	% of permits fished	*89%*	*89%*	*70%*	*80%*	*75%*	*89%*	*89%*	*92%*	*82%*	*82%*	*70%*
	Permit holders	*8*	*9*	*10*	*10*	*8*	*9*	*9*	*12*	*11*	*11*	*11*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Kokhanok: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Kokhanok[2]	Total Net Lbs Landed In Kokhanok[2]	Total Ex-Vessel Value Of Landings In Kokhanok[2]
2000	32	0	0	4	2	0	0	$0
2001	21	0	0	4	2	0	0	$0
2002	18	0	0	4	7	0	0	$0
2003	25	0	0	6	4	0	0	$0
2004	16	0	0	4	4	0	0	$0
2005	26	0	0	4	3	0	0	$0
2006	14	0	0	1	2	0	0	$0
2007	16	0	0	1	3	0	0	$0
2008	19	0	0	1	2	0	0	$0
2009	16	0	0	1	1	0	0	$0
2010	21	0	0	1	2	0	0	$0

Note: Cells showing – indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 6. Halibut Catch Share Program Participation by Residents of Kokhanok: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Kokhanok: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Kokhanok: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (lbs)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Kokhanok: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net lbs refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Kokhanok Residents: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	115,309	134,415	--	--	--	--	--	--	--	--	--
Total[2]	*115,309*	*134,415*	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$75,642	$56,641	--	--	--	--	--	--	--	--	--
Total[2]	*$75,642*	*$56,641*	--	--	--	--	--	--	--	--	--

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

The Bristol Bay salmon sportfishing season typically begins by the end of May when Chinook salmon begin to enter Bristol Bay drainages. Dolly Varden, Arctic char, and grayling can often be found feeding on out-migrating salmon fry, and northern pike are active as well. Most of the Kvichak River and drainages flowing into Iliamna Lake remained closed to fishing until June 8, when rainbow trout fishing opens in eastern sections of the river. Chinook become more accessible in eastern portions of Bristol Bay drainages, and Arctic char, Dolly Varden, northern pike, and grayling remain active. Sockeye salmon become popular targets for anglers in July, and are plentiful in the Kvichak River early in the month. Chum salmon are found in abundance by mid-July, and some coho can be found by the end of the month. Chinook salmon are closed to sportfishing in most Bristol Bay drainages by the end of July. Coho salmon are most plentiful in August and September, and by October, sportfishing opportunities are primarily limited to resident fish. Throughout the winter months, rainbow trout, Dolly Varden, grayling, smelt, Arctic char, and northern pike can be targeted. [750]

Because of Kokhanok's remote location and lack of visitor infrastructure, recreational fishing from within the community is limited. No sport fish guide businesses were registered within the community between 2002 and 2010, and only one was registered in 2000 and 2001 (although not active). In addition, no sportfishing licenses were sold within the community between 2000 and 2010. Residents held 19 sportfishing licenses in 2010, compared to 7 in 2000. The number of sportfishing licenses held by residents peaked in 2010.

Kokhanok is located in the Kvichak River Drainage ADF&G Harvest Survey Area, which includes all lakes and tributaries of the Kvichak River drainage. In 2010, there was a total of 25,681 freshwater angler days fished, compared to 31,145 in 2000. In that year, non-Alaska residents accounted for 78.1% of freshwater angler days fished, compared to 66.9% in 2000. Total angler days fished peaked in 2007 at 33,417. In each year, Alaska residents accounted for significantly less freshwater angler days fished than non-Alaska residents. Saltwater sportfishing made up a comparatively insignificant portion of angler days fished within the Survey Area. In 2010, there were 22 saltwater angler days fished, compared to 236 in 2000. In that year, non-Alaska residents accounted for 100% of saltwater angler days fished, compared to 28.8% in 2000. The number of saltwater angler days fished peaked in 2002 at 449. Further information regarding sportfishing trends can be found in Table 11.

[750] Alaska Dept. of Fish and Game. (n.d.). *Sport Fish Area Fishing Report – Bristol Bay.* Retrieved September 10, 2012 from:
http://www.adfg.alaska.gov/sf/FishingReports/index.cfm?ADFG=R2.summary&Area_key=19&RecordID=40.

Table 11. Sport Fishing Trends, Kokhanok: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Kokhanok[2]
2000	0	1	7	0
2001	0	0	12	0
2002	0	0	17	0
2003	0	0	8	0
2004	0	0	12	0
2005	0	0	14	0
2006	0	0	17	0
2007	0	1	15	0
2008	0	1	18	0
2009	0	1	17	0
2010	0	1	19	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence is an essential part of daily life for residents of Kokhanok. Without easy access to regional centers, the community is substantially dependent upon subsistence resources. Many families spend their summers at fish camps near the Gibraltar River.[751] Residents commonly harvest sockeye salmon along Iliamna Lake using set gillnets. Coho salmon are harvested at fish camps on Gibraltar Lake in late fall; spawning sockeye are harvested as well. Freshwater species are harvests along bays east of Kokhanok, as well as the surrounding smaller lakes and streams. Ice fishing for Arctic grayling and northern pike is popular in the spring. While sockeye are the most harvested subsistence species, moose and caribou are also extremely important. However, many residents feel that sport and predation management needs to be more responsive to the subsistence needs of community members. Freshwater harbor seals are an important subsistence food. Many residents hunt seal on islands or around haul-out points on the ice created by pressure cracks.

According to a survey conducted by ADF&G in 2005, 93% of Kokhanok households surveyed participated in salmon subsistence activities, 14% participated in halibut subsistence activities, 40% participated in marine mammal subsistence activities, 4% participated in marine invertebrate subsistence activities, and 43% participated in non-salmon fish subsistence activities (Table 12). Per capita harvest of those species was estimated at 556.5 lbs. In a similar ADF&G study of household subsistence participation in 2005, most (97.1%) of surveyed households reported using sockeye salmon; followed by Chinook (31.4%), coho (25.7%), chum (14.3%), and pink (11.4%) salmon. In addition, 65.7% reported using rainbow trout, 51.4% reported using Arctic char, 41.7% reported using Dolly Varden, 34.3% reported using grayling, 34.3% reported using northern pike, 34.3% reported using whitefish, 14.3% reported using halibut, 11.4% reported using lake trout, 17.1% reported using smelt, and 2.9% reported using lingcod. Finally, 40.0% of households reported using bearded seal, and 40.0% reported using freshwater harbor seal.[752]

Of the species reported by ADF&G in Table 13, residents reported harvesting sockeye salmon the most often, followed by coho, chum, pink, and Chinook salmon. In 2008, residents reported harvesting 15,698 salmon, compared to 8,835 in 2000. Reported salmon harvests peaked in 2007 at 19,078 fish. In 2005, residents reported harvesting 6,544 lbs of non-salmon fish, and 73 lbs of marine invertebrates. Between 2009 and 2003, no residents were issued Subsistence Halibut Registration Certificates (SHARC) (Table 14). Although there is no data available specific to marine mammal harvests between 2000 and 2010 (Table 15), it is understood that residents harvest freshwater harbor seals. According to ADF&G's Community Subsistence Information System (CSIS),[753] species that Kokhanok residents have historically harvested or used include butter clams, Dungeness crab, freshwater clams, horse clams, octopus, littleneck clams, pinkneck clams, razor clams, shrimp, Tanner crab, bearded seal, harbor seal

[751] Lake and Peninsula Borough. (n.d.). *Kokhanok Community Action Plan.* Retrieved September 6, 2012 from: http://www.lakeandpen.com/vertical/sites/%7B0B64B15E-4D75-4DD6-ACBB-14563D943AB9%7D/uploads/Kokhanok_Community_Plan(2).pdf.

[752] Krieg, T. M., D. L. Holen, .and D. Koster, D. (2009). *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.* Technical Paper No. 322. Retrieved September 10, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf.

[753] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

(freshwater and saltwater), ringed seal, Steller sea lion, blackfish, broad whitefish, sculpin, burbot, Arctic char, Dolly Varden, flounder, grayling, herring, humpback whitefish, lake trout, cisco, lingcod, rainbow trout, rockfish, round whitefish, smelt, sucker, and stickleback.

Table 12. Subsistence Participation by Household and Species, Kokhanok: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (lbs)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	93%	14%	40%	4%	43%	556.5
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kokhanok: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	25	22	18	2	n/a	1	8,814	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	25	21	18	6	12	43	11,869	n/a	n/a
2005	34	33	30	321	392	125	17,101	73	6,544
2006	28	21	12	17	13	8	19,028	n/a	n/a
2007	29	20	6	22	26	1	15,705	n/a	n/a
2008	26	21	7	5	n/a	2	15,684	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Kokhanok: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Kokhanok: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Koliganek (*koh-LIG-uh-neck*)

People and Place

Location [754]

Koliganek is located on the left bank of the Nushagak River, 65 miles northeast of Dillingham. The village hopes to get its own zip code, although it currently shares one with Dillingham. Koliganek occupies 12.5 square miles of land and 0.1 square miles of water. The community is unincorporated, is located in the Dillingham Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [755]

In 2010, there were 209 residents in Koliganek, ranking it 194th of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 15.5%. Between 2000 and 2009, the population grew by 0.00%, with an average annual growth rate of -0.87% indicating some variation between those years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there were an estimated 200 permanent residents living in Koliganek in 2010. Typically, there are seasonal workers living in the community between May and October, with the population peaking in October. Peaks in Koliganek's population are thought to be entirely driven be employment in fisheries sectors. Further information regarding population trends can be found in Table 1.

Koliganek is predominately a Yup'ik Eskimo village with Russian Orthodox influences. Between 2000 and 2010, the community experienced corresponding increases in the Alaska Native population and decreases in the White population. In 2010, 95.7% of residents identified themselves as American Indian or Alaska Native, compared to 87.4% in 2000; 3.3% identified themselves as White, compared to 10.4% in 2000' and 1.0% identified themselves as two or more races, compared to 0.0% in 2000. No residents identified themselves as Hispanic or Latino in 2010. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 3.80, compared to 3.80 in 1990 and 3.43 in 2000. In that year, there were a total of 66 housing units, compared to 50 in 1990 and 77 in 2000. Of the households surveyed in 2010, 53% were owner-occupied, compared to 53% in 2000; 30% were renter-occupied, compared to 16% in 2000; 12% were vacant, compared to 29% in 2000; and 5% were occupied seasonally, compared to 3% in 2000. No residents lived in group quarters between 1990 and 2010.

[754] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[755] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

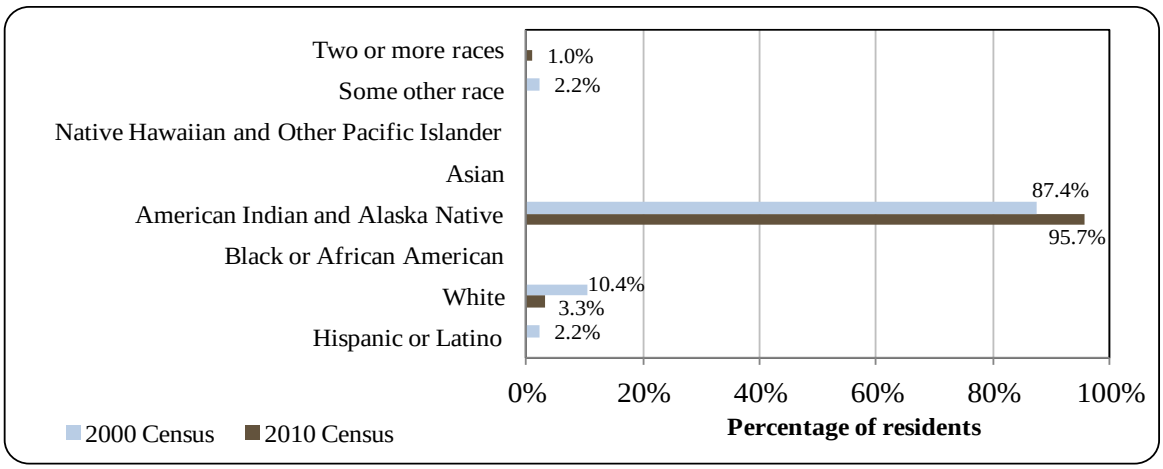
Table 1. Population in Koliganek from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	181	-
2000	182	-
2001	-	177
2002	-	188
2003	-	199
2004	-	188
2005	-	168
2006	-	165
2007	-	192
2008	-	174
2009	-	182
2010	209	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Koliganek: 2000-2010 (U.S. Census).

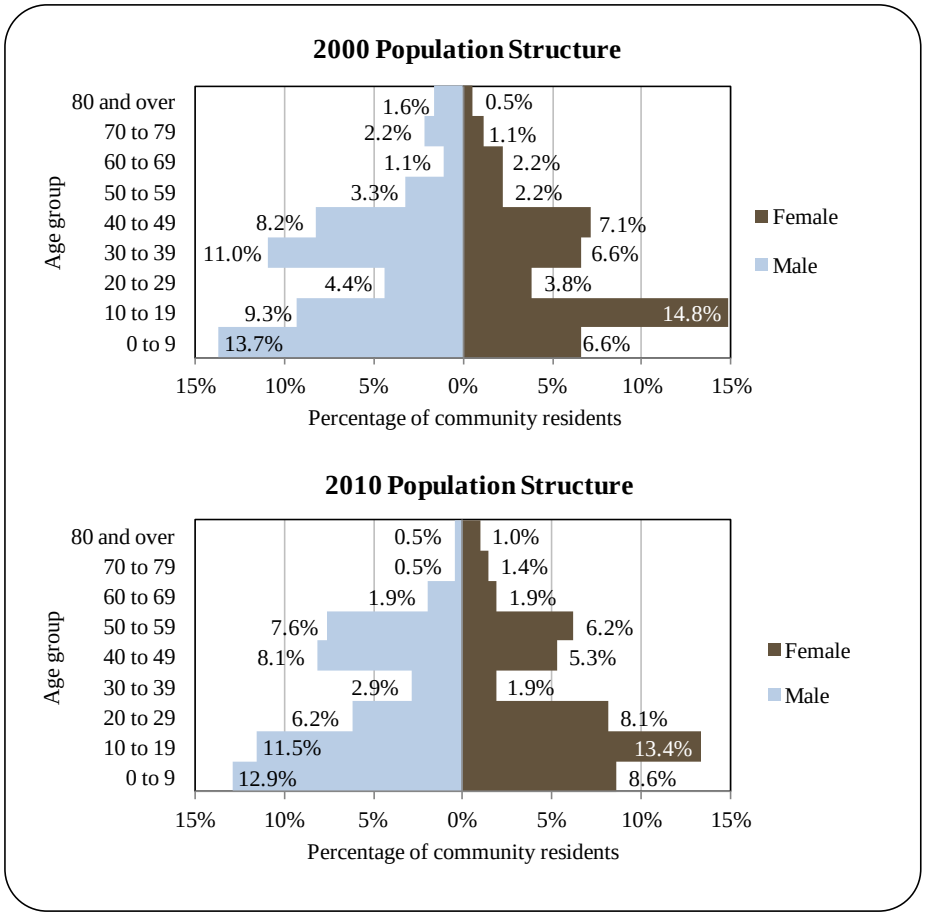


In 2010, the gender distribution of Koliganek was 52.2% male and 47.8% female. This was similar to the gender distribution statewide (52.0% male, 48.0% female), and slightly more even than the distribution in 2000 (54.9% male, 45.1% female). In that year, the median age was 21.3 years, which was lower than both the statewide median of 33.8 years and 2000 median of 26.0 years. Overall, the gender distribution was expansive in both 2000 and 2010, with several significant disparities among several cohorts (Figure 2). In addition, many cohorts displayed characteristics consistent with a stable population, meaning that as they transitioned into new age ranges they maintained their overall structural character. In 2010, 46.4% of residents were under

the age of 20, compared to 44.4% in 2000; 7.2% were over the age of 59, compared to 8.1% in 2000; 32.0% were between the ages of 30 and 59, compared to 38.4% in 2000; and 14.3% were between the ages of 20 and 29, compared to 8.2% in 2000.

Gender distribution by age cohort was significantly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 0 to 9 range (12.9% male, 8.6% female), followed by 40 to 49 (8.1% male, 5.3% female) and 20 and 29 (8.1% female, 6.2% male) ranges. Of those three, the greatest relative gender difference occurred within the 40 to 49 range. Information regarding trends in population structure can be found in Figure 2.

Figure 2. Population Age Structure in Koliganek Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[756] estimated that 73.2% of residents aged 25 and over held a high school diploma or higher degree in 2010, somewhat less than the estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 14.3% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 12.5% had a 9th to 12th grade

[756] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 26.8% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 2.7% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 1% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Previous to Russian and European contact, the Nushagak River region was occupied by the Nushagagmiut culture of Yup'ik Eskimos. The area's proximity to highly productive salmon grounds and location between the Alaska Peninsula and Yukon-Kuskokwim Delta lent to considerable cultural mixing, trade, and in some instances, conflict. Bristol Bay was visited by Captain James Cook in 1778 while searching for a northwest passage. The Bay was named after the Admiral Earl of Bristol. Although this was the first well recorded visit to Bristol Bay by Europeans, Cook gave evidence of a prior Russian presence in the area.[757]

Koliganek is a Yup'ik Eskimo village with Russian Orthodox practices. Subsistence activities are an important part of the lifestyle. The village was first listed in the 1880 Census as "Kalignak." The name is local, recorded by the U.S. Geological Survey in 1930. Since that time, the village has moved 4 miles downstream from the original site.[758]

The present location of Koliganek, also called "New Koliganek," was established about 1964. Prior to that, the residents lived at another site called "Koliganek" and, before that, in Old Koliganek, on the lower Nuyakuk River. The village of Old Koliganek was occupied until the early 1940s, when residents relocated. The next site was occupied only for about 20 year when frequent flooding forced residents to relocate once more.[759]

Natural Resources and Environment[760]

The area is in a climatic transition zone. The primary influence is maritime, although a continental climate affects the weather. Average summer temperatures range from 37 to 66 °F (3 to 19 °C); winter temperatures range from 4 to 30 °F (-16 to -1 °C).

The Nushagak-Mulchatna River watershed was formed by repeated Pleistocene glacial advances and retreats ending about 12,000 years ago. The modern shoreline of Bristol Bay was created in the same period when sea levels rose. The Nushagak River watershed is composed of mountains, mixed forests, tundra, lakes, and rivers. Dominant vegetation is tundra, mixed coniferous/birch forest, and willow/cottonwood/alder riparian corridors. In general, white spruce and mixed spruce-birch forests as well as muskeg and willow-alder thickets exist in elevations up to 900 feet. Above this, bare rock, heath tundra, and alpine meadow dominate. Wet meadows, marsh, and tidal marsh exist in lower elevations and depressions; as well as the moth of the

[757] Tryck, Nyman & Hayes. 1985. *City of Dillingham Comprehensive Plan.* Retrieved March 9, 2012 from: http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-1985.pdf.
[758] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[759] Krieg, T. M., D. L. Holden, and D. Koster. 2009. *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.* Technical Paper No. 322. Retrieved September 5, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf.
[760] See footnote 758.

Nushagak River. Nushagak Bay is characterized by tidal mudflats, sandy/gravelly shoreline, bluffs, and glaciofluvial material up to 200 feet.[761]

The Nushagak River watershed provides important habitat for moose, caribou, brown and black bears, wolverine, wolves, porcupine, lynx, marten, beaver, snowshoe hare, weasels, mink, ground squirrels, and microtones. Caribou breed in the upper Nushagak basin and post-calving congregations have numbered between 40,000 and 200,000 animals. The area also provides staging, nesting, molting, or year-round habitat for over 150 species of birds. The Sushagak River system is the fifth largest river in Alaska by volume, and supports at least 13 anadromous and 16 resident fish species. Local fish species include all five species of Pacific salmon, Northern pike, rainbow trout, rainbow smelt, Arctic char, Dolly Varden, Arctic grayling, and blackfish.[762]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit east of Koliganek. The Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[763] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lbs of copper, 66.9 million ounces of gold, and 3.3 billion lbs of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lbs of copper, 40.4 million ounces gold, and 2.3 billion lbs of molybdenum.[764] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area. If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[765]

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.[766] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[767] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[768]

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[761] Nushagak-Mulchatna Watershed Council. 2007. *Nushagak River Watershed Traditional Use Area Conservation Plan.* Retrieved September 4, 2012 from: http://www.nature.org/idc/groups/webcontent/@web/@alaska/documents/document/prd_017469.pdf.

[762] Ibid.

[763] Parker, G. Y., F.M. Raskin, C. A. Woody, and L. Trasky. 2008. Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.

[764] Northern Dynasty Minerals Limited. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.

[765] Pg. 36 in: Duffield, J., C. Neher, D. A. Patterson, and O. S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.

[766] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[767] Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.

[768] The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

The Bristol Bay area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, a majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. There is also potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[769]

According to a survey conducted by the AFSC in 2011, community leaders reported that Koliganek's future is threatened by mining developments in the region. As one community leader put it "Our fear is mining development in our head waters. We survive on salmon. Mining development is no good. There is too much risk."

Current Economy[770]

Because of limited opportunities for wage employment, subsistence is an important part of the local economy in Koliganek. As in much of the Bristol Bay area, most cash employment is seasonal. Commercial fishing and the public sector have both been especially important sources of employment and income.[771] In a survey conducted by the AFSC in 2011, community leaders reported that Koliganek's economy is dependent on fishing.

In 2010,[772] the estimated per capita income was $15,944 and the estimated median household income was $56,563, compared to $13,242 and $44,483 in 2000, respectively. However, after adjusting for inflation by converting 2000 values into 2010 dollars,[773] the real per capita income ($17,413) and real median household income ($58,626) indicate that both individual and household earnings decreased slightly. In 2010, Koliganek ranked 186th of 305 communities from which per capita was estimated, and 92nd of 299 communities from which median household income was estimated.

Koliganek's small population size may have prevented the ACS from accurately portraying economic conditions.[774] Another understanding of per capita income is obtained

[769] Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.

[770] Unless otherwise noted, all monetary data are reported in nominal values.

[771] New Koliganek Village Council; Agnew::Beck Consulting, LLC; and Bristol Bay Economic Development Corporation. 2005. *Koliganek Comprehensive Plan.* Retrieved August 29, 2012 from: http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf.

[772] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[773] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

[774] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not

through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $1.40 million in total wages in 2010.[775] When matched with the 2010 Decennial Census population, the per capita income equals $6,717, which is significantly less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures. This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. [776] However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.[777]

According to 2006-2010 ACS estimates,[778] 58.8% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 18.3%, compared to an estimated 5.9% statewide; and an estimated 7.2% of residents lived below the poverty level, compared to an estimated 9.5% of Alaskan residents overall. Again, Koliganek's small population may have prevent the ACS from accurately capturing economic conditions. According to 2010 ALARI estimates, the unemployment rate in Koliganek was 24.6% based on unemployment insurance claimants.[779]

Of those employed, an estimated 48.4% worked in the private sector and an estimated 51.6% worked in the private sector. By industry (Figure 3), most (43.5%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration (24.2%); retail trade (16.1%); and agriculture, forestry, fishing, hunting, and mining sectors (12.9%). Between 2000 and 2010, there were significant proportional increases in the number of residents employed in agriculture, forestry, fishing, hunting, mining, and retail trade sectors. Conversely, there were significant proportional declines in the number of residents employed in construction, transportation, warehousing, utilities, finance, insurance, and real estate sectors. According to 2010 ALARI estimates,[780] most (44.1%) employed residents worked in local government sectors; followed by "other" unspecified sectors (19.4%); information sectors (7.5%); and professional and business sectors (7.5%).

By occupation type (Figure 4), most (43.5%) employed residents were estimated to hold management or professional positions; followed by sales or office (29.0%); service (17.7%); and production, transportation, or material moving positions (9.7%). Between 2000 and 2010, there were significant proportional increases in the number of sales and office positions held by residents. Conversely, there were significant proportional declines in the number of natural resources, construction, and maintenance positions.

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collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[775] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

[776] Denali Commission. 2011. *Distressed Community Criteria 2011 Update.* Retrieved April 16, 2012 from: www.denali.gov.

[777] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database.* Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

[778] See footnote 774.

[779] See footnote 777.

[780] Ibid.

Figure 3. Local Employment by Industry in 2000-2010, Koliganek (U.S. Census).

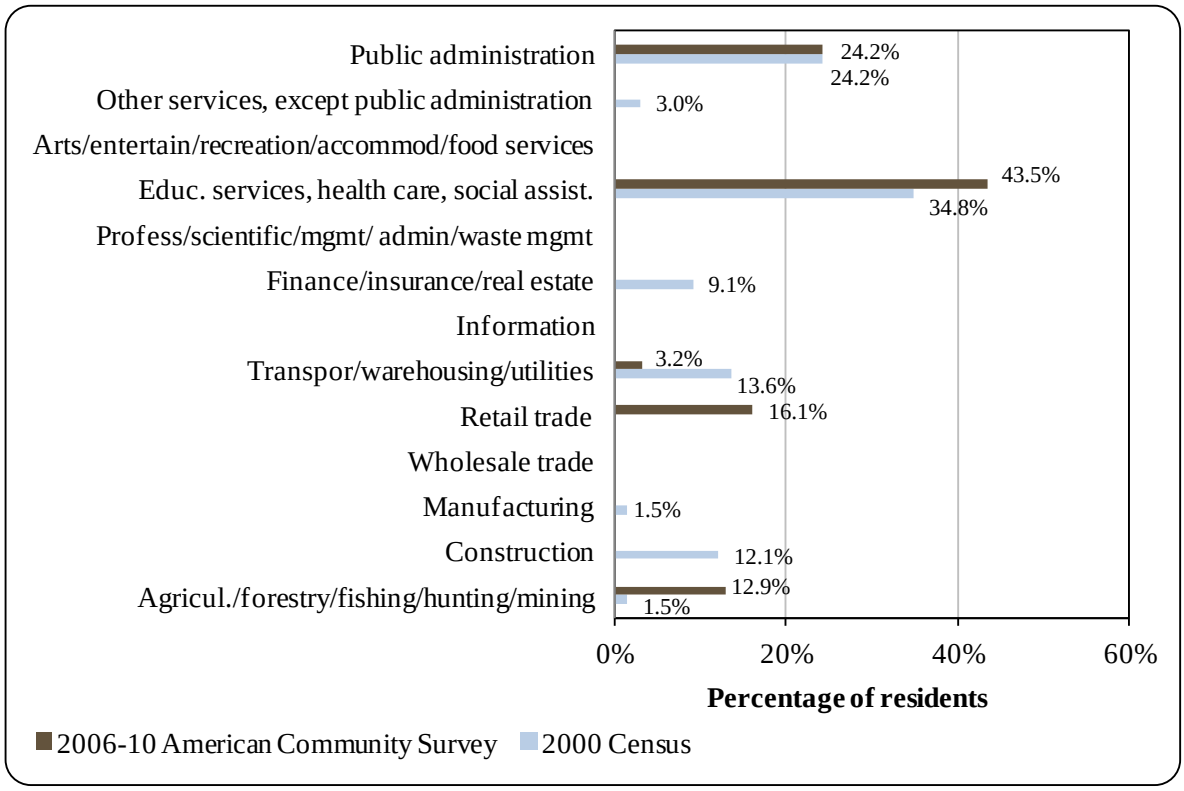
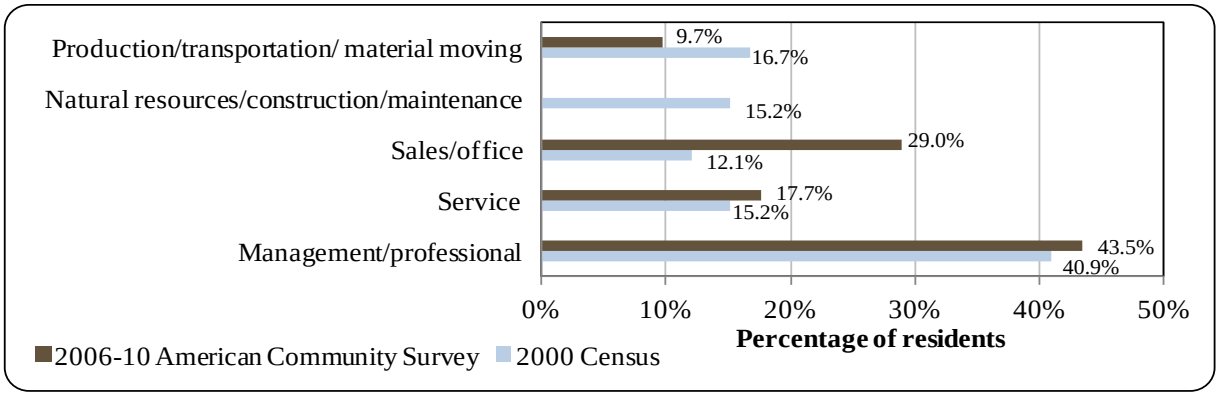


Figure 4. Local Employment by Occupation in 2000-2010, Koliganek (U.S. Census).



Governance

Koliganek is an unincorporated community located in the unorganized borough. Due to its unincorporated status, no taxes or public fees are collected locally. However, the community did receive a total of $15,189 in State Revenue Sharing between 2000 and 2003 (Table 2).

The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Koliganek is the Bristol Bay Native Corporation, and the local ANCSA chartered non-profit is the Bristol Bay Native Association. The ANCSA chartered village corporation is Koliganek Natives Limited. The closest Alaska Department of Fish and Game (ADF&G) office

is located in Dillingham, 65 miles southwest, the closest National Marine Fisheries Service (NMFS) office is located in Bethel, 162 miles northwest, and the closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 280 miles northeast.

Table 2. Selected Municipal, State or Federal Revenue Streams for the Community of Koliganek from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	$4,170	n/a
2001	n/a	n/a	$3,707	n/a
2002	n/a	n/a	$3,681	n/a
2003	n/a	n/a	$3,631	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation[781]

Boats and ATVs are used in the summer and snowmachines in the winter. Locals travel to New Stuyahok frequently. There are no docking facilities; goods are lightered from Dillingham. In a survey conducted by the AFSC in 2011, community leaders reported vessels up to 200 feet long can use moorage in Koliganek but that no dock space is available for public moorage. Community leaders also reported a road system exists in the community.

A state-owned 3,000-ft long by 75-ft wide runway is available and charter service is provided by Grant Aviation and Peninsula Airways. Roundtrip airfare between Anchorage and Dillingham (the closest airport with scheduled service) in June 2012 was $414.[782]

[781] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[782] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).

Facilities [783]

Electricity in Koliganek is provided by a diesel powerhouse owned by the Koliganek Village Council. Koliganek also purchases power from the school district and owns its own generator. The village council has operated a piped water and sewer system for over 25 years and water is derived from a well and is filtered and treated with chlorine before distribution. Thirty-three homes and facilities are connected to the piped water and a community septic tank. Eight homes have individual wells and septic systems. Fifteen homes haul water from multiple watering points and utilize individual privies. A sewage haul is not available, but residents can use designated pits. In addition to a piped sewer system, the village council operates a community septic tank and a sewage pumper, lagoon, and lift station. Individuals collect their own refuse and deposit it in a village council-operated Class 3 permitted landfill.

Public safety services are provided by the Village Public Safety Officer in Koliganek and state troopers posted in Dillingham. The village also maintains its own volunteer fire department with equipment provided through Project Code Red. Visitor accommodations are provided by Boby's Bed and Breakfast. In a survey conducted by the AFSC in 2011, community leaders reported that Koliganek also has a post office and telephone service is in place. Internet service is provided by GCI. Community leaders indicate that no fisheries-related businesses are available in Kotzebue.

Medical Services[784]

The Koliganek Clinic provides residents with basic medical services and is operated by the Bristol Bay Area Health Corporation. Koliganek is an isolated location in the Southern Emergency Medical Services Region. Emergency Services have river and air access and First Responders are available in the community. Emergency service is provided by a health aide. The closest hospital is located in Dillingham.

Educational Opportunities[785]

Koliganek has one school offering preschool through 12th grade instruction. As of 2011, there were 59 students enrolled and 7 teachers employed. Koliganek is part of the Southwest Region School District.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence fishing activities have been important to residents of the Koliganek area for thousands of years. The Nushagak region was historically inhabited by a coastal population that combined fishing and hunting of marine mammals and an interior population that focused on

[783] See footnote 781.
[784] Ibid.
[785] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

hunting and fishing with frequent trips to the coast, especially during summer months.[786] Today, a combination of commercial and subsistence harvest of marine resources provide the foundation for Koliganek's economy.[787]

Bristol Bay is the world's largest wild sockeye salmon fishery; however, exploitation of salmon on the Nushagak did not begin until the late 19th century. In 1883, the schooner Neptune prospected for salmon in Nushagak Bay, which was the same year the first cannery was built by the Arctic Packing Company in the village of Kanulik. The first salmon pack was produced in 1884, which consisted of a harvest of approximately 4,200 salmon. However, within a few years, the harvest topped one million fish as canneries were established in Scandinavian Beach, Wood River, Kanakanak, Snag Point, Clark's Point, Ekuk, and Nushagak. By 1900, the industry was also well established on the east side of Bristol Bay. Early fishing was conducted using traps. However, traps were discontinued in 1924 in favor of drift gillnetting from sailboats. In the early 1950s, sailboats were replaced by more modern vessels after a federal ban on the use of power boats for fishing in Bristol Bay was lifted.[788]

Koliganek is located on the Nushagak River which empties into Bristol Bay. This marine area is encompassed by the Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Because Koliganek is located more than 50 nautical miles from the coast, the community is not eligible to participate in the Community Development Quota program. Given its location outside the Gulf of Alaska, Koliganek is also not eligible to participate in the Community Quota Entity program. According to a survey conducted by the AFSC in 2011, community leaders reported that Koliganek does not participate directly in fisheries management processes in Alaska.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Koliganek does not have a registered processing plant. The closest seafood processor is located in Dillingham.

Fisheries-Related Revenue

Between 2000 and 2010, there was no known fisheries-related revenue received by the community of Koliganek (Table 3).

[786] VanStone, James W. 1968. "An Annotated Ethnographic Bibliography of the Nushagak River Region, Alaska." *Anthropology*, v. 54, no. 2. Field Museum of Natural History. Chicago.
[787] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[788] Nushagak-Mulchatna Watershed Council. (2007). *Nushagak River Watershed Traditional Use Area Conservation Plan.* Retrieved September 4, 2012 from: http://www.nature.org/idc/groups/webcontent/@web/@alaska/documents/document/prd_017469.pdf.

Commercial Fishing

Between 1990 and 1997, Koliganek residents participated in both herring and salmon commercial fisheries; however, herring permit activity ceased during the following years. Since 1990, the total number of permits held by Koliganek community members has slowly declined. This is a trend experienced in other Bristol Bay communities as well.[789]

In 2010, 21 residents, or 10.0% of the population, held 20 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 21 residents held 23 CFEC permits. Of the permits held in 2010, 100% were for salmon, compared to 87% in 2000. Of the salmon permits held in 2010, 75% were actively fished, compared to 74% in 2000. Fisheries prosecuted by Koliganek residents that year included: Bristol Bay drift and set gillnet salmon.[790] Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, residents did not participate in federal fisheries for halibut, crab, or sablefish. Residents held 26 commercial crew licenses in 2010, compared to 38 in 2000. The number of residents who held commercial crew licenses peaked at 38 in both 2000 and 2004. In addition, residents held majority ownership of 10 vessels in 2010, compared to 13 in 2000. Vessel ownership peaked in 2002 at 15 vessels (Table 5).

A lack of fish buyers and shoreside processors in the community prevented commercial landings from being reported in Koliganek between 2000 and 2010. However, landings were reported by Koliganek residents. Non-confidential information about landings by residents is limited to salmon. In 2010, residents landed 513,896 lbs of salmon valued at $460,313 ex-vessel, compared to 432,639 lbs valued at $284,520 ex-vessel; representing no change in value after adjusting for inflation[791] and without considering the species composition of landings. This represents a significant and steady increase in salmon landings and ex-vessel value between 2000 and 2010. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[789] New Koliganek Village Council; Agnew::Beck Consulting, LLC; and Bristol Bay Economic Development Corporation. (2005). *Koliganek Comprehensive Plan.* Retrieved August 29, 2012 from: http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf.

[790] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[791] Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Koliganek: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Koliganek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	3	2	1	1	1	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	3	2	1	1	1	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Koliganek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	20	20	21	22	27	24	22	18	19	22	20
	Fished permits	17	16	9	13	14	16	17	13	15	14	15
	% of permits fished	85%	80%	43%	59%	52%	67%	77%	72%	79%	64%	75%
	Total permit holders	20	23	21	23	29	25	23	20	20	25	21
Total CFEC Permits[2]	*Permits*	*23*	*22*	*22*	*23*	*28*	*24*	*22*	*18*	*19*	*22*	*20*
	Fished permits	*17*	*16*	*9*	*13*	*14*	*16*	*17*	*13*	*15*	*14*	*15*
	% of permits fished	*74%*	*73%*	*41%*	*57%*	*50%*	*67%*	*77%*	*72%*	*79%*	*64%*	*75%*
	Permit holders	*21*	*24*	*21*	*23*	*29*	*25*	*23*	*20*	*20*	*25*	*21*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Koliganek: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Koliganek[2]	Total Net Lbs Landed In Koliganek[2,5]	Total Ex-Vessel Value Of Landings In Koliganek[2,5]
2000	38	0	0	13	12	0	0	$0
2001	29	0	0	13	12	0	0	$0
2002	27	0	0	13	15	0	0	$0
2003	27	0	0	12	8	0	0	$0
2004	38	0	0	15	12	0	0	$0
2005	37	0	0	9	3	0	0	$0
2006	32	0	0	10	4	0	0	$0
2007	27	0	0	10	4	0	0	$0
2008	22	0	0	10	3	0	0	$0
2009	28	0	0	9	4	0	0	$0
2010	26	0	0	10	4	0	0	$0

Note: Cells showing – indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Koliganek: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Koliganek: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Koliganek: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (lbs)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Koliganek: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Koliganek Residents: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	432,639	241,251	120,494	416,288	581,450	588,504	525,992	483,438	493,276	503,243	513,896
Total[2]	*432,639*	*241,251*	*120,494*	*416,288*	*581,450*	*588,504*	*525,992*	*483,438*	*493,276*	*503,243*	*513,896*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$284,520	$92,750	$51,754	$192,569	$274,236	$321,485	$319,768	$294,776	$347,578	$372,822	$460,313
Total[2]	*$284,520*	*$92,750*	*$51,754*	*$192,569*	*$274,236*	*$321,485*	*$319,768*	*$294,776*	*$347,578*	*$372,822*	*$460,313*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing began in the Nushagak River area in 1950, with the opening of a the Angler's Paradise Lodges on the Kvichak side of Bristol Bay. Operating from an old scow, the Wood River Trout Camp was the first lodge to open on the west side of Bristol Bay in 1959, which would eventually become the Wood River Lodge on the Agulowak River. In the 1980s, Chinook salmon within the Nushagak River began to attract more interest, and Native village corporations began making temporary commercial land leases available.[792]

Today, recreational fishing on the Nushagak River is a very popular activity with private anglers. Chinook salmon begins to run in early June and continue to build throughout the month. Fish availability begins to decline after the first week of July. The Nushagak River hosts the largest Chinook sport fishery in the United States, as well as large rainbow trout, grayling, Arctic char, Dolly Varden, northern pike, and lake trout fisheries.[793]

For one month from mid-June to mid-July, more than 40 sportfishing lodges host clients that come from around the world to catch fish. Sportfishing on the Nushagak has been steadily increasing to the point that many local residents fear that congestion on the river may eventually reach levels seen on the Kenai River outside of Anchorage. Such congestion may result in reduced Chinook salmon escapement and increased habitat degradation. Most sportfishing camps and lodges are located within the Lower Mainstem Nushagak River Corridor, and many are situated on land leased from local Native village corporations, which all participate in a unified leasing and permitting program managed by Choggiung Ltd. While leasing activity is strictly monitored by this program, growth is largely unregulated in other areas, and many commercial guide lodges purchase private allotments, fee of building and client number restrictions. Fishing activity associated with lodges and sportfishing camps is also growing in the Middle Nushagak and Mulchatna River Corridors, closer to Koliganek. Most of the land within this conservation area is owed by the State, but there are also many Native allotment inholdings.[794]

In 2010, there were no sport fish guide businesses registered in Koliganek, compared to one in 2000. However, no registered sport fish guide businesses were active between 2000 and 2010 (Table 11). Very few sport fish guide licenses were issued in the community between those years, peaking at six in 2004. In addition, 2009 was the only year in which sportfishing licenses were sold within the community. Residents held a total of 35 sportfishing licenses in 2010, compared to 25 in 2000. The number of sportfishing licenses held by residents peaked in 2009 at 58. According to ADF&G Harvest Survey records, local private anglers target Chinook and coho salmon, rainbow trout, Arctic grayling, and northern pike. In a survey conducted by the AFSC in 2011, community leaders also reported that local private anglers target all five species of Pacific salmon. ADF&G Charter logbook data indicating species targeted by charter businesses in 2010 are unavailable.

Koliganek is located within the Nushagak, Wood River and Togiak ADF&G Harvest Survey Area, which includes the Nushagak River, Mulchatna River, Wood River, and Tilchik Lake drainages, as well as water westward to Cape Newenham.[795] Overall, there was a steady

[792] Nushagak-Mulchatna Watershed Council. 2007. *Nushagak River Watershed Traditional Use Area Conservation Plan.* Retrieved September 4, 2012 from: http://www.conservationgateway.org/Files/Pages/nushagak-river-watershed-.aspx.
[793] Ibid.
[794] Ibid.
[795] Alaska Department of Fish and Game. (n.d.). *Alaska Sport Fishing Survey.* Retrieved February 13, 2012 from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home

decline in freshwater angler days fished in the survey area between 2000 and 2010. In 2010, freshwater resident and non-Alaska resident angler days fished totaled 23,385 days, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 89% of angler days fished, compared to 73% in 2000. Between 2000 and 2010, there was significantly less saltwater angler days fished than freshwater. In 2009, there was 147 total saltwater angler days fished, compared to 429 in 2000. Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Koliganek: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Koliganek[2]
2000	0	2	25	0
2001	0	3	31	0
2002	0	3	39	0
2003	0	4	25	0
2004	0	6	41	0
2005	0	2	33	0
2006	0	2	38	0
2007	0	2	47	0
2008	0	2	46	0
2009	0	2	58	3
2010	0	0	35	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Evidence of the earliest Nushagak inhabitants is scarce, but archaeologists predict that human occupation began shortly following glacial retreat during the end of the last glacial period; around 7,000 years ago. Although methods have changed, Yup'ik residents, like their ancestors, still rely on subsistence resources found in the watershed. Moose, caribou, salmon, geese, berries, and plants are principal resources that are relied on. Hunting, fishing, and gathering all constitute a way of life for local residents. The Middle Nushagak and Mulchatna River provide important nearshore rearing and mainstem spawning habitat for Chinook salmon. Sockeye salmon spawn and rear in slow moving off-channel habitats. Coho salmon rear in slower-moving sites within the upper Mulchatna River.

Much of Koliganek's economic activity is conducted on a household level. In the past, there was little importation of food, and families relied on harvesting fish, game, and wild plants. To supplement subsistence resource harvesting, many residents maintain small gardens during the summer.[796] In a household survey conducted by ADF&G in 2005 (Table 12), 82% of households were found to be participating in salmon subsistence activities, 18% were found to be participating in halibut subsistence activities, and 70% were found to be participating in non-salmon fish subsistence activities. Per capita subsistence harvest of those species was estimated to be 656.6 lbs.[797] Broken down by activity, 63% of surveyed households fished and 73% processed fish that year. In addition, 21.4% of respondents said that they removed Chinook salmon from commercial catch for subsistence purposes; 32.1% reported that they removed sockeye salmon, 7.1% reported that they removed chum salmon, and 7.1% reported that they removed coho salmon.

Chinook salmon return to the Nushagak River in late May and are the most harvested species according to a 2005 ADF&G survey[798] (this is not reflected in returned salmon permits seen in Table 13). Chinook are harvested on the Nushagak River at locations near the village, and downstream as far as the historical location of the village of Nushagak at Nushagak Point. Some residents travel as far as Ekuk during the commercial salmon season. Sockeye and chum are next to return to the Nushagak watershed, followed by coho and pink. Pink and chum salmon usually are not targeted, but are utilized when caught. Sockeye runs typically peak in Bristol Bay the first week of July and reach Koliganek around the middle to latter half of that month. Although not related to subsistence fisheries, berry picking in late summer is popular among Koliganek residents, with 93% of surveyed households participating in the activity or in 2005. The Nushagak River and its tributaries support numerous freshwater fish species, which are harvested throughout the year. Whitefish are caught with nets, mainly in the fall. Ice fishing is a major subsistence activity in the winter, with residents harvesting northern pike and Arctic grayling.[799]

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[796] New Koliganek Village Council, Agnew::Beck Consulting, LLC., and Bristol Bay Economic Development Corporation. 2005. *Koliganek Comprehensive Plan.* Retrieved August 29, 2012 from: http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf.

[797] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS)*. ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[798] Krieg, T. M., Holen, D. L., and Koster, D. 2009. *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.* Technical Paper No. 322. Retrieved September 5, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf.

[799] Ibid.

Of the species reported by ADF&G in Table 13, residents reported harvesting sockeye salmon most often, followed by chum, Chinook, coho, and pink salmon. According to data collected from returned subsistence salmon permits, residents reported harvesting 4,423 salmon in 2008, compared to 2,792 in 2000. Reported salmon harvests peaked in 2005 at 8,422 fish, a year which coincided with a relatively extensive ADF&G subsistence study in Koliganek. Also in that year, an estimated 13,254 lbs of other salmon fish was harvested. No data specific to subsistence halibut or marine mammal harvests are available for Koliganek between 2000 and 2010 (Tables 14 and 15)

According to ADF&G Community Subsistence Information System (CSIS) data, species that residents of Koliganek have harvested and/or used include butter clams, Dungeness crab, horse clams, octopus, littleneck clams, pinkneck clams, razor clams, shrimp, Tanner crab, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, broad whitefish, sculpin, burbot, char Dolly Varden, flounder, grayling, herring, herring roe, humpback whitefish, lake trout, cisco, lingcod, rainbow trout, rockfish, round whitefish, smelt, steelhead, stickleback, whale, sucker, cod, and northern pike.[800]

Additional Information

In a survey conducted by the AFSC in 2011, community leaders emphasized the importance of commercial salmon, sportfishing, and subsistence to the local economy. They expressed that although the community has not been heavily impacted by specific fisheries policies or management actions, there is local anxiety over mining development and potential impacts to headwaters. Risks to subsistence resources are a chief concern to Koliganek residents.

Table 12. Subsistence Participation by Household and Species, Koliganek: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	82%	18%	n/a	n/a	70%	656.6
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[800] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Koliganek: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	15	15	835	770	140	n/a	1,047	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	16	11	940	1,245	282	73	1,079	n/a	n/a
2005	22	22	1,402	2,582	266	358	3,814	n/a	13,254
2006	13	9	1,102	1,349	144	108	1,182	n/a	n/a
2007	14	14	1,054	600	194	16	1,216	n/a	n/a
2008	12	11	957	1,189	252	97	1,928	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Koliganek: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Koliganek: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Levelock (*LEEV-lock*)

People and Place

Location [801]

The unincorporated community of Levelock lies on the west bank of the Kvichak River, 10 miles inland from Kvichak Bay. Anchorage is 278 air miles to the northwest. The town is located near the Alagnak Wild and Scenic River Corridor and Katmai National Park and Preserve. The Levelock CDP (Census Designated Place) encompasses 14.5 square mi of land and no water area. Levelock is located in the Lake and Peninsula Borough Census Area and the Kvichak Recording District.

Demographic Profile [802]

In 2010, there were 69 inhabitants in Levelock, making it the 281st largest of 352 total Alaskan communities with recorded populations that year. The town did not appear in U.S. Census records until the 1950s. Overall between 1990 and 2010, the population of Levelock decreased by 34%. According to Alaska Department of Labor population estimates, between 2000 and 2009, the population of permanent residents in Levelock fell by 43%. However, the average annual growth rate during this time was 1.92%. This is explained by a decline in population from 122 inhabitants in 2000 to 54 in 2005, followed by growth in the second half of the decade (Table 1).

In 2010, a majority of Levelock residents identified themselves as American Indian and Alaska Native (81.4%), along with 10.1% that identified as White, and 5.8% identifying as two or more races. None of Levelock's residents identified themselves as Hispanic in 2010. The percentage of the population made up of White residents increased between 2000 and 2010, but compared to 1990, White residents made up 7% less of the population in 2010 (Figure 1).

In 2010, the average household size in Levelock was 2.56, a slight decline from 2.7 in 2000 and 2.6 in 1990. The total number of households in Levelock increased between 1990 and 2000 from 46 to 50, then declined by almost half, to 27occupied units by 2010. Of the 48 housing units surveyed for the 2010 U.S. Census, 29.2% were owner-occupied, compared to 42% in 2000. The percentage of housing that was renter occupied in 2010 was 27.1%, compared to 48% in 2000. In 2010, 43.8% of all housing units were vacant or used only seasonally, a large increase from 15.2% in 1990 and 10% in 2000. Between 1990 and 2010, no Levelock residents lived in group quarters.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Levelock's population has a yearly peak between August and

[801] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[802] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

May, when school teachers and families are present for the school year. Construction needs bring in some seasonal workers in the summer as well. Community leaders indicated that seasonal population fluctuations are only slightly driven by employment in fishing sectors, and the school year is the primary determining factor.

In 2010, the gender makeup in Levelock was 55% male and 45% female, slightly less balanced than the population of the state as a whole, which was 52% male and 48% female. The median age was 32.5 years, slightly lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, gender distributions were particularly skewed toward males in the age groups 10 to 19 and 40 to 49. Few Levelock residents were age 60 or older. The overall population structure of Levelock in 2000 and 2010 is shown in Figure 2.

Table 1. Population in Levelock from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate[2]
1990	105	-
2000	122	-
2001	-	107
2002	-	83
2003	-	71
2004	-	58
2005	-	54
2006	-	61
2007	-	70
2008	-	70
2009	-	88
2010	69	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities.* Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Levelock: 2000-2010 (U.S. Census).

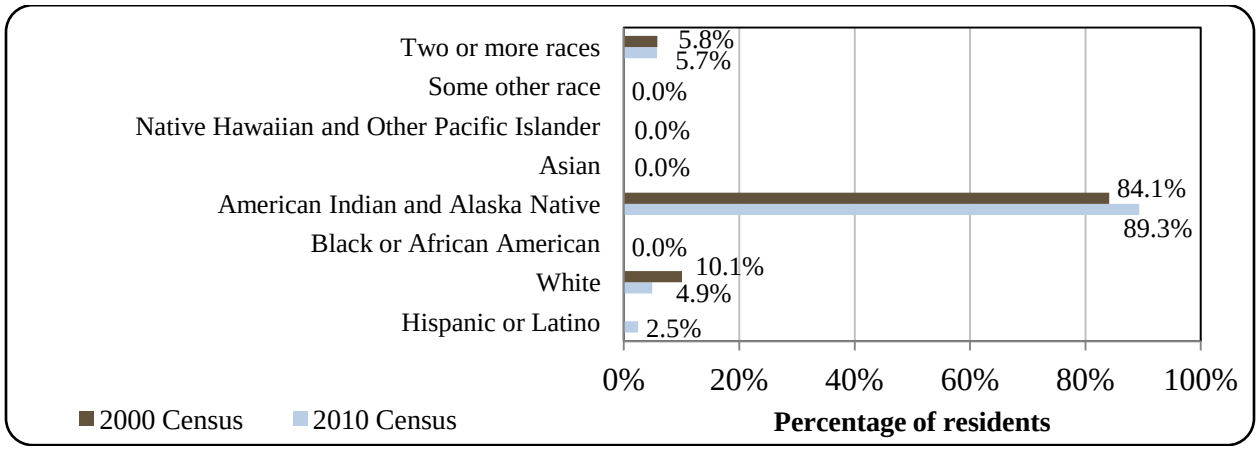
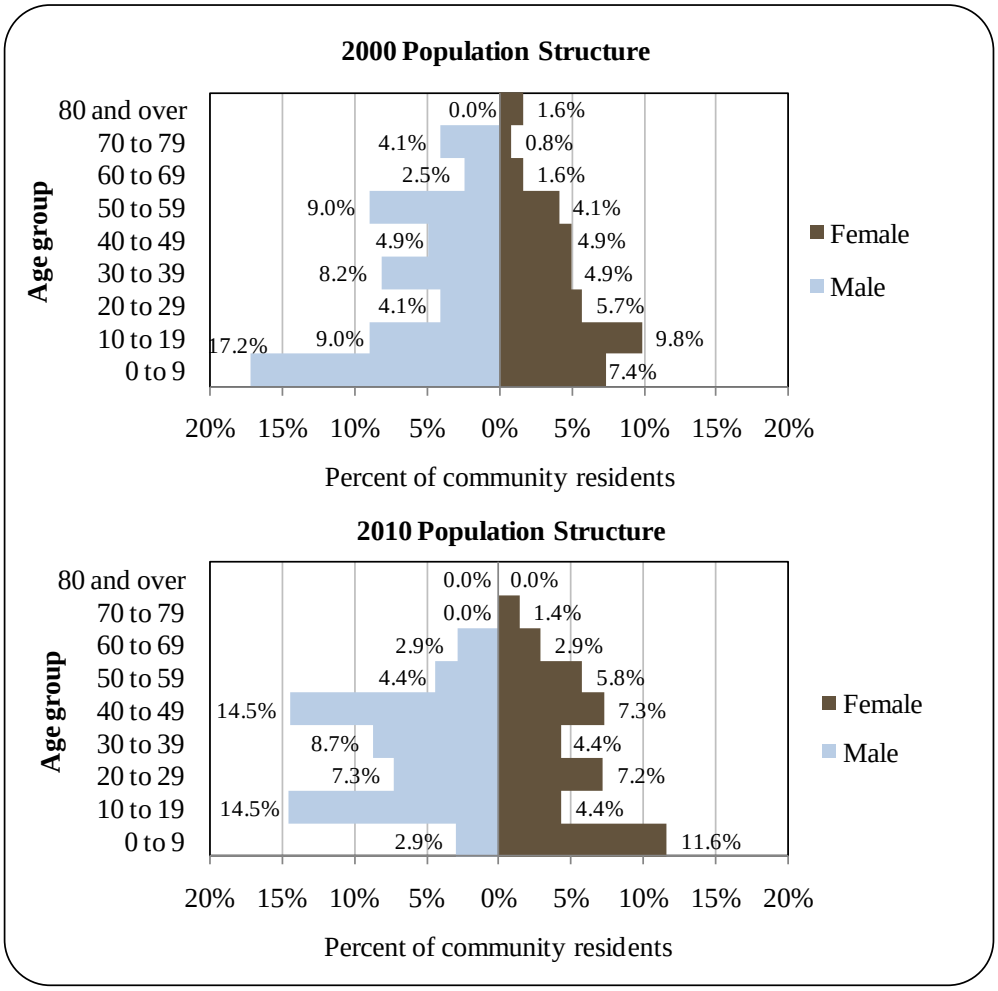


Figure 2. Population Age Structure in Levelock Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to American Community Survey (ACS) estimates,[803] 94.2% of Levelock residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 0% of residents aged 25 and older were estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 5.8% were estimated to have a 9th to 12th grade education but no diploma, the same as the percentage of Alaska residents overall; 38.5% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 0% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

[803] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

Levelock was historically, and remains, a mixed Alutiiq and Yup'ik village. Most of the villages in the area are less than 2,200 years old, although cultural evidence suggests that people lived along river banks and at lake outlets since the retreat of the last ice age 12,000 years ago.[804] Nineteenth century Russian accounts reported the presence of a community known as "Kvichak". The village was again mentioned by the name of Kvichak in the 1890 census, although the population was not counted, and no systematic census data was recorded for Levelock until the 1950s. A 1908 survey of Russian missions identified Levelock as "Lovelock's Mission". The Bristol Bay area suffered successive waves of epidemics, in 1837, 1900, and 1918, which had a devastating effect on the communities in the area. Although many communities were abandoned during these years, Levelock survived and prospered with the rise of commercial fisheries.[805]

The North Alaska Salmon Company built a cannery at Levelock in 1900. Salmon were freighted to the cannery using a narrow gauge railroad from the company's other cannery, located downstream near the mouth of the Kvichak River. The Levelock cannery ran until 1936 when changes in the channel of the Kvichak River made operations impossible. The cannery reportedly burned down in 1937. Lumber was salvaged from the cannery to build houses in Levelock.[806] In 1930, the first school was built, and a post office was established in 1939. By this time, families had converted their homes to oil heat. During the early 1950s, another cannery was in operation. Today, commercial fishing and subsistence activities are the main focus of the community.[807]

Natural Resources and Environment

Levelock is located in a climatic transition zone. It is primarily influenced by the maritime climate, but also by continental weather patterns. Summer temperatures average between 30 and 66 °F, and winter temperatures between 4 and 30 °F. Levelock receives 26 inches of rain and 70 inches of snow on average per year. Fog and low clouds are common during the summer. The river is ice-free from June through mid-November.[808]

The area east of Levelock is protected as Katmai National Park and Preserve and Alagnak National Wild and Scenic River. Katmai National Park is a 7,383-square-mile wilderness area known for its high concentration of brown bears and the Valley of 10,000 Smokes. Park tourism does not affect Levelock, as visitors do not pass through Levelock to access the park.[809] The Alagnak River, also known as the "Branch River", is a 79-mile-long river with headwaters in Katmai National Park that joins the Kvichak River at Levelock. Sixty-seven miles of the Alagnak River are designated as wild.[810]

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[804] National Park Service (n.d.). *Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.
[805] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[806] See footnote 804.
[807] See footnote 805.
[808] Ibid.
[809] National Park Service (2011). *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.
[810] See footnote 804.

According to a survey conducted by the AFSC in 2011, community leaders reported that fishing is the primary natural resource-based industry upon which the local economy depends. The Kvichak River System, including the Alagnak River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area, providing resources for commercial, subsistence, and recreational fisheries. The Alagnak River attracts a large number of anglers each year for salmon, Arctic grayling, Arctic char, and lake trout fisheries. The river's rainbow trout fishery has a world-class reputation.[811]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit north of Levelock. The Pebble Mine site is located at the divide between the Koktuli River and Uppler Talarik Creek, north of Iliamna Lake.[812] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lb of copper, 66.9 million oz of gold, and 3.3 billion lb of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lb of copper, 40.4 million oz gold, and 2.3 billion lb of molybdenum.[813] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble mine is copper. Dissolved copper is known to be toxic to fish.[814] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[815]

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.[816] Given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010, Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[817] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[818]

According to the Bristol Bay Coastal Management Plan, the Levelock area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surge, and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely

[811] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[812] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky (2008). Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.
[813] Northern Dynasty Minerals Limited website (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[814] See footnote 812.
[815] See page 36 in: Duffield, John, Christopher Neher, David A. Patterson, and Oliver S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[816] See footnote 811.
[817] Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[818] The White House, Office of the Press Secretary (2010). *Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure and sea ice conditions. The management plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coasts more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[819]

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in Levelock as of April 2012.[820]

Current Economy[821]

Levelock's economy is based around commercial fishing and government jobs. Many residents travel to Naknek during the summer season to fish or work in canneries. Subsistence practices are present in the area and play a significant role on the local economy. The community relies upon subsistence activities for a large portion of its diet. Salmon, trout, moose, caribou and berries are harvested.[822] In a survey conducted by the AFSC in 2011, community leaders reported that whitefish are also an important subsistence resource for the community. Several seasonal fishing lodges operate in the Levelock area.[823,824] In 2010, other top local employers in Levelock included the Levelock Village Council, the school district, and Levelock Electric Cooperative Inc.[825]

Based on household surveys conducted for the 2006-2010 ACS, [826,827] in 2010, the per capita income in Levelock was estimated to be $8,400 and the median household income was estimated to be $46,607. Interestingly, although these estimates indicate that median household income increased from $18,750 in 2000, per capita income decreased over the decade, from $12,199 in 2000. This is reflected in Levelock's low per capita income ranking in 2010, at 290th out of 305 Alaskan communities with per capita income information that year. This drop in per capita income between 2000 and 2010 is even greater when accounting for inflation by

[819] Glenn Gray and Associates (2008). *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[820] Alaska Dept. of Environmental Conservation (n.d.). Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[821] Unless otherwise noted, all monetary data are reported in nominal values.
[822] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[823] Ibid.
[824] National Park Service (n.d.). *Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.
[825] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database.* Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[826] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[827] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

converting the 2000 value to 2010 dollars,[828] revealing a real per capita income in 2000 of $16,042. In contrast, the increase in median household income between 2000 and 2010 remained substantial after accounting for inflation: real median household income in 2000 was $24,656. In 2010, Levelock ranked 153rd in median household income, out of 299 Alaskan communities with household income data that year.

This decline in per capita income from 2000 to 2010 is supported by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD).). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Levelock in 2010 is $8,016.[829,830] This estimate is similar to the ACS estimate of $8,400, providing additional evidence for an overall decrease in per capita income compared to the real per capita income values reported by the U.S. Census in 2000.[831] This decline in per capita income is reflected in the fact that the community was recognized as "distressed" by the Denali Commission, indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[832] It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, 71.8% of the Levelock population age 16 and older was estimated to be in the civilian labor force, compared to 68.8% in the civilian labor force statewide. In the same year, 20.2% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskans overall, and the unemployment rate was estimated to be 12.8%, compared to the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 32.7%, compared to a statewide unemployment rate estimate of 11.5%.[833]

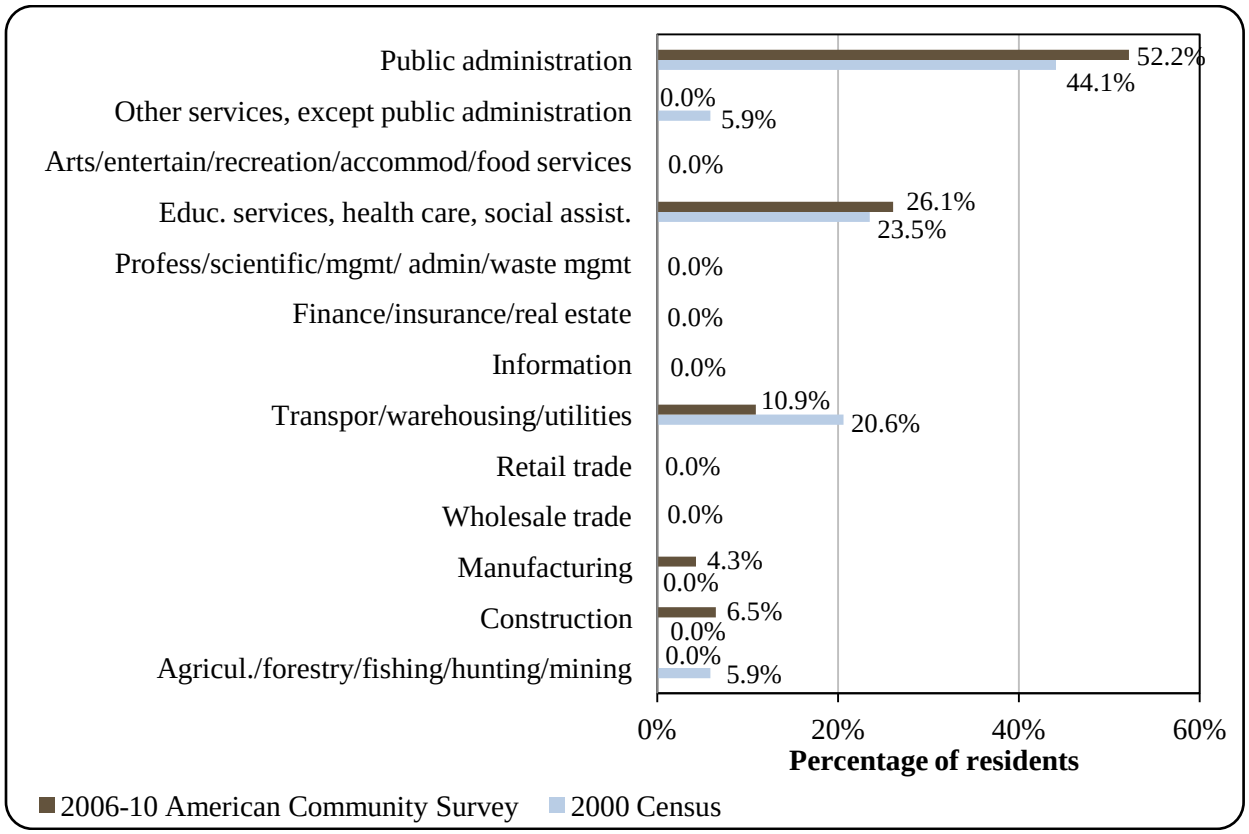
Also based on household surveys conducted for the 2006-2010 ACS, a majority of the Levelock workforce was estimated to be employed in the public sector (76.1%), while 10.9% were estimated to be working in the private sector, and 13% self-employed. Out of 46 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number of workers was estimated to be in public administration (52.2%) and educational, health care, and social services industries (26.1%). The occupations in which the greatest percentages of the workforce were estimated to be employed were service (30.4%), management/professional (28.3%), and natural resource/construction/maintenance occupations (23.9%). It is important to note that, although 23.9% of the workforce was estimated to be employed in natural resource/construction/maintenance occupations, a breakdown of this category reveals that all 11 workers were employed in construction and extraction occupations, while 0 were employed in farming, fishing, and forestry occupations. Likewise, the ACS estimated that 0% of the work force was working in the agriculture, forestry, and fishing

[828] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[829] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include 2000 Decennial Census SF1100% data. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[830] See footnote 825.
[831] Ibid.
[832] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.
[833] See footnote 825.

industries in 2010. Although not captured in this estimate, it is important to note that part of the Levelock workforce travels to Naknek to fish or work in the canneries during the summer season.[834] The number of individuals employed in farming, fishing, and forestry industries and occupations may be underestimated in census statistics if fishermen hold another job and characterize their employment accordingly. This information about employment by industry in Levelock is presented in Figure 3, and employment is broken down by occupation in Figure 4.

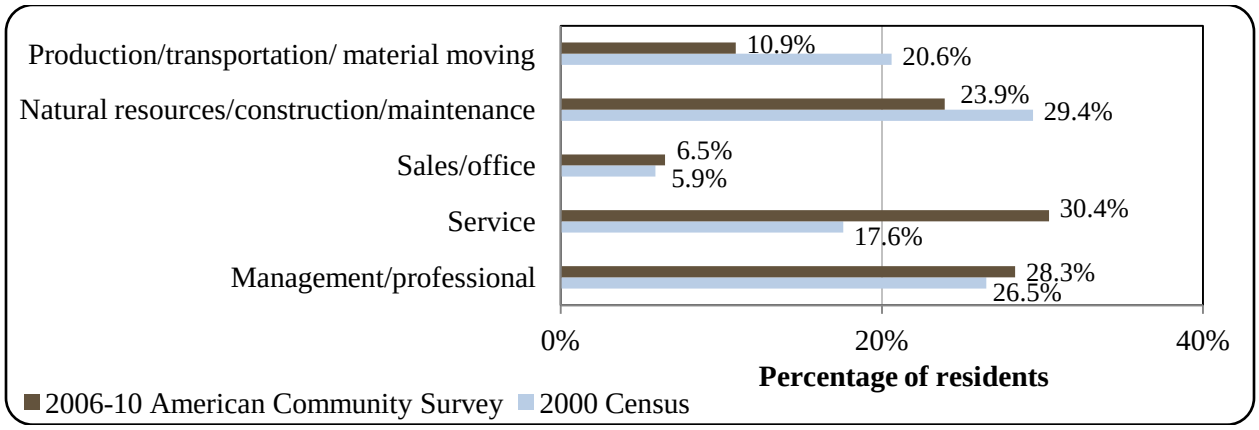
An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 34 employed residents in Levelock in 2010, of which 73.5% were employed in local government, 17.6% in trade, transportation, and utilities, 2.9% in financial activities, 2.9% in educational and health services, and 2.9% in leisure and hospitality industries.[835] As with income statistics, it should also be noted that both ACS and ALARI employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Levelock (U.S. Census).



[834] See footnote 822.
[835] See footnote 825.

Figure 4. Local employment by occupation in 2000-2010, Levelock (U.S. Census).



Governance

Levelock is an unincorporated community under the jurisdiction of the Lake and Peninsula Borough. As of 2010, the community of Levelock did not administer any local taxes. The Borough did administer a 2% fish tax, a 6% bed tax, a $3 per person/day guide tax, and a $1 per person/day lodge guide tax.[836] Levelock is not a municipality and did not administer a municipal budget. Given this, Levelock does not receive sales tax revenue or State or Community Revenue Sharing contributions. This is reflected in Table 2, in which no data were reported about community finances between 2000 and 2010.

Levelock was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Levelock Village Council. The Native village corporation is Levelock Natives Limited, which manages 96,800 acres of land. The regional Native corporation to which Levelock belongs is the Bristol Bay Native Corporation.[837]

Levelock is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[838] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[839]

[836] Alaska Dept. of Comm. And Rural Affairs (n.d.). *Community Information Summaries*. Retrieved November 16, 2011 from http://www.dced.state.ak.us/dca/commdb/CF_COMDB.htm.
[837] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[838] Bristol Bay Native Association (n.d.). BBNA homepage. Retrieved November 16, 2011 from www.bbna.com.
[839] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Levelock From 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.

[3] Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Community Funding Database*. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices, and Homer also hosts the nearest office of the Alaska Department of Natural Resources. However, the Anchorage offices of these agencies may be more accessible to people of this area. Anchorage and Kodiak have the closest Bureau of Citizenship and Immigration Services offices.

Infrastructure

Connectivity and Transportation

Levelock is mainly accessible by air and water. In winter, when the river freezes and the winds are too strong for river access, some trails to surrounding villages are used. The state operates a 3,281-ft by 59-ft lighted gravel runway in Levelock.[840] Scheduled and charter flights are available through companies including King Air and Peninsula Air. The price of a roundtrip ticket by plane from Levelock to Anchorage, with connections in King Salmon and Dillingham

[840] See footnote 837.

in early June of 2012, was $699.[841] According to a survey conducted by the AFSC in 2011, community leaders reported that Levelock also has a seaplane base.

Facilities

Electricity in Levelock is provided by a diesel powerhouse owned by the Levelock Electric Cooperative. The village council provides septic pumping and refuse collection services between May and September. Levelock homes and facilities use individual water wells and septic systems. Thirty-five homes have complete plumbing. The school operates its own well and water treatment facility. The village council operates a "washeteria".[842] A library, recreational center and multi-purpose hall are also available in the community.[843] The nearest VPSO (village public safety officer) is stationed in King Salmon,[844] and the nearest state trooper post is also in King Salmon.[845] Visitor accommodations are provided by Levelock Natives Ltd. Lodging.[846] In a survey conducted by the AFSC in 2011, community leaders reported that Levelock also has a post office, telephone service is in place, and broadband internet access is currently being established.

With regard to fisheries-related infrastructure, the DCCED community profile of Levelock states that both a 110-ft dock and a beach with an unloading area are present in the community.[847] However, in the 2011 AFSC survey, community leaders reported that no dock space is available for permanent, transient or public moorage. Community leaders did indicate that a fish cleaning station and roads serving the dock space are currently under development, and that improvements are planned within the next 10 years to the barge landing area and the dock, including construction of new dock space and the addition of electricity and water serving the dock. Community leaders indicated that no boat repair services, infrastructure, or other fisheries-related businesses are available in Levelock, and that residents typically travel to nearby villages of Naknek, King Salmon, and Dillingham to access fisheries-related businesses and services.

Medical Services

Local hospitals or health clinics include the Levelock Clinic. Emergency Services have river and air access. Local emergency service is provided by a health aide. Auxiliary health care is provided by the Levelock First Responders.[848] The nearest hospital is located in Dillingham.

[841] This price was calculated on November 21, 2011 using kayak.com.
[842] A washeteria is another word for laundromat. In Alaska, washeterias often include shower facilities.
[843] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[844] Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from http://www.dps.alaska.gov/.
[845] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[846] See footnote 843.
[847] Ibid.
[848] Ibid.

Educational Opportunities

Levelock School offers a pre-school through 12th grade education. As of 2011 there were 2 teachers and 20 students attending the school.[849]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important to Levelock since the time of its settlement.[850] Commercial exploitation of salmon was initiated shortly after the United States purchased Alaska from Russia in 1867.[851] Levelock was the site of several canneries during the early years of Bristol Bay commercial fisheries development. Koggiung Packers operated the first cannery at Levelock in 1925 and 1926, but its operation was short-lived due to a fire that destroyed the cannery in 1926, and also threatened the entire village. Residents dug fire lines to save their homes. A second cannery operated from 1928 to 1929. During the early 1950s, another cannery operated for a short period. Today, nearby Naknek serves as a hub of processing facilities in the area. Levelock residents participate in commercial fishing activities, and subsistence harvest also continues to be an important foundation for the local economy.[852]

Bristol Bay is the nearest marine area to the community of Levelock. The Bay is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Levelock participates in the CDQ (Community Development Quota) program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the CQE (Community Quota Entity) program. According to a survey conducted by the AFSC in 2011, community leaders reported that Levelock's participation in fisheries management processes is facilitated by regional organizations such as the Southwest Alaska Municipal Conference, which provides information to the community regarding fisheries management.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, there are no registered processing plants in Levelock, but facilities were registered in nearby communities in Bristol Bay, including Dillingham, Egegik, and Naknek. In a survey conducted by the AFSC in 2011, community leaders reported that plans are underway to construct a fish processing plant in Levelock.

[849] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[850] Morris, J. (1985). The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska. *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[851] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[852] See footnote 843.

Fisheries-Related Revenue

The only information about fishing-related revenue received by Levelock came from community leaders in the 2011 AFSC survey. They reported that, in 2010, Levelock received $3,000 in funds from the Lake and Peninsula Borough fish tax as well as $150,000 in funding or grants from their CDQ entity, the BBEDC. In its annual report, the BBEDC reported use of fisheries revenue from the CDQ program to provide grants for infrastructure, fuel and electrical assistance to member communities. The BBEDC also offered educational scholarships, vocational training, and fishing permit acquisition and financing assistance to local residents.[853] No other data were reported about fishing-related revenue received by the community of Levelock from municipal, state, or federal sources (Table 3).

Commercial Fishing

Levelock lies on the shore of the Kvichak River, ten miles upstream from its mouth. Even though Levelock is not a coastal community, it is still intimately involved with the fishing industry. Although there were no fish buyers in Levelock between 2000 and 2010 (Table 5) and no direct fisheries landings or ex-vessel revenue were generated in Levelock in during the period (Table 9), local residents participated in state fisheries as permit holders, crew members and vessel owners. Between 2000 and 2010, all Levelock vessel owners landed an average of 281,335 combined net lb of salmon, earning combined $184,292 in ex-vessel revenue on average. Information about landings and ex-vessel revenue earned by Levelock vessel owners in other fisheries between 2000 and 2010 is considered confidential due to the small number of participants (Table 10). It should be noted here that local residents also held permits in herring and groundfish fisheries in the year 2000, while no permits were held in fisheries other than salmon throughout the rest of the 2000 to 2010 period (Table 4).

In total, eight Levelock residents held eight state Commercial Fisheries Entry Commission (CFEC) permits in 2010. All were held for salmon fisheries (Bristol Bay drift and set gill net fisheries), and six were actively fished that year. These numbers represent a decline of almost 50% from salmon permit numbers in the year 2000, when 17 residents held 14 salmon permits, of which 12 were actively fished. Two non-salmon CFEC permits were also held by Levelock residents in the year 2000. One was for groundfish (statewide hand troll for miscellaneous finfish, not actively fished in 2000), and one was for herring (Bristol Bay herring roe gill net fishery, actively fished in 2000). However, Levelock residents did not hold permits in either the groundfish or herring fishery from 2001 to 2010. No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Levelock residents between 2000 and 2010 (Table 4). Also in 2010, no quota share accounts were held by Levelock residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

In 2010, 12 Levelock residents held state commercial crew licenses, a notable decrease from 20 crew licenses in 2000. Also in 2010, six residents were the primary owner of a fishing vessel and seven vessels were homeported in Levelock. According to the 2011 AFSC survey, commercial fishing boats using Levelock as a base of fishing operations were all under 35 ft in length, and were gill-netters primarily involved in the Bristol Bay salmon fishery. Characteristics of the Levelock commercial fishing sector are presented in Table 5.

[853] Bristol Bay Economic Development Corporation (2010). *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Levelock: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Department of Commerce, Community, and Economic Development. . (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Levelock: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	-	-	-	-	-	-	-	-	-	-
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Levelock: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	-	-	-	-	-	-	-
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	14	15	13	12	11	10	8	9	8	7	8
	Fished permits	11	9	7	7	8	7	7	8	7	6	6
	% of permits fished	79%	60%	54%	58%	73%	70%	88%	89%	88%	86%	75%
	Total permit holders	17	17	15	13	11	10	8	10	8	8	8
Total CFEC Permits[2]	*Permits*	*16*	*15*	*13*	*12*	*11*	*11*	*8*	*9*	*8*	*7*	*8*
	Fished permits	*12*	*9*	*7*	*7*	*8*	*7*	*7*	*8*	*7*	*6*	*6*
	% of permits fished	*75%*	*60%*	*54%*	*58%*	*73%*	*64%*	*88%*	*89%*	*88%*	*86%*	*75%*
	Permit holders	*18*	*17*	*15*	*13*	*11*	*10*	*8*	*10*	*8*	*8*	*8*

[1] National Marine Fisheries Service. 2011. *Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders*. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. *Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010*. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Levelock: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Levelock[2]	Total Net Pounds Landed In Levelock[2,5]	Total Ex-Vessel Value Of Landings In Levelock[2,5]
2000	20	0	0	9	7	0	0	$0
2001	11	0	0	7	6	0	0	$0
2002	7	0	0	6	6	0	0	$0
2003	18	0	0	6	6	0	0	$0
2004	15	0	0	6	6	0	0	$0
2005	18	0	0	7	5	0	0	$0
2006	17	0	0	5	4	0	0	$0
2007	16	0	0	7	5	0	0	$0
2008	19	0	0	6	6	0	0	$0
2009	8	0	0	6	6	0	0	$0
2010	12	0	0	6	7	0	0	$0

[1] Alaska Department of Fish and Game. 2011. *Alaska sport fish and crew license holders, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. *Alaska fish ticket data*. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). *Data on Alaska fish processors*. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. *Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010.* Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Levelock: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. *Alaska Individual Fishing Quota (IFQ) permit data*. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Levelock: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. *Alaska Individual Fishing Quota (IFQ) permit data*. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Levelock: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. *Alaska Individual Fishing Quota (IFQ) permit data*. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Levelock: 2000-2010.

	***Total Net Pounds*[1]**										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. *Alaska fish ticket data*. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Levelock Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	150,614	151,746	35,416	194,590	190,818	522,607	386,856	482,511	406,176	312,762	260,590
Total[2]	*150,614*	*151,746*	*35,416*	*194,590*	*190,818*	*522,607*	*386,856*	*482,511*	*406,176*	*312,762*	*260,590*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$99,135	$63,904	$17,178	$96,047	$97,925	$318,303	$245,666	$311,151	$296,249	$242,560	$239,100
Total[2]	*$99,135*	*$63,904*	*$17,178*	*$96,047*	*$97,925*	*$318,303*	*$245,666*	*$311,151*	*$296,249*	*$242,560*	*$239,100*

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. *Alaska fish ticket data*. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net lb refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, there were no active sport fish guide businesses or licensed sport fish guides in Levelock, and no sportfishing licenses were sold in Levelock during this period. However, Levelock community members participated in sport fisheries. In 2010, Levelock residents purchased 14 sportfishing licenses (irrespective of point of sale).

In a survey conducted by the AFSC in 2011, community leaders reported that both Alaska resident and non-Alaska resident sport fishermen fished out of Levelock using private boats, targeting all species of salmon. The Alaska Statewide Harvest Survey,[854] conducted by ADF&G between 2000 and 2010, did not provide any information about species targeted by private anglers in Levelock specifically. However, the survey noted the following species targeted by private anglers downstream in Naknek: chinook, coho, sockeye and pink salmon, rainbow trout, Dolly Varden char and Arctic grayling, Pacific halibut, whitefish, northern pike, and smelt. The survey also noted harvest of razor and hardshell clams in Naknek. No kept/release log book data were reported for fishing charters out of Levelock between 2000 and 2010.[855]

Levelock is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, non-resident anglers fished more angler days than Alaska residents in both freshwater and saltwater. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater during this period, reflective of the large amount of sportfishing related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 between 2000 and 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297. This information about the sportfishing sector in and near Levelock is also displayed in Table 11.

[854] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sportfishingsurvey (Accessed September 2011).

[855] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Levelock: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Levelock[2]
2000	0	0	6	0
2001	0	0	6	0
2002	0	0	10	0
2003	0	0	5	0
2004	0	0	9	0
2005	0	0	6	0
2006	0	0	9	0
2007	0	0	4	0
2008	0	0	7	0
2009	0	0	11	0
2010	0	0	14	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler days fished –Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	n/a	n/a	17,234	6,514
2010	n/a	22	20,068	5,613

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Fish and Game. 2011. *Alaska sport fish guide licenses and businesses, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. *Alaska sport fish and crew license holders, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska *Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest has been noted as a primary focus of the Levelock's economy and culture. Sharing is a way of life in the village, providing for those who are unable to hunt or fish on their own.[856] In a survey conducted by the AFSC in 2011, community leaders reported that salmon, whitefish, and trout were particularly important subsistence target species for residents of Levelock. Historically, residents have reported the most subsistence harvesting of sockeye salmon and non-salmon fish.

In 2005, the only year that a subsistence survey was conducted by ADF&G in the community of Levelock between 2000 and 2010, 76% of households were estimated to participate in salmon subsistence, 51% were estimated to participate in non-salmon fish subsistence (not including halibut), 34% participated in marine mammal subsistence, and 19% participated in marine invertebrate subsistence. No households were estimated to participate in halibut subsistence that year. This finding matches the lack of reported information about Subsistence Halibut Registration Certificates (SHARC) issued to residents of Levelock between 2000 and 2010 (Table 14). In 2005, the per capita subsistence harvest of land and sea-based resources in Levelock was 531 lb. Information about per capita subsistence and household participation is presented in Table 12. Also in 2005, an estimated 97 lb of marine invertebrates and 1,352 lb of non-salmon fish (not including halibut) were harvested by Levelock residents (Table 13).

Information about subsistence salmon harvest was available for 6 years between 2000 and 2010. During these years, subsistence salmon permits were issued to between 1 and 14 Levelock households per year. Sockeye salmon were the most heavily harvested, followed in quantity by chinook, coho, pink, and chum salmon (Table 13). Information about subsistence harvest of marine mammals was reported for some years during the 2000-2010 period. According to data reported by NMFS, for years in which information was reported, between one and seven beluga whales were harvested by Levelock residents per year. According to ADF&G data, the number of harbor seals harvested varied from 3 to 13 per year from 2000 to 2008. No information was reported by management agencies regarding harvest of sea otter, walrus, polar bear, Steller sea lion, or spotted seal between 2000 and 2010. This information about marine mammal subsistence harvest is presented in Table 15.

According to ADF&G's Community Subsistence Information System (CSIS), in 2005, Levelock residents also harvested ringed seal, bearded seal, and Steller sea lion, although no number estimates were available. The CSIS also provides species-level information about non-salmon fish species and marine invertebrate species harvested by the greatest percentage of Levelock households in 2005. Non-salmon fish species included northern pike, smelt, rainbow trout, humpback whitefish, grayling, Dolly Varden char, broad whitefish, lake trout, and flounder. Marine invertebrate species harvested by Levelock households included razor clams, butter clams, freshwater clams, horse clams, Pacific littleneck clams, pinkneck clams, cockles, mussels, scallops, Dungeness crab, Tanner crab, shrimp, and octopus.[857]

[856] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[857] Alaska Department of Fish and Game (2011). *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Levelock: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	76%	0%	34%	19%	51%	531
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Levelock: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	14	11	81	19	51	64	1467	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3874
2004	4	3	83	4	27	n/a	1200	n/a	n/a
2005	11	11	127	19	70	4	914	97	1352
2006	2	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	1	1	1	6	n/a	n/a	102	n/a	n/a
2008	2	1	4	20	30	25	30	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. *Alaska subsistence salmon fisheries 2008 annual report*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Levelock: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. *Subsistence harvests of Pacific halibut in Alaska, 2009*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Levelock: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	7	n/a	n/a	n/a	n/a	3	n/a
2001	2	n/a	n/a	n/a	n/a	n/a	n/a
2002	1	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	2	n/a	n/a	n/a	n/a	3	n/a
2006	2	n/a	n/a	n/a	n/a	n/a	n/a
2007	2	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	13	n/a
2009	2	n/a	n/a	n/a	n/a	n/a	n/a
2010	4	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. "Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006." *J. Cetacean Res. Manage.* 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. *Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear*. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. *The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008.* Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Additional Information

Levelock is located near the intersection of the Kvichak and "Branch" Rivers. The Native name for the Branch River – Alagnak – means "making mistakes". In the words of a local elder, "the channel is always changing, causing mistakes and getting lost."[858]

[858] National Park Service (n.d.). *Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.

Manokotak (*man-noh-KOH-tuck*)

People and Place

Location

Manokotak is situated on the Igushik River, the outlet of the Ualik and Amanka lake system, which empties into Nushagak Bay before entering Bristol Bay. The community is 25 miles southwest of Dillingham and 347 miles southwest of Anchorage. Manokotak is located in the Dillingham Census Area and Bristol Bay Recording District. The City of Manokotak encompasses 36.4 square miles of land and 0.9 square miles of water.[859,860]

Demographic Profile [861]

In 2010, there were 442 residents in Manokotak, making it the 129th largest of 352 Alaskan communities with recorded populations that year, and the 4th most populated village in the Dillingham Census Area. Overall between 1990 and 2010, the population of Manokotak increased by 15%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 9.8%. The average annual growth rate during this period was 1.2%, indicating a slow steady upward trend in population. In 2010, the majority of the population of Manokotak identified themselves as American Indian and Alaska Native (94.7%), while 4.8% identified as White, 0.3% as Black, and 0.3% identified with two or more races. The percentage of the population made up of individuals identifying as White increased slightly between 1990 and 2000, from 4.4% to 4.7%, and then declined by 2010 to 3.6%. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Manokotak was 3.65, a decline from 4.29 persons per household in 2000, but an overall increase from 3 persons per household in 1990. The number of households in Manokotak has increased over time, from 90 households in 1990 to 93 in 2000, and 121 in 2010. Of the 138 housing units surveyed for the 2010 Decennial Census, 68.1% were owner-occupied, 19.6% were rented, and 12.3% were vacant or used only seasonally. Between 1990 and 2010, no residents of Manokotak lived in group quarters.

[859] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[860] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.
[861] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

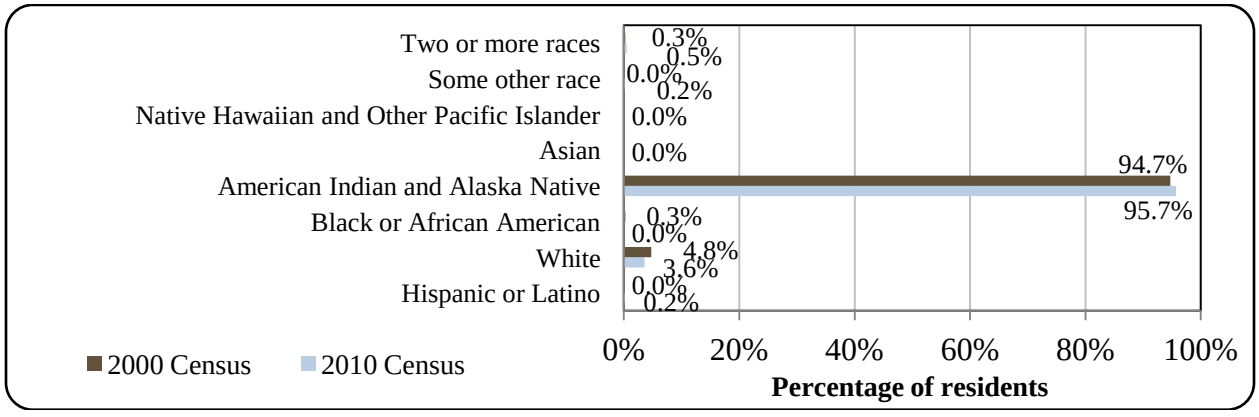
Table 1. Population in Manokotak from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	385	-
2000	399	-
2001	-	412
2002	-	407
2003	-	405
2004	-	407
2005	-	438
2006	-	424
2007	-	430
2008	-	429
2009	-	438
2010	442	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Manokotak: 2000-2010 (U.S. Census).

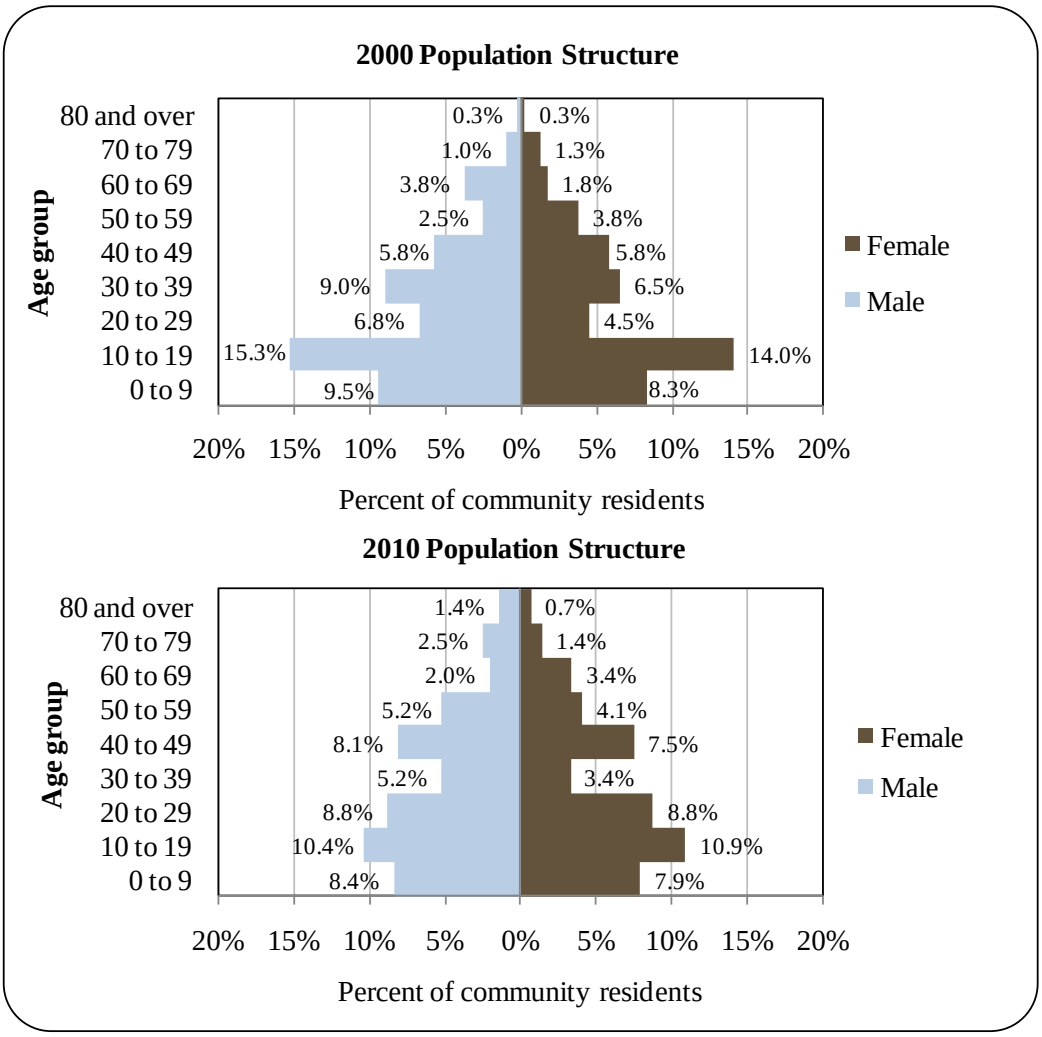


In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the population of Manokotak reaches its peak during fall, winter and spring months, between August and May. They estimated that 15 seasonal workers or transients are present in the community during this period. They said population fluctuations are somewhat driven by employment in the commercial fishing sector. The City of Manokotak's Comprehensive Plan also states that a majority of residents leave during the summer to travel to

fish camps in Iguishik or Ekuk,[862] suggesting that subsistence harvest is a key factor influencing population fluctuation.

In 2010, the gender makeup of Manokotak's population was the same as the makeup of the state population as a whole, with 52% male and 48% female. The median age of Manokotak residents was 26.4 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, there was a relatively even spread of males and females across age categories in Manokotak. That year, 11% of Manokotak's population was 60 or older. The overall population structure of Manokotak in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Manokotak Based on the 2000 and 2010 U.S. Decennial Census.



[862] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.

In terms of educational attainment, according to 2006-2010 American Community Survey (ACS) estimates,[863] 61.4% of Manokotak residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 32.4% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 6.3% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 16.9% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 3.4% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 5.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

The community of Manokotak is a Yup'ik Eskimo village. It is one of the newer villages in the Bristol Bay region, having become a permanent settlement between 1946 and 1947. The original residents came from the consolidation of the Villages of Igushik and Tuklung, along with some from Kulukak, Togiak, and Aleknagik.[864] The original impetus for the formation of the new village was the arrival and settlement of Evon Minista, a Yup'ik Eskimo from the local region who settled at the site to be closer to his commercial fishing grounds.[865] Others came to the site of the new village from the surrounding countryside to join Minista. Moravian missionaries also followed, establishing the first church in Manokotak in 1948.[866] The first school started in 1949, conducted in the church building, and by 1959 a separate school had been built. In 1960 a U.S. post office was established in Manokotak. Trapping opportunities initially attracted residents, although resources have declined in the area since the 1960s. In 1970 the City was incorporated. Manokotak residents use Igushik as a summer fish camp. Today, the Village of Manokotak remains primarily a Yup'ik community with a lifestyle that includes fishing, trapping, and subsistence. The sale, importation, and possession of alcohol are all banned in the Village.[867]

Natural Resources and Environment

Manokotak is located in a climatic transition zone; it is primarily influenced by the maritime climate, but also by arctic climate patterns. Summer temperatures average between 40 and 70 °F, and winter temperatures between 4 and 30 °F. Manokotak receives 25.5 inches of rain

[863] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[864] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[865] Schichnes, J., and M. Chythlook (1988). *Use of Fish and Wildlife in Manokotak, Alaska*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 152, Anchorage, pg. 19-20. Retrieved November 29, 2011 from http://www.subsistence.adfg.state.ak.us.
[866] Harrison, B. (1986). Monokotak: A Study of School Adaptation. *Anthropology & Education Quarterly*. 17 (1986):100-110.
[867] See footnote 864.

and 83 inches of snow on average per year. Fog and high winds are common throughout the year. The river is ice-free from June through mid-November.[868,869]

According to a survey conducted by the AFSC in 2011, community leaders reported that fishing is the primary natural resource-based industry upon which the local economy depends. Bristol Bay drainages produce the world's largest runs of sockeye salmon, and the area is productive for other species of salmon and marine fish as well.[870] One of the largest runs of Chinook salmon in Alaska returns to the Nushagak River, but the run is not heavily harvested, partially due to low prices in the region.[871] The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of Manokotak near the Village of Togiak.[872]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit west of Manokotak. The Pebble Mine site is located at the divide between the Koktuli River and Uppler Talarik Creek, north of Iliamna Lake.[873] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lb of copper, 66.9 million oz of gold, and 3.3 billion lb of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lb of copper, 40.4 million oz gold, and 2.3 billion lb of molybdenum.[874] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[875] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble mine is copper. Dissolved copper is known to be toxic to fish.[876] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[877]

The Nushagak Peninsula has modest potential for shallow development of oil and gas, as well as coalbed methane. Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[878] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing

[868] Ibid.
[869] Rainfall and snowfall numbers retrieved November 28, 2011 from www.weatherbase.com.
[870] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[871] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[872] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert (2005). *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[873] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky (2008). Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.
[874] Northern Dynasty Minerals Limited website (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[875] See footnote 870.
[876] See footnote 873.
[877] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[878] See footnote 870.

for the 2007-2012 program.[879] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[880]

Wood-Tilchik State Park lies just north of Manokotak. Wood-Tilchik is the largest state park in the United States. The park includes a diversity of terrain and ecosystems. The Wood River and Tilchik River systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden char, and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the park, along with black bear in limited area of the park. Small game present in the area include beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.[881]

It is important to note that the Manokotak area provides important habitat for beluga whales. The mouth of the Igushik River is used by the whales as a calving ground.[882]

The Alaska Department of Environmental Conservation did not list active environmental cleanup sites located in Manokotak as of May 2012.[883] However, Manokotak participates in the Environmental Protection Agency-funded Indian General Assistance Program (IGAP). The program is managed through the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham (see the *Governance* section for more information). Through the IGAP program, several environmental concerns have been identified in the community, including poor air quality from dusty unpaved roads in summer and fall, noise pollution from snow machines and ATVs, fuel spills, the importance of protecting subsistence sites near the Village, dilapidated buildings that present safety hazards, the need for a new landfill, and the need for an upgraded water and sewer system.[884] In the 2011 AFSC survey, community leaders indicated that a new landfill and improved sewer and water system are currently in progress.

According to the Bristol Bay Coastal Management Plan, the Manokotak area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian Trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure and sea ice conditions. The Coastal Management Plan notes the potential for climate change to

[879] U.S. Dept. of the Interior, Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[880] The White House, Office of the Press Secretary (2010). *Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[881] Alaska Dept. of Natural Resources (n.d.) *Wood-Tilchik State Park website*. Retrieved December 6, 2011 from http://dnr.alaska.gov/parks/units/woodtik.htm.
[882] See footnote 870.
[883] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[884] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.

augment erosion, as coastal areas of Alaska are freezing later in the season, resulting in greater vulnerability to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, possibly affecting commercial and subsistence activities.[885]

Current Economy[886]

The economy of Manokotak depends for the most part on commercial fishing, trapping, and subsistence activities.[887] Between 2000 and 2010, the number of residents holding state Commercial Fisheries Entry Permits (CFEC) was equivalent to an average of 24.6% of the local population (see *Commercial Fishing* section). Residents also rely heavily on subsistence, in part due to limited opportunities for year-round cash employment. Many move to fish camps in Igushik or Ekuk each summer. Important subsistence resources include salmon, herring, sea lion, beluga whale, trout, ptarmigan, ducks, and berries. Many residents also trap fox, beaver, mink, and otter. Sharing relationships exist with several villages in the area, especially with the Villages of Togiak and Twin Hills.[888,889]

The government provides a majority of wage employment in the area.[890] In addition to the City and Village Council, top employers in Manokotak in 2010 included the local village Native corporation, the Bristol Bay Native Association, the regional school system, Manokotak Power Company, Bristol Bay Area Health Corporation, Bristol Bay Area Housing Authority, and several home care service companies.[891]

Based on household surveys conducted for the 2006-2010 ACS, [892] in 2010, the per capita income in Manokotak was estimated to be $11,459, and the median household income was estimated to be $32,500. This represents a slight increase from the per capita and median household incomes reported in the year 2000 ($9,294 and $26,875, respectively). However, after accounting for inflation by converting the 2000 values to 2010 dollars,[893] the real median per capita income in 2000 is revealed to have been $12,221, and the real median household income was $35,340, showing that real earnings actually decreased slightly over the period. In 2010, Manokotak ranked 249th of 305 Alaskan communities with per capita income data that year, and 232nd in median household income, out of 299 Alaskan communities with household income data.

[885] Glenn Gray and Associates (2008). *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[886] Unless otherwise noted, all monetary data are reported in nominal values.
[887] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[888] Ibid.
[889] See footnote 884.
[890] See footnote 887.
[891] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[892] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[893] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

Manokotak's small population size may have prevented the ACS from accurately portraying economic conditions.[894] A potentially more accurate understanding of per capita income is obtained from economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Manokotak in 2010 is $5,681,[895] which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000. This decline in income is reflected in the fact that the community was recognized as "distressed" by the Denali Commission, indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[896] It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a lower percentage of Manokotak residents was estimated to be in the civilian labor force (40.9%) than in the civilian labor force statewide (68.8%). In the same year, approximately 25.5% of local residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 14.1%, compared to a statewide unemployment rate of 5.9%. An alternative estimate of unemployment is based on the ALARI database, which indicates that the 2010 unemployment rate in Manokotak was 20.7%, compared to a statewide unemployment rate estimate of 11.5%.[897] The lack of cash employment opportunities and the predominance of seasonal employment and traditional subsistence lifestyle contribute to a higher percentage of Manokotak residents not participating in the labor force.[898]

Also based on the 2006-2010 ACS, the greatest number of Manokotak workers was estimated to be employed in the public sector (56.9%), with 34.7% in the private sector, and 8.3% estimated to work as unpaid family workers. Of the 72 people aged 16 and over that were estimated to be employed in the civilian labor force, the majority was estimated to work in educational services, health care, and social assistance (59.7%). The occupations in which the greatest percentages of the workforce were estimated to be employed were service (33.3%) and management, business, science, and arts occupations (31.9%). It is important to note that, although four people (5.6% of of the civilian labor force) was estimated to be employed in natural resource/construction/maintenance occupations, a breakdown of this category reveals that two of these workers were employed in construction and extraction occupations, and two were employed in installation, maintenance, and repair activities. None were employed in farming, fishing, and forestry occupations. Likewise, 0% of the civilian labor force was estimated to be employed in agriculture agriculture, forestry, and fishing industries in 2010. The number of individuals employed by fishing may be underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. Further information about

[894] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled
[895] See footnotes 891 and 892.
[896] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[897] See footnote 891.
[898] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.

employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 192 employed residents in Manokotak in 2010, of which 53.6% were employed in local government, 9.9% in trade, transportation, and utilities, 9.4% were employed in education and health services, 8.3% in financial activities, 2.6% in manufacturing, 2.1% in leisure and hospitality, 1.6% in natural resources and mining, 0.5% in construction, 0.5% in information, 0.5% in professional and business services, 0.5% in state government, and 10.4% in other industries.[899] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Manokotak (U.S. Census).

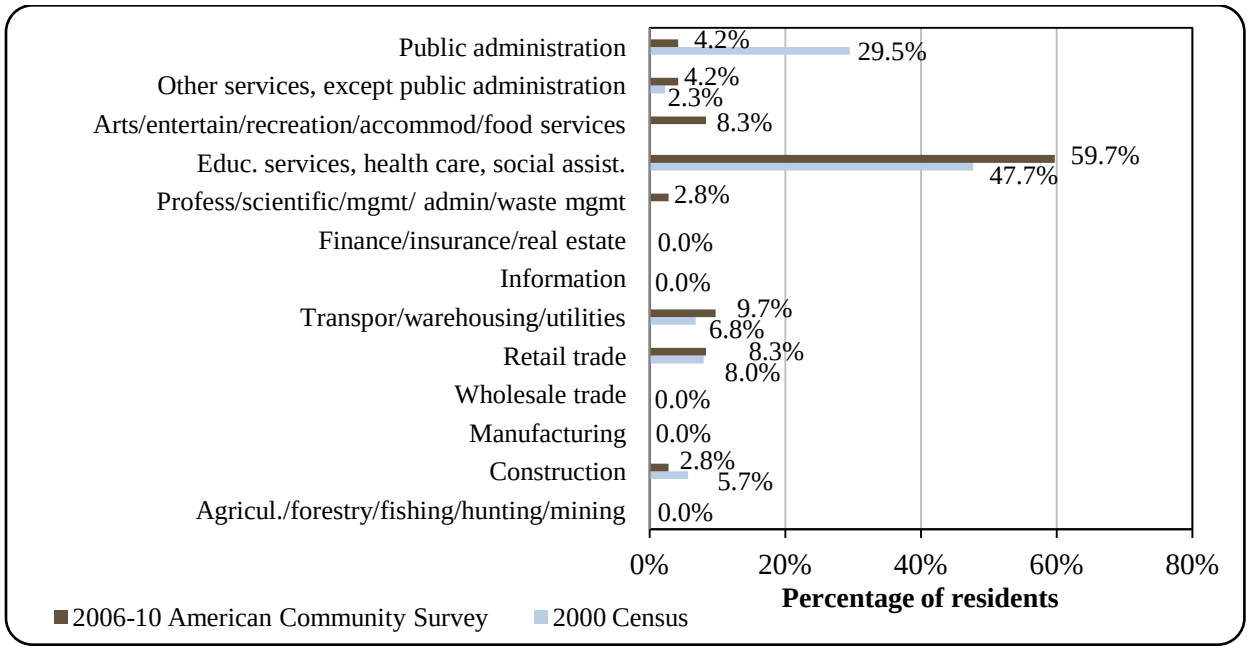
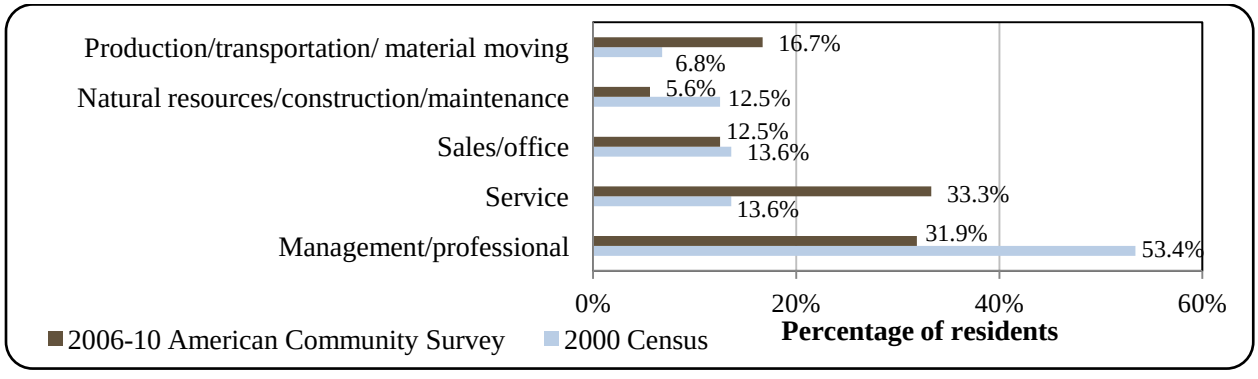


Figure 4. Local Employment by Occupation in 2000-2010, Manokotak (U.S. Census).



[899] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

Governance

Manokotak is a 2nd Class City, and is not part of an organized borough. The City was incorporated in 1970 and has a Strong Mayor form of government, which includes a seven-person city council, including the mayor, a five-person advisory school board, and several municipal employees. As of 2010, the City administered a 2% sales tax and did not collect property tax.[900] Annual municipal revenue more than doubled between 2000 and 2010. In addition to sales tax, local revenue sources in Manokotak during the decade included rental of spaces and equipment, and water, sewer, and other service fees. The City received contributions through the State Revenue Sharing program of just over $25,000 per year from 2000 to 2003, and Community Revenue Sharing contributions of almost $120,000 per year in 2009 and 2010. Additional state revenue sharing came from the state raw fish tax and telephone tax, and the City also received funds from the federal Payment In Lieu of Taxes program, as well as a variety of grants.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Manokotak From 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$273,929	$7,626	$26,505	n/a
2001	$198,266	$3,259	$27,866	n/a
2002	$141,369	$2,972	$25,871	n/a
2003	$335,774	$26,666	$26,011	n/a
2004	$168,254	$1,023	n/a	n/a
2005	$179,651	$16,205	n/a	n/a
2006	$376,369	$6,938	n/a	n/a
2007	$704,062	$27,952	n/a	n/a
2008	$479,832	$9,987	n/a	n/a
2009	$522,564	$28,207	$118,212	n/a
2010	$822,914	$11,944	$117,936	n/a

Note: n/a indicates that no data were reported for that year.

[1] Alaska Deptartment of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.

[2] Alaska Deptartment of Commerce, Community, and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.

[3] Alaska Department. of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

[900] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

The increasing trend in total municipal revenue in the second half of the 2000-2010 period can be explained both by large Community Revenue Sharing payments in 2009 and 2010, and also by an increase in grants to the City of Manokotak from entities including the U.S. Department of Agriculture, the Bristol Bay Economic Development Corporation (BBEDC) – the Community Development Quota (CDQ) entity representing the Bristol Bay region, and the Bristol Bay Native Association (BBNA). Community grants were also received from the Alaska Leader Fisheries Foundation based in Kodiak. No specific fisheries-related grant revenue was reported between 2000 and 2010. Refer to Table 2 for details on selected community finances from 2000 to 2010.

Manokotak was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Manokotak Village Council. The Native village corporation is Manokotak Natives Limited, which manages 125,620 acres of land. The regional Native corporation to which Manokotak belongs is the Bristol Bay Native Corporation (BBNC).[901]

Manokotak is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[902] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[903]

The closest office of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community and Economic Development are located in Dillingham. Kodiak has the closest offices of the Alaska Department of Natural Resources, the National Marine Fisheries Service (NMFS), and Bureau of Citizenship and Immigration Services, although the Anchorage offices of these agencies may be more accessible to people from the Manokotak area.

Infrastructure

Connectivity and Transportation

The City of Manokotak is accessible by both air and water. A state-owned, 3,300-ft-long by 75-ft-wide lighted gravel airstrip is located 1 mile north of the community, and a designated seaplane base is also present. Both regularly scheduled and charter flights are available from Dillingham.[904] The price of a roundtrip ticket by plane from Manokotak to Anchorage in early June 2012 was $588.[905] There are no docking facilities on the Igushik River, and supplies that are lightered each summer must be pulled up to the mud beach. Traveling by boat on the Igushik River can be difficult, as the river is made up of meandering loops. This means that many miles must be traveled by water to cover a short distance in air miles. Residents use ATVs,

[901] Ibid.
[902] Bristol Bay Native Association (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from www.bbna.com.
[903] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[904] See footnote 900.
[905] This price was calculated on November 21, 2011 using kayak.com.

snowmobiles, and some vehicles for transportation. During the winter months, snowmobiles are used to travel on the Manokotak Trail to Dillingham to retrieve fuel.[906]

Facilities

Electricity in town is provided by a diesel powerhouse called the Manokotak Power Company, which is operated by the Village Corporation. The primary source of water for the community is two wells. Water is stored in a 150,000-gallon water storage tank and distributed via a city-operated piped water system that serves 99 households and the school. The community also has a few individual wells. Manokotak Heights, located four miles to the south, is served by a well system, but water shortages have occurred. The City also operates the piped sewer system and the landfill, although individuals are responsible for collecting their own refuse.[907] Police services are provided by the State VPSO (Village Public Safety Officer) stationed in Manokotak[908] and state troopers stationed in Dillingham.[909] Manokotak currently has a school library and gymnasium. Telephone service is provided by Nushagak Telephone Co-op and AT&T Alascom GCI Nushagak Telephone, and internet and cable service are also available in town.[910] In the 2011 AFSC survey, community leaders indicated that improvements are underway to water and sewer pipelines, and a new landfill/solid waste site is being developed. They also noted that publicly subsidized housing is available in Manokotak. According to a business and jobs survey conducted in April 2005 by the City of Manokotak, a local business provides occasional lodging to visitors, and there is a U.S. post office in the community.[911]

With regard to fisheries-related facilities, community leaders reported in the 2011 AFSC survey that Manokotak has a haulout facility for boats less than 60 tons, and fishing gear repair services are available locally. They indicated that plans are underway to improve the barge landing area and construct new dock space within the next 10 years. They also indicated that residents typically travel to the nearby City of Dillingham to access fisheries-related businesses and services not available in Manokotak.

Medical Services

Health care is available at the Manokotak Health Clinic, which is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. Emergency Services are provided by volunteers and five health aides; emergency services have river and air access. Alternate health care is provided by the Manokotak First Responders.[912] The nearest hospital is located in Dillingham.

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[906] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[907] Ibid.
[908] Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from http://www.dps.alaska.gov/.
[909] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[910] See footnote 906.
[911] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.
[912] See footnote 906.

Educational Opportunities

One school, Manokotak School, is located in the community, and provides a Kindergarten through 12th grade education. As of 2011, there were 12 teachers and 121 students in attendance.[913]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence fishing activities have been important to residents of the Manokotak area for thousands of years. The Nushagak region was historically inhabited by a coastal population that combined fishing and hunting of marine mammals, and an interior population that focused on hunting and fishing with frequent trips to the coast, especially during summer months.[914] By the time of Manokotak's settlement in the mid-1900s, commercial fishing – particularly the sockeye salmon fishery – was well established in Bristol Bay.[915] The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of Manokotak near the Village of Togiak. In Alaska, commercial catch of herring for human consumption began in 1878, commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.[916]

Today, a combination of commercial and subsistence harvest of marine resources provides the foundation for the local economy.[917] In recent decades, the number of fishing permits held by Manokotak residents has declined. Trends in permit ownership between 2000 and 2010 are described in the *Commercial Fishing* section below, but it is important to note that numbers of permits had already fallen dramatically prior to the year 2000. The City of Manokotak's Comprehensive Plan summarizes the decline over the previous decade, with overall permits held by residents falling from 261 in 1990 to 150 permits in 2002, a reduction of 43%. The number of "other finfish'" permits dropped from 15 to 1 during the 1990-2000 period. Halibut permits declined by 75% in the first half of the 1990s, prior to rationalization of that fishery in the middle of the decade.[918]

Manokotak is located on the Igushik River, which joins Nushagak Bay before it empties into Bristol Bay. This marine area is encompassed by the Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Manokotak participates in the CDQ program as a member of the BBEDC (Bristol Bay Economic

[913] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[914] VanStone, J. W. (1968). An Annotated Ethnographic Bibliography of the Nushagak River Region, Alaska. *Anthropology*, 54(2). Field Museum of Natural History. Chicago.
[915] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[916] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[917] See footnote 906.
[918] See footnote 911.

Development Corporation). The community is not eligible for the Community Quota Entity (CQE) program.

According to a survey conducted by the AFSC in 2011, community leaders reported that Manokotak's participation in fisheries management processes in Alaska occurs through a representative. The representative participates in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Manokotak. Several processing facilities are registered in nearby communities throughout Bristol Bay, including Dillingham, Egegik, and Naknek.

Fisheries-Related Revenue

Overall, in 2010, the City of Manokotak received $19,805 from fisheries-related taxes and fees. These revenue sources include the Shared Fisheries Business Tax and a raw fish tax. Table 3 provides information about selected fisheries-related revenue sources in Manokotak.[919]

It is also important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[920] Manokotak reported receipt of between $22,000 and $35,000 in funds per year from the BBEDC between 2005 and 2009.[921]

Commercial Fishing

Although Manokotak is not located directly on the coast it still has a large tie to the commercial fishing industry. Local residents participate in state and federal fisheries as permit and quota share account holders, crew members, and vessel owners. In the 2011 AFSC survey, community leaders reported that Manokotak residents participate in the sockeye salmon fishery in June and July, the coho salmon fishery in August and September, and the herring fishery in April and May. In 2010, Manokotak vessel owners landed 928,017 net lb of salmon, earning $805,375 in ex-vessel revenue. Other landings and ex-vessel revenue are considered confidential that year due to the small number of participants. Information about salmon harvest by Manokotak residents was reported for all years from 2000 to 2010, while herring landings and ex-vessel revenue are considered confidential in all years but 2000 and 2001, and halibut landings and ex-vessel revenue in all years but 2002. This information about landings and ex-vessel revenue generated by Manokotak vessel owners is presented in Table 10. Since no buyers or shore-side processors were present in the community between 2000 and 2010 (Table 5), no

[919] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.
[920] Bristol Bay Economic Development Corporation (2010). *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.
[921] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.

deliveries were made locally, and no ex-vessel revenue was generated in Manokotak in 2010 (Table 9).

In 2010, 99 Manokotak residents held a total of 119 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). The bulk of CFEC permits were held in salmon and herring fisheries in 2010. That year there were 72 permit holders holding 66 salmon permits for Bristol Bay drift and set gill net fisheries, of which 53 were actively fished. There were also 50 permit holders holding 52 herring permits in the Bristol Bay roe fishery, the Bristol Bay spawn on kelp fishery, and the Goodnews Bay roe and food/bait fishery. Of these, only one Bristol Bay roe permit was actively fished in 2010. In addition, there was one active halibut permit holder in 2010 (longline vessel under 60 ft, statewide permit). It is important to note that there was also one CFEC groundfish permit held by a Manokotak resident between 2000 and 2004, but this permit was not actively fished during these years.

These numbers represent large declines in total number of permits in these fisheries over the decade, with a 34% decrease in herring permits and a 16% decrease in salmon permits (27% decrease in total permits overall) between 2000 and 2010. The number of permit holders remained more stable, with only a 6% decline overall. No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Manokotak residents between 2000 and 2010. This permit information is presented in Table 4.

Between 2000 and 2010, two quota share accounts were held by Manokotak residents in the federal catch share halibut fishery, and a total of 1,601 halibut quota shares were held in the federal halibut fishery. The annual halibut individual fishing quota (IFQ) allotment declined over the 2000-2010 period. No quota share accounts were held in Manokotak in federal catch share fisheries for sablefish or crab between 2000 and 2010. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, Manokotak residents held 103 commercial crew licenses, 30 residents were the primary owner of a fishing vessel, and 16 vessels were homeported in Manokotak. The total crew licenses held in 2010 (103 licenses) was slightly higher than in 2000 (97 licenses); the number of crew licenses decreased by about 25% between 2000 and 2006, but rebounded by 2010. In contrast, there was a substantial downward trend in vessel ownership and homeported vessels, with a 48% decrease in vessel ownership and 49% decrease in vessels homeported in Manokotak between 2000 and 2010. According to the 2011 AFSC survey, community leaders reported that the remaining vessels using Manokotak as a base of fishing operations were all under 35 feet in length, and were gillnetters primarily involved in the Bristol Bay salmon fishery. These characteristics of the Manokotak commercial fishing sector are presented in Table 5.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Manokotak: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$4,000	$3,833	$6,000	$5,000	$4,500	$5,144	$4,750	$6,500	$8,000	$8,000	$10,000
Shared Fisheries Business Tax[1]	$3,833	$6,816	$5,954	$4,751	$4,364	$5,144	$6,605	$8,014	$7,556	$9,587	$9,183
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$7,833*	*$10,649*	*$11,954*	*$9,751*	*$8,864*	*$10,288*	*$11,390*	*$14,606*	*$15,903*	*$18,177*	*$19,805*
Total municipal revenue[5]	*$273,929*	*$198,266*	*$141,369*	*$335,774*	*$168,254*	*$179,651*	*$376,369*	*$704,062*	*$479,832*	*$522,564*	*$822,914*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Deptartment of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Deptartment of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Deptartment of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Manokotak: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	3	4	6	8	4	4	1	1	1	0	1
	Fished permits	1	0	2	1	1	1	0	0	0	0	1
	% of permits fished	33%	0%	33%	13%	25%	25%	0%	0%	0%	-	100%
	Total permit holders	3	4	6	8	4	4	1	1	1	0	1
Herring (CFEC) [2]	Total permits	79	76	68	65	59	58	57	53	52	52	52
	Fished permits	8	5	7	5	2	2	1	1	1	2	1
	% of permits fished	10%	7%	10%	8%	3%	3%	2%	2%	2%	4%	2%
	Total permit holders	56	57	52	53	50	52	53	51	50	50	50

Table 4 cont'd. Permits and Permit Holders by Species, Manokotak: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	1	1	1	1	1	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	-	-	-	-	-	-
	Total permit holders	1	1	1	1	1	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	79	82	78	76	73	77	73	72	73	68	66
	Fished permits	72	75	51	55	53	57	56	51	57	49	53
	% of permits fished	91%	91%	65%	72%	73%	74%	77%	71%	78%	72%	80%
	Total permit holders	82	89	80	80	82	84	80	81	77	70	72
Total CFEC Permits[2]	*Permits*	*162*	*163*	*153*	*150*	*137*	*139*	*131*	*126*	*126*	*120*	*119*
	Fished permits	*81*	*80*	*60*	*61*	*56*	*60*	*57*	*52*	*58*	*51*	*55*
	% of permits fished	*50%*	*49%*	*39%*	*41%*	*41%*	*43%*	*44%*	*41%*	*46%*	*43%*	*46%*
	Permit holders	*105*	*113*	*101*	*102*	*104*	*106*	*106*	*106*	*102*	*95*	*99*

[1] National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Manokotak: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Manokotak[2]	Total Net Lb Landed In Manokotak[2,5]	Total Ex-Vessel Value Of Landings In Manokotak[2,5]
2000	97	0	0	59	31	0	0	$0
2001	110	0	0	58	28	0	0	$0
2002	86	0	0	50	24	0	0	$0
2003	69	0	0	46	24	0	0	$0
2004	77	0	0	41	21	0	0	$0
2005	76	0	0	40	19	0	0	$0
2006	75	0	0	35	17	0	0	$0
2007	80	0	0	32	15	0	0	$0
2008	84	0	0	34	17	0	0	$0
2009	103	0	0	32	17	0	0	$0
2010	103	0	0	30	16	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Manokotak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	2	1,601	198
2001	2	1,601	221
2002	2	1,601	225
2003	2	1,601	225
2004	2	1,601	231
2005	2	1,601	224
2006	2	1,601	212
2007	2	1,601	198
2008	2	1,601	188
2009	2	1,601	170
2010	2	1,601	155

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Manokotak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Manokotak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Manokotak: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Manokotak Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	13,774	-	-	-	-	-	-	-	-
Herring	152,868	183,447	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	1,397,097	960,616	366,711	1,008,967	1,388,368	1,200,884	1,212,458	873,193	935,262	1,050,747	928,017
Total[2]	*1,549,965*	*1,144,063*	*380,485*	*1,008,967*	*1,388,368*	*1,200,884*	*1,212,458*	*873,193*	*935,262*	*1,050,747*	*928,017*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	$29,036	-	-	-	-	-	-	-	-
Herring	$16,195	$14,252	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$905,472	$362,729	$156,526	$462,604	$645,653	$653,032	$718,206	$530,870	$638,486	$775,147	$805,375
Total[2]	*$921,667*	*$376,981*	*$185,562*	*$462,604*	*$645,653*	*$653,032*	*$718,206*	*$530,870*	*$638,486*	*$775,147*	*$805,375*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses were located in Manokotak. Likewise, no sport fish guide licenses were registered in the community during the 2000-2010 period, with the exception of 2003 and 2004 when one guide license was registered to a Manokotak resident each year. In 2010, 31 sportfishing licenses were sold in Manokotak. That same year, 56 Manokotak residents purchased sportfishing licenses (irrespective of point of sale). Between 2000 and 2010, there were consistently more licenses sold to Manokotak residents than total licenses sold in Manokotak. This, along with the lack of support businesses in the community, indicates that sportfishing is not a major local tourism draw. This information about the sportfishing sector in Manokotak is presented in Table 11.

In a survey conducted by the AFSC in 2011, community leaders reported that both Alaska resident and non-Alaska resident sport fishermen fished out of Manokotak using private boats, primarily targeting sockeye salmon. The Alaska Statewide Harvest Survey,[922] conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Manokotak: coho, sockeye, and pink salmon, rainbow trout, Dolly Varden char, whitefish, northern pike, and smelt. The survey also noted harvest of hardshell clams in Manokotak. No kept/release log book data were reported for fishing charters out of Manokotak between 2000 and 2010.[923]

Manokotak is located within Alaska Sport Fishing Survey Area T – Nushagak, Wood River and Togiak. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, there were more non-Alaska resident than Alaska resident angler days fished, and there was significantly greater freshwater harvest than saltwater. Between 2000 and 2010, non-Alaska resident anglers fished between 15,676 and 33,089 freshwater angler days and between 81 and 767 saltwater angler days per year. Alaska resident anglers fished between 7,356 and 19,980 freshwater angler days and between 31 and 921 saltwater angler days per year. This information about the sportfishing sector in and near Manokotak is displayed in Table 11.

[922] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[923] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Manokotak: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Manokotak[2]
2000	0	0	24	9
2001	0	0	39	25
2002	0	0	44	41
2003	0	1	29	13
2004	0	1	58	25
2005	0	0	57	30
2006	0	0	69	50
2007	0	0	52	0
2008	0	0	56	9
2009	0	0	84	37
2010	0	0	56	31

Year	Saltwater Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Freshwater Angler days fished –Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Residents of Manokotak are heavily dependent on subsistence harvests. Relationships exist with neighboring communities for the sharing of resources, especially with Togiak and Twin Hills.[924,925] In a survey conducted by the AFSC in 2011, community leaders reported that salmon and other fish, waterfowl, and marine mammals are the most important aquatic subsistence resources used by residents of Manokotak.

In 2008, the only year that a subsistence survey was conducted by ADF&G in the community of Manokotak between 2000 and 2010, 89% of households were estimated to participate in salmon subsistence, 83% in non-salmon fish subsistence (not including halibut), 81% in marine invertebrate subsistence, 62% participated in marine mammal subsistence, and 13% participated in halibut subsistence (Table 12). These results can be compared an earlier 1985 ADF&G subsistence survey of 54 households in Manokotak. That year, 100% of households reported using salmon, 100% used non-salmon fish (herring, herring roe, smelt, flounder, blackfish, turbot, Arctic char, Arctic grayling, northern pike, trout, and whitefish), 83.3% used marine mammals, and 88.9% used marine invertebrates. The per capita harvest of land and sea-based resources by Manokotak's residents in 1985 was 384 lb, of which 35.4% was salmon, 22.2% was non-salmon fish, 8.5% was marine mammals, 1.2% was marine invertebrates, 4.4% was birds and eggs, 24.7% was land mammals, and 3.7% was vegetation.[926]

Additional information was available from 2000 to 2008 regarding subsistence salmon permits in Manokotak. In 2000 and from 2004 to 2007, the number of subsistence permits issued to Manokotak households varied between 20 and 22. In 2008, the number increased to 57. The increase may be due to the fact that ADF&G conducted a subsistence harvest survey in the Village that year, resulting in increased participation and a higher number of permits recorded.[927] Information was also available regarding marine invertebrate and non-salmon fish for the year 2008 only. That year, Manokotak residents harvested 3,570 lb of marine invertebrates and 109,526 lb of non-salmon fish (not including halibut) (Table 13).

Available data regarding individual subsistence harvest of halibut and marine mammals are presented in Tables 14 and 15. Between 2004 and 2010, either one or two Subsistence Halibut Registration Certificates (SHARC) were issued to Manokotak residents per year, but no information was reported about the number of SHARC cards fished or total lb of halibut harvested during these years (Table 14). Between 2000 and 2010, ADF&G reported harvest of between 1 and 9 harbor seals and between 5 to 46 spotted seals per year. In addition, beluga whale harvests were reported from 1 to 10 animals per year from 2000 to 2010. No information was reported by management agencies regarding harvest of sea otter, walrus, or Steller sea lion by Manokotak residents between 2000 and 2010 (Table 15).

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[924] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[925] City of Manokotak. October 2005. *Manokotak Comprehensive Plan*. Retrieved November 28, 2011 from http://www.agnewbeck.com.

[926] Schichnes, J., and M. Chythlook (1988). *Use of Fish and Wildlife in Manokotak, Alaska*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 152, Anchorage, pg. 19-20. Retrieved November 29, 2011 from http://www.subsistence.adfg.state.ak.us.

[927] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg (2011, revised). Alaska subsistence salmon fisheries 2008 annual report. ADF&G Division of Subsistence, Technical Paper No. 359, Anchorage. Pg. 73. Retrieved December 5, 2011 from http://www.adfg.alaska.gov/techpap/TP359.pdf.

Table 12. Subsistence Participation by Household and Species, Manokotak: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	89%	13%	62%	81%	83%	975
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Manokotak: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	22	21	331	24	171	8	2,639	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	20	18	289	39	266	12	1,447	n/a	n/a
2005	21	21	110	2	192	n/a	1,272	n/a	n/a
2006	22	18	165	42	56	6	1,386	n/a	n/a
2007	21	20	440	51	32	6	1,915	n/a	n/a
2008	57	54	816	110	454	69	3,981	3,570	109,526
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Manokotak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	2	n/a	n/a
2005	2	n/a	n/a
2006	2	n/a	n/a
2007	2	n/a	n/a
2008	2	n/a	n/a
2009	1	n/a	n/a
2010	2	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Manokotak: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	3	n/a	n/a	n/a	n/a	1	23
2001	4	n/a	n/a	n/a	n/a	4	8
2002	1	n/a	n/a	n/a	n/a	n/a	n/a
2003	10	n/a	n/a	n/a	n/a	2	5
2004	4	n/a	n/a	n/a	n/a	4	27
2005	3	n/a	n/a	n/a	n/a	7	46
2006	5	n/a	n/a	n/a	n/a	7	46
2007	4	n/a	1	n/a	n/a	n/a	18
2008	3	n/a	n/a	n/a	n/a	9	17
2009	4	n/a	2	n/a	n/a	n/a	n/a
2010	6	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Additional Information

In 1985, a lifelong resident of Manokotak, Anecia Lomack, recounted the story of Manokotak's founder:

> Evon Minista is credited with being the founder of Manokotak. Originally from the Nushagak Peninsula, and his wife Susie was from Togiak. He was one of many who spent the winters of 1944 and 1945 at the end of the Igushik River to be closer to his commercial fishing grounds in Nushagak Bay. Following World War II, when gas was still in short supply, Minista's ration was insufficient either to get to Togiak to re-establish his family's residence or to return to their winter home. Searching for a new winter home along the Igushik River, he selected the current site of Manokotak in 1946 and other families soon joined.[928]

Others followed Minista to the new village site from areas of Kulukak, Nushagak, and Togiak bays. These villages were abandoned for a variety of reasons. Most notable, some people left Kulukak because of disease that they believed was caused by a curse placed on the village by a local who disliked others in the community.[929]

[928] Schichnes, J., and M. Chythlook (1988). *Use of Fish and Wildlife in Manokotak, Alaska*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 152, Anchorage, pg. 19-20. Retrieved November 29, 2011 from http://www.subsistence.adfg.state.ak.us/techpap/tp152.pdf. Quoted on pgs. 19-20.
[929] Ibid. Quoted on pg. 18.

Naknek (*NACK-neck*)

People and Place

Location [930]

Naknek is situated on a 100-ft bluff overlooking the northern bank of the mouth of the Naknek River, at the northeastern end of Bristol Bay. It lies 297 miles southwest of Anchorage. The Census Designated Place (CDP) encompasses 84.2 square miles of land and 0.7 square miles of water. Naknek lies about 20 miles from the western border of Katmai National Park and Preserve, which contains Mt. Katmai, Mt. Novarupta, and the Valley of 10,000 Smokes. Naknek is located in the Bristol Bay Borough, the Bristol Bay Borough Census Area, and the Kvichak Recording District.

Demographic Profile [931]

In 2010, there were 544 inhabitants in Naknek, making it the 112th largest of 352 total Alaskan communities with recorded populations that year. The town first appeared in the 1890 U.S. Census. Overall from 1990 to 2010, the population of Naknek declined by 5.4%. Between 1990 and 2000, the population of Naknek grew by 18%, and between 2000 and 2010 declined again by 19.8%, which is reflected in the average annual growth rate from 2000 to 2009 of -1.95%. In 2010, a majority of Naknek residents identified themselves as White (45.5%) and American Indian and Alaska Native (30.3%). In addition, 24.1% of residents identified with two or more races, and a smaller percentage identified as Native Hawaiian and Other Pacific Islander (0.7%) or "some other race" (0.4%). In addition, in 2010, 2.6% of the population of Naknek identified themselves as Hispanic. Individuals identifying as White or as Alaska Native and American Indian both made up a smaller percentage of the population in 2010 compared to 2000, and individuals of mixed race made up 21.7% more of the population in 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Naknek was 2.35, a decrease from 2.7 persons per household in 2000 and 2.6 in 1990. The total number of households in Naknek increased from 108 in 1990 to 247 in 2000, and then declined to 231 occupied housing units by 2010. Of the 460 housing units surveyed for the 2010 Decennial Census, 29.8% were owner-occupied, 20.4% were renter-occupied, and 49.8% of all housing units were vacant or used only seasonally. From 1990 to 2010 no residents of Naknek were reported to be living in group quarters.

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[930] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[931] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

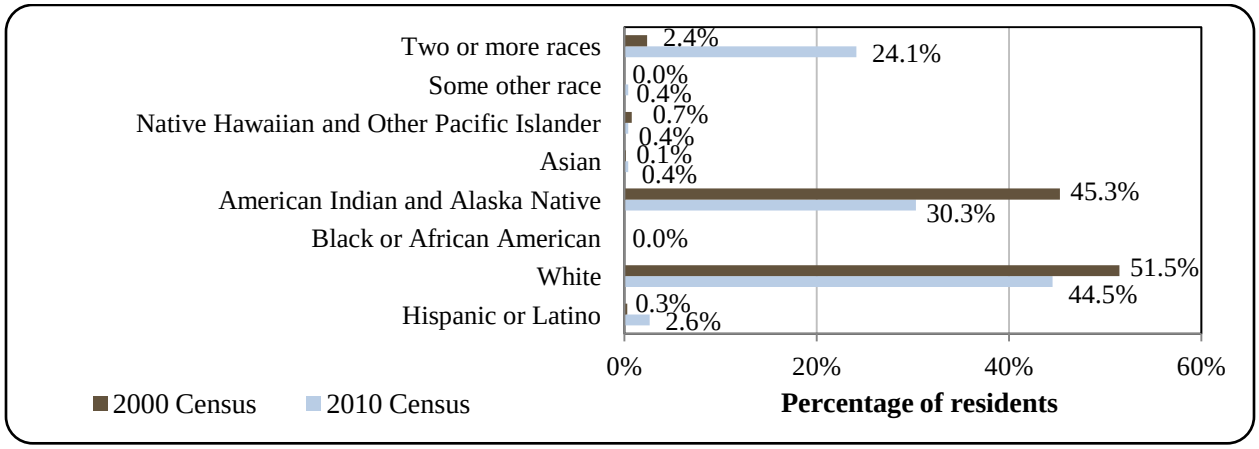
Table 1. Population in Naknek from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	575	-
2000	678	-
2001	-	657
2002	-	642
2003	-	612
2004	-	613
2005	-	582
2006	-	583
2007	-	542
2008	-	549
2009	-	516
2010	544	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

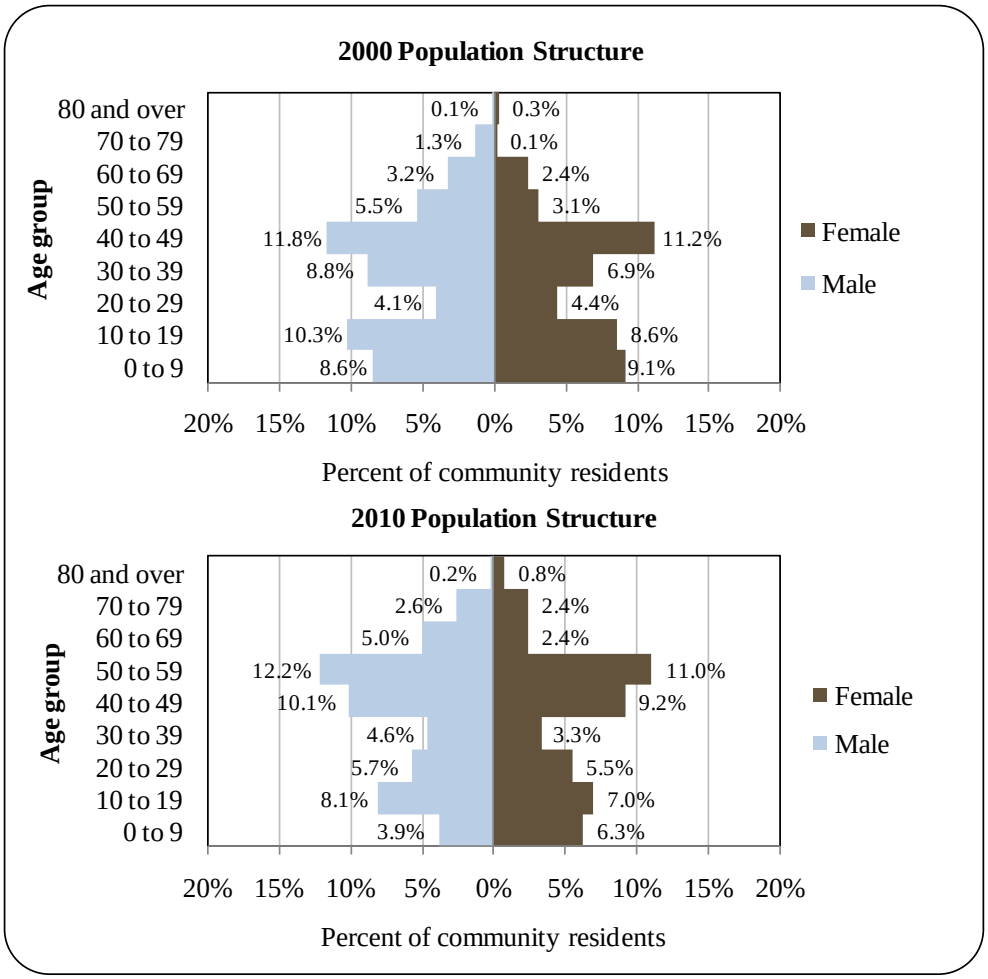
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Naknek: 2000-2010 (U.S. Census).



In 2010, the gender makeup in Naknek was 51.9% male and 48.1% female, very similar to the state population as a whole (52% male, 48% female). The median age was estimated to be 39.3 years, higher than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, males outnumbered females in all age groups but 0 to 9 years and 80 years and over, and there were very similar numbers of males and females in the 20 to 29 age group. In 2010, 13.3% of the Naknek population was age 60 or older. The overall population structure of Naknek in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Naknek Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS), 90.2% of Naknek residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 7.5% of residents aged 25 and older were estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 2.3% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 44.4% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 8.9% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 11.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 3.5% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall. During community review of this profile, a representative of the Bristol Bay

Borough noted that the 2006-2010 ACS appears to underestimate the percentage of the adult population holding Bachelor's degrees.[932]

History, Traditional Knowledge, and Culture

Naknek is a fishing community with a mixed population of non-Natives, Yup'ik Eskimo, Aleut, and Athabascan residents.[933,934] Starting 8,000 years ago there is evidence of seasonal camps along the Kvichak River by people of the Paleo-Arctic tradition. These people likely arrived following herds of caribou. By 6,000 years ago, ancestors of the Kodiak and Aleutian traditions made seasonal use of the Naknek area, probably utilizing both caribou and marine resources. By 1,900 B.C., ancestors of historic Yup'ik populations settled in the area. They were fishermen and hunters of caribou and marine mammals. Evidence of permanent settlements and river salmon fishing in the Naknek area starts around 400 B.C. [935]

By the time of European contact in the late 1700s, residents of villages used rivers to interact with each other and for transport in pursuit of seasonal subsistence resources. In 1821, the original Yup'ik village of "Naugeik" was noted by Capt. Lt. Vasiliev. The village was called Kinuyak and later spelled Naknek by the Russian Navy. The Russians built a fort near the village, and fur trappers inhabited the area prior to the U.S. purchase of Alaska in 1867.[936] Other abandoned village sites located on the Naknek River include Paugvik and New Savonoski.[937]

Soon after the sale of Alaska, the commercial fishing industry began to develop in the region, and the community of Naknek developed alongside this activity. The first salmon cannery opened on the Naknek River in 1890. The Homestead Act enabled canneries to acquire land for their plants, and also made land available to other institutions and individuals including the Russian Orthodox Church. People arrived from surrounding villages to build shelters on the church property, and were eventually sold lots in what became the center of Naknek.[938] Native Alaskan inhabitants of the area were joined by new residents who arrived to assist in the construction of canneries.[939]

The lack of fishermen and cannery labor led to a practice of importing cannery crews and fishermen from outside Alaska, increasing the non-Native presence in the community, especially during the summer salmon season. Historically this contributed to a low rate of hire of local Native residents as fishermen and cannery workers in the Bristol Bay salmon fishery. However,

[932] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[933] Visit Bristol Bay website. (n.d.). *Bristol Bay Cultures and History*. Retrieved November 7, 2013 from http://www.visitbristolbay.com/visitor-guide/cultures.html.
[934] Information updated during community review of this profile by a representative of the Bristol Bay Borough. Personal communication, October 2013.
[935] Morris, Judith (1985). The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska. *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[936] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[937] See footnote 933.
[938] Ibid.
[939] See footnote 935.

the start of World War II created a labor shortage and provided an opportunity for local residents to enter the fishery.[940,941] In 1920, the first official school was constructed, and the first aircraft landed in 1929. By the 1930s and 1940s, bush pilots were making regular flights to the area, and an Air Force Station was built in nearby King Salmon in 1942. In 1949, a 15-mile road was constructed between Naknek and King Salmon.[942] Today, Naknek is a hub of fishing and shipping activity in the Bristol Bay region.[943]

Natural Resources and Environment

The climate of Naknek is mainly maritime, characterized by cool, humid, and windy weather. Average summer temperatures range from 42 to 63 °F; average winter temperatures range from 29 to 44 °F. Extremes from -60 to 88 °F are been becoming more common. Total precipitation averages 20 inches annually, with 45 inches of snowfall. Precipiation patterns are also changing, with increasingly dry summers and more rain in the fall season. Fog is common during summer months.[944,945]

Naknek is located on the Alaska Peninsula, close to the Becharof National Wildlife Refuge (NWR) to the south, Katmai National Park and Preserve to the east, and the Alagnak National Wild and Scenic River to the northeast. The Becharof NWR covers an area of 1,157,000 acres and contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800-ft volcano. Wildlife present in the NWR includes brown bears, caribou, moose, and over 200 species of migratory and resident birds. It also provides an important nursery for Pacific salmon.[946] Katmai National Park and Preserve is a 7,383-square-mile wilderness area known for its high concentration of brown bears, the volcanoes Mt. Katmai and Mt. Novarupta, and the Valley of 10,000 Smokes. The National Park and Preserve is also a popular sportfishing destination.[947] The Alagnak River, also known as the "Branch River", is a 79-mile-long river with headwaters in Katmai National Park and Preserve that joins the Kvichak River at the community of Levelock. Sixty-seven miles of the Alagnak River are designated as wild.[948] Nearby King Salmon is one of the primary departure points for charter flights to these wilderness destinations.[949] Minimal traffic passes through Naknek en route, however, as most visitors

[940] Ibid.
[941] Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[942] See footnote 935.
[943] See footnote 936.
[944] Ibid.
[945] Comments about the changing climate patterns provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[946] U.S. Fish and Wildlife Service (2011). *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.
[947] National Park Service (2011). *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.
[948] Lake Clark-Katmai Studies Center, National Park Service (n.d.). *Alagnak Wild River: An Illustrated Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.
[949] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

transfer directly from the airport in King Salmon to transportation with smaller guide services. Many also charter flights directly to the wilderness areas from Anchorage or Homer.[950]

The Kvichak River system, including the Alagnak River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area, providing resources for commercial, subsistence, and recreational fisheries. The Alagnak River attracts a large number of anglers each year for salmon, Arctic grayling, Arctic char, and lake trout fisheries. The River's rainbow trout fishery has a world-class reputation.[951]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit northwest of Naknek, near Nondalton. The Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[952] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion lb of copper, 107.3 oz of gold, and 5.6 billion lb of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[953] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be toxic to fish.[954] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[955]

The immediate Naknek area has no known mineral occurrences, but local potential exists for subsurface oil and gas resources. Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[956] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007 to 2012 program.[957] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[958]

According to the Bristol Bay Coastal Management Plan, the Naknek area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges,

[950] Information about visitation rates to Naknek provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[951] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[952] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky (2008). Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.
[953] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[954] See footnote 952.
[955] Pg. 36 in: Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[956] See footnote 951.
[957] Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[958] The White House, Office of the Press Secretary (2010). *Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. [959]

Coastal erosion and land loss are the primary natural hazard concerns in the community of Naknek.[960] Coastal flooding and erosion is affected by wind, site exposure, and sea ice conditions. The Bristol Bay Coastal Management Plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures are already beginning to shift the distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[961]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Naknek as of July 2012.[962]

Current Economy[963]

As the political and economic seat of the Bristol Bay Borough, Naknek is the business center for Bristol Bay. Naknek's local economy is driven by seasonal fluctuations of the fishing industry, in particular the huge Bristol Bay sockeye salmon fishery.[964] Herring and halibut are secondary commercial fish species harvested in the area.[965] In addition to fishing, other top employers in Naknek in 2010 included the Bristol Bay Borough, the School District, utilities such as Naknek Electric Association and Bristol Bay Telephone Cooperative, Peninsula Airways, the Bristol Bay Housing Authority, state government, and local retailers and restaurants.[966] Local residents supplement wage employment to some degree with subsistence practices (see the *Subsistence Fishing* section of this profile for more information).[967]

In 2010, more than 100 Naknek residents held commercial fishing permits (see the *Commercial Fishing* section of this profile), and several thousand additional people typically flood the area during the summer salmon fishing season. Millions of lb of frozen salmon are

[959] Glenn Gray and Associates (2008). *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[960] Information provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[961] See footnotes 959 and 960.
[962] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[963] Unless otherwise noted, all monetary data are reported in nominal values.
[964] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[965] Southwest Alaska Municipal Conference (n.d.). *Bristol Bay Borough*. Retrieved December 21, 2011 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo.php.
[966] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[967] See footnote 964.

shipped from Naknek in containers each year, and fresh product is trucked over the road between Naknek and King Salmon where jets transport the fish to the lower 48.[968] Trident Seafoods, Ocean Beauty, and other fish processors operate facilities in Naknek.[969] For more information, see the *Processing Plants* section of this profile.

Based on household surveys conducted for the 2006-2010 ACS,[970] in 2010, per capita income in Naknek was estimated to be $30,378 and the median household income was estimated to be $93,750, compared to $21,182 and $53,393 reported in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[971] the real per capita income in 2000 is shown to have been $27,854 and the real 2000 median household income was $70,211. This shows that per capita income stayed stable over the period, while there was a real increase in per capita income. In 2010, Naknek ranked 59th of 305 Alaskan communities with per capita income that year, and 11th out of 299 Alaskan communities with household income data.

However, Naknek's small population size may have prevented the ACS from accurately portraying economic conditions.[972] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Naknek in 2010 is $17,812.[973] Although this estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution may be warranted when citing an increase in per capita income in Naknek from 2000 to 2010. During community review of this profile, a representative of the Bristol Bay Borough noted that these estimates are low and would not cover the cost of living in Naknek. It should also be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not reflect the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, 70.3% of the Naknek population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. That year, approximately 5.1% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall, and the unemployment rate was estimated to be 7.4%, compared to the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in Naknek in 2010 was 9.2%, compared to a statewide unemployment rate estimate of 11.5%.[974]

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[968] Details on shipping provided by a Bristol Bay Borough representative during community review of this profile in October 2013.
[969] Ibid.
[970] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[971] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[972] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[973] See footnotes 966 and 970.
[974] See footnote 966.

Also based on the 2006-2010 ACS, the greatest percentage of the Naknek workforce was estimated to be employed in the private sector (48.1%), along with 36.3% in the public sector and 13.1% estimated to be self-employed, and 2.5% working as unpaid family workers. Out of 237 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in the following industries: educational services, health care, and social services (34.6%), transportation, warehousing, and utilities (18.1%), professional, scientific, management, and administrative and waste management services (11.8%), and retail trade (11.4%). The occupations in which the greatest percentages of the workforce were estimated to be employed were management/professional (42.4%) and sales/office occupations (23.3%). Between 2000 and 2010, there was a large increase in the percentage of the labor force employed in management/professional occupations, and a commensurate decrease in employement in service occupations. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In 2010, only 3.8% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining industries. Although 28 workers were estimated to be employed in natural resource/construction/maintenance occupations (20.9%), a breakdown of this category reveals that only 4 individuals were employed in the census category, "farming, fishing, and forestry occupations" (1.7% of the total labor force).

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 258 employed residents in Naknek in 2010, of which 32.6% were employed in local government, 26.7% in trade, transportation, and utilities, 6.6% in financial activities, 6.6% in leisure and hospitality, 5.8% in construction, 4.7% in information, 3.9% in professional and business services, 3.9% in education and health services, 3.9% in state government, 3.5% in manufacturing, 1.2% in natural resources and mining, and 0.8% in other industries.[975] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[975] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

Figure 3. Local Employment by Industry in 2000-2010, Naknek (U.S. Census).

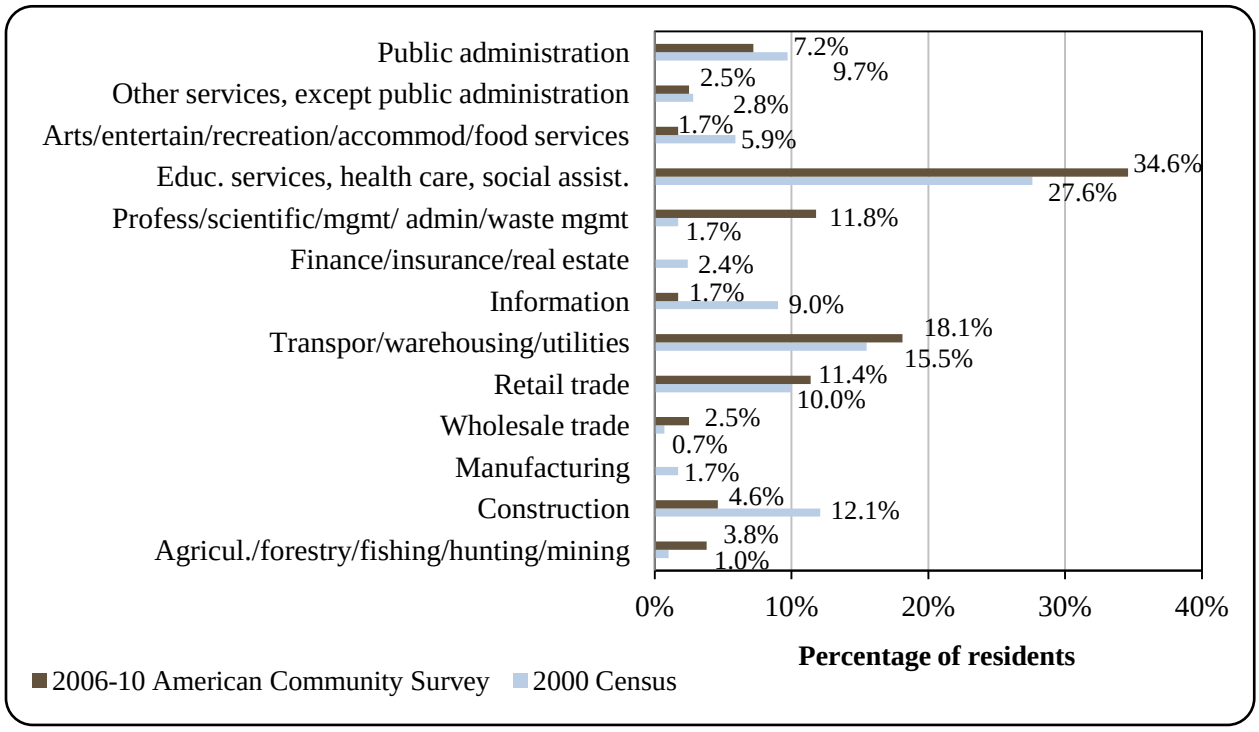
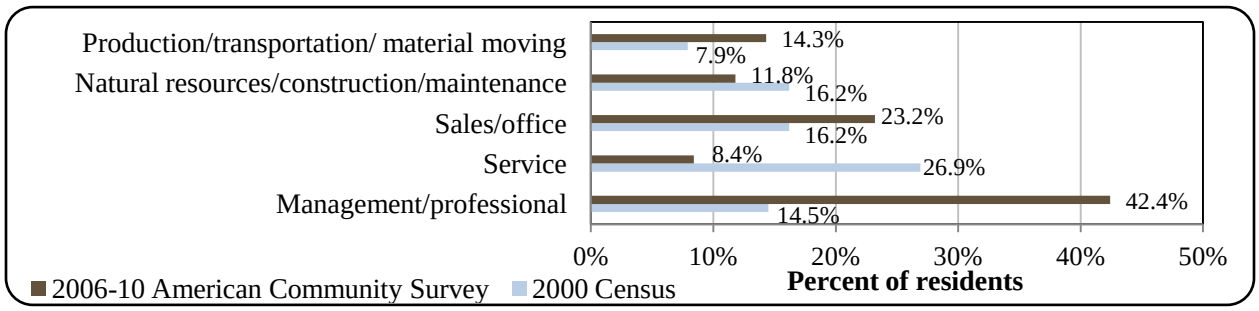


Figure 4. Local Employment by Occupation in 2000-2010, Naknek (U.S. Census).



Governance

Naknek is an unincorporated community in the Bristol Bay Borough. The Borough was incorporated in 1962, making it the first borough in Alaska. It is also one of the smallest boroughs in the State. It contains three CDPs – Naknek, South Naknek, and King Salmon. The seat of the Bristol Bay Borough is located in Naknek.[976]

As of 2013, the Bristol Bay Borough did not administer a sales tax, but did levy a 12 mills property tax, 3% raw fish tax, and 12% bed tax (transient occupancy tax).[977,978] In addition to tax revenues, other locally-generated income sources received by the Bristol Bay Borough between 2000 and 2010 included building and equipment rental income, charges for services provided by the Borough such as water and sewer, ambulance fees, and pool fees, land sales, building permit fees, and investment income. Outside revenue sources included state and federal grants and revenue sharing programs, as well as some state contracts including jail and special services contracts. State of Alaska sources of shared revenue during the 2000-2010 period included the State Revenue Sharing program from 2000 to 2003, the Community Revenue Sharing program in 2009 and 2010, municipal energy assistance, and state fish tax refunds (see the *Fisheries-Related Revenue* section of this profile for more information). Federal shared revenue sources included funds from the Payment In Lieu of Taxes program. A variety of special project and capital project grants were also received from the state and federal governments during this period.[979] Fisheries-related grants were received for projects including Port of Bristol Bay dock engineering, expansion and repair, dock equipment, the design and development the Fisherman's Dock and Industrial Park, and funding for a Bristol Bay Salmon Camp.[980] A majority of this funding was received by Naknek community entities, while the Borough received $70,671 in 2008 toward purchase of land for development of the Fisherman's Dock and Industrial Park. Information regarding selected community revenue sources is found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Bristol Bay Borough, including Naknek, from 2000 to 2010.

Year	Total Borough Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[1,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$7,175,572	n/a	$29,923	n/a
2001	$6,318,332	n/a	$27,975	$39,918
2002	$4,801,219	n/a	$27,960	$84,895
2003	$4,163,996	n/a	$28,013	$174,900
2004	$6,098,710	n/a	n/a	n/a

[976] Southwest Alaska Municipal Conference. (n.d.) *Bristol Bay Borough*. Retrieved October 21, 2013 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo/bristol-bay-borough.php.
[977] Alaska Department of Commerce, Community, and Economic Development. 2013. *Alaska Taxable 2012*. Retrieved October 18, 2013 from http://commerce.alaska.gov/dnn/Portals/4/pub/OSA%20TAXABLE%202012%20-%20FINAL%202013-02-05.pdf.
[978] Tax information updated by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[979] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[980] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Funding Database*. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

2005	$4,213,625	n/a	n/a	$213,930
2006	$5,475,184	n/a	n/a	n/a
2007	$6,248,803	n/a	n/a	$400,000
2008	$8,374,133	n/a	n/a	$1,770,671
2009	$8,489,105	n/a	$498,484	$3,740,000
2010	$8,839,652	n/a	$497,231	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

In addition to the Borough, Naknek Native Village serves as a governing body for the Native population in the community. Naknek Native Village was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized by the Bureau of Indian Affairs. The Native village corporation is Paug-Vik Incorporated, Limited, which manages 115,000 acres of land. The regional Native corporation to which Naknek belongs is the Bristol Bay Native Corporation.[981]

Naknek Native Village is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[982] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[983]

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon. Nearby King Salmon also hosts offices of the National Park Service and U.S. Fish and Wildlife Service, and Dillingham has an office of the Alaska Department of Commerce, Community, and Economic Development's Division of Community and Regional Affairs. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices. However, the Anchorage office of NMFS may be more easily accessible for the people of the Bristol Bay region. The Alaska Department of Natural Resources and the U.S. Bureau of Citizenship and Immigration Services also have offices in Anchorage.

[981] See footnote 978.
[982] Bristol Bay Native Association (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from www.bbna.com.
[983] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Infrastructure

Connectivity and Transportation

Naknek is accessible both by air and sea. The main road in Naknek, the Alaska Peninsula Highway, connects overland to King Salmon, approximately 15 miles to the east. Scheduled Alaska Airlines and Peninsula Air commercial flights serve the King Salmon airport, including summer jet service. [984,985] The airport has a state-owned 8,901-ft by 150-ft asphalt runway.[986] The price of a roundtrip ticket by plane from King Salmon to Anchorage in early June of 2012 was $425.[987] The state-owned Naknek Airport is located one mile north of Naknek. It has a 1,950-ft-long by 50-ft-wide lighted gravel runway, a 1,850-ft-long and 45-ft-wide gravel runway, and 2,000-ft floatplane landing area, and is open to general aviation and air taxi service. A private 1,700-ft-long by 60-ft-wide gravel cross strip is also available at Tibbetts Field, located south of the Naknek Airport, just off the Alaska Peninsula Highway.[988,989]

The Borough operates a cargo dock at Naknek, which is the Port of Bristol Bay. It has 800 ft of berthing space, a concrete surface, and several cranes. No commercial docking facilities are available at the canneries. Pickup trucks and cars are common, and taxis are available.[990]

Facilities

A majority of public and private buildings in Naknek have individual wells. A community well source is also available for the HUD public housing project, operated by the Naknek Village Council. Most homes are fully plumbed with a piped sewer system that feeds into a sewage lagoon operated by the Bristol Bay Borough. Some homes have individual septic tanks, and the Borough is available to provide septic pumping services. Some of the collective sewage network is shared with the nearby community of King Salmon. The community landfill is operated by the Borough, and private refuse collection services are provided by Patterson Sanitation Company. Electricity is provided to the community by a diesel powerhouse operated by the Naknek Electric Association. The Borough Police Department headquarters are located in King Salmon. The Department provides local police services throughout the Borough area, including Naknek and South Naknek.[991,992] An Alaska State Trooper post is also located in King

[984] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[985] Information about summer jet service updated by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[986] Airport information retrieved December 20, 2011 from http://www.airnav.com/.
[987] This price was calculated on November 21, 2011 using kayak.com.
[988] See footnote 986.
[989] See footnote 984.
[990] Ibid.
[991] Ibid.
[992] Bristol Bay Borough. (n.d.). *Police*. Retrieved November 8, 2013 from http://www.bristolbayboroughak.us/adminstration/police/index.html.

Salmon.[993] A variety of facilities are available to accommodate tourists in Naknek. These include retail stores, hotels, restaurants, a public library, public beaches, fishing lodges, boat rentals, sport rentals including ATVs and kayaks, and a U.S. post office. Local telephone and cable services are offered by Bristol Bay Telephone Cooperative (BBTC), and internet service is provided by GCI. Cellular service is available via BBTC or GCI.[994]

Fishing-related facilities in Naknek include the Port of Bristol Bay, which consists of a cargo dock operated by the Borough. A fisherman's dock, freight dock, and Industrial Park have recently been completed, and the freight dock is being expanded. A number of cannery facilities are also in operation in Naknek (see the *Processing Plants* section of this profile). Two public boat launches are available: one in Naknek and one in King Salmon.[995]

Medical Services

Local health care is provided at the Camai Community Health Center and the Naknek Clinic. The Camai Community Health Center is operated through grant funding under the municipal guidance of the Bristol Bay Borough. The Naknek Clinic is located in the Naknek Native Village Council Building. It is operated by the Bristol Bay Area Health Corporation (BBAHC), primarily on behalf of Naknek Village tribal members. The Naknek clinic is staffed by health aides and supported by BBAHC doctors.[996] Emergency Services have coastal, river, floatplane, and air access, as well as limited highway access. Ambulance and EMT services are provided by the Bristol Bay Borough Fire Department, which is supported by volunteers as well as paid staff. Emergency service is provided through a 911 Telephone System.[997] The nearest hospital is located in Dillingham.

Educational Opportunities

Naknek is within the Bristol Bay Borough School District. The Bristol Bay Borough School is located in Naknek and also serves students from King Salmon and South Naknek. The Bristol Bay Borough School has an Elementary School wing and a Middle/High School wing. As of 2011, the Elementary School (grades preschool through 6th) was attended by 93 students and had 7 teachers. That same year, the Middle/High School had 85 students and 8 teachers.[998] During community review of this profile, a representative of the Bristol Bay Borough noted that enrollment numbers have been steadily decreasing in the Bristol Bay School District system.

[993] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[994] Information provided by a representative of the Bristol Bay Borough during community review of this profile in October 2013.
[995] See footnotes 984 and 994.
[996] See footnote 994.
[997] See footnotes 984 and 994.
[998] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Starting in 6,000 B.C., there is evidence of Ocean Bay peoples – ancestors of the Kodiak and Aleutian traditions – living in the Bristol Bay region. These people likely made use of marine resources along the coast. By 400 B.C., there is archaeological evidence of fishing activity by people of the Norton tradition in the Naknek area. Notched pebbles used as sinkers allowed access to fishing sites along the Naknek River where deep swift water made wading impossible.[999]

The present community of Naknek developed alongside the development of the commercial fishing industry in Bristol Bay. An influx of workers arrived from outside Alaska to help in the construction of canneries. The continued need for fishermen and cannery labor led to a practice of importing cannery crews and fishermen from outside Alaska.[1000] Historically this contributed to a lack of participation by local Native residents as fishermen in the Bristol Bay salmon fishery, although the start of World War II created a labor shortage in the country and provided an opportunity for local residents to enter the fishery.[1001,1002] Today, over 80% of the workforce in a majority of Naknek processing facilities consists of non-residents,[1003] and includes many foreign workers.[1004]

A majority of commercial fishery permit holders in Naknek participate in the Bristol Bay salmon fishery, although many also participate in fisheries for halibut, herring, crab, groundfish, sablefish, and "other shellfish". The commercial salmon fishery began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, although several other species are harvested in lower volumes.[1005] Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of the Nushagak River near the Village of Togiak.[1006] Commercial exploitation of halibut first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed

[999] Morris, J. 1985. "The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska." *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[1000] Ibid.
[1001] Ibid.
[1002] Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[1003] Alaska Dept. of Labor and Workforce Development (2011). *Nonresidents Working in Alaska 2009*. Prepared by Jeff Hadland, Economist. Retrieved December 21, 2011 from http://www.cfec.state.ak.us/plook/.
[1004] Public Radio International's The World. (2011). *Why Foreign Students are Hired for Alaskan Fish Processing* August 15, 2011). Retrieved December 21, 2011 from http://www.theworld.org/.
[1005] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1006] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert (2005). *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.

fishing vessels to undertake longer trips.[1007] Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission (IPHC).

Naknek is located at the mouth of the Naknek River, which empties into Bristol Bay. The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Naknek participates in the Community Development Quota (CDQ) program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity (CQE) program. The Naknik/Kvichak Advisory Committee for the Alaska Board of Fish (BOF) hosts local meetings in Naknek. The activities of the advisory committee include developing regulatory proposals; evaluating regulatory proposals and making recommendations to the BOF; providing a local forum for fish and wildlife conservation and use, including matters relating to habitat; advising the appropriate regional council on resources; and consulting with individuals, organizations, and agencies.[1008]

Processing Plants

According to ADF&G's 2010 Intent to Operate list, nine processing facilities were in operation in Naknek. History and current information about the Naknek operations of Alaska General Seafoods, Great Ruby Fish Company, Leader Creek Fisheries, Naknek Family Fisheries, LLC, North Pacific Seafoods, Ocean Beauty Seafoods, Inc., Trident Seafoods Corporation, Wild Alaska Salmon and Seafood, and Yarmarm Knot Fisheries is presented below.

The Alaska General Seafoods (AGS) Naknek cannery is located ¼ mile east of the community of Naknek. A saltery was opened on the site of the current plant in the 1940s by Allen Nelson, and was operated until the mid-1950s. The property was then leased to American Pacific Company, which operated a floating cannery on site. In the late 1950s, Nelson Brothers Fisheries purchased the operations of American Pacific. In 1961, the Nelson Brothers founded the Nelbro Packing Company. The cannery operated under Nelbro Packing Co. until Nelbro's merger with Kanaway Seafoods and Alaska General Seafoods in 1999. Today, Alaska General Seafoods processes pink, sockeye, chum, and coho salmon at its Naknek facility, with an operating season from June 16th to July 22nd. Alaska General provides free room, board, shower, and laundry facilities to its fish processing workforce.[1009]

Leader Creek Fisheries began operating a seafood processing plant in Naknek in 2000.[1010] In late 2010, a Canadian company called Canfisco agreed to purchase Leader Creek Fisheries. Canfisco is also the owner of Alaska General Seafoods.[1011] Leader Creek focuses on

[1007] Thompson, William F. and Norman L. Freeman (1930). *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from http://ww.iphc.int/publications/scirep/Report0005.pdf.
[1008] Southwest Alaska Municipal Conference (2010). *Southwest Alaska Comprehensive Economic Development Strategy*. Prepared for the U.S. Department of Commerce Economic Development Association. Retrieved December 21, 2011 from http://www.swamc.org/.
[1009] Alaska General Seafoods (2013). *Locations: Naknek*. Retrieved August 9, 2013 from http://www.akgen.com/locations/index_naknek.asp
[1010] This information is based on the results of a survey of processing plant managers conducted by the Alaska Fisheries Science Center in 2011.
[1011] Bluemink, E. December 9, 2013. "Canadian firm acquiring Bristol Bay seafood processor." *Anchorage Daily News.* Retrieved November 8, 2013 from http://community.adn.com/node/154734.

processing sockeye salmon from mid-June to as late as mid-August, with a fish processor workforce of up to 450. It also processes herring from late April to mid-May, with an approximate workforce of 150. Leader Creek Fisheries provides free room and board to its fish processor workforce. Facilities and services available to workers including laundry service and shower facilities, a large communal TV and VCR, Wi-fi "hotspot" in the company galley, and free transportation from and to Anchorage or Kodiak. The on-site company store sells items like cigarettes, candy, and phone cards for the local pay phones. As of 2010, Leader Creek hired "a diverse mix of hardworking and motivated men and women from across the country and around the world." Foreign workers include students on J1 visas from Eastern European countries like Slovakia, the Czech Republic, and Poland, as well as people of other nationalities provided they have appropriate documentation.[1012] During community review of this profile, a representative of the Bristol Bay Borough noted that Leader Creek Fisheries has expanded its workforce since 2010, and also noted that modifications to the J1 visa program have changed the way that canneries hire their workers. In 2012, the U.S. State Department removed "food manufacturing" from the J-1 program and put new restrictions on working hours. As of 2013, legislation was pending in Congress regarding alternative worker visas.[1013]

The Great Ruby Fish Co. facility in Naknek primarily processes sockeye salmon.[1014] According to a survey of plant managers conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, the plant began operations in 2002, and is a small business that employs between six and eight workers during June and July.

Naknek Family Fisheries, LLC was formed by fishing family members from within the village of Naknek. Naknek Family Fisheries processes salmon, and from May through early June it also processes halibut.[1015]

The North Pacific Seafoods Naknek-area plant is known as "Pederson Point". It is located 3.5 miles north of the village of Naknek, situated on Kvichak Bay. The plant was built in the 1890s as a saltery, and was later converted to a salmon canning operation. The facility was purchased by North Pacific Seafoods in 1983. Currently, the plant processes herring during early May and salmon and salmon roe from mid-June until the end of July. It employs 225 people during peak season. The facility provides free raingear and bunkhouse accommodations (including shared showers) for its fish processor workforce. It also provides free meals to workers.[1016]

Ocean Beauty Seafoods, Inc. originated in 1910 as Washington Fish & Oyster in Seattle and began operations in Alaska in the 1930s. Ocean Beauty purchased its present Naknek facility in 1988. The Naknek facility processes red salmon and herring from late April to mid-August. The facility employs approximately 360 people and offers optional transfer work until September

[1012] Leader Creek Fisheries (n.d.). *Employment with Leader Creek Fisheries*. Retrieved August, 2011 from http://leadercreekfisheries.com/employment.php.
[1013] Matheson, B. June 24, 2013. "Senate to Consider Reinstating J1 Visa Program for Seafood Processors." *KDLG Public Radio, Dillingham*. Retrieved November 8, 2013 from http://kdlg.org/post/senate-consider-reinstating-j1-visa-program-seafood-processors.
[1014] Alaska Seafood Marketing Institute (2005). *Supplier Information*. Retrieved August 2011 from http://alaskaseafood.org/industry/suppliers/detail.cfm?Supplier=317.
[1015] Naknek Family Fisheries (2007). *Our Family Tradition*. Retrieved August, 2011 from http://naknekfish.com/.
[1016] North Pacific Seafoods (n.d.). *Production Facilities: Pederson Point*. Retreived August, 2011 from http://northpacificseafoods.com/index.php?option=com_content&task=view&id=41&Itemid=51.

5th. Ocean Beauty offers free laundry service to its fish processing workforce, as well as raingear, boots, gloves, and safety equipment.[1017]

Trident Seafoods Corporation was founded in 1973 and its North Naknek facility is located on the Naknek River, across the river from the company's South Naknek boat storage facility. The North Naknek plant processes canned, frozen, and fresh sockeye salmon during the summer season, which ranges from mid-June through the end of July. Plant employment varies between 200 and 225 employees. Trident offers room and board (including shared bathroom facilities) at a nominal charge and free air transportation from and to Seattle to its fish processing workers, provided they fulfill their contractual obligations.[1018]

According to the 2011 survey of plant managers conducted by the AFSC, Wild Alaska Salmon and Seafood is a small processor that began operations in Naknek in 2008. The survey also found that the plant employs a total of 12 workers between June and September. The plant specializes in sockeye salmon more than any other salmon or fish.[1019]

The Yardarm Knot Fisheries facility, known as Red Salmon Cannery, processes herring from mid-April to mid-May and salmon (sockeye, Chinook, and chum) from mid-June to late July. The facility was constructed in the early 1920s by Red Salmon Canning Company. Freezing capacity was added in 1985, and Yardarm Knot Fisheries upgraded both the freezing and cannery operating in 2004 and 2005. At the peak of the salmon season, Yardarm Knot employs a workforce of approximately 450 employees. The facility provides room and board (including shared bathroom facilities) for free to its fish processing workforce. Yardarm Knot also provides free air transportation from and to Anchorage or Seattle if workers fulfill their contractual obligations.[1020]

It is important to note that, in addition to the processing facilities listed above that were in operation in 2010, two new plants were under construction in Naknek as of 2013. Sitka-based Silver Bay Seafoods was in the process of constructing a Naknek plant, and hoped to begin operations in the 2014 season. The fishermen-owned company hoped to process a large portion of the salmon from the Bristol Bay drift gillnet fishery, as well as herring from the Togiak sac-roe fishery.[1021] In addition, during community review of this profile in October 2013, a representative of the Bristol Bay Borough noted that Extreme Seafoods is constructing a new plant in Naknek.

Fisheries-Related Revenue

Between 2000 and 2010, the primary sources of revenue to the Bristol Bay Borough that were directly tied to fisheries included income from both a borough and a state raw fish tax, as well as revenue sharing from the state Fisheries Business Tax. Based on information reported in the Bristol Bay Borough's yearly audits, the local raw fish tax remained a more stable source of

[1017] Ocean Beauty Seafoods (n.d.). *Production locations: Naknek, Alaska.* Retrieved August, 2011 from http://www.oceanbeauty.com/about/naknek.htm.
[1018] Trident Seafoods (2011). *Alaska Plants*. Retrieved August, 2011 from http://www.tridentseafoods.com/company/plants_alaska.php.
[1019] Wild Alaska Salmon and Seafood (2010). *Homepage*. Retrieved August, 2011 from http://www.wildalaskasalmonandseafood.com.
[1020] Yardarm Knot Inc. (n.d.) *Red Salmon Cannery*. Retrieved August, 2011 from http://yardarm.net/.
[1021] Mason, M. December 26, 2012. "Silver Bay to open Bristol Bay plant in '14." *KCAW Public Radio, Sitka*. Retrieved November 8, 2013 from http://www.kcaw.org/2012/12/26/silver-bay-to-open-bristol-bay-plant-in-14/.

revenue than the state raw fish tax through the decade, and the shared Fisheries Business Tax increased in importance over time, rising to $1.5 million per year in several later years of the period. Information about fisheries-related revenue sources is presented in Table 3.

It is important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel, and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[1022]

Commercial Fishing

Naknek is a hub of commercial fishing activity in Bristol Bay. A large fishing fleet is based in Naknek. In 2010, 251 vessels were homeported in Naknek, and 942 vessels landed catch in the community (Table 5). Permit holders come from all over Alaska and the rest of the country each summer to work in the salmon set and drift gill net fisheries. In 2010, over half of the current permit holders were from Alaska and another quarter were from Washington State. The remaining permit holders came from every corner of the country, with particular representation from California, Oregon, Montana, Minnesota, and Idaho.[1023] The processing sector also draws employees from a wide geographical area. Over 80% of the workforce in a majority of Naknek processing facilities were non-Alaska residents,[1024] continuing the early tradition of importing labor to work in this fishery.[1025,1026] Today, processing labor includes many foreign workers as well.[1027]

Naknek was among the top ports in Alaska in landings and ex-vessel revenue in 2010, ranking 10th in landings and 7th in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings. That year, 66,678,398 net lb of salmon were landed at Naknek processing facilities, generating $61,939,904 in ex-vessel revenue. Herring and halibut were also landed during some years between 2000 and 2010 in Naknek. For most years information about herring and halibut landings and ex-vessel revenue is considered confidential due to the small number of participants, with the exception of herring landings in 2000. That year, 4,619,819 net lb of herring were landed in Naknek, representing an ex-vessel value of $20,277,288. Information about landings and ex-vessel revenue generated in Naknek is presented in Table 9.

Residents of Naknek participated in state and federal fisheries as vessel owners, permit and quota share account holders, and crew members. In 2010, 116 Naknek residents held commercial fishing crew permits and 50 fishing vessels were primarily owned by residents

[1022] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.
[1023] Alaska Dept. of Fish and Game (n.d.). *CFEC Public Lookup Database*. Retrieved December 21, 2011 from http://www.cfec.state.ak.us/plook/.
[1024] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1025] Morris, Judith (1985). The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska. *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[1026] Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[1027] See footnote 1024.

(Table 5). Naknek vessel owners landed 3,198,634 net lb of salmon in 2010 (including all delivery locations), valued at $2,768,181 in ex-vessel revenue. Other landings and ex-vessel revenue are considered confidential that year due to the small number of participants. Information about salmon harvest by Naknek residents was reported for all years, while herring and halibut landings were only reported for some years. From 2000 to 2003, Naknek vessel owners landed an average of 546,269 net lb of herring per year, earning an average of $47,784 in ex-vessel revenue. In the year 2000, Naknek vessel owners landed 64,516 net lb of halibut, earning $159,281 in ex-vessel revenue. Landings and ex-vessel revenue earned by Naknek vessel owners are presented in Table 10.

In 2010, a total of 125 Naknek residents held 127 state-issued Commercial Fisheries Entry Commission (CFEC) permits. A majority of these permits (119) were held for Bristol Bay salmon drift and set gill net fisheries. Of these, 105 were actively fished in 2010. The number of salmon permit holders and total salmon permits decreased slightly between 2000 and 2010, from 131 permit holders and 127 permits in 2000 to 123 permit holders and 119 permits held in 2010. The percentage of salmon permits fished did not change substantially over this period. Other CFEC permits held in 2010 included three herring permits held by three individuals (Norton Sound herring roe and food/bait fishery; one permit fished in 2010), two halibut permits held by two individuals (statewide halibut fishery; longline vessel under 60 ft; one permit actively fished in 2010), one crab permit held by one individual (Norton Sound king crab fishery; pot gear; vessel under 60 ft; permit actively fished in 2010), one sablefish permit held by one individual (statewide sablefish fishery; longline vessel under 60 ft; one permit actively fished in 2010), and one "other shellfish" permit held by one individual in the Southeast Alaska sea urchin dive fishery (not actively fished in 2010).

It is important to note that several Naknek residents held groundfish CFEC permits in earlier and middle years of the decade. In 2000, 2004, and 2005, the groundfish permits were held in the Gulf of Alaska mechanical jig fishery, while the permit issued in 2001 was for the groundfish longline fishery. It is also important to note dramatic declines in the number of permits and permit holders in several fisheries in Naknek between 2000 and 2010. In the herring fishery, numbers declined from 29 permits held by 20 Naknek permit holders in 2000 to 3 permits and permit holders in 2010. In the halibut fishery, 17 permits were held by 17 permit holders in 2000, declining to 2 permits and permit holders in 2010. CFEC permit information is presented in Table 4.

Between 2003 and 2010, one active License Limitation Program permit (LLP) was held by a Naknek resident each year in a federal crab fishery, and one inactive Federal Fisheries Permit (FFP) was held between 2000 and 2005. No LLPs were held in federal groundfish fisheries during the decade (Table 4). In 2000, five Naknek residents held quota share accounts in the federal halibut catch share fishery, declining to two by 2010. The annual halibut individual fishing quota (IFQ) allotment also declined over the period. No quota share accounts were held by Naknek residents in federal crab or sablefish catch share fisheries during this period. Information about federal catch share participation is presented in Tables 6 through 8.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Bristol Bay Borough: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Borough raw fish tax[1]	$1,376,536	$529,759	$337,112	$131,111	$311,369	$464,884	$729,623	$838,199	$1,143,108	$1,587,484	$1,170,907
State raw fish tax[1]	$789,759	$1,439,586	$918,305	$504,399	n/a	n/a	n/a	n/a	n/a	n/a	n/a
State Shared Fisheries Business Tax[1]	$8,232	$14,275	$12,108	n/a	$393,836	$460,752	$834,661	$1,178,357	$29,353	$1,581,617	$1,559,831
State Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue received by the Bristol Bay Borough[4]	*$2,174,527*	*$1,983,620*	*$1,267,525*	*$635,510*	*$705,205*	*$925,636*	*$1,564,284*	*$2,016,556*	*$1,172,461*	*$3,169,101*	*$2,730,738*
Total municipal revenue reported by the Bristol Bay Borough[5]	*$7,175,572*	*$6,318,332*	*$4,801,219*	*$4,163,996*	*$6,098,710*	*$4,213,625*	*$5,475,184*	*$6,248,803*	*$8,374,133*	*$8,489,105*	*$8,839,652*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the Bristol Bay Borough reports each year in its audit. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Naknek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	1	1	1	1	1	1	1	1
	Active permits	0	0	0	1	1	1	1	1	1	1	1
	% of permits fished	-	-	-	100%	100%	100%	100%	100%	100%	100%	100%
	Total permit holders	0	0	0	1	1	1	1	1	1	1	1
Federal Fisheries Permits[1]	Total permits	1	1	1	1	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	-	-	-	-	-
	Total permit holders	1	1	1	1	1	1	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	1	1	1	1	1	1	1	1
	% of permits fished	-	-	0%	100%	100%	100%	100%	100%	100%	100%	100%
	Total permit holders	0	0	1	1	1	1	1	1	1	1	1
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	1	1	1	1	1	1	1
Halibut (CFEC) [2]	Total permits	17	12	12	12	9	9	6	7	4	2	2
	Fished permits	4	2	2	3	3	2	2	2	0	1	1
	% of permits fished	24%	17%	17%	25%	33%	22%	33%	29%	0	50%	50%
	Total permit holders	17	12	12	12	9	9	6	7	4	2	2
Herring (CFEC) [2]	Total permits	29	26	17	13	10	9	11	7	5	2	3
	Fished permits	17	14	9	4	2	2	2	0	0	0	1
	% of permits fished	59%	54%	53%	31%	20%	22%	18%	0%	0%	0%	33%
	Total permit holders	20	17	13	11	8	8	9	6	4	2	3

Table 4 cont'd. Permits and Permit Holders by Species, Naknek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	1	1	1
	% of permits fished	-	-	-	-	-	-	-	-	100%	100%	100%
	Total permit holders	0	0	0	0	0	0	0	0	1	1	1
Groundfish (CFEC) [2]	Total permits	2	1	0	0	2	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	-	-	0%	0%	-	-	-	-	-
	Total permit holders	2	1	0	0	2	1	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	127	122	125	124	120	119	119	119	119	119	119
	Fished permits	121	108	98	106	101	106	108	108	104	101	105
	% of permits fished	95%	89%	78%	85%	84%	89%	91%	91%	87%	85%	88%
	Total permit holders	131	129	130	130	121	130	126	125	123	126	123
Total CFEC Permits[2]	*Permits*	*175*	*161*	*155*	*150*	*143*	*140*	*138*	*135*	*131*	*126*	*127*
	Fished permits	*142*	*124*	*109*	*114*	*107*	*111*	*113*	*111*	*106*	*104*	*109*
	% of permits fished	*81%*	*77%*	*70%*	*76%*	*75%*	*79%*	*82%*	*82%*	*81%*	*83%*	*86%*
	Permit holders	*132*	*132*	*133*	*130*	*123*	*131*	*128*	*126*	*124*	*128*	*125*

[1] National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Naknek: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Naknek[2]	Total Net Lb Landed In Naknek[2,5]	Total Ex-Vessel Value Of Landings In Naknek[2,5]
2000	161	17	13	72	312	912	35,571,247	$20,724,575
2001	157	3	11	64	286	308	-	-
2002	120	18	9	63	246	432	9,768,235	$4,678,612
2003	117	17	9	72	260	517	21,750,985	$11,078,875
2004	109	18	10	64	249	552	29,305,128	$14,949,781
2005	106	22	15	58	242	663	45,067,021	$27,223,900
2006	120	16	10	56	258	820	44,789,762	$27,996,185
2007	111	21	12	56	253	703	53,506,374	$34,663,590
2008	112	21	12	47	242	772	62,499,589	$45,848,482
2009	109	23	13	43	246	636	53,982,801	$40,563,513
2010	116	23	9	50	251	942	66,679,699	$61,941,233

Note: Cells showing "–" indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Naknek: 2000-2010.

Year	Number Of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Lb)
2000	5	147,551	46,094
2001	5	193,826	62,186
2002	4	18,919	2,297
2003	4	63,247	17,395
2004	4	64,598	13,221
2005	4	63,247	12,737
2006	2	7,778	535
2007	2	7,778	501
2008	2	6,921	349
2009	2	6,921	312
2010	2	6,921	284

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Naknek: 2000-2010.

Year	Number Of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Lb)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island crab Catch Share Program Participation by Residents of Naknek: 2000-2010.

Year	Number Of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Lb)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-Vessel Revenue, by Species, in Naknek: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	4,619,819	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	30,951,428	-	9,768,235	21,750,985	29,305,128	45,067,021	44,789,762	53,506,374	62,499,589	52,015,163	66,678,398
Total[2]	*35,571,247*	-	*9,768,235*	*21,750,985*	*29,305,128*	*45,067,021*	*44,789,762*	*53,506,374*	*62,499,589*	*52,015,163*	*66,678,398*
	Ex-Vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	$447,288	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$20,277,288	-	$4,678,612	$11,078,875	$14,949,781	$27,223,900	$27,996,185	$34,663,590	$45,848,482	$40,413,632	$61,939,904
Total[2]	*$20,724,575*	-	*$4,678,612*	*$11,078,875*	*$14,949,781*	*$27,223,900*	*$27,996,185*	*$34,663,590*	*$45,848,482*	*$40,413,632*	*$61,939,904*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-Vessel Revenue, by Species, by Naknek Residents: 2000-2010.

	Total Net Pounds										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	64,516	-	-	-	-	-	-	-	-	-	-
Herring	841,394	679,376	408,375	255,932	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	2,115,873	2,298,785	1,143,290	2,013,733	2,815,380	3,395,241	2,834,125	3,279,465	2,411,253	2,646,197	3,198,634
Total[2]	*3,021,783*	*2,978,161*	*1,551,665*	*2,269,665*	*2,815,380*	*3,395,241*	*2,834,125*	*3,279,465*	*2,411,253*	*2,646,197*	*3,198,634*
	Ex-Vessel Value (Nominal U.S. Dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	$159,281	-	-	-	-	-	-	-	-	-	-
Herring	$84,610	$54,281	$30,747	$21,498	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$1,382,800	$956,740	$550,959	$998,509	$1,414,045	$2,056,578	$1,802,387	$2,115,838	$1,741,948	$1,983,408	$2,768,181
Total[2]	*$1,626,690*	*$1,011,021*	*$581,706*	*$1,020,008*	*$1,414,045*	*$2,056,578*	*$1,802,387*	*$2,115,838*	*$1,741,948*	*$1,983,408*	*$2,768,181*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, there were no active sport fish guide businesses registered in Naknek, although there were licensed sport fish guides present each year except 2005. In 2010, Naknek residents purchased 174 sportfishing licenses (irrespective of point of sale), and 18 sportfishing licenses were sold in the community. Between 2000 and 2010, residents consistently purchased more licenses than the total number of licenses purchased in Naknek, suggesting that residents may travel to other areas or nearby communities to participate in sportfishing activity.

Naknek is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Naknek is also displayed in Table 11.

The Alaska Statewide Harvest Survey,[1028] conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Naknek: Chinook, coho, sockeye, and pink salmon, rainbow trout, Dolly Varden char, Arctic grayling, Pacific halibut, "other whitefish", northern pike, and smelt. The survey also noted sport harvest of razor and hardshell clams in Naknek. No kept/release log book data were reported for fishing charters out of Naknek between 2000 and 2010.[1029]

Table 11. Sport Fishing Trends, Naknek: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Naknek[2]
2000	0	3	194	42
2001	0	3	193	31
2002	0	3	177	30
2003	0	3	159	54
2004	0	4	161	16
2005	0	0	170	23
2006	0	3	178	20
2007	0	3	165	42
2008	0	2	191	23
2009	0	1	216	39
2010	0	2	174	18

[1028] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1029] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11 cont'd. Sport Fishing Trends, Naknek: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence resources provide an important supplement to wage employment opportunities for Naknek residents. Local people utilize marine and land-based resources, including salmon, halibut, waterfowl, moose, and caribou.[1030,1031] Statistics presented in this section relate to marine subsistence resource harvest only. However, it is important to note that during community review of this profile, a representative from the Bristol Bay Borough noted that local participation in subsistence hunting has declined sharply due to changes in Tier II subsistence hunting regulations.

In 2007, the only year that a subsistence survey was conducted by ADF&G in the community of Naknek between 2000-2010, 54% of households were recorded as participating in salmon subsistence activities, 36% in halibut subsistence, 33% used non-salmon fish subsistence (other than halibut), 4% in marine mammal subsistence, and 32% in marine invertebrate subsistence. Per capita, residents of Naknek harvested 142 lb of land and sea-based subsistence

[1030] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1031] Information about species utilized updated during community review of this profile in October 2013.

resources that year. This is similar to the 2005 per capita harvest of residents in Levelock, a subsistence-based village north of Naknek on the Kvichak River. Compared to Levelock, a greater percentage of Naknek households participated in halibut and marine invertebrate subsistence activity (36% and 32% respectively, compared to 0% and 19% in Levelock), but fewer households participated in salmon, marine mammal, and non-salmon fish subsistence (not including halibut). Information about per capita subsistence harvest and household participation in subsistence activities is presented in Table 12.

In years for which data were reported between 2000 and 2010, an average of 104 subsistence salmon permits was issued to Naknek households. Sockeye salmon were the primary species harvested using subsistence permits (an average of 9,923 sockeye per year), along with several hundred Chinook, chum, coho, and pink salmon each year. In addition, in 2007, per capita harvest of marine invertebrates was 2,208 lb, and per capita harvest of non-salmon fish was 7,259 lb in Naknek. Information about total subsistence harvest of salmon, marine invertebrates, and non-salmon fish (not including halibut) is presented in Table 13.

Between 2003 and 2010, an average of nine Subsistence Halibut Registration Certificates (SHARC) was issued to Naknek residents. In 2010, nine SHARC cards were issued and one was returned. That year, no information was reported regarding the total lb of halibut harvested. These numbers represent a large decline from the middle of the decade. In 2005, 11 SHARC cards were issued and 8 were returned, with a reported harvest of 598 lb of halibut. Information about subsistence halibut harvest is presented in Table 14.

Information about subsistence harvest of several species of marine mammals was reported between 2000 and 2010. An AFSC study reported beluga whale harvests of between 1 and 4 animals per year (for those years in which information was available), and ADF&G reported harbor seal harvests varying between 6 and 26 animals per year during the 2000-2010 period. No information was reported by management agencies regarding harvest of sea otters, walrus, Steller sea lion, or spotted seal between 2000 and 2010. Information about subsistence harvest of marine mammals is presented in Table 15.

Additional Information

The 1890 Census observed that Bristol Bay was "dotted with the sails of over 100 fishing smacks." By the early 1900s, sailboats began to be replaced by power boats. In response to an early crash of sockeye runs in 1919, the White Act was passed in 1924. This early fisheries management legislation gave the federal government responsibility for management of the fishery, mandated 50% escapement of the annual salmon run and a 36-hour closed period each week, and banned power boats, purse seines, and fish traps in Bristol Bay.[1032] Sailboats continued to be the only vessel type allowed in the Bristol Bay salmon fishery until the 1950s.[1033,1034]

[1032] Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[1033] Atkinson, C. E. (1988). Fisheries Management: An Historical Overview. *Marine Fisheries Review* 50(4). Retrieved January 23, 2012 from http://spo.nmfs.noaa.gov/mfr504/mfr50423.pdf.
[1034] See footnote 1032.

Table 12. Subsistence Participation by Household and Species, Naknek: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	54%	36%	4%	32%	33%	142
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Naknek: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lb Of Marine Inverts[2]	Lb Of Non-Salmon Fish[2]
2000	108	96	311	177	314	177	10,873	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	108	86	359	349	206	885	8,877	n/a	n/a
2005	104	92	383	137	271	19	10,165	n/a	n/a
2006	109	92	434	158	236	514	9,798	n/a	n/a
2007	94	86	249	114	408	82	10,682	2,208	7,259
2008	100	91	335	184	769	417	9,141	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Naknek: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb Harvested
2003	5	3	40
2004	7	4	28
2005	10	8	598
2006	11	7	422
2007	10	5	75
2008	9	2	21
2009	9	8	n/a
2010	9	1	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Naknek: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	1	n/a	n/a	n/a	n/a	16	n/a
2001	n/a	n/a	n/a	n/a	n/a	15	n/a
2002	n/a	n/a	n/a	n/a	n/a	26	n/a
2003	n/a	n/a	n/a	n/a	n/a	11	n/a
2004	1	n/a	n/a	n/a	n/a	15	n/a
2005	1	n/a	n/a	n/a	n/a	6	n/a
2006	4	n/a	n/a	n/a	n/a	15	n/a
2007	2	n/a	n/a	n/a	n/a	20	n/a
2008	3	n/a	n/a	n/a	n/a	15	n/a
2009	1	n/a	n/a	n/a	n/a	n/a	n/a
2010	1	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

New Stuyahok (*STEW-yuh-hawk*)

People and Place

Location [1035]

New Stuyahok is located on the Nushagak River, about 12 miles upriver from Ekwok and 52 miles northeast of Dillingham. The village has been constructed at two elevations, one 25 ft above river level and one about 40 ft above river level. The City encompasses 32.6 square miles of land and 2 square miles of water. New Stuyahok is located in the Dillingham Census Area and the Bristol Bay Recording District.

Demographic Profile [1036]

In 2010, there were 510 inhabitants in New Stuyahok, making it the 116th largest of 352 total Alaskan communities with recorded populations that year. The town first appeared in U.S. Census records in 1950. Overall between 1990 and 2010, the population of New Stuyahok increased by 30.4%. Most of this growth took place between 1990 and 2000, although the population continued to increase after 2000. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 10.2%, with an average annual growth rate of 1.02%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that a majority of residents live in New Stuyahok on a seasonal basis. They indicated that a larger population is present in the community during spring and summer, and sometimes fall, and that population fluctuations are mostly driven by employment in fishing sectors.

In 2010, a majority of New Stuyahok residents identified themselves as American Indian and Alaska Native (93.5%), while 3.5% identified as White and 2.7% identified with two or more races. That year, 1.2% of New Stuyahok residents also identified themselves as Hispanic. Compared to 2000, individuals identifying as American Indians and Alaska Natives made up 0.7% more of the population in 2010, while those identifying as White made up 0.3% less of the population. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in New Stuyahok was 4.47, a decline from 4.87 persons per household in 2000, but an overall slight increase from 4.40 persons per household in 1990. The number of households in New Stuyahok has increased over time, from 88 in 1990 and 105 in 2000, to 114 occupied housing units in 2010. Of the 130 housing units surveyed for the 2010 U.S. Decennial Census, 58.5% were owner-occupied, 29.2% were rented, and 12.3% were

[1035] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1036] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

vacant or used only seasonally. Between 1990 and 2010, no residents of New Stuyahok lived in group quarters.

In 2010, the gender makeup of New Stuyahok's population (55.1% male and 44.9% female) was much more weighted toward males compared to the population of the State as a whole, which was 52% male and 48% female. That year, the median age of New Stuyahok residents was 22.5 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, all age groups except 60 to 69 years and 80 years and over had more men than women. In 2010, 10.8% of New Stuyahok's population was age 60 years or older. The overall population structure of New Stuyahok in 2000 and 2010 is shown in Figure 2.

Table 1. Population in New Stuyahok from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	391	-
2000	471	-
2001	-	489
2002	-	483
2003	-	491
2004	-	472
2005	-	462
2006	-	468
2007	-	446
2008	-	491
2009	-	519
2010	510	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, New Stuyahok: 2000-2010 (U.S. Census).

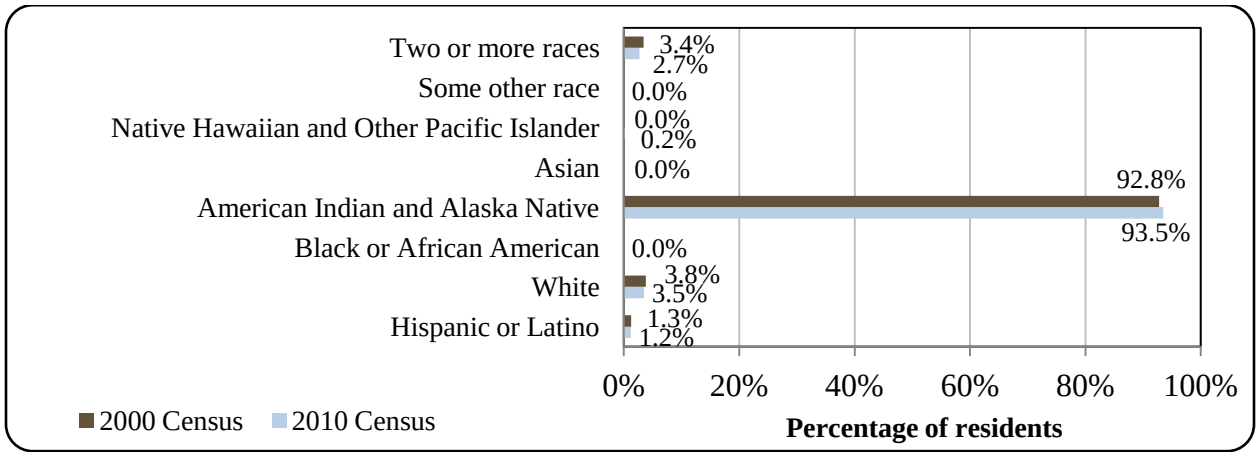
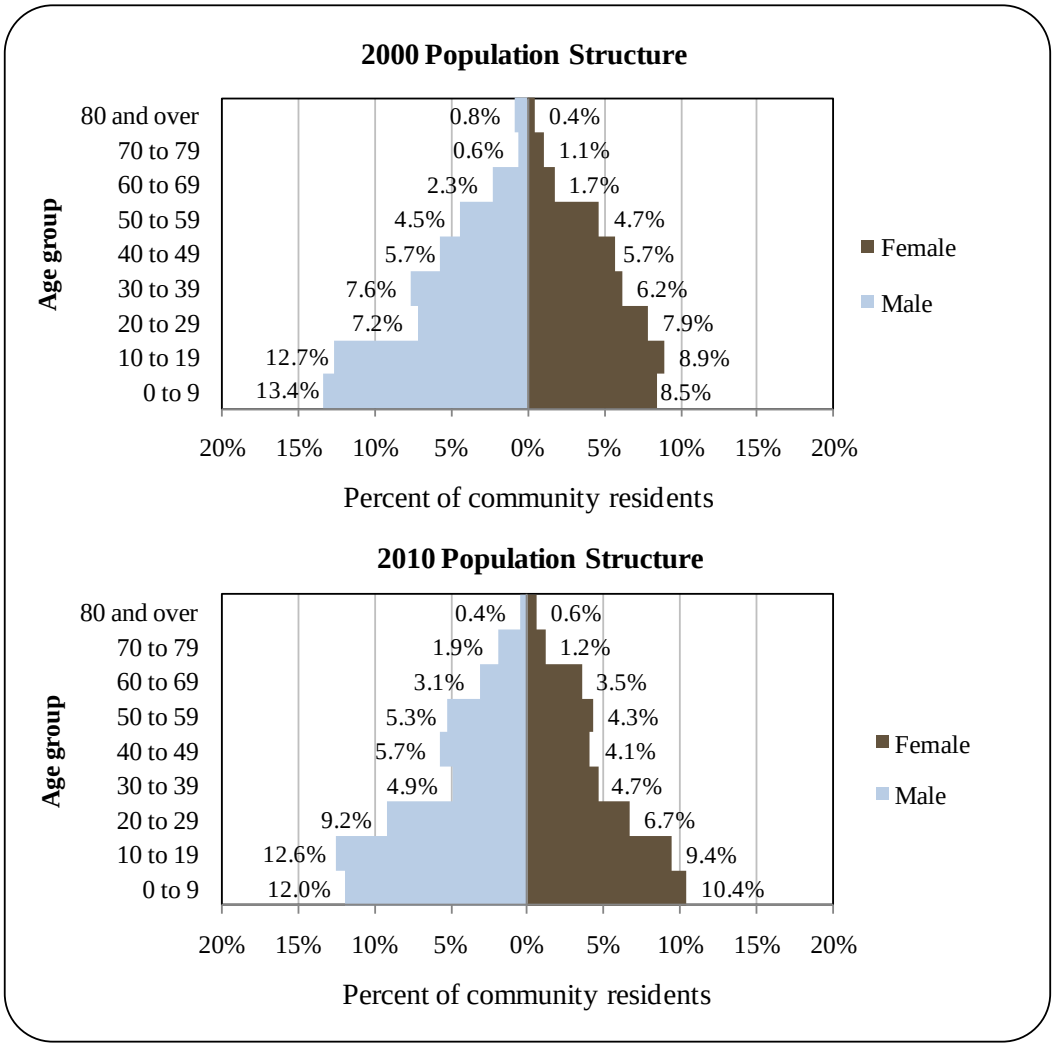


Figure 2. Population Age Structure in New Stuyahok Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1037] 73.6% of New Stuyahok residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 21.1% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 5.3% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 16.2% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 1.9% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 3% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 3.4%

[1037] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[1038]

New Stuyahok is a southern Yup'ik Eskimo village with Russian Orthodox influences. Residents practice a fishing and subsistence lifestyle. The present location is the third community site that villagers can remember. The Village moved downriver in 1918 to "Old Stuyahok," at the confluence of the Mulchatna and Stuyahok Rivers. During the 1920s and 1930s, residents of the Village were engaged in herding reindeer for the U.S. government. However, by 1942, the herd had dwindled to nothing, the Village had been subjected to flooding, and the site was too far inland to receive barge service. In search of an improved location, in 1942 villagers moved downriver to the present site of New Stuyahok. "Stuyahok" is translated as "going downriver place."

According to New Stuyahok elders, residents initially lived in tents at the present Village site. In 1941, 14 log homes were built. School took place in a tent until Chief Ivan Blunka gave up his log home to be used as a school. The school still bears his name. In 1942, the community constructed a log school. Between 1942 and 1943, residents brought down the existing Russian Orthodox Church from the old site to the present Village site. In 1961, a new school was built and a post office was established. An airstrip was built soon afterward, and the 1960s saw a 40% increase in the village population. The City was incorporated in 1972.

Natural Resources and Environment

New Stuyahok is located in a climatic transition zone. The primary influence is maritime, although a continental climate also affects the weather. Average summer temperatures range from 37 to 66 °F, and winter temperatures average between 4 and 30 °F. Annual precipitation ranges from 20 to 35 inches. Fog and low clouds are common during the summer. Strong winds often preclude access during the winter. The river is ice-free from June through mid-November.[1039]

According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing and sport hunting and fishing are the most important natural resource-based industries for the local economy. Bristol Bay drainages produce the world's largest runs of sockeye salmon, and the area is productive for other species of salmon and marine fish as well.[1040] One of the largest runs of Chinook salmon in Alaska returns to the Nushagak River, but the run is not heavily harvested, partially due to low prices in the region.[1041] The largest

[1038] City of New Stuyahok (2005). *New Stuyahok Comprehensive Plan*. Retrieved January 12, 2012 from http://www.commerce.state.ak.us/dca/plans/NewStuyahok-CP-2005.pdf.
[1039] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1040] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1041] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.

aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the Village of Togiak.[1042]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit east of New Stuyahok. The Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[1043] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lb of copper, 66.9 million oz of gold, and 3.3 billion lb of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lb of copper, 40.4 million oz gold, and 2.3 billion lb of molybdenum.[1044] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1045] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be toxic to fish.[1046] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[1047]

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.[1048] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007 to 2012 program.[1049] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1050]

Wood-Tilchik State Park lies northwest of New Stuyahok. Wood-Tilchik is the largest State Park in the United States, and includes a diversity of terrain and ecosystems. The Wood River and Tilchik River systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden char, and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the park, along with black bear in limited area. Small game present in the area include beaver,

[1042] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert (2005). *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1043] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky (2008). Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process. *Alaska Law Review* 25:1.
[1044] Northern Dynasty Minerals Limited (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[1045] See footnote 1040.
[1046] See footnote 1043.
[1047] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[1048] See footnote 1040.
[1049] Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1050] The White House, Office of the Press Secretary (2010). *Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Signed March 31, 2010. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.[1051]

According to the Bristol Bay Coastal Management Plan, the New Stuyahok area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure, and sea ice conditions. The Management Plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[1052]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in New Stuyahok as of May 2012.[1053]

Current Economy[1054]

According to a survey conducted by the AFSC in 2011, community leaders reported that 90% of local residents make their living from commercial fishing. In 2010, 28 residents held state Commercial Fisheries Entry Permits (CFEC), primarily for Bristol Bay salmon set and drift gill net fisheries, along with one permit for Bristol Bay herring and one in the Kuskokwim salmon gill net fishery. These permit holders made up 5.5% of the New Stuyahok population in 2010, a reduction from the year 2000, when almost 10.5% of the New Stuyahok population held CFEC permits (see *Commercial Fishing* section). Community leaders also noted in the AFSC survey that sportfishing and hunting are important local industries. The entire community also depends on subsistence harvest of marine and land-based resources, including salmon, moose, caribou, rabbit, ptarmigan, duck, and geese. Subsistence items are often traded between communities.[1055]

In addition to fisheries, top employers in New Stuyahok in 2010 included Southwest Region Schools, local government offices, local and regional Native corporations and non-profit

[1051] Alaska Dept. of Natural Resources. (n.d.) Wood-Tilchik State Park website. Retrieved December 6, 2011 from http://dnr.alaska.gov/parks/units/woodtik.htm.
[1052] Glenn Gray and Associates (2008). *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[1053] Alaska Dept. of Environmental Conservation (2012). *List of Contaminated Site Summaries By Region*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1054] Unless otherwise noted, all monetary data are reported in nominal values.
[1055] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

organizations, the Bristol Bay Housing Authority, and several private companies, including the village store, a construction company, and a home care service company.[1056]

Based on household surveys conducted for the 2006-2010 ACS,[1057] in 2010, the per capita income in New Stuyahok was estimated to be $10,284 and the median household income was estimated to be $43,000. This represents an increase from the per capita and median household incomes reported in the year 2000 ($7,931 and $26,042, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,[1058] per capita income is shown to have remained stable, from a real 2000 per capita income of $10,429, while there was a real increase in household income, from a real median household income in 2000 of $34,245. In 2010, New Stuyahok ranked 271st of 305 Alaskan communities with per capita income data that year, and 176th in median household income, out of 299 Alaskan communities with household income data.

However, New Stuyahok's small population size may have prevented the ACS from accurately portraying economic conditions.[1059] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Mountain Village in 2010 is $5,912.[1060] This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in New Stuyahok between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[1061] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a much smaller percentage of New Stuyahok residents was estimated to be in the civilian labor force (43.1%) than the civilian labor force statewide (68.8%). In the same year, 29.3% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 7.4%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the

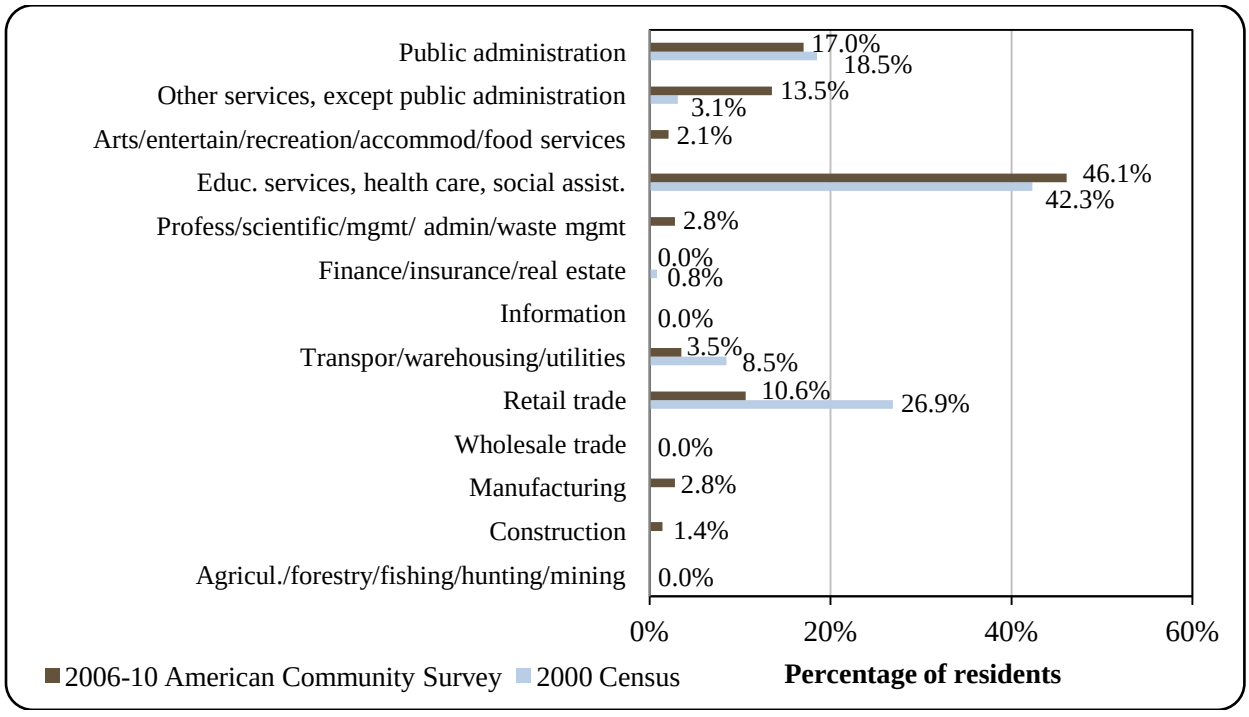
[1056] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1057] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1058] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1059] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1060] See footnotes 1056 and 1057.
[1061] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

unemployment rate in New Stuyahok in 2010 was 15.8%, compared to a statewide unemployment rate estimate of 11.5%.[1062]

Also based on the 2006-2010 ACS, 54.6% of the New Stuyahok workforce was estimated to be employed in the private sector, and the remaining 45.4% in the public sector. Of the 141 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest numbers were estimated to be working in the following industries: educational services, health care, and social assistance (46.1%), public administration (17%), other services except public administration (13.5%), and retail trade (10.6%). The occupations in which the greatest percentages of the workforce were estimated to be employed were management/professional (35.5%), service (31.9%), and sales/office occupations (21.3%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

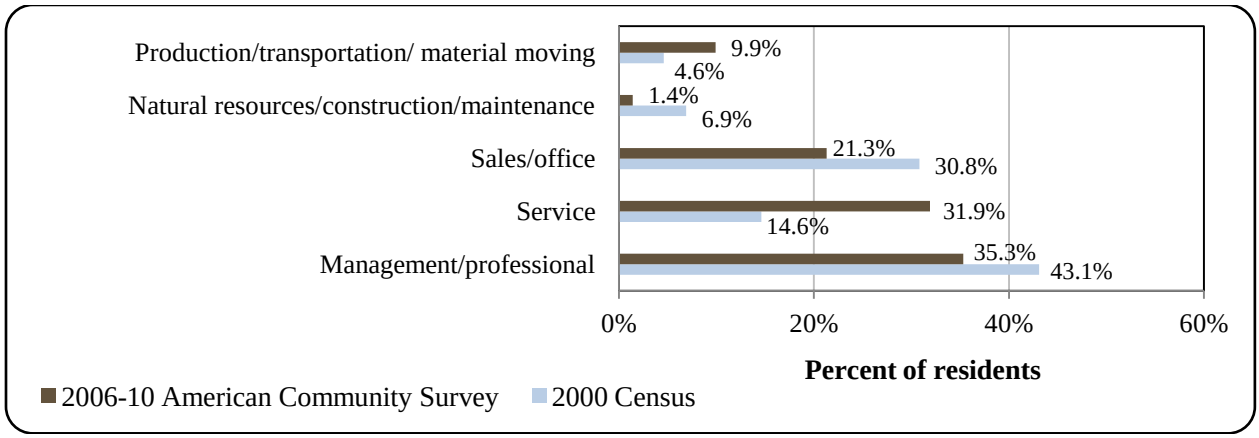
It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In 2010, none of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining industries, and only two workers (1.4% of the labor force) were employed in natural resource/construction/maintenance occupations. A breakdown of this occupational category reveals that both workers were employed in construction, and zero workers were employed in farming, fishing, and forestry occupations.

Figure 3. Local Employment by Industry in 2000-2010, New Stuyahok (U.S. Census).



[1062] See footnote 1056.

Figure 4. Local Employment by Occupation in 2000-2010, New Stuyahok (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 209 employed residents in 2010, of which 43.1% were employed in local government, 18.2% in trade, transportation, and utilities industries, 8.6% in educational and health services, 4.8% in construction, 4.3% in financial activities, 4.3% in leisure and hospitality, 1.9% in manufacturing, 1.9% in professional and business services, 1.4% in state government, 0.5% in natural resources and mining, and 11% in other industries.[1063] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Governance

New Stuyahok was incorporated as a 2nd Class City in 1972. The City is not part of an organized borough. No municipal taxes are administered in New Stuyahok. The City has a Strong Mayor form of government, a seven-person city council, including the mayor, a seven-person advisory school board, and several municipal employees.[1064] Total municipal revenue fluctuated between a low of $79,801 in 2006 and a high of $265,890 in 2010. Locally-generated revenue sources during the decade included facility lease fees, heavy equipment rental, and water and sewer service fees. Outside revenue sources included State Revenue Sharing contributions of approximately $25,000 per year between 2000 and 2003, and Community Revenue Sharing contributions in 2009 and 2010 of approximately $120,000 per year. New Stuyahok also received revenue from the Payment In Lieu of Taxes program, state fisheries taxes (see the *Fisheries-Related Revenue* section of this profile, and special project grants in some years. No information was reported regarding fisheries-related grants received by the City of New Stuyahok. Information about selected aspects of New Stuyahok's municipal revenue is presented in Table 2.

New Stuyahok was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by

[1063] Ibid.
[1064] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

the Bureau of Indian Affairs, is the New Stuyahok Village. The Native village corporation is Stuyahok Natives, Limited, which manages 118,952 acres of land. The regional Native corporation to which New Stuyahok belongs is the Bristol Bay Native Corporation.[1065]

New Stuyahok is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[1066] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[1067]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of New Stuyahok from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$166,117	n/a	$25,889	n/a
2001	$205,103	n/a	$24,905	n/a
2002	$175,232	n/a	$24,907	n/a
2003	$213,919	n/a	$25,087	n/a
2004	$213,919	n/a	n/a	n/a
2005	$117,409	n/a	n/a	n/a
2006	$79,801	n/a	n/a	n/a
2007	$200,131	n/a	n/a	n/a
2008	$157,863	n/a	n/a	n/a
2009	$244,246	n/a	$121,048	n/a
2010	$265,890	n/a	$122,029	n/a

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Commerce, Community, and Economic Development. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1065] Ibid.
[1066] Bristol Bay Native Association (n.d.). BBNA homepage. Retrieved November 16, 2011 from www.bbna.com.
[1067] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) and Alaska Department of Commerce, Community, and Economic Development are located in Dillingham. Kodiak has the closest offices of the Alaska Department of Natural Resources, the National Marine Fisheries Service (NMFS), and U.S. Bureau of Citizenship and Immigration Services, although the Anchorage offices of these agencies may be more accessible to people in the Bristol Bay region.

Infrastructure

Connectivity and Transportation

Air transport is the most frequent mode of transportation used to reach New Stuyahok. The state owns a lighted, gravel airstrip in New Stuyahok that is 3,281-ft-long by 98-ft-wide. Regular and charter flights are available from Dillingham.[1068] The approximate cost to travel by air roundtrip to Anchorage from New Stuyahok in early June 2012 was $658.[1069] Barges are used to lighter goods to New Stuyahok on a regular basis during the summer. Skiffs, ATVs, and snowmobiles are the prevalent forms of local transportation.[1070] According to a survey conducted by the AFSC in 2011, community leaders reported that construction of additional roads is currently underway.

Facilities

Water in New Stuyahok is derived from a well and chlorinated. A majority of housing and facilities, as well as the school, have complete plumbing and are connected to a piped water and sewer system that was installed in 1971.[1071] In a survey conducted by the AFSC in 2011, community leaders reported that additional water and sewer pipelines are expected to be completed in the next decade. Some homes use individual wells, and a community well is available with multiple watering points. Some individual septic tanks are in use. A sewage lagoon is used for sewage treatment, and there is also a sewage lift station in the City. The City of New Stuyahok operates a landfill and provides refuse collection services.[1072] In the 2011 AFSC survey, community leaders noted that construction of a new landfill/solid waste site is expected to be completed in 2012. A diesel powerhouse, operated by AVEC (the Alaska Village Electric Cooperative), provides electricity in New Stuyahok. Telephone and internet service is available in the community, but no cable provider offers local service.[1073] In the 2011 AFSC survey, community leaders indicated that alternative energy opportunities are being explored and expected to come online within 3 years.

The Village Council operates a washeteria[1074] in the community. Other community facilities include City Hall and a City Public Safety Building, a community center, recreational

[1068] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1069] This price was calculated on November 21, 2011 using kayak.com.
[1070] See footnote 1068.
[1071] Ibid.
[1072] Ibid.
[1073] Ibid.
[1074] "Washeteria" is another word for laundromat. In Alaska, washeterias often include shower facilities.

facilities, and a library at the school.[1075] Public safety services are provided by two VPSOs (Village Public Safety Officers) stationed in New Stuyahok.[1076] The nearest state trooper posts are in Dillingham and King Salmon.[1077] In the 2011 AFSC survey, community leaders reported that a fire department and police station are expected to be completed within the next decade. They also noted that New Stuyahok has a post office, and local public services include a food bank, job placement services, and publicly subsidized housing.

With regard to fishing-related infrastructure, in the 2011 AFSC survey, community leaders reported that moorage is available in New Stuyahok for private vessels up to 32 ft in length, but no public dock space is available for vessel moorage. New Stuyahok is only capable of handling fuel barges and private boats and skiffs. They said that tackle sales and dry dock storage are available in the Village, and haul-out facilities are expected to be completed within the next 2 years. Community leaders also said that New Stuyahok residents travel to Dillingham to access fisheries-related businesses and services not available locally.

Medical Services

A local health clinic is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. The New Stuyahok Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by volunteers and a health aide.[1078] The nearest hospital is located in Dillingham.

Educational Opportunities

There is one school in the community, which offers preschool through 12th grade instruction. As of 2011, the Chief Ivan Blunka School had a total of 152 students and 14 teachers.[1079]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence fishing activities have been important to residents of the New Stuyahok area for thousands of years. The Nushagak region was historically inhabited by a coastal population that combined fishing and hunting of marine mammals, and an interior population that focused on hunting and fishing with frequent trips to the coast, especially during summer months.[1080] Today, a combination of commercial and subsistence harvest of marine resources provide the

[1075] See footnote 1068.
[1076] Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from http://www.dps.alaska.gov/.
[1077] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[1078] See footnote 1068.
[1079] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1080] VanStone, James W. (1968). An Annotated Ethnographic Bibliography of the Nushagak River Region, Alaska."*Anthropology*, v. 54, no. 2. Field Museum of Natural History. Chicago.

foundation for New Stuyahok's economy.[1081] In 2010, New Stuyahok residents held permits in salmon and herring fisheries (see *Commercial Fishing* section).

The commercial salmon fishery began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, although several other species are harvested in lower volumes. One of the largest runs of Chinook salmon in Alaska occurs in the Nushagak River.[1082] Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of New Stuyahok near the village of Togiak.[1083]

New Stuyahok is located on the Nushagak River which empties into Bristol Bay. This marine area is encompassed by the Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Because New Stuyahok is located more than 50 miles from the coast, the community is not eligible to participate in the Community Development Quota (CDQ) program. It is also not eligible to participate in the Community Quota Entity (CQE) program. According to a survey conducted by the AFSC in 2011, community leaders reported that New Stuyahok does not participate directly in fisheries management processes in Alaska.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in New Stuyahok. Processing facilities were registered in nearby communities throughout Bristol Bay, including Dillingham, Egegik, and Naknek.

Fisheries-Related Revenue

In 2010, the City of New Stuyahok received $22,930 of revenue from fisheries-related taxes and fees. Revenue sources reported in the municipal budget that year included a raw fish tax, the Shared Fisheries Business Tax, and the Fisheries Resource Landing Tax. In addition, in the 2011 AFSC survey, community leaders reported revenue from harbor usage fees. It is also important to note that municipal budget reports included $2,400 in revenue from boat hauls in 2005 only. Annual fisheries-related revenue fluctuated between just under $9,000 and just over $22,000 between 2000 and 2010, with an upward trend over time. Table 3 shows the annual revenue from selected sources between 2000 and 2010.[1084]

[1081] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1082] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1083] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert (2005). *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1084] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

Between 2000 and 2010, New Stuyahok residents participated in state fisheries as permit holders, crew members, and vessel owners. In the 2011 AFSC survey, community leaders reported that New Stuyahok residents engage in commercial fishing activity between June and August east year. During the 2000-2010 period, New Stuyahok vessel owners landed an average of 605,568 net lb of salmon, earning an average of $367,754 in ex-vessel revenue. Landings and ex-vessel revenue in other fisheries are considered confidential due to the low number of participants (Table 10). Since no fish buyers or processing plants were present in New Stuyahok between 2000 and 2010 (Table 5), no local deliveries were made and no ex-vessel revenue was generated in the community during the period (Table 9).

In 2010, a total of 28 New Stuyahok residents held 29 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). All but one of these permits were for Bristol Bay salmon set and drift gill net fisheries, and the remaining permit was for the Bristol Bay herring spawn on kelp, hand pick fishery. Of the 28 salmon permits held, 19 were actively fished in 2010, while the herring permit was not actively fished that year. These numbers represent large declines in the total number of permits held in these fisheries over the decade, with a 95% decrease in herring permits and a 36% decrease in salmon permits (55% decrease in total permits overall). The same trend was observed in the number of permit holders in New Stuyahok (Table 4). It is important to note that the last year during the 2000-2010 period in which a herring permit was actively fished was 2002. It is also of note that one halibut CFEC permit was held by a New Stuyahok resident in 2000 and 2001, but was not actively fished during those years.

No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to New Stuyahok residents between 2000 and 2010, and no quota share accounts or quota shares were held in federal catch share fisheries for halibut, sablefish, or crab during the decade. Information about CFEC, FFP, and LLP permits is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

In 2010, New Stuyahok residents held 45 crew licenses, a 53% decline from 96 crew licenses held in 2000. That same year, 11 residents were the primary owner of a fishing vessel, a 66% decline from 32 vessels in 2000. The number of vessels homeported in New Stuyahok followed a similar trend, falling from 11 in 2000 to 3 in 2010, a decline of 73%. According to a survey conducted by the AFSC in 2011, community leaders reported that no vessels used New Stuyahok as a base of fishing operations in 2011. They said the number of commercial fishing boats and boats under 35 ft hasn’t changed in the last five years, but the number of charter boats and larger boats (35 ft and above) frequenting New Stuyahok has decreased significantly. These characteristics of the New Stuyahok commercial fishing sector are presented in Table 5.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of New Stuyahok: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$4,732	$3,833	$7,000	$5,183	$4,500	$4,700	$5,700	$7,000	$560	$8,000	$10,170
Shared Fisheries Business Tax[1]	$4,116	$7,476	$6,428	$5,183	$4,783	$5,756	$6,932	$8,253	$8,026	$9,793	$9,890
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$36	$94	$368	$602	$670
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	$2,400	n/a	n/a	n/a	n/a	n/a
Harbor usage[2,3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$2,200
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$8,848*	*$11,309*	*$13,428*	*$10,366*	*$9,283*	*$12,856*	*$12,668*	*$15,347*	*$8,954*	*$18,395*	*$22,930*
Total municipal revenue[5]	*$166,177*	*$205,103*	*$175,232*	*$213,919*	*$213,919*	*$117,409*	*$79,801*	*$200,131*	*$157,863*	*$121,048*	*$265,890*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, New Stuyahok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	1	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	-	-	-	-	-	-	-	-	-
	Total permit holders	1	1	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	19	16	9	5	5	5	2	4	4	4	1
	Fished permits	5	1	1	0	0	0	0	0	0	0	0
	% of permits fished	26%	6%	11%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	15	12	8	4	4	4	2	3	3	3	1

Table 4 cont'd. Permits and Permit Holders by Species, New Stuyahok: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	44	44	41	34	31	30	28	28	27	28	28
	Fished permits	42	37	15	18	17	20	18	20	18	17	19
	% of permits fished	95%	84%	37%	53%	55%	67%	64%	71%	67%	61%	68%
	Total permit holders	46	46	42	37	33	33	29	30	27	29	28
Total CFEC Permits[2]	*Permits*	*64*	*61*	*50*	*39*	*36*	*35*	*30*	*32*	*31*	*32*	*29*
	Fished permits	*47*	*38*	*16*	*18*	*17*	*20*	*18*	*20*	*18*	*17*	*19*
	% of permits fished	*73%*	*62%*	*32%*	*46%*	*47%*	*57%*	*60%*	*63%*	*58%*	*53%*	*66%*
	Permit holders	*49*	*49*	*43*	*38*	*34*	*33*	*30*	*31*	*28*	*30*	*28*

[1] National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in New Stuyahok: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In New Stuyahok[2]	Total Net Lb Landed In New Stuyahok[2,5]	Total Ex-Vessel Value Of Landings In New Stuyahok[2,5]
2000	96	0	0	32	11	0	0	$0
2001	77	0	0	26	11	0	0	$0
2002	43	0	0	22	9	0	0	$0
2003	41	0	0	19	8	0	0	$0
2004	52	0	0	22	11	0	0	$0
2005	67	0	0	15	5	0	0	$0
2006	56	0	0	14	5	0	0	$0
2007	43	0	0	12	3	0	0	$0
2008	41	0	0	12	3	0	0	$0
2009	45	0	0	10	2	0	0	$0
2010	45	0	0	11	3	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in New Stuyahok: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of New Stuyahok: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of New Stuyahok: 2000-2010.

Year	Number Of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Lb)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in New Stuyahok: 2000-2010.

***Total Net Pounds*[1]**											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ex-vessel Value (nominal U.S. dollars)											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by New Stuyahok Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	1,186,029	629,003	157,478	362,157	702,799	742,497	643,743	628,092	445,592	632,001	531,852
Total[2]	*1,186,029*	*629,003*	*157,478*	*362,157*	*702,799*	*742,497*	*643,743*	*628,092*	*445,592*	*632,001*	*531,852*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$774,295	$238,644	$70,823	$168,878	$331,902	$415,806	$399,147	$390,331	$311,528	$473,548	$470,388
Total[2]	*$774,295*	*$238,644*	*$70,823*	*$168,878*	*$331,902*	*$415,806*	*$399,147*	*$390,331*	*$311,528*	*$473,548*	*$470,388*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders reported that sport fish guiding was also an important industry in New Stuyahok, after commercial and subsistence fishing. Although no active sport fish guide businesses were registered in New Stuyahok between 2000 and 2010, a number of licensed sport fish guides were present in the community. The number of guides residing in New Stuyahok varied between two and five per year over the decade (Table 11).

Sportfishing licenses are not sold in the community, but New Stuyahok residents purchased licenses elsewhere: In 2010, 57 New Stuyahok residents purchased sportfishing licenses. In the 2011 AFSC survey, community leaders reported that almost all sportfishing activity in New Stuyahok can be attributed to local residents who use their own private boats. They indicated that local sport fishermen target all five species of salmon. The Alaska Statewide Harvest Survey,[1085] conducted by ADF&G between 2000 and 2010, confirmed catches of coho and chum salmon and noted additional catches of rainbow trout and Dolly Varden. The survey also noted harvest of razor clams by New Stuyahok residents. No kept/release log book data were reported for fishing charters out of New Stuyahok between 2000 and 2010.[1086]

New Stuyahok is located within Alaska Sport Fishing Survey Area T – Nushagak, Wood River, and Togiak. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, there were more non-Alaska resident than Alaska resident angler days fished, and there was significantly greater freshwater harvest than saltwater. Between 2000 and 2010, the non-Alaska resident anglers fished between 15,676 and 33,089 freshwater angler days and between 81 and 767 saltwater angler days per year. Alaska resident anglers fished between 7,356 and 19,980 freshwater angler days and between 31 and 921 saltwater angler days per year. This information about the sportfishing sector in and near New Stuyahok is displayed in Table 11.

[1085] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1086] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, New Stuyahok: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold To Residents[2]	Sport Fishing Licenses Sold In New Stuyahok[2]
2000	0	3	43	0
2001	0	3	41	0
2002	0	3	43	0
2003	0	5	50	0
2004	0	4	51	0
2005	0	4	67	0
2006	0	4	50	0
2007	0	4	48	0
2008	0	4	58	0
2009	0	3	74	0
2010	0	4	57	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

The entire community of New Stuyahok depends on subsistence harvest of marine and land-based resources. Salmon is of particular importance as a marine resource. Trading networks are active between New Stuyahok and other communities.[1087] In 2005, the only year between 2000 and 2010 for which ADF&G reported subsistence harvest household use estimates for New Stuyahok, 75% of households were reported to participate in salmon subsistence, 62% in non-salmon fish subsistence (not including halibut), and 4% in marine invertebrate subsistence. No information was reported regarding the percentage of households utilizing halibut or marine mammals for subsistence purposes in New Stuyahok that year. Per capita subsistence harvest of marine and land-based resources in 2005 was estimated to be 390 lb. Information about household participation is presented in Table 12.

Although no households were reported to actively harvest marine mammals in 2005, ADF&G's Community Subsistence Information System did report information about the percentage of households that used several species of marine mammals: 12% of New Stuyahok households reported using bearded seal, 31% used harbor seal, and 4% used ringed seal.[1088] This information suggests that these resources were received through trading networks with other communities.

Also in 2005, 88 lb of marine invertebrates and 12,107 lb of non-salmon fish were harvested by New Stuyahok residents for subsistence purposes (Table 13). Specific species of marine invertebrates harvested by New Stuyahok residents included butter, horse, Pacific littleneck, pinkneck, razor, and freshwater clams, cockles, mussels, and scallops, Dungeness, Tanner, and king crab, octopus, and shrimp. Species of non-salmon fish harvested included humpback, broad, and round whitefish, blackfish, bullhead sculpin, burbot, Arctic char, Dolly Varden char, flounder, Arctic grayling, herring, Bering and least cisco, lingcod, unknown cod, rockfish, smelt, rainbow and lake trout, steelhead, stickleback (needlefish), sucker, and northern pike. Of these species, the highest percentage of households reported harvesting grayling, pike, Arctic char, Dolly Varden, humpback whitefish, and rainbow trout. That year, a harvest of 2,011 grayling, 708 pike, 132 Arctic char, 107 Dolly Varden, 513 humpback whitefish, and 63 rainbow trout was reported. In addition, New Stuyahok residents harvested herring roe in subsistence spawn on kelp fisheries.[1089]

In 2008, the last year for which subsistence salmon permit information was available during the 2000-2010 period, 35 permits were issued to New Stuyahok households and 32 were returned, a decline from 51 issued and 44 returned in 2005. Sockeye was the salmon species most heavily harvested in all years for which information was reported. The next most harvested species, in order of importance, were Chinook, chum, and coho salmon. A small number of pink salmon were also harvested each year. Information about subsistence salmon permits is presented in Table 13. No information was reported by management agencies regarding subsistence harvest of halibut between 2003 and 2010 (Table 14) or harvest of marine mammals between 2000 and 2010 (Table 15).

[1087] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1088] Alaska Department of Fish and Game (2011). *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[1089] Ibid.

Table 12. Subsistence Participation by Household and Species, New Stuyahok: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	75%	n/a	n/a	4%	62%	390
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, New Stuyahok: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	46	33	1,954	397	369	71	1,091	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	49	44	3,710	651	709	340	1,304	n/a	n/a
2005	51	44	3,345	967	890	183	4,316	88	12,107
2006	38	34	2,356	1,007	678	19	2,100	n/a	n/a
2007	46	35	3,098	781	612	197	3,597	n/a	n/a
2008	35	32	1,822	1,089	196	13	2,634	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, New Stuyahok: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, New Stuyahok: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Newhalen (*NOO-hale-en*)

People and Place

Location [1090]

Newhalen is located on the north shore of Iliamna Lake, at the mouth of the Newhalen River. The City is located 320 miles southwest of Anchorage across the Cook Inlet, and 100 miles northeast of Naknek. The City encompasses 6.1 square miles of land and 2.3 square miles of water. Newhalen is located is the Lake and Peninsula Borough Census Area and the Iliamna Recording District.

Demographic Profile [1091]

In 2010, there were 190 inhabitants in Newhalen, making it the 201st largest of 352 total Alaskan communities with recorded populations that year. The town first appeared in U.S. Census records in the 1890s with 16 inhabitants. Overall between 1990 and 2010, the population of Newhalen decreased by 18.8%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of Newhalen increased from 160 to 184 and then decreased again to 162 by 2009, resulting in an average annual growth rate of -0.63%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Newhalen's population is stable throughout the year and is not at all driven by employment in fishing sectors. They also reported the presence of seasonal or transient workers throughout the year.

In 2010, a majority of Newhalen residents identified themselves as American Indian and Alaska Native (80%), along with 7.4% identifying as White, 0.5% as Black or African American, and 12.1% identifying with two or more races. Also in 2010, 2.6% of Newhalen residents identified themselves as Hispanic. Individuals identifying as White made up 1.2% less of the population in 2010 compared to 2000, those identifying as American Indian and Alaska Natives made up 5% less of the population, and the percentage of individuals identifying with two or more races increased between 2000 and 2010 by 5.8%. It is also important to note the apparent increase in racial diversity from 2000 to 2010, with several additional racial and ethnic groups represented. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

[1090] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1091] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

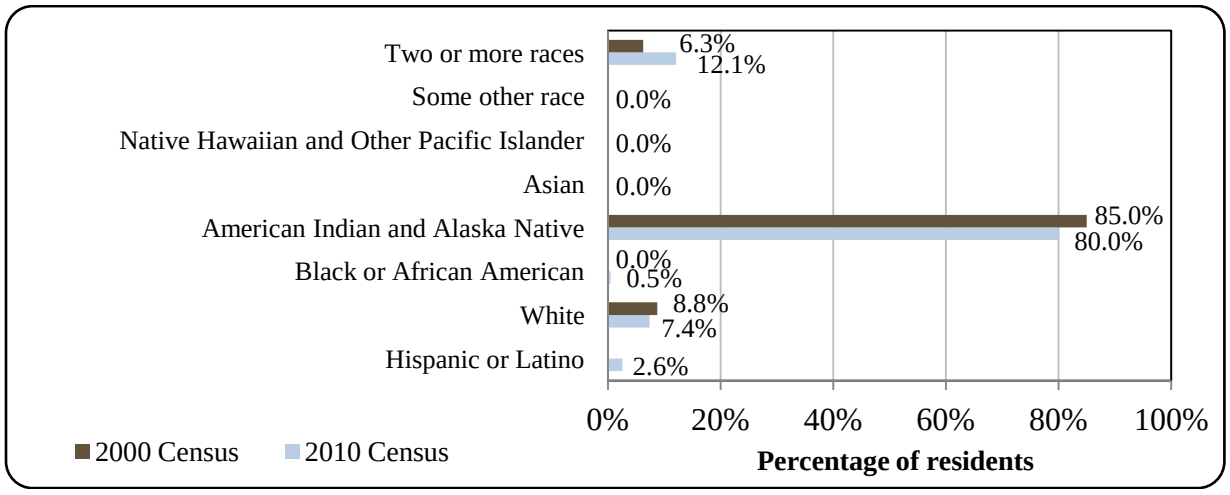
Table 1. Population in Newhalen from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	160	-
2000	160	-
2001	-	156
2002	-	166
2003	-	171
2004	-	184
2005	-	180
2006	-	168
2007	-	185
2008	-	171
2009	-	162
2010	190	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

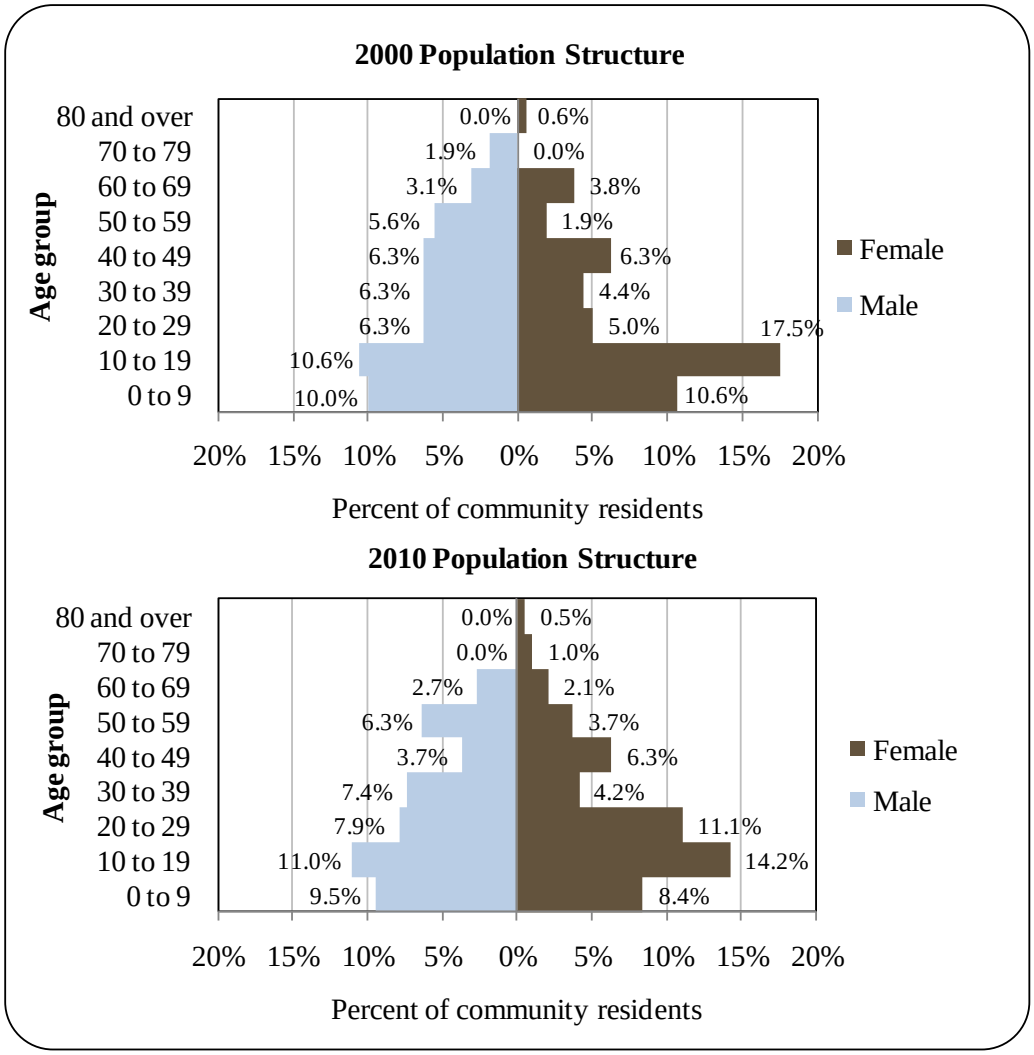
Figure 1. Racial and Ethnic Composition, Newhalen: 2000-2010 (U.S. Census).



In 2010 the average household size in Newhalen was 3.8, a decrease from 4.22 persons per household in 2000 and 4.4 in 1990. The total number of households in Newhalen increased between from 36 in 1990 and 39 in 2000, to 50 occupied housing units in 2010. Of the 51 housing units surveyed for the 2010 U.S. Census, 58.8% were owner-occupied, 39.2% were renter-occupied, and 1.9% were vacant or used only seasonally. Between 1990 and 2010, no residents of Newhalen lived in group quarters.

In 2010, the gender makeup in Newhalen was 48.5% male and 51.6% female. The greater number of women than men in Newhalen is anomalous compared to the population of Alaska as a whole, which overall has more men than women (52% male, 48% female in 2010). The median age in Newhalen was 22.8 years in 2010, much lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, gender distributions were particularly skewed toward females in age groups 10 to 19 and 20 to 29 years, while there were more males than females in age groups 30 to 39 and 50 to 59. Only 1.5% of Newhalen residents were age 60 or older in 2010. The overall population structure of Newhalen in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Newhalen Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1092] 98.6% of Newhalen residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 1.4% of residents aged 25 and older were estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 0% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 35.1% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 14.9% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 14.9% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 10.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

Newhalen is a Native village comprised primarily of Yup'ik Eskimos, Alutiiq, and Athabascan people.[1093] The area of Newhalen has been occupied by humans since prehistory. Two distinct indigenous populations historically inhabited the Iliamna Lake region: the Central Yup'ik Eskimos south and west of the lake, and the Dena'ina Athabascans on the northern and eastern shores. Distinctions between Native populations were blurred during European contact as a result of population decline due to epidemic disease and movement of people to participate in activities surrounding the fur trade and emerging commercial salmon fishery in Bristol Bay.[1094]

In 1910, when a schoolteacher named Hannah Breece arrived in the area, she noted a small community of Yup'ik people living along the Newhalen River, near the City's present site.[1095] The name "Newhalen" is an Anglicization of "Noghelingamuit", meaning, "people of the Land of Prosperity or Abundance" in Yup'ik. The natural resources in the area are abundant and include salmon, trout, moose, rabbit, seal, and caribou. Most residents rely primarily on subsistence hunting and fishing for their livelihoods.[1096]

Natural Resources and Environment

Newhalen is located in a climatic transition zone, influenced by both maritime and continental weather patterns. Summer temperatures average between 42 and 62 °F, and winter temperatures between 6 and 30 °F. Newhalen receives 26 inches of rain and 64 inches of snow on average per year.[1097] The immediate landscape in Newhalen is rolling tundra.[1098] The

[1092] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1093] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1094] Fall, J. A., D. L. Holen, B. Davis, T. Krieg, and D. Koster (2006). *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1095] Ibid.
[1096] See footnote 1093.
[1097] Ibid.

Newhalen River valley contains areas of spruce woodlands and shrubs, as well as open spruce forest-shrub-bog mosaic in some places.[1099]

The Iliamna Lake and Kvichak River drainage is the single most important source of salmon in the Bristol Bay area, producing approximately 50% of the sockeye salmon caught in the Bristol Bay salmon fishery.[1100] The Newhalen River and its source, Lake Clark, are a major sockeye salmon spawning area, producing 16% of the world's wild sockeye salmon commercial harvest.[1101] A large number of sport fishermen travel to the Iliamna Lake area every year to participate in a trophy rainbow trout fishery[1102] along with other sport fisheries (see the *Recreational Fishing* section of this profile). A number of lodges are present along the Newhalen River for sport hunters and fishermen.[1103]

The area across Iliamna Lake to the south of Newhalen is protected as Katmai National Park and Preserve, a 7,383-square-mile wilderness area known for its high concentration of brown bears and the Valley of 10,000 Smokes. Katmai National Park tourism does not affect Newhalen directly, as visitors primarily pass through the King Salmon airport to access the park.[1104] Lake Clark National Park and Preserve is located northeast of Newhalen, occupying 4 million acres at the north end of the Alaska Peninsula. This National Park and Preserve was established to protect scenic beauty, wild rivers and waterfalls, populations of fish and wildlife, watersheds essential for sockeye salmon, and the traditional lifestyle of local residents. Subsistence activities are permitted in Lake Clark National Park and Preserve. The National Park Service works closely with state and federal fish and wildlife management agencies to determine seasons, bag limits, and similar harvest controls.[1105] A diversity of fish and wildlife are found in both of these National Parks and Preserves, including bears, caribou, moose, wolves, lynx, sea mammals, salmon, Arctic char, Arctic grayling, Dolly Varden char, northern pike, lake trout, rainbow trout, burbot, and whitefish.[1106]

It is also of note that Iliamna Lake is home to a freshwater population of harbor seals.[1107] Seal numbers consistently range between 150 and 220 during molting season, and some portion of the population over-winters in the lake. Local subsistence hunters harvest a small number of these seals each year.[1108]

[1098] LaRoche + Associates (2011). L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

[1099] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[1100] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.

[1101] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[1102] See footnote 1093.

[1103] See footnotes 1099 and 1100.

[1104] National Park Service (2011). *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.

[1105] National Park Service (2011). *Lake Clark National Park & Preserve Management*. Retrieved June 13, 2012 from http://www.nps.gov/lacl/parkmgmt/index.htm.

[1106] See footnotes 1104 and 1105.

[1107] See footnote 1101.

[1108] Withrow, D. and K. Yano, J. Burns, C. Gomez, and T. Askoak (2011). *Freshwater Harbor Seals of Lake Iliamna, Alaska. Do They Pup and Over-Winter in the Lake?* Poster presented at the 2011 Alaska Marine Science

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit. The Pebble Mine site is located approximately 25 miles north of Newhalen, at the divide between the Koktuli River and Upper Talarik Creek.[1109] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lb of copper, 66.9 million oz of gold, and 3.3 billion lb of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lb of copper, 40.4 million oz gold, and 2.3 billion lb of molybdenum.[1110] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1111] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be toxic to fish.[1112] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[1113]

Potential hazards in Newhalen include wildfire, flooding, severe weather, and earthquakes. Firefighting capacity is lacking in the community, and terrain characterized by heavy vegetation, dry brush, and tall grasses leaves the area subject to wildfire fanned by winds. Flooding is a threat during ice break-up, when ice jams and ice overflows may funnel water into the community. Severe weather in the form of high winds (70 to 100 mph) affects the community approximately twice a year, leading to blackouts and brownouts. Extreme temperatures can also lead to frost heaves and frozen ground, severing or damaging electrical lines. Although no earthquakes have been recorded in Newhalen, seismic activity from volcanoes or fault shifts are a large threat in the area. Newhalen was rated as "not vulnerable" to tsunamis, although the community's proximity to Iliamna Lake makes it vulnerable to seiche activity. See the *Additional Information* section for more information on seiches, "waves that oscillate in partially or totally enclosed bodies of water."[1114]

According to the Alaska Department of Environmental Conservation, one active environmental cleanup site was located on the south shore of Iliamna Lake as of May 2012. In 1956, the U.S. Air Force constructed a radio relay station on the southern shore of Iliamna Lake as part of a defense communication network and aircraft warning system throughout the State of Alaska. Hazardous materials were stored at the site, including diesel fuel and gasoline, oils, antifreeze, solvents, batteries, asbestos, and electrical transformers containing PCBs (polychlorinated biphenyls). Excavation and thermal treatment of petroleum-contaminated soils

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Symposium. Retrieved January 18, 2012 from ftp://ftp.afsc.noaa.gov/posters/pWithrow04_freshwater-seals_2011.pdf.

[1109] Parker, G. Y., F. M. Raskin, C. A. Woody, and L. Trasky (2008). "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.

[1110] Northern Dynasty Minerals Limited (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.

[1111] See footnote 1099.

[1112] See footnote 1109.

[1113] Pg. 36 in Duffield, J.., C. Neher, D. A. Patterson, and O. S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.

[1114] Lake and Peninsula Borough (2009). *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

was undertaken in 2004 and 2005, removing the source of potential future groundwater contamination. Groundwater wells were also dug to monitor water quality at the site.[1115]

Current Economy[1116]

Newhalen's economy is based on seasonal employment in commercial and recreational fishing sectors. Many residents travel to Bristol Bay to work in salmon fisheries, and many work in Iliamna.[1117] Between 2000 and 2010, the number of Newhalen residents holding state Commercial Fisheries Entry Permits (CFEC) was equivalent to between 5% and 9% of the total local population. The tourism industry is important to the region, with thousands of sport fishermen visiting every year to participate in the trophy rainbow trout fishery.[1118] Lodges for both hunting and fishing are common in the area.[1119] Subsistence harvest of salmon, trout, grayling, moose, caribou, rabbit, porcupine, and seal are important for Newhalen residents. Most families travel to fish camps during the summer.[1120]

In a survey conducted by the AFSC in 2011, community leaders projected that mining will become the most important natural resource-based industry in Newhalen in the future. The proposed site of the Pebble Mine, described above in the *Natural Resources and Environment* section, is located approximately 25 miles north of Newhalen.

Based on household surveys conducted for the 2006-2010 ACS,[1121] in 2010, the per capita income in Newhalen was estimated to be $16,000 and the median household income was estimated to be $66,250. This represents a large increase from the per capita and median household incomes reported in the year 2000 ($9,448 and $36,250, respectively). The increase in income remains substantial even when inflation is taken into account by converting 2000 values to 2010 dollars,[1122] revealing a real per capita income in 2000 of $12,424 and a real median household income of $47,668. In 2010, Newhalen ranked 185th of 305 Alaskan communities with per capita income data that year, and 56th in median household income, out of 299 Alaskan communities with household income data.

However, Newhalen's small population size may have prevented the ACS from accurately portraying economic conditions.[1123] An alternative estimate of per capita income is

[1115] Alaska Dept. of Environmental Conservation (n.d.) *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1116] Unless otherwise noted, all monetary data are reported in nominal values.
[1117] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1118] Ibid.
[1119] Fall, J. A., D. L. Holen, B. Davis, T. Krieg, and D. Koster (2006). *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1120] See footnote 1117.
[1121] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1122] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1123] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not

provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Newhalen in 2010 is $6,947.[1124,1125] This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Newhalen between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[1126] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a much higher percentage of Newhalen residents was estimated to be in the civilian labor force (80.6%) than in the civilian labor force statewide (68.8%). In the same year, 15.6% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 12.9% in Newhalen, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 31.8%, compared to a statewide unemployment rate estimate of 11.5%.[1127]

Also based on the 2006-2010 ACS, 60.3% of the Newhalen workforce was estimated to be employed in the public sector, along with 38.1% in the private sector and 1.6% self-employed. Of the 63 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest numbers were estimated to be working in the following industries: educational services, health care, and social assistance (49.2%), agriculture, forestry, fishing, hunting, and mining (15.9%), and retail trade (11.1%). The occupations in which the greatest percentages of the workforce were estimated to be employed were management/professional (34.9%) and sales/office occupations (27%). This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In the case of Newhalen, employment reported by the census in natural resource-related industries and occupations is primarily related to mining activity rather than fishing. In 2010, 15.9% of the population was estimated to be employed in agricultural, forestry, fishing, hunting, and mining industries and in natural resource/construction/maintenance occupations. A breakdown of the natural resource/construction/maintenance occupational category reveals that, of the 10 workers in this category, 9 were employed in construction and extraction occupations, and 1 was employed in an installation-related occupation.

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collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[1124] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

[1125] See footnote 1121.

[1126] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

[1127] See footnote 1124.

Figure 3. Local Employment by Industry in 2000-2010, Newhalen (U.S. Census).

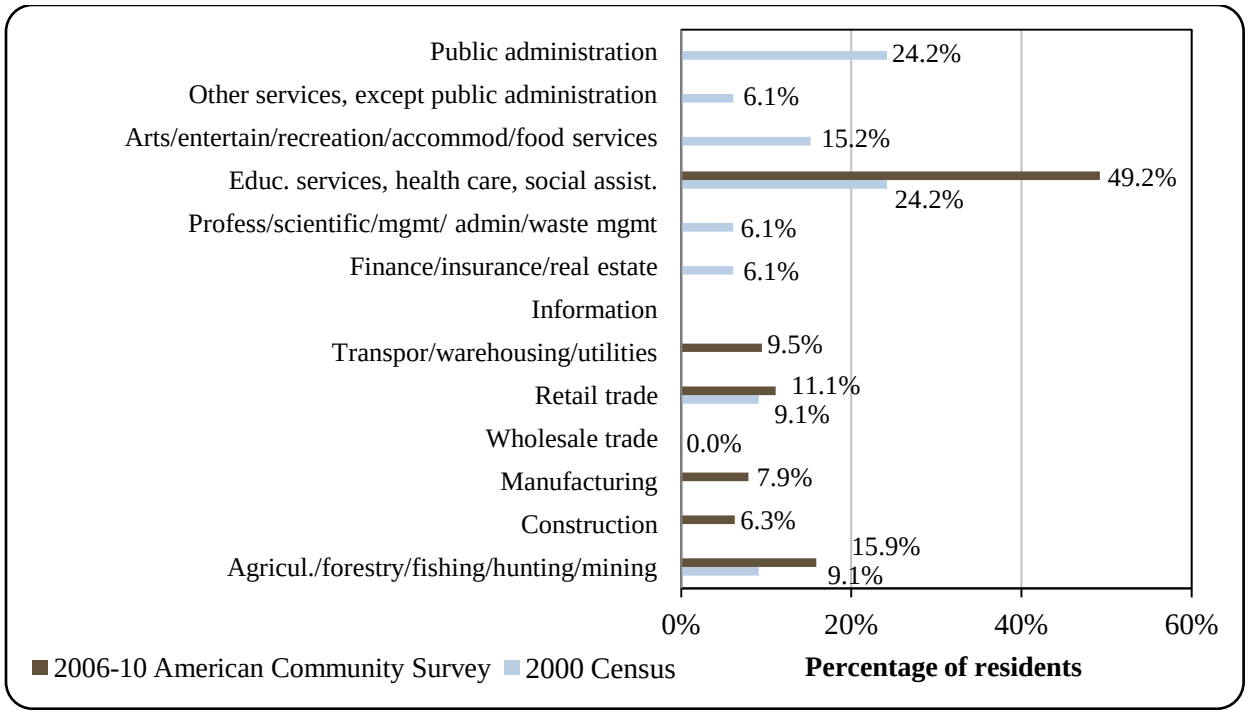
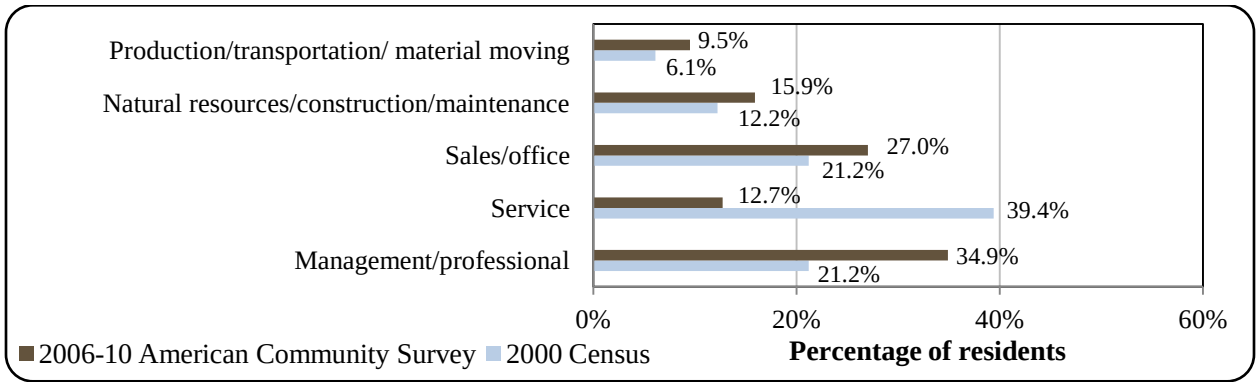


Figure 4. Local Employment by Occupation in 2000-2010, Newhalen (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 51 employed residents in Newhalen in 2010, of which 33.3% were employed in local government, 31.4% in professional and business services, 9.8% in trade, transportation, and utilities, 9.8% in education and health services, 5.9% in natural resources and mining, 5.9% in construction, 2% in manufacturing, and 2% in other industries.[1128] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[1128] Ibid.

Governance

Newhalen was incorporated as a 2nd Class City in 1971. The City is located in the Lake and Peninsula Borough. Newhalen has a Strong Mayor form of government, including a seven-person city council, including the mayor, a seven-person advisory school board, and several municipal employees. The City administers a 2% sales tax but has no other taxes. In addition, the Borough administers a 6% bed tax, $3 per person/day Guide Tax and $1 per person/day lodge Guide Tax.[1129] Municipal revenue in Newhalen averaged over $150,000 per year between 2000 and 2010. Locally-generated revenue sources during the decade included facility and equipment lease fees, building and equipment rentals, water and sewer service fees, and gravel sales. Outside revenue sources included various state revenue sharing contributions and capital project grants. Between 2000 and 2003, Newhalen received approximately $25,000 per year in State Revenue Sharing contributions, and in 2009 and 2010 received just over $104,000 per year in Community Revenue Sharing contributions. Newhalen also received Federal Magnuson-Stevens Commercial Fishery Disaster Assistance grants in 2000 and 2001. Information about selected aspects of Newhalen's community revenue sources is presented in Table 2.

Newhalen was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Newhalen Village. The Native village corporation is the Alaska Peninsula Corporation, which manages 71,526 acres of land. The regional Native corporation to which Newhalen belongs is the Bristol Bay Native Corporation.[1130]

Newhalen is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[1131] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[1132]

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon, and the Alaska Department of Commerce, Community, and Economic Development also has an office in Dillingham. Kodiak and Homer have the nearest offices of the Alaska Department of Natural Resources and the National Marine Fisheries Service (NMFS), and Kodiak is also the location of the nearest U.S. Bureau of Citizenship and Immigration Services office. However, the Anchorage offices of these agencies are perhaps more accessible for the people of the Iliamna Lake region.

[1129] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1130] Ibid.
[1131] Bristol Bay Native Association (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from http://www.bbna.com.
[1132] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Newhalen From 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$164,438	n/a	$27,332	n/a$61,089
2001	$249,160	n/a	$25,677	n/a$50,135
2002	n/a	n/a	$25,674	n/a
2003	$118,425	n/a	$25,821	n/a
2004	$63,763	n/a	n/a	n/a
2005	$111,905	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	$147,286	n/a	n/a	n/a
2008	$163,284	n/a	n/a	n/a
2009	$175,367	n/a	$104,264	n/a
2010	$277,874	n/a	$104,125	n/a

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.

[3] Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Department of Commerce, Community, and Economic Development. (n.d.). Community Funding Database. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

Infrastructure

Connectivity and Transportation

Due to a lack of infrastructure in the Newhalen region, travel between communities is usually by small plane, and seasonally by boat, four-wheeler, or snowmobile. Individuals also use personal vehicles, ATVs, and skiffs.[1133] Barges deliver bulk goods to the Newhalen area via the Kvichak River, which are lightered to shore. A state-owned, 4,800-ft runway is located approximately 3 miles north of Newhalen, between Newhalen and Iliamna. A paved road connects these communities and the airport.[1134] Iliamna Air Taxi, Inc. provides scheduled mail, freight, and passenger air service to several Iliamna Lake communities. As of June 2012, a roundtrip flight from the Iliamna Airport to Anchorage cost $460.[1135]

[1133] Bristol Bay Native Association (2011. *Bristol Bay Comprehensive Economic Development Strategy, 2011-2016.* Funded by the U.S. Department of Commerce, Economic Development Administration. Retrieved January 17, 2012 from http://www.bbna.com/website/BBCEDS_2011-10-31.pdf.

[1134] See footnote 1129.

[1135] Personal communication, Iliamna Air Taxi reservation agent, June 13, 2012.

During the winter, a road is passable between Newhalen and Nondalton, 22 miles to the north, although the road is only paved half way.[1136] An unimproved trail, the Iliamna-Pile Bay Trail, runs along the northern shore of Iliamna Lake, connecting Newhalen with the communities of Pedro Bay and Pile Bay Village to the east. Pile Bay Village is also connected to the Cook Inlet by road.[1137]

Facilities

The Tazimina Hydroelectric Project provides electricity to the communities of Iliamna, Newhalen and Nondalton. The Iliamna – Newhalen – Nondalton Electric Cooperative owns 50 miles of distribution line connecting the three member communities, and also owns a backup diesel powerhouse in Newhalen.[1138,1139] According to a survey conducted by the AFSC in 2011, Newhalen community leaders indicated that construction of a new diesel powerhouse and alternative energy sources is currently in progress. The City of Newhalen operates a piped water system serving all homes in the community. Water is derived from a well and filtered. The City also operates a piped sewer system serving 10 homes and facilities. Individual septic tanks are used by remaining homes, and outhouses are also in use. A sewage lagoon is used for sewage treatment. The City operates a landfill, but does not provide refuse collection services.[1140]

The Village Council operates a washeteria.[1141, 1142] Newhalen and Iliamna share a post office and a school.[1143] The school provides aluminum and paper recycling services, and also offers public use of the school library and gymnasium. Additional community facilities include a Teen Recreation Center, City Hall, and a city holding cell.[1144] Public safety services are provided by a VPSO (Village Public Safety Officer) stationed in Newhalen[1145] and state troopers stationed nearby in the City of Iliamna.[1146] Fire and rescue services are provided by the Iliamna/Newhalen Rescue Squad. Taxi service is available in the City, and visitor accommodations are provided by Gram's Bed and Breakfast. Telephone and internet service are available from Interior Telephone

[1136] Fall, J. A., D. L. Holen, B. Davis, T. Krieg, and D. Koster (2006). *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1137] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1138] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1139] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1140] Ibid.
[1141] Ibid.
[1142] "Washeteria" is another word for laundromat. In Alaska, washeterias often include shower facilities.
[1143] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1144] See footnote 1139.
[1145] Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from http://www.dps.alaska.gov/.
[1146] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.

Co./TelAlaska and GCI. However, no cable carriers provide service in the community.[1147] In the 2011 AFSC survey, community leaders reported that Newhalen has publicly subsidized housing.

With regard to fisheries-related infrastructure, community leaders also reported that no dock space is available for moorage in Newhalen, and the community does not have the capacity to handle regulated vessels. Further, they indicated that no private vessels use Newhalen as a base of operations for fishing. They noted that residents typically travel to Iliamna when they need to access fisheries-related businesses and services not available in Newhalen.

Medical Services

The local health clinic is the Newhalen Clinic. The Clinic is a Community Health Aide Program site. Emergency Services have lake, floatplane, and air access. Emergency services are provided by volunteers and a health aide, and rescue services are provided by the Iliamna/Newhalen Rescue Squad.[1148] The nearest hospitals are located in Dillingham and Homer, although hospitals in Anchorage may be equally accessible by air for residents of Newhalen.

Educational Opportunities

The Newhalen School offers a pre-school through 12th grade education. As of 2011, there were 8 teachers and 77 students attending the school.[1149] The Newhalen School also serves students from the community of Iliamna.[1150]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important for residents of the Iliamna Lake region since prehistory. Commercial exploitation of salmon resources began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, along with several other species harvested in lower volumes.[1151] Subsistence harvest continues to be an important foundation for the local economy in Newhalen,[1152] and tourism related to sportfishing activity has grown in importance in the Iliamna Lake region,[1153,1154] as outlined in the *Subsistence Fishing* and *Recreational Fishing* sections of this profile.

[1147] See footnote 1139.
[1148] Ibid.
[1149] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1150] See footnote 1143.
[1151] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1152] See footnote 1139.
[1153] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

Bristol Bay is the nearest marine area to the community of Newhalen. The Bay is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Newhalen is not eligible to participate in the Community Development Quota (CDQ) program or the Community Quota Entity (CQE) program. According to a survey conducted by the AFSC in 2011, community leaders reported that Newhalen does not actively participate in fisheries management processes in Alaska, but they do stay informed through participation in a yearly fisheries meeting. One community leader expressed concern that commercial fisheries are declining, and that Newhalen residents may become more dependent on the mining industry for employment in the future.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Newhalen. Several processing facilities were listed in nearby communities in Bristol Bay, including Naknek, Egegik, and Dillingham.

Fisheries-Related Revenue

Overall, in 2010, the City of Newhalen received $6,489 from fisheries-related taxes and fees, representing a steady increase in annual fisheries-related revenue since 2000. Revenue sources reported in Newhalen's annual budgets included the Shared Fisheries Business Tax and the Fisheries Resource Landing Tax. Table 3 presents the annual revenue for these categories.[1155]

Commercial Fishing

Newhalen is an inland community, located on the northern shore of Iliamna Lake. Even though it is not located on the coast, Newhalen's economy is still tied to commercial fishing activities. Between 2000 and 2010, local residents participated in state fisheries as permit holders, crew members, and vessel owners. Over this period, the number of Newhalen residents holding state Commercial Fisheries Entry Permits (CFEC) per year was equivalent to between 5% and 9% of the local population.

In the 2011 AFSC survey, community leaders reported that Newhalen residents primarily participate in the Bristol Bay salmon fishery, which takes place each year in June and July. In 2010, 12 Newhalen residents held a total of 11 CFEC permits in salmon fisheries, including 6 in the Bristol Bay drift gill net fishery, 4 in the Bristol Bay set gill net fishery, and 1 in the Lower Yukon gill net fishery. Of these, five Bristol Bay drift gill net and four Bristol Bay set gill net permits were actively fished that year. One Lower Yukon permit was held per year between 2000 and 2010, with the exception of 2000 and 2008. The Lower Yukon permit was actively fished during this period in 2002-2004 and 2006 only. The number of salmon permits held in Newhalen remained relatively stable between 2000 and 2010. No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Newhalen residents between 2000 and

[1154] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.

[1155] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

2010. This permit information is presented in Table 4. Between 2000 and 2010, no quota share accounts or quota shares were held by Newhalen residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

Since no fish buyers or processing plants were present in Newhalen (Table 5), no ex-vessel revenue was generated in the community between 2000 and 2010 (Table 9). Newhalen vessel owners delivered their catches elsewhere. In 2010, Newhalen vessel owners landed 205,650 net lb of salmon, earning $193,517 in ex-vessel revenue. For those year in which information can be reported, this was slightly lower than average for salmon landings and ex-vessel revenue. Salmon landings and ex-vessel revenue information are considered confidential in 2001 and 2009 due to the small number of participants. This information about landings and ex-vessel revenue generated by Newhalen vessel owners is presented in Table 10.

In 2010, only 1 Newhalen resident held a crew license, a precipitous decrease from 20 licenses held in the year 2000. The number of Newhalen residents that were the primary owner of a fishing vessel initially increased from 5 in 2000 to 10 in 2005, and then declined again to 6 vessels by 2010. Between four and six vessels were homeported in Newhalen over this period. These characteristics of the commercial fishing sector are presented in Table 5. Although several vessels may call Newhalen their homeport, according to a survey conducted by the AFSC in 2011, community leaders reported that no vessels use Newhalen as a base of operations during the fishing season.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Newhalen: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	$2,832	$4,898	$4,286	$3,316	$2,979	$3,569	$4,531	$5,454	$10,617	$6,395	$6,077
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$24	$62	$234	$393	$412
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$2,832*	*$4,898*	*$4,286*	*$3,316*	*$2,979*	*$3,569*	*$4,554*	*$5,516*	*$10,851*	*$6,788*	*$6,489*
Total municipal revenue[5]	*$164,438*	*$249,160*	*$118,425*	*$118,425*	*$63,763*	*$111,905*	*n/a*	*$147,286*	*$163,284*	*$175,367*	*$277,874*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Newhalen: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Newhalen: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	8	9	9	10	12	13	14	13	12	11	11
	Fished permits	8	7	9	10	12	12	13	11	10	8	9
	% of permits fished	100%	78%	100%	100%	100%	92%	93%	85%	83%	73%	82%
	Total permit holders	8	9	9	10	13	15	15	14	16	12	12
Total CFEC Permits[2]	*Permits*	*8*	*9*	*9*	*10*	*12*	*13*	*14*	*13*	*12*	*11*	*11*
	Fished permits	*8*	*7*	*9*	*10*	*12*	*12*	*13*	*11*	*10*	*8*	*9*
	% of permits fished	*100%*	*78%*	*100%*	*100%*	*100%*	*92%*	*93%*	*85%*	*83%*	*73%*	*82%*
	Permit holders	*8*	*9*	*9*	*10*	*13*	*15*	*15*	*14*	*16*	*12*	*12*

[1] National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Newhalen: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Newhalen[2]	Total Net Lb Landed In Newhalen[2,5]	Total Ex-Vessel Value Of Landings In Newhalen[2,5]
2000	20	0	0	5	5	0	0	$0
2001	11	0	0	4	6	0	0	$0
2002	5	0	0	5	4	0	0	$0
2003	2	0	0	7	6	0	0	$0
2004	10	0	0	9	6	0	0	$0
2005	10	0	0	10	5	0	0	$0
2006	13	0	0	9	6	0	0	$0
2007	0	0	0	9	6	0	0	$0
2008	1	0	0	8	6	0	0	$0
2009	3	0	0	6	6	0	0	$0
2010	1	0	0	6	5	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Newhalen: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Newhalen: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Newhalen: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Newhalen: 2000-2010.

***Total Net Pounds*[1]**											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ex-vessel Value (nominal U.S. dollars)											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lb refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Newhalen Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	85,297	-	59,063	97,802	209,088	427,265	245,184	359,737	296,754	-	205,650
Total[2]	*85,297*	-	*59,063*	*97,802*	*209,088*	*427,265*	*245,184*	*359,737*	*296,754*	-	*205,650*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$56,827	-	$28,830	$49,898	$107,438	$265,574	$160,762	$239,654	$221,337	-	$193,517
Total[2]	*$56,827*	-	*$28,830*	*$49,898*	*$107,438*	*$265,574*	*$160,762*	*$239,654*	*$221,337*	-	*$193,517*

Note: Cells showing "–" indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010 there were no active sport fish guide businesses or licensed sportfishing guides in Newhalen, and no sportfishing licenses were sold in the community. However, Newhalen community members participated in sport fisheries. In 2010, Newhalen residents purchased 17 sportfishing licenses (irrespective of point of sale). It is important to note that economic activity in Newhalen is very tied to economic activity in the City of Iliamna, located only 5 miles away by road. Between 7 and 18 licensed sport fish guides were present each year in Iliamna over the 2000-2010 period, and sportfishing licenses are sold in the City (see the community profile for Iliamna for more information). Newhalen and Iliamna attract a large number of recreational fishermen each year to participate in the trophy rainbow trout fishery on Iliamna Lake, as well as fisheries for numerous other species, including salmon. Numerous sportfishing and hunting lodges are present along the Newhalen River.[1156,1157,1158]

In a survey conducted by the AFSC in 2011, community leaders reported that local residents use private boats for sportfishing, and non-residents fish out of lodges. They also indicated that sockeye salmon is the primary salmon species targeted, along with trout and northern pike. The Alaska Statewide Harvest Survey,[1159] conducted by ADF&G between 2000 and 2010, confirmed this and noted the following species targeted by private anglers in Iliamna-Newhalen: sockeye salmon, rainbow trout, Dolly Varden char, and Arctic grayling. No kept/release log book data were reported for fishing charters out of Newhalen between 2000 and 2010.[1160]

Newhalen is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater between 2000 and 2010, reflective of the large amount of sportfishing-related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 between 2000 and 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297. This information about the sportfishing sector in and near Newhalen is displayed in Table 11.

[1156] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1157] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1158] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1159] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).
[1160] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Newhalen: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold To Residents[2]	Sport Fishing Licenses Sold In Newhalen[2]
2000	0	0	5	0
2001	0	0	14	0
2002	0	0	24	0
2003	0	0	21	0
2004	0	0	22	0
2005	0	0	21	0
2006	0	0	15	0
2007	0	0	14	0
2008	0	0	15	0
2009	0	0	26	0
2010	0	0	17	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest remains a fundamental aspect of Newhalen's local economy.[1161] In a survey conducted by the AFSC in 2011, community leaders reported that fish, caribou, and moose are three of the most important subsistence resources for Newhalen residents. During fieldwork for a 2004 survey of subsistence resource use in Newhalen and surrounding communities, researchers recorded current resource concerns in the communities of Newhalen and Iliamna. Local residents' concerns centered around caribou, and particularly the Mulchatna Herd. They expressed concern about overharvest of the herd by nonlocal hunters, and were also concerned about lichen being too thin to support the formerly large herd of caribou near the Mulchatna River. They indicated that lichen was thicker around the Nushagak River, and felt that the herd may not return to the Mulchatna River for 10 years.[1162]

In addition to caribou, sockeye salmon are an important subsistence resource in Newhalen, as they return in great numbers to the Newhalen River. Other salmon species are also used for subsistence purposes, along with trout and Arctic grayling. In addition, harbor seals are utilized for subsistence purposes by Newhalen residents.[1163] Iliamna Lake is home a freshwater population of harbor seals.[1164] Local subsistence hunters harvest a small number of these seals each year.[1165,1166]

In 2004, the only year between 2000 and 2010 that a full focused household subsistence survey was conducted by ADF&G in the community of Newhalen, 99% of households were recorded as participating in salmon subsistence, 70% in halibut subsistence, 52% in marine mammal subsistence, 56% in marine invertebrate subsistence, and 61% in non-salmon fish subsistence (other than halibut). The per capita annual subsistence harvest of land and sea based resources in Newhalen was 691 lb in 2004. In addition, ADF&G reported that 85% of households surveyed in 2008 participated in salmon subsistence that year. Information about per capita subsistence harvest and subsistence participation by household and species is presented in Table 12.

Information about subsistence salmon permits is available for six years between 2000 and 2008. During this period, the number of subsistence salmon permits issued to Newhalen households varied between 20 and 32. Sockeye salmon was by far the most heavily harvested salmon species in the area. Information about subsistence salmon harvest is presented in Table 13, along with information regarding marine invertebrate and non-salmon fish subsistence use by residents of Newhalen. The 2004 ADF&G subsistence household survey found that a total of 312 lb of marine invertebrates and 3,887 lb of non-salmon fish were harvested in 2004. ADF&G also

[1161] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1162] Fall, J. A., D. L. Holen, B. Davis, T. Krieg, and D. Koster (2006). *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1163] Ibid.
[1164] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1165] Ibid.
[1166] Withrow, David and Kymberly Yano, Jennifer Burns, Courternay Gomez, and Tatiana Askoak. 2011. *Freshwater Harbor Seals of Lake Iliamna, Alaska. Do They Pup and Over-Winter in the Lake?* Poster presented at the 2011 Alaska Marine Science Symposium. Retrieved January 18, 2012 from ftp://ftp.afsc.noaa.gov/posters/pWithrow04_freshwater-seals_2011.pdf.

reported harvest of 13,572 lb of non-salmon fish by New Stuyahok residents in 2003 (Table 13). Specific species of marine invertebrates harvested by Newhalen residents in 2004 included butter, horse, Pacific littleneck, pinkneck, razor, and freshwater clams, mussels, cockles, scallops, Dungeness, Tanner, and king crab, octopus, and shrimp. Specific species of non-salmon fish harvested by Newhalen residents included Arctic char, Dolly Varden char, rainbow and lake trout, humpback, broad, and round whitefish, burbot, black, red, and unknown rockfish, lingcod, Pacific cod, unknown cod, sablefish, walleye pollock, wolf fish, smelt, least cisco, sucker, stickleback (needlefish), unknown pike, unknown flounder, unknown sole, unknown sturgeon, unknown greenling, and unknown shark. Species harvested by the highest percentage of Newhalen households included Dolly Varden, grayling, rainbow trout, pike, and lake trout. It is of note that a number of species were reported as used by additional households that did not engage directly in harvest, suggesting that they received these fish through sharing networks.[1167]

No information was reported by the NMFS regarding the number of Subsistence Halibut Registration Certificates (SHARC) issued to residents of Newhalen between 2003 and 2010 (Table 14), despite the fact that ADF&G reported a high percentage of households participating in halibut subsistence (Table 12). Some information about subsistence harvest of marine mammals was reported in several years during the 2000-2010 period. According to data reported by NMFS, a small number of beluga whales were harvested in 5 different years during the decade. No information was reported by management agencies regarding subsistence harvest of sea otter, walrus, polar bear, Steller sea lion, harbor seal, or spotted seal (Table 15), although harbor seals are a known subsistence resource locally.

Table 12. Subsistence Participation by Household and Species, Newhalen: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	99%	70%	52%	56%	61%	691
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	85%	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[1167] Alaska Department of Fish and Game (2011). *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Newhalen: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	20	19	31	45	n/a	n/a	3,023	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	13,572
2004	32	29	105	n/a	n/a	n/a	15,565	312	3,887
2005	20	17	n/a	n/a	n/a	n/a	6,574	n/a	n/a
2006	20	16	n/a	n/a	n/a	n/a	6,338	n/a	n/a
2007	20	16	n/a	n/a	n/a	n/a	6,338	n/a	n/a
2008	31	29	1	11	n/a	8	7,698	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Newhalen: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Newhalen: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	1	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	3	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	1	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	1	n/a	n/a	n/a	n/a	n/a	n/a
2010	1	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and

Nondalton (*non-DOLL-tun*)

People and Place

Location [1168]

Nondalton is located on the west shore of Six Mile Lake, at the southwestern edge of Lake Clark National Preserve. Lake Clark begins 5 miles northeast of Nondalton, and the north shore of Iliamna Lake is located approximately 15 miles to the south. Nondalton is 190 miles southwest of Anchorage. The community is located in the Iliamna Recording District and Lake and Peninsula Borough Census Area. The City encompasses 8.4 square miles of land and 0.4 square miles of water.

Demographic Profile [1169]

In 2010, there were 164 residents in Nondalton, ranking it as the 215th largest of 352 communities in Alaska with recorded populations that year. Between 1990 and 2000 the population of Nondalton increased by 24.2%, and then decreased again to 7.8% below the 1990 population level by 2010. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 15.8%, with an average annual growth rate of -1.96%. According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that a sizeable number of seasonal workers and transients is also present in Nondalton each year, primarily between July and November, and seasonal teaching staff are also present during other times of year. They also indicated that the population peak in Nondalton occurs between June and September, and is somewhat driven by employment in fishing sectors.

In 2010, over half of the population of Nondalton identified themselves as American Indian and Alaska Native (63.4%), along with 20.7% individuals identifying with two or more races, 15.9% as White, and 0.5% as Native Hawaiian or Other Pacific Islander. In addition, 0.5% of Nondalton residents identified themselves as Hispanic in 2010. These figures represent a substantial shift from 2000 numbers, with individual identifying as American Indian and Alaska Native making up 25.7% less of the population in 2010, and individuals identifying with two or more races making up 19.2 % more of the population in 2010 compared to 2000. The percentage of the population that identified themselves as White increased over time, from approximately 10% in 1990 and 2000, to 15.9% in 2010. The change in population from 1990 to 2010 is provided in Table 1, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

[1168] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1169] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

Based on household surveys conducted for the U.S. Census, the average household size in Nondalton decreased slightly between 1990 and 2010, with 3.3 persons per household in 1990, 3.25 in 2000, and 2.88 in 2010. The number of households in Nondalton followed population trends, increasing between 1990 and 2000 from 54 to 68, before decreasing again to 57 occupied housing units in 2010. Of the total 94 housing units surveyed for the 2010 U.S. Decennial Census, 38.3% were owner-occupied, 22.3% were rented, and 39.4% were vacant or used only seasonally. From 1990 to 2010, no Nondalton residents were reported to be living in group quarters.

In 2010, the gender makeup in Nondalton was 48.5% male and 51.6% female. The greater number of women than men in Nondalton is anomalous compared to the population of Alaska as a whole, which overall has more men than women (52% male and 48% female in 2010). The median age of Nondalton residents in 2010 was 30 years, slightly younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. That year, 10.5% of Nondalton's population was age 60 or older. The overall population structure of Nondalton in 2000 and 2010 is shown in Figure 2.

Table 1. Population in Nondalton from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	178	-
2000	221	-
2001	-	210
2002	-	206
2003	-	216
2004	-	206
2005	-	204
2006	-	196
2007	-	194
2008	-	199
2009	-	186
2010	164	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Nondalton: 2000-2010 (U.S. Census).

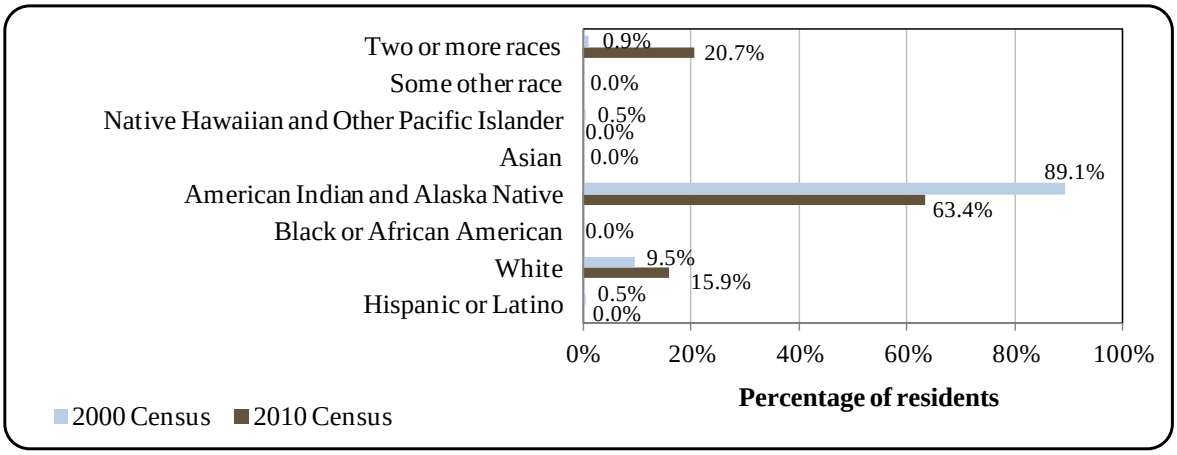
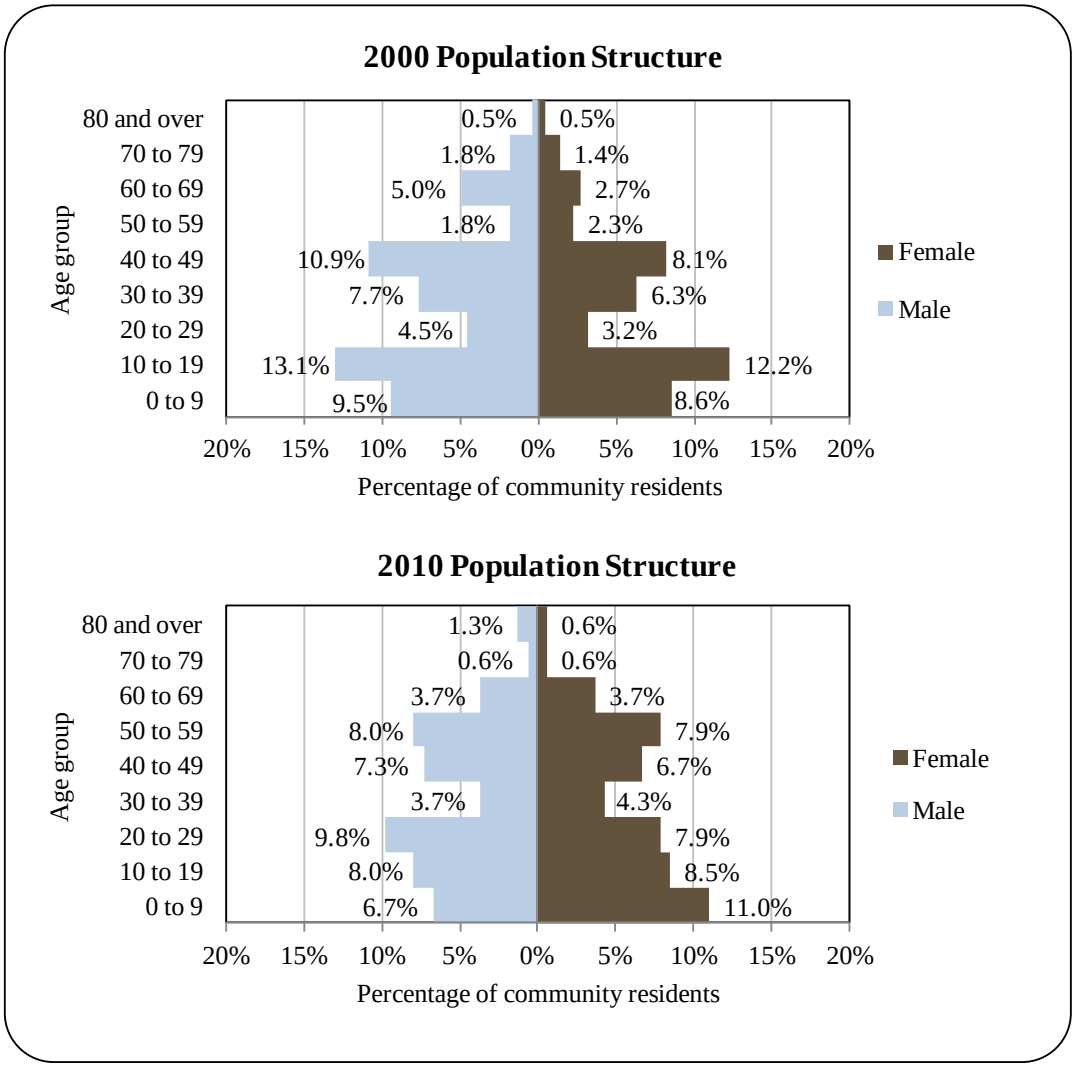


Figure 2. Population Age Structure in Nondalton Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1170] 68.6% of Nondalton residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 22.5% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 8.8% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 6.9% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 7.8% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 9.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

Lake Clark is within the territory of Dena'ina Athabascan people. Few Russian explorers entered Dena'ina country during their occupation of Alaska, which ended in 1867 with the sale of Alaska to the United States. The Dena'ina residents of Lake Clark traveled across mountain passes to trade with the Russians at posts located along Cook Inlet. In the late 19th century, American explorers began to enter the Lake Clark area. The first documented American exploration occurred in January 1891, when a party under the leadership of Alfred B. Schanz and John W. Clark (an agent of the Alaska Commercial Company) – for whom the lake was named – explored the area. They visited Kijik, a Dena'ina village on Lake Clark near the mouth of the Chulitna River.[1171]

Kijik was the major community of Inland Dena'ina in this area until 1902, when residents began moving to a new village site (Old Nondalton) on neighboring Six Mile Lake. The reason for the move in 1902 was a measles epidemic that decimated the population. The new village site was also closer to trading posts on Iliamna Lake and the increasing number of salmon canneries along the shores of Bristol Bay. Kijik was completely abandoned by 1914.[1172] The name Nondalton was first recorded by the U.S. Geological Survey in 1909. The village was originally located on the north shore of Six Mile Lake, but in 1940 growing mudflats and wood depletion in the surrounding area caused the village to move to its present location on the west shore. The post office, established in 1938, relocated with the villagers. Nondalton formed an incorporated City government in 1971. Today, the population of Nondalton remains largely Dena'ina,, and community members maintain a fishing and subsistence lifestyle. The sale of alcohol is prohibited in the community, although importation and possession are allowed.[1173]

[1170] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1171] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1172] Ibid.
[1173] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Natural Resources and Environment

Nondalton lies in the transitional climatic zone. Average summer temperatures range from 42 to 62 °F, and winter temperatures average 6 to 30 °F. The record high is 91 °F, and the record low is -47 °F. Annual average rainfall is 26 inches, with 64 inches of snowfall.[1174] The landscape along the shores of Six Mile Lake is covered by mixed spruce and birch woodlands and shrubs. Higher elevations surrounding Nondalton are characterized by alpine tundra and barrens.[1175]

Lake Clark National Park and Preserve is located directly east of Nondalton, occupying 4 million acres at the north end of the Alaska Peninsula. This National Park and Preserve was established to protect scenic beauty, wild rivers and waterfalls, populations of fish and wildlife, watersheds essential for sockeye salmon, and the traditional lifestyle of local residents. Subsistence activities are permitted in Lake Clark National Park and Preserve. The National Park Service works closely with state and federal fish and wildlife management agencies to determine seasons, bag limits, and similar harvest controls.[1176] A diversity of fish and wildlife are found in the Nondalton area, including several salmon species, black bear, caribou, sheep, moose, beaver, red fox, lynx, several species of migratory birds including geese and swans, and many non-migratory birds including grouse and ptarmigan.[1177]

Nondalton lies in an area that is integral to the Kvichak, the single most important salmon-producing watershed in the Bristol Bay area.[1178] Area lakes and rivers feed into Lake Clark, which is the 6th largest freshwater lake in Alaska. Lake Clark flows directly into Six Mile Lake. Waters are then funneled via the Newhalen River into Iliamna Lake, which in turn flows into Bristol Bay via the Kvichak River. Approximately 50% of the sockeye salmon caught in Bristol Bay spawn in the lakes and rivers of the Kvichak watershed, representing 33% of the entire U.S. sockeye catch.[1179]

The region contains significant mineral potential for base, precious, rare, and strategic minerals, including the Pebble copper-gold-molybdenum deposit.[1180] The Pebble site is located approximately 16 miles west of Nondalton, at the divide between the Koktuli River and Upper Talarik Creek.[1181] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion lb of copper, 107.3 oz of gold, and 5.6 billion lb of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[1182] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon.

[1174] Ibid.
[1175] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1176] National Park Service (2011). *Lake Clark National Park & Preserve Management*. Retrieved June 13, 2012 from http://www.nps.gov/lacl/parkmgmt/index.htm.
[1177] See footnote 1175.
[1178] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1179] Ibid.
[1180] See footnote 1178.
[1181] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky (2008). "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[1182] Northern Dynasty Minerals Limited (2012). *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.

Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1183] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be toxic to fish.[1184] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[1185] According to the 2006 Long-Range Environmental Plan published by the Nondalton Tribal Council, with input from Kijik Corporation, the City of Nondalton and local residents, "Nondalton has established a collective position against the activities proposed by Northern Dynasty. The community strongly considers their subsistence lifestyle to be a higher priority than mineral development."[1186]

Natural hazards present in Nondalton include high risk of wildfire and severe weather, medium risk of earthquakes, and low risk of avalanche, erosion and flooding. Volcanic activity also poses a threat. Wildfire was determined to be the top hazard in Nondalton, due to many standing dead trees and lack of water sources for fire fighting. Severe weather, and particularly high winds, commonly damage power lines during the coldest times of the year. The Village has no backup generator. Earthquakes are a large threat in Alaska. Although there is no recent history of earthquake damage, several small earthquakes have occurred in the area and the northern portion of the Lake and Peninsula Borough is close to a major fault line. The community is also concerned about volcanic activity, with recent eruptions of Novarupta (1912), Iliamna (1953), and Mt. Redoubt (1989) emphasizing the ongoing risk posed by the large number of volcanoes in the region. Ash fall in the region could disrupt transportation to the area and harm the salmon fishery.[1187]

According to the Alaska Department of Environmental Conservation (DEC), there were no notable active environmental cleanup sites in the Nondalton area as of May 2012.[1188]

Current Economy[1189]

According to a survey conducted by the AFSC in 2011, community leaders indicated that the local economy depends on commercial fishing, firefighting, sport hunting and fishing, and mining. Top employers in Nondalton in 2010 included the Lake and Peninsula School District, local government, the Iliamna Development Corporation (a for-profit subsidiary of Iliamna Natives Limited, the Village Corporation for the Village of Iliamna), utilities, Alaska Earth Sciences, Inc. (a consulting firm with expertise in mineral resource exploitation and development), regional health and housing service organizations, the University of Alaska, and transportation services.[1190] The Bristol Bay salmon fishery is also an important source of income

[1183] See footnote 1178.
[1184] See footnote 1181.
[1185] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith (2007). *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[1186] See footnote 1175.
[1187] Lake and Peninsula Borough (2009). *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1188] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1189] Unless otherwise noted, all monetary data are reported in nominal values.
[1190] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

in Nondalton, and firefighting provides an additional source of summer employment. The community also relies heavily on subsistence hunting and fishing. During the summer, many families travel to a subsistence fish camp located on the east side of Six Mile Lake, across from Nondalton. Salmon, trout, grayling, moose, caribou, bear, Dall sheep, rabbit, and porcupine are all utilized for subsistence purposes.[1191]

Based on household surveys conducted for the 2006-2010 ACS,[1192] in 2010, the per capita income in Nondalton was estimated to be $8,763 and the median household income was estimated to be $37,188. This represents a decrease in per capita income and an increase in median household income over time. In 2000, reported per capita income was $8,411 and reported median household income was $19,583. These trends remain in place even after accounting for inflation by converting the 2000 values to 2010 dollars,[1193] revealing a real per capita income in 2000 of $11,060, and real median household income of $25,751. In 2010, Nondalton ranked 287th of 305 Alaskan communities with per capita income data that year, and 207th in median household income, out of 299 Alaskan communities with household income data.

Nondalton's small population size may have prevented the ACS from accurately portraying economic conditions.[1194] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Nondalton in 2010 is $9,582.[1195] This estimate remains lower than the per capita income reported in the 2000 U.S. Census, supporting the decreasing per capita income trend suggested by the 2010 ACS estimate. These declining per capita income estimates are reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[1196] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a lower percentage of Nondalton residents were estimated to be in the civilian labor force (60%) than in the civilian labor force statewide (68.8%). In the same year, 44.5% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 14.8%, compared to a statewide unemployment rate of 5.9%. An additional

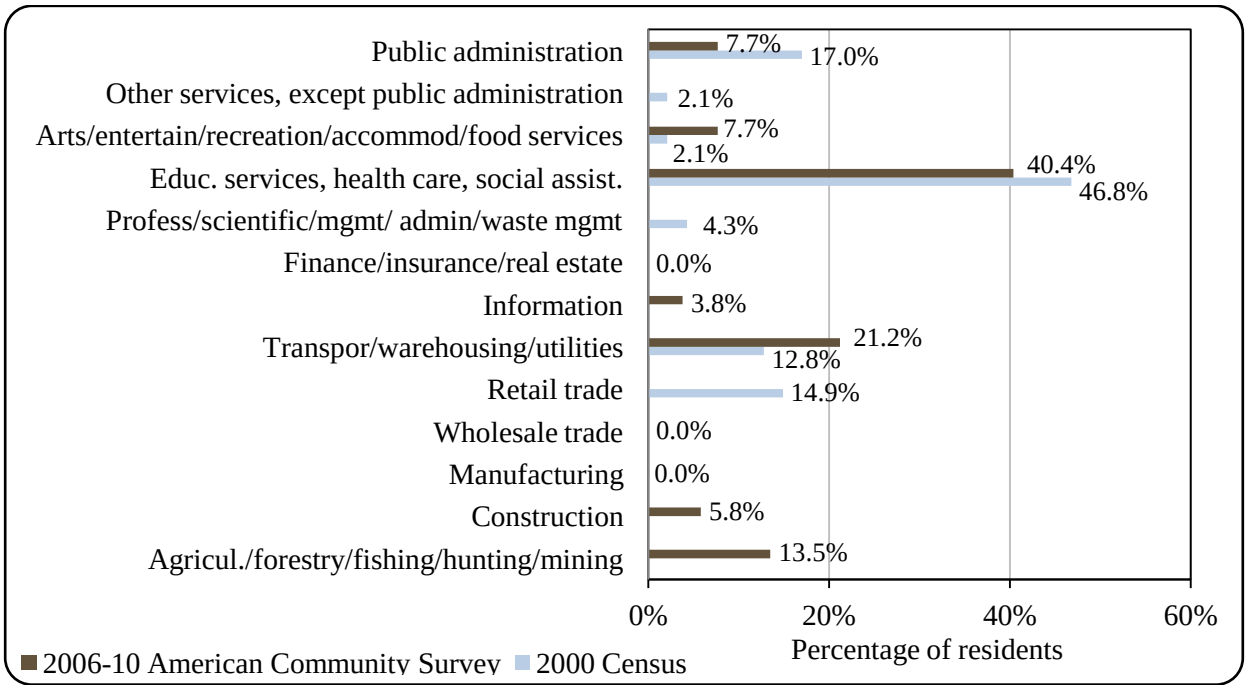
[1191] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1192] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1193] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1194] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1195] See footnotes 1190 and 1192.
[1196] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 21%, compared to a statewide unemployment rate estimate of 11.5%.[1197]

Also based on the 2006-2010 ACS, the majority of Nondalton's workforce was estimated to be employed in the public sector (55.8%), along with 42.3 in the private sector, and 1.9% estimated to be were self-employed. Of the 52 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in the following industries: educational services, health care, and social assistance (40.4%), transportation, warehousing, and utilities (21.2%), and agriculture, forestry, fishing, hunting, and mining (13.5%). The civilian labor force was relatively evenly spread across the five occupational categories reported in the 2006-2010 ACS, with the greatest percentage estimated to be employed in natural resource/construction/maintenance occupations (26.9%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

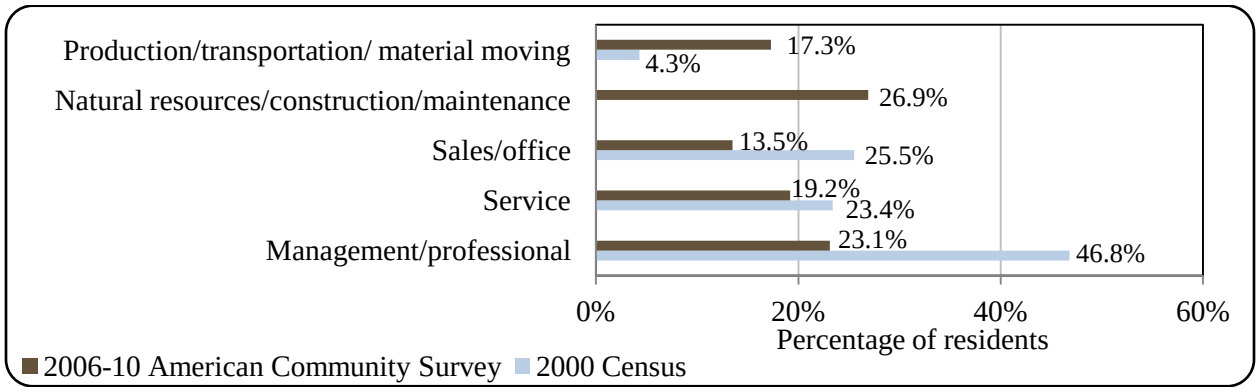
It is important to note that employment in fishing may not be adequately reported in census statistics, as fishermen may hold another job and characterize their employment accordingly. It is also important to note that, although census estimates show relatively high levels of employment in natural resource industries and occupations, a majority of these paid positions are likely tied to mining and other non-fishing jobs. A breakdown of the 26.9% of the labor force that was employed in "natural resources/construction/maintenance" occupations reveals that none of the labor force in Nondalton was employed in "farming, fishing, and forestry" occupations. Instead, these workers were employed primarily employed in construction and extraction occupations (23.1%) and installation, maintenance, and repair occupations (3.8%).

Figure 3. Local Employment by Industry in 2000-2010, Nondalton (U.S. Census).



[1197] See footnote 1190.

Figure 4. Local Employment by Occupation in 2000-2010, Nondalton (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 89 employed residents in Nondalton in 2010, of which 61.8% were employed in local government, 14.6% in professional and business services, 6.7% in financial activities, 4.5% in education and health services, 3.4% in trade, transportation, and utilities, 3.5% in state government, 1.1% in natural resources and mining, 1.1% in information, 1.1% in leisure and hospitality, and 2.2% in other industries.[1198] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Governance

Nondalton was incorporated as a 2nd Class City in 1971. The City is located in the Lake and Peninsula Borough. Newhalen has a Strong Mayor form of government, including a seven-person city council, including the mayor, a seven-person advisory school board, and several municipal employees. The City administers a 3% sales tax but has no other taxes. In addition, the Borough administers a 6% bed tax, $3 per person/day Guide Tax, and $1 per person/day Lodge Guide Tax.[1199] In addition to local taxes, other locally-generated revenue sources in Nondalton include water/sewer, telephone/electric co-op, and landfill service fees, equipment and building rentals and leases, land leases, and fuel sales. Annual municipal revenue followed an increasing trend in Nondalton through the 2000-2010 period. The increase is partly explained by a large increase in total fuel sales reported over the period. Outside revenue sources included a variety of revenue sharing programs. From 2000 to 2004, the City received between $25,000 and $29,000 per year in State Revenue Sharing contributions, and in 2009 and 2010 received just over $100,000 per year in Community Revenue Sharing contributions. Nondalton also received Borough Revenue Sharing contributions from the Lake and Peninsula Borough, averaging $17,244 per year between 2000 and 2010. These Borough funds are generated, in large part,

[1198] Ibid.
[1199] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

from the Borough bed tax.[1200] No information was reported regarding fisheries-related grants received by Nondalton between 2000 and 2010, although some revenues were received from fisheries-related state revenue sharing (see the *Fisheries-Related Revenue* section of this profile). Information about selected community revenue sources in Nondalton is presented in Table 2.

Nondalton was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native Village. The authorized traditional entity, recognized by the Bureau of Indian Affairs , is Nondalton Village. The Native village corporation is the Kijik Corporation, which manages 126,410 acres of land. The regional Native corporation to which Nondalton belongs is the Bristol Bay Native Corporation.[1201]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nondalton from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Borough Revenue Sharing[1]	Fisheries-Related Grants (State and Federal)[5]
2000	$142,597	$352	$28,913	$25,000	n/a
2001	$103,574	n/a	$28,913	$23,000	n/a
2002	$130,276	n/a	$28,913	$22,000	n/a
2003	$182,803	$240	$28,002	$21,000	n/a
2004	$197,136	$492	$25,000	$10,500	n/a
2005	$180,453	$320	n/a	$17,608	n/a
2006	$351,871	$294	n/a	$15,000	n/a
2007	$440,408	$688	n/a	$2,571	n/a
2008	$546,270	$533	n/a	$15,000	n/a
2009	$519,412	$7,518	$106,101	$19,000	n/a
2010	$665,153	$564	$106,305	$19,000	n/a

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Department of Commerce, Community, and Economic Development. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1200] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1201] See footnote 1199.

Nondalton is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the tribes and the Native people of Bristol Bay.[1202] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[1203]

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon. The nearest Alaska Department of Natural Resources office is a Division of Parks and Outdoor Recreation office in Homer, and the nearest Alaska Department of Commerce, Community, and Economic Development office is in Anchorage. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices, although the Anchorage offices of these agencies is perhaps more accessible for the people of this area. Anchorage and Kodiak have the closest Bureau of Citizenship and Immigration Services offices.

Infrastructure

Connectivity and Transportation

The community of Nondalton is primarily accessible by air and water.[1204] During the winter, a road is passable between Nondalton and Newhalen, 22 miles to the south on the shore of Iliamna Lake. The road is only paved half way.[1205] Air taxi, skiff, snow machine, and four-wheelers are the main modes of transport for residents and visitors. A state-owned 2,800-ft by 75-ft gravel runway is present in Nondalton. Iliamna Air Taxi, Inc. offers scheduled air taxi service to Nondalton.[1206] As of June 2012, a roundtrip ticket between Nondalton and Anchorage with Iliamna Air Taxi, Inc. was $530.[1207] Other air taxi companies serving the area include Birchwood Air, Lake Clark Air, Lake and Peninsula Air, and Peninsula Air.[1208] There are no docking facilities in Nondalton. Bulk goods are received in Iliamna then taken by a cat-trail to Fish Camp, located across from Nondalton on the east side of the Six Mile Lake. From there, they are ferried by skiff or barge to the west side of the lake.[1209]

[1202] Bristol Bay Native Association (n.d.). *Homepage*. Retrieved November 16, 2011 from www.bbna.com.
[1203] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[1204] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1205] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1206] See footnote 1204.
[1207] Personal communication, Iliamna Air Taxi, Inc. reservation agent, June 13, 2012.
[1208] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1209] See footnote 1204.

Facilities

Water in Nondalton is derived from an "infiltration gallery"[1210] at Six Mile Lake. The water is chlorinated, and the City has storage capacity for up to 88,000 gallons. Seventy residences are fully plumbed and connected to the City-operated piped water and sewer system. A sewage lagoon is used for sewage treatment.[1211] According to a survey conducted by the AFSC in 2011, community leaders reported that improvements in water and sewage treatment, and water and sewer pipelines, are currently in progress. The City operates a landfill, but does not provide refuse collection services. Electricity is provided to Nondalton through the Tazimina Hydroelectric Project which also provides electricity to communities of Iliamna and Newhalen. The Iliamna – Newhalen – Nondalton (INN) Electric Cooperative owns 50 miles of distribution line connecting the three member communities, and also owns a backup diesel powerhouse in Newhalen.[1212] According to the 2011 AFSC survey, Nondalton community leaders indicated that construction of a new diesel powerhouse and alternative energy sources are currently in progress in their community. Police services are provided by City Hall and state troopers stationed in Iliamna. Nondalton City Hall has a jail holding cell. Local fire and rescue services are provided by the Nondalton First Responders.[1213]

Additional community facilities and services include a school gym, school library, recreation center, and community building.[1214] According to the 2011 AFSC survey, community leaders reported that several facilities are planned to be completed within the next 10 years, including a new community center/library, a police department, emergency response system, and a fire department. Some visitor services are currently available in Nondalton, including taxi service to and from the airport and accommodations at several lodges in the area. Broadband internet and telephone services are provided in Nondalton, but no cable provider currently serves the community.[1215] In the 2011 AFSC survey, community leaders also noted the presence of a post office, a food bank, and publicly subsidized housing in Nondalton.

With regard to fishing-related infrastructure, no docking faculties are currently present in Nondalton. However, community leaders reported in the 2011 AFSC survey that vessels up to 40 ft in length can use beach landing moorage at Nondalton. They also indicated that a barge landing area is in progress, and construction is in process on new dock facilities, including roads and electricity serving the dock. Within the next 10 years, community leaders indicated that water pipes will also be connected to the new dock facility, construction of pilings and a breakwater will be completed, and harbor dredging will take place.

Community leaders also reported that some fisheries-related services are available in Nondalton, including boat repair (electrical, welding, and mechanical services), boat fuel sales, and fishing gear repair. They also noted the presence of fish lodges, and air taxi service facilitating fishing activity. Finally, community leaders reported that Nondalton residents

[1210] Infiltration galleries are a type of well constructed near rivers or ponds to collect infiltrated surface waters. Since the water infiltrates through a layer of soil/sand, it is significantly free from suspended impurities including microorganisms usually present in surface water. (Definition retrieved February 22, 2012 from http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze_Ahmed/Sec_3.htm.)
[1211] See footnote 1204.
[1212] Ibid.
[1213] Ibid.
[1214] Ibid.
[1215] Ibid.

commonly travel to Iliamna to access fisheries-related businesses and services not available in Nondalton.

Medical Services

Local health care is provided by the Nondalton Clinic, which is owned by the City and operated by the Bristol Bay Area Health Corporation. The Nondalton Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by 911 Telephone Service and a health aide. Alternative health care is provided by the Nondalton First Responders.[1216] By air, the nearest hospitals are located in Homer, Soldotna, and Dillingham.

Educational Opportunities

There is one school in Nondalton, which offers preschool through 12th grade instruction. As of 2011, the Nondalton School had a total of 35 students and 5 teachers.[1217]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important for residents of the Iliamna Lake region since prehistory. Commercial exploitation of salmon resources began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, along with several other species harvested in lower volumes.[1218] Subsistence harvest continues to be an important foundation for the local economy in Nondalton,[1219] and tourism related to sportfishing activity has also grown in importance in the Iliamna Lake region,[1220,1221,1222] as outlined in the *Recreational Fishing* section of this profile.

Bristol Bay is the nearest marine area to the community of Nondalton. The Bay is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory

[1216] Ibid.
[1217] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1218] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). *The Commercial Salmon Fishery in Alaska*. Alaska Fisheries Research Bulletin 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1219] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1220] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1221] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1222] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

Area 4E, and Bering Sea Sablefish Regulatory Area. Nondalton is not eligible to participate in the Community Development Quota (CDQ) program or the Community Quota Entity (CQE) program.

According to a survey conducted by the AFSC in 2011, community leaders report that Nondalton actively participates in fisheries management processes in Alaska. They indicated that a Nondalton representative sits on regional fishery advisory and/or working groups run by ADF&G and sends a representative to participate in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process. In addition, they indicated that Nondalton relies on regional organizations to provide information on fisheries management issues. They noted that Nondalton also financially supports research organizations, industry coalitions, and trade associations. In the survey, community leaders also indicated that one challenge for Nondalton's fishing economy is effective taxation of sport fish lodges. In particular, collection of taxes is challenging.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Nondalton. According to ADF&G, however, several processing facilities are located in nearby communities in Bristol Bay, including Naknek, Egegik, and Dillingham.

Fisheries-Related Revenue

Overall, in 2010, the City of Nondalton received $6,984 from fisheries-related taxes and fees. These revenue sources include the Shared Fisheries Business Tax and the Fisheries Resource Landing Tax. Table 3 shows the annual revenue for these categories between 2000 and 2010.[1223] In a survey conducted by the AFSC in 2011, community leaders indicated that roads, water, and wastewater systems are at least partially funded by these fisheries-related revenue sources.

Commercial Fishing

Nondalton is located approximately 100 miles inland from the outlet of the Kvichak River into Bristol Bay. Even though it is not located on the coast, Nondalton's economy is still tied to commercial fishing activities. Between 2000 and 2010, local residents were active in state commercial fisheries, participating as crew license holders, vessel owners, and permit holders. Some Nondalton residents also held federal permits and quota share accounts in federal catch share fisheries between 2000 and 2010. In a survey conducted by the AFSC in 2011, community leaders reported that Nondalton residents primarily participate in the Bristol Bay salmon fishery, which takes place each year between June and August.

In 2010, nine Nondalton residents held a total of nine commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC), all of which were issued for salmon fisheries. Six permits were held for Bristol Bay salmon drift and set gill net fisheries. Of these, two were actively fished in 2010. Nondalton's participation in salmon fisheries decreased

[1223] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

between 2000 and 2010 in terms of both the number of permit holders (from 16 in 2000 to 9 in 2010), the total number of permits held (from 17 in 2000 to 9 in 2010), and the percentage of permits that were actively fished (from 65% in 2000 to 22% in 2010).

It is important to note that several CFEC permits were held in other fisheries between 2000 and 2010. In 2004 and 2005, one permit holder held one permit each year in the statewide halibut longline fishery using vessels under 60 ft in length. The permit was actively fished both years. In 2000 and 2001, one permit holder held one permit each year in the Norton Sound herring roe and food/bait fishery. The permit was actively fished in 2000 only. In addition to CFEC permits, one Nondalton resident held one Federal Fisheries Permit (FFP) per year in 2004 and 2005. The FFP was not actively fished in either year. No federal License Limitation Program permits (LLP) were held in federal groundfish or crab fisheries by Nondalton residents between 2000 and 2010. Information and state and federal fishing permits is presented in Table 4.

In addition to permits, one quota share account in the federal halibut catch share fishery was held by a Nondalton resident in 2004. That year, 77,772 quota shares were held, with an allotment of 10,538 lb of halibut. Between 2000 and 2010, no quota share accounts or quota shares were held by Nondalton residents in federal catch share fisheries for sablefish or crab. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, 6 Nondalton residents held crew licenses, a substantial decrease from 31 licenses held in the year 2000. The number of Nondalton residents that were the primary owner of a fishing vessel fell from eight in 2001 to one between 2006 and 2010. Between 31 and 32 vessels were homeported in Nondalton from 2000 to 2004, and no vessels were homeported there from 2005 to 2010. These characteristics of the commercial fishing sector are presented in Table 5. According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing vessels operating out of Nondalton primarily use gill net and beach seine gear. However, they indicated that at lot fewer commercial fishing boats were present in Nondalton compared to previous years, and that skiffs and larger vessels are increasingly basing out of Port Alsworth, a port located on the southern shore of Lake Clark.

Between 2000 and 2010, information regarding landings and ex-vessel revenue generated by Nondalton vessel owners is considered confidential due to the small number of participants (Table 10). Since no fish buyers or shore-side processing plants were present in Nondalton (Table 5), no ex-vessel revenue was generated in the community between 2000 and 2010 (Table 9). Nondalton vessel owners delivered their catches elsewhere.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Nondalton: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	$3,008	$5,297	$4,534	$8,216	$3,263	$3,900	$4,710	$5,683	$5,379	$6,745	$6,541
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$25	$65	$247	$414	$443
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$3,008*	*$5,297*	*$4,534*	*$8,216*	*$3,263*	*$3,900*	*$4,735*	*$5,748*	*$5,625*	*$7,160*	*$6,984*
Total municipal revenue[5]	*$142,597*	*$103,574*	*$130,276*	*$182,803*	*$197,136*	*$180,453*	*$351,871*	*$440,408*	*$546,270*	*$519,412*	*$665,153*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Nondalton: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished											
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits [1]	Total permits	0	0	0	0	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	0%	0%	-	-	-	-	-
	Total permit holders	0	0	0	0	1	1	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	1	1	0	0	0	0	0
	% of permits fished	-	-	-	-	100%	100%	-	-	-	-	-
	Total permit holders	0	0	0	0	1	1	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	1	0	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	-	-	-	-	-	-	-	-	-
	Total permit holders	1	1	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Nondalton: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	17	14	13	10	12	13	11	10	10	9	9
	Fished permits	11	6	5	3	5	4	3	3	3	2	2
	% of permits fished	65%	43%	38%	30%	42%	31%	27%	30%	30%	22%	22%
	Total permit holders	16	15	13	11	11	13	11	11	10	9	9
Total CFEC Permits[2]	*Permits*	*18*	*15*	*13*	*10*	*13*	*14*	*11*	*10*	*10*	*9*	*9*
	Fished permits	*12*	*6*	*5*	*3*	*6*	*5*	*3*	*3*	*3*	*2*	*2*
	% of permits fished	*67%*	*40%*	*38%*	*30%*	*46%*	*36%*	*27%*	*30%*	*30%*	*22%*	*22%*
	Permit holders	*17*	*16*	*13*	*11*	*11*	*13*	*11*	*11*	*10*	*9*	*9*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Nondalton: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Nondalton[2]	Total Net Lb Landed In Nondalton[2,5]	Total Ex-Vessel Value Of Landings In Nondalton[2,5]
2000	31	0	0	5	32	0	0	$0
2001	13	0	0	8	32	0	0	$0
2002	4	0	0	7	33	0	0	$0
2003	15	0	0	7	33	0	0	$0
2004	13	0	0	5	31	0	0	$0
2005	10	0	0	2	0	0	0	$0
2006	16	0	0	1	0	0	0	$0
2007	12	0	0	1	0	0	0	$0
2008	10	0	0	1	0	0	0	$0
2009	11	0	0	1	0	0	0	$0
2010	6	0	0	1	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Nondalton: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	1	77,772	10,538
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Nondalton: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Nondalton: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Nondalton: 2000-2010.

	***Total Net Pounds*[1]**										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Nondalton Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
Total[2]	-	-	-	-	-	-	-	-	-	-	-
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
Total[2]	-	-	-	-	-	-	-	-	-	-	-

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net lb refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Sportfishing and hunting have become important to the local economy in the Six Mile Lake and Lake Clark area. Some Nondalton residents work as fishing guides.[1224] Numerous sportfishing and hunting lodges are present along the Newhalen River.[1225] Lodges near Nondalton include the Newhalen Lodge and Valhalla Lodge.[1226] Although sport fish businesses are present throughout the area, only a small number are located in the City of Nondalton itself. There were no active sport fish guide businesses in Nondalton between 2000 and 2010. However, a small number of licensed sport fish guides was present during this period.

From 2000 to 2010, Nondalton residents purchased between 13 and 27 sportfishing licenses per year (irrespective of point of sale), and no sportfishing licenses were sold in the community itself. This indicates that the sportfishing sector in Nondalton is linked to other communities in the region, including nearby Iliamna and regional hubs such as Naknek/King Salmon. The City of Iliamna, located approximately 15 miles south of Nondalton, had between 7 and 18 licensed guides per year between 2000 and 2010, and fishing licenses are sold in the City (see the community profile for Iliamna for more information). Iliamna Lake attracts a large number of recreational fishermen each year to participate in the trophy rainbow trout fishery, as well as fisheries for numerous other species including salmon.[1227] According to a survey conducted by the AFSC in 2011, community leaders indicated that the most popular sport species targeted near Nondalton are coho and sockeye salmon.

Community leaders also reported in the 2011 AFSC survey that a majority of recreational fishing activity near Nondalton is made up of non-residents using private boats. Local residents also participate in recreational fishing using private boats. The Alaska Statewide Harvest Survey,[1228] conducted by ADF&G between 2000 and 2010, did not provide information regarding species targeted by private anglers in Nondalton. However, the survey did list species targeted downstream in Iliamna-Newhalen. These species include sockeye salmon, rainbow trout, Dolly Varden, and Arctic grayling. No kept/release log book data were reported for fishing charters out of Nondalton, Iliamna, or Newhalen between 2000 and 2010.[1229]

Nondalton is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at

[1224] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.

[1225] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1226] Nondalton Tribal Council (2006). *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew:Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.

[1227] Alaska Department of Natural Resources (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[1228] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1229] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

this regional scale. Overall between 2000 and 2010, non-Alaska resident anglers fished more angler days than Alaska residents in both freshwater and saltwater. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater during this period, reflective of the large amount of sportfishing related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 between 2000 and 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297. This information about the sportfishing sector in and near Nondalton is also displayed in Table 11.

Table 11. Sport Fishing Trends, Nondalton: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Nondalton[2]
2000	0	3	15	0
2001	0	2	16	0
2002	0	2	13	0
2003	0	3	23	0
2004	0	2	22	0
2005	0	1	18	0
2006	0	1	21	0
2007	0	2	23	0
2008	0	1	21	0
2009	0	0	27	0
2010	0	2	21	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for the AFSC, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for the AFSC, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for the AFSC, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest remains a fundamental aspect of Nondalton's local economy.[1230] In a survey conducted by the AFSC in 2011, community leaders reported that salmon and trout are two of the most important aquatic or marine subsistence resources used by residents of Nondalton, and that bear, moose, and birds are also primary resources. In addition, Arctic grayling, caribou, Dall sheep, rabbit, and porcupine are commonly utilized.[1231] Sockeye salmon returning to Six Mile Lake and Lake Clark have traditionally been an essential subsistence resource, breaking the spring season of hunger for area residents. According to a harvest survey conducted by ADF&G in 2005, 87% of Nondalton households utilized sockeye salmon for subsistence purposes in 2004. Other common freshwater fish species utilized for subsistence by Nondalton residents in 2004 included rainbow trout (63% of households), lake trout (61%), Arctic grayling (55%), humpback whitefish (55%), and northern pike (37%).[1232]

During fieldwork for the 2004 survey of subsistence resource use in Nondalton and surrounding communities, researchers recorded current resource concerns voiced by community members in Nondalton. Local residents' concerns centered around caribou, and particularly the Mulchatna Herd. They expressed concern that local residents cannot compete with fly-in hunters, and that helicopter traffic noise causes caribou to move further from Nondalton. They also expressed the belief that non-local hunters overharvest caribou and moose, waste parts of the carcass, and displace local people. Finally, Nondalton community members voiced concern about possible development of the nearby Pebble Mine. They continue to use traditional trapping and hunting areas around Groundhog Mountain, which could be directly impacted by mining activities.[1233]

According to the same ADF&G survey, 92% of households were estimated to participate in salmon subsistence (all species) in 2004, 37% were estimated to participate in halibut subsistence, 9% in marine invertebrates subsistence, and 48% in non-salmon fish subsistence (other than halibut). The per capita annual subsistence harvest of land- and sea-based resources in Nondalton that year was 367 lb, including 65 lb of marine invertebrates and 5,231 lb of non-salmon fish. An estimate was also available for non-salmon fish in 2003. That year, 79% of Nondalton households were estimated to participated in non-salmon fish subsistence. Information about per capita subsistence harvest and subsistence participation by household and species is presented in Table 12, and some information about marine invertebrates and non-salmon fish is also presented in Table 13.

Nondalton residents harvested relatively few marine invertebrates in 2004, given the distance from the community to marine areas. Of the marine invertebrates harvested, a majority were razor clams. Butter clams, mussels, and crab were also primary species harvested. The species of non-salmon fish harvested by the greatest number of households in Nondalton in 2004 included rainbow trout (61%), lake trout (61%), humpback whitefish (55%), Arctic grayling (55%), Dolly Varden char (34%), northern pike (29%), burbot (26%), and sucker (18%). A

[1230] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1231] Ibid.
[1232] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1233] Ibid.

greater percentage of Nondalton households used many of these resources than were involved in harvesting, which suggests that a sharing network is present in the community. No households reported harvesting marine mammals for subsistence in 2004, although about 8% of households did report receiving gifts of seal meat, revealing that sharing networks extend between communities as well.[1234]

Information about subsistence salmon permits is available for seven years between 2000 and 2008. In the years for which information was reported, the number of subsistence salmon permits issued to Nondalton households varied between 1 and 34. Sockeye was by far the most heavily harvested salmon species in the area. Information about subsistence salmon harvest is presented in Table 13. No information was reported regarding the number of Subsistence Halibut Registration Certificates (SHARC) issued to residents of Nondalton between 2003 and 2010 (Table 14), despite the fact that ADF&G reported 37% of households participating in halibut subsistence in 2004 (Table 12). In addition, no was information reported by management agencies regarding marine mammal harvest by Nondalton residents between 2000 and 2010 (Table 15).

Table 12. Subsistence Participation by Household and Species, Nondalton: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	79%	n/a
2004	92%	37%	n/a	9%	48%	357
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[1234] Ibid.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Nondalton: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lb Of Marine Inverts[2]	Lb Of Non-Salmon Fish[2]
2000	25	19	n/a	n/a	n/a	n/a	12,451	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	1	1	n/a	n/a	n/a	n/a	19	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3,433
2004	41	35	n/a	n/a	n/a	n/a	8,789	65	5,231
2005	34	32	n/a	n/a	n/a	n/a	9,092	n/a	n/a
2006	26	24	n/a	n/a	n/a	n/a	8,885	n/a	n/a
2007	29	26	n/a	n/a	n/a	n/a	7,902	n/a	n/a
2008	28	24	n/a	n/a	n/a	n/a	8,917	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Nondalton: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Nondalton: 2000-2010.

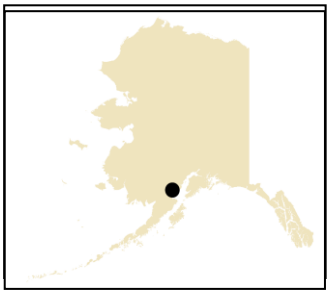
Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.



Pedro Bay (*P-droh*)

People and Place

Location [1235]

Pedro Bay is located on the Alaska Peninsula, at the east end of Iliamna Lake, at the head of Pedro Bay. The town is 176 air miles southwest of Anchorage. Pedro Bay is located in the Iliamna Recording District and the Lake and Peninsula Borough Census Area.

Demographic Profile [1236]

In 2010, there were 42 inhabitants in Pedro Bay, making it the 303rd largest of 352 total Alaskan communities with recorded populations that year. The town first appeared in the U.S. Census records in the 1950 with 44 inhabitants. The population has stayed relatively stable since that time. There was 0% population change overall between 1990 and 2010. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of Pedro Bay increased to 62, then decreased again to 48 by 2009, with an average annual growth rate of 1.95%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that approximately 5 to 15 seasonal workers or transients are present in Pedro Bay each year, especially during summer months (June to September). They also indicated that Pedro Bay's population typically peaks between June and August, and that population fluctuations are mostly driven by fishing activities, with a primarily subsistence focus.

In 2010, a majority of Pedro Bay residents identified themselves as American Indian and Alaska Native (66.7%), along with 28.6% who identified as White, and 4.8% identifying with two or more races. In 2010, no Pedro Bay residents identified themselves as Hispanic. The percentage of the Pedro Bay population made up of White residents decreased by 7.4% between 2000 and 2010. However, these numbers represent an overall increase in the percentage of White residents, from 9.5% in 1990. Likewise, although the percentage of the population that identified themselves as American Indians or Alaska Natives increased by 26.7% between 2000 and 2010, there was an overall decrease from 1990, when 90.5% o f the population identified as American Indian or Alaska Native. These percentage fluctuations may be accentuated due to the low overall population in Pedro Bay. The change in population from 1990 to 2010 is provided in Table 1, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

[1235] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1236] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

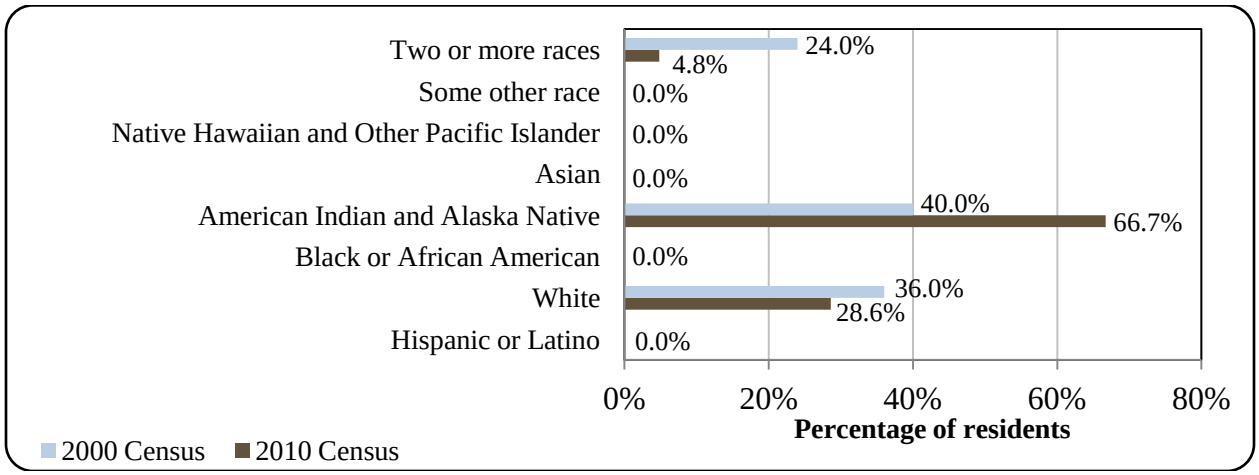
Table 1. Population in Pedro Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	42	-
2000	50	-
2001	-	50
2002	-	46
2003	-	45
2004	-	46
2005	-	62
2006	-	54
2007	-	38
2008	-	44
2009	-	48
2010	42	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Pedro Bay: 2000-2010 (U.S. Census).

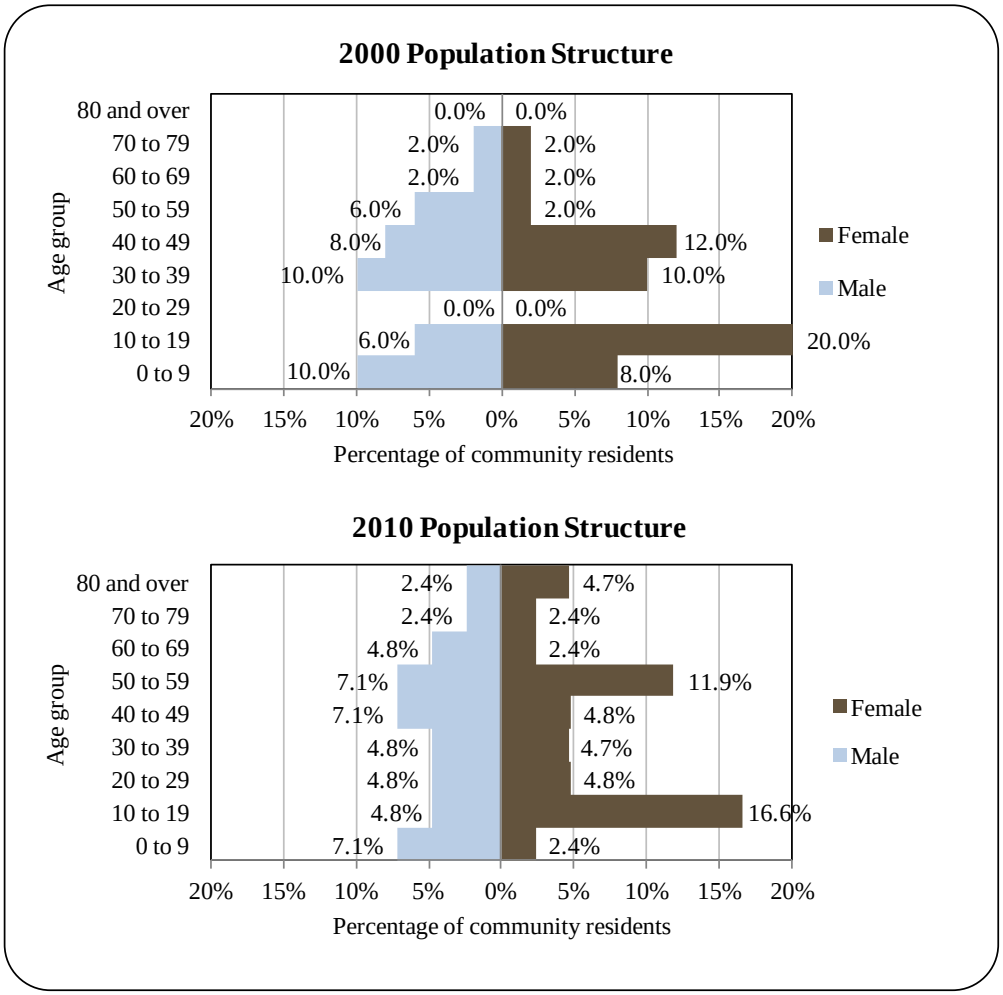


In 2010 the average household size in Pedro Bay was 2.21, a decrease from 2.94 persons per household in 2000 and 2.4 in 1990. The total number of households in Pedro Bay stayed stable over time, with 17 in 1990, 17 in 2000, and 19 occupied housing units in 2010. Of the 33 housing units surveyed for the 2010 U.S. Census, 27.3% were owner-occupied, 30.3% were renter-occupied, and 42.4% were vacant or used only seasonally. Between 1990 and 2010, no residents of Pedro Bay lived in group quarters.

In 2010, the gender makeup in Pedro Bay was 45.2% male and 54.8% female. The greater number of women than men in Pedro Bay is anomalous compared to the population of

Alaska as a whole, which overall has more men than women (52% male, 48% female in 2010). The median age in Pedro Bay was 44.5 years in 2010, higher than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, gender distributions were particularly skewed toward females in the age groups 10-19 and 50-59. There were more males than females in age groups 0-9 and 40-49. In 2010, 19% of Pedro Bay residents were age 60 or older. It is also important to note that no Pedro Bay residents were between the ages of 20 and 29 in 2000. The overall population structure of Pedro Bay in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Pedro Bay Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1237] 61.5% of Pedro Bay residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 0% of residents aged 25 and older were estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 38.5% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 0% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 0% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 38.5% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

The Pedro Bay area has been occupied by humans since prehistory. Two distinct indigenous populations historically inhabited the Iliamna Lake region: the Central Yup'ik Eskimos south and west of the lake, and the Dena'ina Athabascans on the northern and eastern shores. Most communities in the region are mixed between these groups, but Pedro Bay is the only Iliamna Lake community that is inhabited primarily by Athabascans. In the historic period, archaeological evidence indicates Pedro Bay was occupied in the mid-1700s and was subsequently abandoned.[1238] During the Russian period in the early 1800s, the Dena'ina fought with Russian fur traders over trade practices.[1239] In 1906, a man named 'Old Pedro' lived at the site of Pedro Bay, from which the name is derived. Later, in 1935, families from nearby villages began to relocate to Pedro Bay.[1240] A post office was established in the village in 1936.[1241]

Natural Resources and Environment

Pedro Bay lies in a transitional climatic zone with strong maritime influences. Average summer temperatures range from 42 to 62 °F, and winter temperatures range from 6 to 30 °F. Annual rainfall averages 26 inches, with 64 inches of snowfall.[1242] The landscape around Pedro Bay is mountainous, with 4,600 of elevation gain within six miles of the shore of Iliamna Lake. Pedro Bay is located in a dense spruce forest.[1243] Vegetation in many lowland areas in the region

[1237] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1238] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1239] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1240] See footnote 1238.
[1241] See footnote 1239.
[1242] Ibid.
[1243] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

is a mixture of short and tall shrub, with a mix of spruce and broadleaf forest along river corridors. Higher elevation vegetation is characterized by alpine tundra and barrens.[1244]

Lake Clark National Park and Preserve (Preserve) is located north of Pedro Bay, occupying 4 million acres at the north end of the Alaska Peninsula. The Preserve was established to protect scenic beauty, wild rivers and waterfalls, populations of fish and wildlife, watersheds essential for sockeye salmon, and the traditional lifestyle of local residents. Subsistence activities are permitted in the Preserve. The National Park Service works closely with state and federal fish and wildlife management agencies to determine seasons, bag limits, and similar harvest controls. A diversity of fish and wildlife is found in the Preserve, including bears, caribou, moose, wolves, sea mammals, salmon, Arctic char, Arctic grayling, Dolly Varden, northern pike, lake trout, rainbow trout, burbot, and whitefish.[1245]

It is also of note that Iliamna Lake is home to North America's only freshwater population of seals.[1246] Seal numbers consistently range between 150 and 220 during molting season, and some portion of the population over-winters in the Lake. Local subsistence hunters harvest a small number of these seals each year.[1247]

Significant mineral resources are present throughout the Iliamna region. The east end of Iliamna Lake is one of the areas with the highest potential for mineral occurrence in the Lake and Peninsula Borough.[1248] Northwest of Pedro Bay, at the divide between the Koktuli River and Upper Talarik Creek, exploration is underway on the Pebble copper-gold-molybdenum deposit.[1249] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion pounds of copper, 107.3 ounces of gold, and 5.6 billion pounds of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[1250] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1251] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble mine is copper. Dissolved copper is known to be toxic to fish.[1252] If the Pebble Mine is developed, Bristol Bay salmon fisheries could

[1244] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1245] National Park Service. 2011. *Lake Clark National Park & Preserve Management*. Retrieved June 13, 2012 from http://www.nps.gov/lacl/parkmgmt/index.htm.
[1246] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1247] Withrow, David and Kymberly Yano, Jennifer Burns, Courternay Gomez, and Tatiana Askoak. 2011. *Freshwater Harbor Seals of Lake Iliamna, Alaska. Do They Pup and Over-Winter in the Lake?* Poster presented at the 2011 Alaska Marine Science Symposium. Retrieved January 18, 2012 from ftp://ftp.afsc.noaa.gov/posters/pWithrow04_freshwater-seals_2011.pdf.
[1248] See footnote 1246.
[1249] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[1250] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[1251] See footnote 1244.
[1252] See footnote 1249.

be affected.[1253] In a survey conducted by the AFSC in 2011, community leaders expressed concern that development of the Pebble Mine will damage the subsistence way of life.

In the past, the oil and gas industry was interested in the potential for oil and gas development in the eastern Iliamna region. Between 1902 and 1981, 26 onshore exploration wells drilled were drilled on the Alaska Peninsula, but all have been plugged and abandoned.[1254] Offshore in Cook Inlet, the oil and gas industry is very active, with a number of new wells being drilled each year.[1255]

Natural hazards in the Pedro Bay area include risk of wildfire, severe weather, earthquake and volcanic activity, and flooding. Pedro Bay was at the highest risk from wildfire and severe weather. Wildfire was identified as the number one hazard in Pedro Bay because the community is located in a dense spruce forest with many trees that have been killed by spruce bark beetle outbreaks. Water for firefighting is not readily available, and no fire department is present in the community.[1256] With regard to weather, high winds are a particular concern in the community, and the Pedro Bay airport often experiences high wind shear.[1257] Pedro Bay was rated as having a medium risk of earthquakes and volcanic activity, and a low risk of flooding. Many fault lines pass through the Lake and Peninsula Borough, and numerous active volcanoes are present in the Alaska Peninsula. Earthquakes and volcanic activity occur at regular intervals in the area. Flooding in Pedro Bay is a particular problem along the road to the airport, and may be associated with ice jams at culverts on the road. Avalanche hazard is not a threat in the immediate village of Pedro Bay, but is a threat for residents who travel in nearby avalanche zones.[1258]

According to the Alaska Department of Environmental Conservation, one active environmental cleanup site was located in Pedro Bay as of June 2012. A tank farm was located adjacent to the Dena'ina schoolyard in Pedro Bay. Site assessment between 1993 and 1998 found that the storage and distribution of fuel at the site had resulted in extensive soil and groundwater contamination, with the possibility of contamination to migrate to a nearby creek and into Iliamna Lake. In April of 1999, a spill took place within the tank farm. Acute spill response took place in the days following the spill, and further cleanup activities in 1999 included capture and treatment of impacted site groundwater and capping of the site using clean fill soil. In subsequent years, bioremediation techniques were being used to metabolize petroleum contamination. In addition, a groundwater interception and treatment system was being used to treat groundwater at the site and prevent leaching into the creek.[1259]

[1253] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[1254] See footnote 1244.
[1255] Resource Development Council. (n.d.). *Alaska's Oil and Gas Industry*. Retrieved January 26, 2012 from http://www.akrdc.org/issues/oilgas/overview.html.
[1256] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1257] See footnote 1246.
[1258] See footnote 1256.
[1259] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[1260]

Pedro Bay's economy is based around seasonal summer employment in Bristol Bay salmon fisheries and the Iliamna Lake tourism industry. In 2010, three area residents held commercial salmon fishing permits.[1261] In a survey conducted by the AFSC in 2010, community leaders indicated that subsistence fishing and sport hunting and fishing are important foundations of the local economy. Several wilderness lodges operate in Pedro Bay. Most families also depend heavily on subsistence activities, utilizing resources including salmon, trout, moose, bear, rabbit, and seal.[1262] Most families in Pedro Bay and other Iliamna-area communities travel to fish camps along Iliamna Lake's many tributaries during the summer.[1263]

Based on household surveys conducted for the 2006-2010 ACS,[1264] in 2010, the per capita income in Pedro Bay was estimated to be $17,526 and the median household income was estimated to be $40,750. This represents an increase from the per capita and median household incomes reported in the year 2000 ($18,420 and $36,750, respectively). However, if inflation is taken into account by converting 2000 values to 2010 dollars,[1265] real per capita and median household income are both shown to have decreased, from a real per capita income of $24,222 and real median household income of $48,326 in the year 2000. In 2010, Pedro Bay ranked 174th of 305 Alaskan communities with per capita income data that year, and 185th in median household income, out of 299 Alaskan communities with household income data.

Although Pedro Bay's small population size may have prevented the ACS from accurately portraying economic conditions,[1266] additional evidence for a decrease in per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Pedro Bay in 2010 is $14,656.[1267,1268] Despite the apparent decline in per capita income in the community between 2000 and 2010, Pedro Bay was not recognized as "distressed" by the Denali

[1260] Unless otherwise noted, all monetary data are reported in nominal values.
[1261] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1262] Ibid.
[1263] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1264] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1265] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1266] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1267] See footnote 1264.
[1268] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

Commission in 2010.[1269] It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a smaller percentage of Pedro Bay residents was estimated to be in the civilian labor force (47.4%) than was estimated to be in the civilian labor force statewide (68.8%). In the same year, 0% of Pedro Bay residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 0%, compared to a statewide unemployment rate of 5.9%. A very different picture of unemployment is provided by data compiled on the ALARI database, which indicates that a higher than average percentage (22.6%) of the Pedro Bay labor force was unemployed, compared to a statewide unemployment rate estimate of 11.5%.[1270]

Also based on the 2006-2010 ACS, nine people aged 16 and older were estimated to be employed in the civilian labor force. Compared to 2000, this represents a substantial decline in the workforce, from 27 to 9. In addition, it is important to note that many fewer industries and occupations were represented in 2010 than in 2000. In 2010, 6 people (66.7% of the labor force) was estimated to be employed in the public sector, and a majority of the (66.7%) was estimated to be working in information services industries and sales/office occupations. While the concentration of the workforce in fewer industries and occupations may be due to a real population decline in Pedro Bay, it is also important to note that the sampling methods utilized by the U.S. Census Bureau were altered between 2000 and 2010. The shift in sampling methods may also account for some of the differences observed in employment estimates.[1271] It is also important to note that, while none of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010, the number of individuals employed by fishing may be underestimated in census statistics. Fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 25 employed residents in Pedro Bay in 2010, of which 72% were employed in local government, 12% in educational and health services, 4% in natural resources and mining, 4% in professional and business services, 4% in leisure and hospitality, and 4% in other industries.[1272] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[1269] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[1270] See footnote 1268.
[1271] See footnote 1266.
[1272] See footnote 1268.

Figure 3. Local Employment by Industry in 2000-2010, Pedro Bay (U.S. Census).

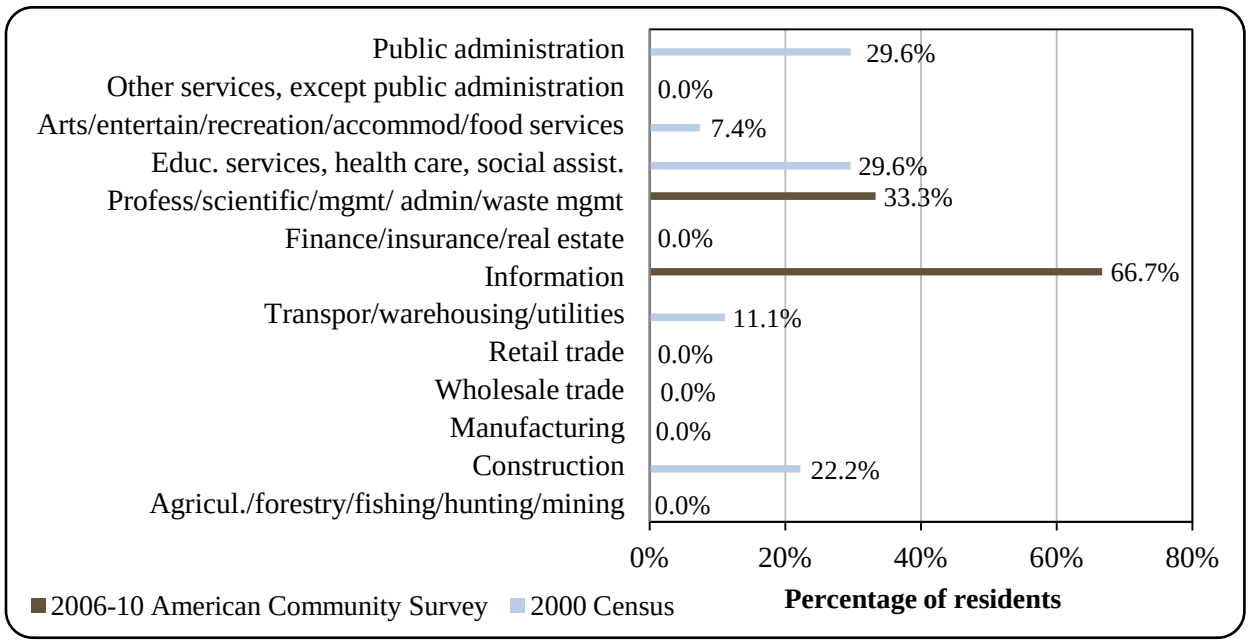
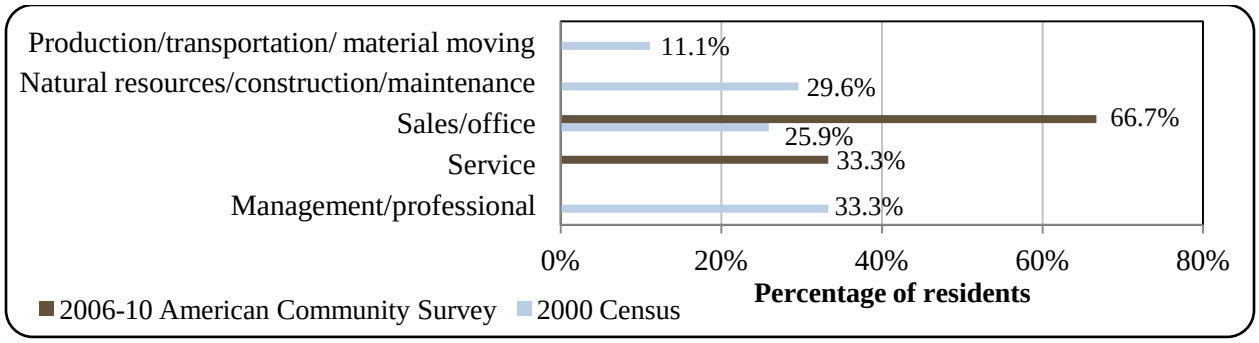


Figure 4. Local Employment by Occupation in 2000-2010, Pedro Bay.



Governance

Pedro Bay is an unincorporated community under the jurisdiction of the Lake and Peninsula Borough. The community does not administer any local taxes, although the Borough does administer a 2% fish tax, 6% bed tax, $3/person per day guide tax, and $1/person per day lodge guide tax.[1273] Given that Pedro Bay is not incorporated, no municipal revenue or municipal sales tax revenue was reported between 2000 and 2010. Pedro Bay did not receive Community or State Revenue Sharing contributions between 2000 and 2010. The community did receive one fisheries-related grant during the period: in 2010, the Denali Commission provided $30,000 for design of the waterfront and a boat launch (Table 2).

[1273] Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved January 24, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Pedro Bay from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	$30,000
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Pedro Bay was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is Pedro Bay Village. The Native village corporation is the Pedro Bay Native Corporation, which manages 97,002 acres of land. The regional Native corporation to which Pedro Bay belongs is the Bristol Bay Native Corporation (BBNC).[1274]

Pedro Bay is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[1275] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[1276]

The closest regional office of the Alaska Department of Fish and Game (ADF&G) is located in King Salmon. The nearest Alaska Department of Natural Resources office is a Division of Parks and Outdoor Recreation office in Homer, and the nearest Alaska Department of Commerce, Community, and Economic Development offices are in Dillingham and

[1274] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1275] Bristol Bay Native Association. (n.d.). *BBNA homepage*. Retrieved November 16, 2011 from www.bbna.com.
[1276] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Anchorage. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices, although the Anchorage office may be more accessible for the people from this area. Anchorage and Kodiak have the closest U.S. Bureau of Citizenship and Immigration Services offices.

Infrastructure

Connectivity and Transportation

Pedro Bay is accessible by air and water. There is a state-owned 3,000 feet long by 60 feet wide gravel airstrip.[1277] Scheduled and charter air service to Pedro Bay is available through Iliamna Air Service, Inc. As of spring 2012, roundtrip flights from Pedro Bay to Anchorage, with a transfer in the regional hub of Iliamna, cost approximately $500.[1278] Barge service is available from Naknek via the Kvichak River. Goods are also sent by barge from Homer to Iliamna Bay on the Cook Inlet side and portaged over a 14-mile road to Pile Bay, a village 10 miles to the east of Pedro Bay.[1279] An unimproved trail, the Iliamna-Pile Bay Trail, runs along the northern shore of Iliamna Lake, connecting Pile Bay to Pedro Bay and the communities of Iliamna and Newhalen to the west.[1280]

The existing road between Cook Inlet and Pile Bay is used for the transport of fishing vessels from winter retrofitting in Homer to summer fishing grounds in Bristol Bay and back. It is also often the only route by which heavy equipment can reach the Iliamna area. The road has not been adequately maintained. It is narrow in places and several bridges need to be replaced. Improvements to this transportation link were identified as a priority in the 2011 Lake and Peninsula Borough Coastal Management Plan.[1281]

Facilities

Water in Pedro Bay is derived from Iliamna Lake and individual wells. Most of the occupied homes in Pedro Bay use individual wells and septic tank systems. Water is also derived directly from Iliamna Lake. Some households use honeybuckets or outhouses. There is no piped water or sewer system in the community, but the Village Council does operate a sewage lagoon for sewage treatment and offers honeybucket hauling and septic pumping services. The Village Council also operates a landfill and provides refuse collection services. According to a survey conducted by the AFSC in 2011, community leaders reported that a road is currently being constructed to a new landfill site which is scheduled to be completed starting in 2012. An aluminum recycling program is organized by the local school. Electricity is provided to Pedro Bay from a diesel powerhouse owned and operated by the Village Council.[1282] In the future, Pedro Bay could be connected to distribution of hydroelectric power from the Tazamina

[1277] See footnote 1274.
[1278] Personal communication, Iliamna Air Service Inc., March 15, 2012.
[1279] See footnote 1274.
[1280] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1281] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1282] See footnote 1274.

Hydroelectric Project, which currently serves the communities of Iliamna, Newhalen, and Nondalton.[1283] Additional community facilities and services in Pedro Bay include a school library, post office, and emergency response services provided by the Pedro Bay First Responders. No police services are provided locally.[1284] The nearest state trooper post is located in the City of Iliamna.[1285] Telephone service is available in Pedro Bay. No cable providers offer service locally. Internet is available at the school only.[1286] According to the 2011 AFSC survey, community leaders reported that fiber optic cables are in development.

Regarding fisheries-related facilities, community leaders reported in the 2011 AFSC survey that there are no dock facilities in Pedro Bay. They indicated that residents tie boats of up to 20 feet in length on the shore. The community cannot accommodate larger vessels, and no commercial fishing boats are moored in Pedro Bay. They did indicated the presence of haul-out facilities, and that plans were underway to construct a barge landing area, and to provide roads and electricity serving boat landing areas. Community leaders also reported that Pedro Bay residents travel to Anchorage, Dillingham or Iliamna to access fisheries-related businesses and services not available locally.

Medical Services

Local hospitals or health clinics include the Pedro Bay Clinic. The clinic is a Community Health Aide Program site. Emergency Services have lake and air access. Emergency services are provided by a health aide, and alternate health care is provided by the Pedro Bay First Responders.[1287] The nearest hospital is located in Homer.

Educational Opportunities

There is one school in Pedro Bay, the Dena'ina School. The school offers a pre-school through 12th grade education. As of 2011, no students were enrolled in the Dena'ina School, and one teacher was employed.[1288] According to a survey conducted by the AFSC in 2011, community leaders reported that the school closed in November, 2010.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important for residents of the Iliamna Lake region since prehistory. Commercial exploitation of salmon resources began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of

[1283] See footnote 1281.
[1284] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1285] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[1286] See footnote 1284.
[1287] Ibid.
[1288] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

the Bristol Bay region, along with several other species harvested in lower volumes.[1289] Subsistence harvest continues to be an important foundation for the local economy in Pedro Bay, and some residents are also involved in commercial salmon fisheries. Several sportfishing lodges are located in Pedro Bay as well.[1290]

Cook Inlet is the nearest marine area to the community of Pedro Bay. The Inlet is encompassed by Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf of Alaska Sablefish Regulatory Area. In addition, Bristol Bay, the area where most Pedro Bay residents engage in commercial fishing activity, is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Pedro Bay is not eligible to participate in either the Community Development Quota program or the Community Quota Entity program. According to a survey conducted by the AFSC in 2011, community leaders reported that Pedro Bay engaged in the fisheries management process in Alaska through sending a representative to sit on regional fisheries advisory and/or working groups run by ADF&G.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Pedro Bay. According to the list, processing facilities were located in Bristol Bay communities including Dillingham, Egegik, and Naknek, as well as Cook Inlet communities including Homer, Kenai, and Nikiski.

Fisheries-Related Revenue

No data were reported about fishing-related revenue received by the community of Pedro Bay from municipal, state or federal sources (Table 3).

Commercial Fishing

Pedro Bay is an inland community, located on the eastern shore of Iliamna Lake. Pedro Bay residents primarily utilize fisheries resources for subsistence purposes, but some residents also engage in commercial fishing activity. In a survey conducted by the AFSC in 2011, community leaders reported that Pedro Bay residents primarily participate in the Bristol Bay fishery for sockeye salmon between July 1st and August 31st each year. In 2010, three Pedro Bay residents held state Commercial Fisheries Entry Commission (CFEC) permits for the set gillnet salmon fishery in Bristol Bay. Of these, two were actively fished in 2010. No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Pedro Bay residents between 2000 and 2010. This permit information is presented in Table 4. Between 2000 and 2010, no quota share accounts or quota shares were held by Pedro Bay residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

Also in 2010, no Pedro Bay residents held commercial crew licenses, and no residents were the primary owner of a fishing vessel (Table 5). These numbers represent a decline from

[1289] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1290] See footnote 1284.

the year 2000, when five Pedro Bay residents held crew licenses and nine residents were the primary owner of a fishing vessel. In 2010, no fishing vessels were homeported in Pedro Bay. According to the 2011 AFSC survey, local residents use boats of up to 20 feet in length, and larger vessels cannot be accommodated in the community, although ADF&G did report some vessels as homeported there between 2000 and 2009 (Table 5).

Given the lack of fish buyers or shore-side fish processors in Pedro Bay (Table 5), no landings or ex-vessel revenue information was reported for the community (Table 9). Pedro Bay vessel owners and permit holders delivered their catches elsewhere between 2000 and 2010. Information regarding landings and ex-vessel revenue generated by vessel owners residing in Pedro Bay is considered confidential between 2000 and 2004 due to the small number of participants, and no vessel owners were present in the community between 2005 and 2010 (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Pedro Bay: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Pedro Bay: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Pedro Bay: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	3	3	2	3	3	3	3	2	3	3	3
	Fished permits	3	3	1	3	3	2	3	2	3	3	2
	% of permits fished	100%	100%	50%	100%	100%	67%	100%	100%	100%	100%	67%
	Total permit holders	3	3	2	3	3	3	3	2	3	3	3
Total CFEC Permits[2]	*Permits*	*3*	*3*	*2*	*3*	*3*	*3*	*3*	*2*	*3*	*3*	*3*
	Fished permits	*3*	*3*	*1*	*3*	*3*	*2*	*3*	*2*	*3*	*3*	*2*
	% of permits fished	*100%*	*100%*	*50%*	*100%*	*100%*	*67%*	*100%*	*100%*	*100%*	*100%*	*67%*
	Permit holders	*3*	*3*	*2*	*3*	*3*	*3*	*3*	*2*	*3*	*3*	*3*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Pedro Bay: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Pedro Bay[2]	Total Net Pounds Landed In Pedro Bay[2,5]	Total Ex-Vessel Value Of Landings In Pedro Bay[2,5]
2000	5	0	0	9	11	0	0	$0
2001	2	0	0	9	12	0	0	$0
2002	2	0	0	13	15	0	0	$0
2003	3	0	0	11	13	0	0	$0
2004	1	0	0	13	14	0	0	$0
2005	1	0	0	0	1	0	0	$0
2006	0	0	0	0	1	0	0	$0
2007	1	0	0	0	1	0	0	$0
2008	1	0	0	0	1	0	0	$0
2009	2	0	0	0	0	0	0	$0
2010	0	0	0	0	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Pedro Bay: 2000-2010.

Year	Number of Halibut Quota Share Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Pedro Bay: 2000-2010.

Year	Number of Sablefish Quota Share Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Pedro Bay: 2000-2010.

Year	Number of Crab Quota Share Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Pedro Bay: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Pedro Bay Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	0	0	0	0	0	0
Finfish	-	-	-	-	-	0	0	0	0	0	0
Halibut	-	-	-	-	-	0	0	0	0	0	0
Herring	-	-	-	-	-	0	0	0	0	0	0
Other Groundfish	-	-	-	-	-	0	0	0	0	0	0
Other Shellfish	-	-	-	-	-	0	0	0	0	0	0
Pacific Cod	-	-	-	-	-	0	0	0	0	0	0
Pollock	-	-	-	-	-	0	0	0	0	0	0
Sablefish	-	-	-	-	-	0	0	0	0	0	0
Salmon	-	-	-	-	-	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Finfish	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Halibut	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Herring	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Other Groundfish	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Other Shellfish	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Pacific Cod	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Pollock	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Sablefish	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Salmon	-	-	-	-	-	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Although active sport fish guide businesses were only present in Pedro Bay in a few years during the 2000-2010 period, licensed sport fish guides were present in all years. The number of licensed guides present in the community varied between two and eight per year. Pedro Bay residents purchased between 7 and 19 sport fish licenses per year. The number of licenses sold in Pedro Bay was consistently larger, varying between 101 and 174 per year. This indicates that sportfishing activities are a tourism draw in Pedro Bay. This information about the sportfishing sector is presented in Table 11.

In a survey conducted by the AFSC in 2011, community leaders reported that residents use private boats for sportfishing, and sportfishing lodges are also present in the area. Community leaders also indicated that sockeye, chinook, and pink salmon are the primary

species targeted by recreational fishermen in the area. The Alaska Statewide Harvest Survey,[1291] conducted by ADF&G between 2000 and 2010, also noted sockeye salmon as the primary recreational target of Pedro Bay sport fishermen. No kept/release log book data were reported for fishing charters out of Newhalen between 2000 and 2010.[1292]

Pedro Bay is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, non-Alaska resident anglers fished more angler days than Alaska residents in both freshwater and saltwater. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater during this period, reflective of the large amount of sportfishing related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 from 2000 to 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297. This information about the sportfishing sector in and near Pedro Bay is also displayed in Table 11.

Table 11. Sport Fishing Trends, Pedro Bay: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Pedro Bay[2]
2000	0	6	14	122
2001	0	6	13	125
2002	0	4	14	106
2003	0	4	7	101
2004	0	3	12	132
2005	1	2	17	174
2006	1	6	16	154
2007	1	7	19	172
2008	1	8	16	156
2009	0	5	12	160
2010	1	3	7	108

[1291] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1292] Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11 cont'd. Sport Fishing Trends, Pedro Bay: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

In a survey conducted by the AFSC in 2011, community leaders indicated that the local economy is largely based on subsistence fishing and hunting for salmon, seal, moose, and other resources, and commercial fishing is less important for the community. Community leaders also expressed concern that development of the Pebble Mine may threaten the subsistence way of life. The ADF&G also recorded community concerns during fieldwork for a 2004 survey of subsistence resource use in Pedro Bay and surrounding communities. They noted local residents' concerns about overharvest of Dolly Varden char in the sport fishery and the impact of motorized boat traffic on stream habitat. In addition, they expressed concern that the Pile River moose herd is declining due to increasing wolf and bear populations.[1293]

Pedro Bay residents reported using the eastern third of Iliamna Lake and the area as far inland to the north as Sixmile Lake for subsistence purposes. In addition to salmon, Pedro Bay residents harvested freshwater including northern pike, rainbow trout, Dolly Varden char, lake

[1293] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.

trout, and Arctic grayling. Lake trout and Dolly Varden char are taken in the greatest quantities. Pedro Bay residents also hunt harbor seal for subsistence.[1294]

Results of the 2004 ADF&G subsistence survey indicate that every household in Pedro Bay successfully harvested at least one subsistence resource in 2004. Data show that the entire population of Pedro Bay is active in its subsistence pursuits, involving young people as well as adults, although local residents expressed fears that decreasing abundance of fish and wildlife resources would discourage younger people from fully embracing the subsistence way of life.[1295] In 2004, 100% of households participated in salmon subsistence, 72% participated in halibut subsistence, and 56% participated in non-salmon fish subsistence (not including halibut). A 2003 estimate of non-salmon fish subsistence participation suggested a higher rate of participation of 84%. No information was reported by ADF&G regarding participation in marine invertebrate or marine mammal subsistence by residents of Pedro Bay during the 2000-2010 period. This information is presented in Table 12.

Per capita, Pedro Bay residents were estimated to harvested 305 pounds of land and sea-based subsistence resources in 2004 (Table 12). ADF&G also reported estimates of total non-salmon fish harvest in 2003 (831 pounds) and 2004 (963 pounds) (Table 13). According to results of the ADF&G subsistence survey, the species of non-salmon fish that were harvested by the greatest number of households in Pedro Bay in 2004 included Dolly Varden char, rainbow trout, northern pike, lake trout, steelhead, cod, and rockfish.[1296]

Information was available regarding total subsistence salmon harvest for seven years between 2000 and 2008. During this period, the number of subsistence salmon permits issued to Pedro Bay households varied between 1 and 22. Sockeye salmon was by far the most heavily harvested salmon species in the area. For those years in which data were reported, an average of 3,641 sockeye was harvested per year. This information is presented in Table 13.

No information was reported regarding the number of Subsistence Halibut Registration Certificates (SHARC) issued to residents of Pedro Bay between 2003 and 2010 (Table 14), despite the fact that ADF&G reported a high percentage of households participating in halibut subsistence in 2004 (Table 12). This may be due to the fact that only 6% of Pedro Bay households reported harvesting halibut directly, given the long distance they must travel to access saltwater fisheries, while 67% of households received halibut through subsistence sharing networks.[1297] Likewise, no information was reported by management agencies regarding subsistence harvest of marine mammals by residents of Pedro Bay (Table 15), although harbor seals are a known subsistence resource locally.

[1294] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1295] See footnote 1293.
[1296] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[1297] See footnote 1293.

Table 12. Subsistence Participation by Household and Species, Pedro Bay: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	84%	n/a
2004	100%	72%	n/a	n/a	56%	305
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Pedro Bay: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	10	10	n/a	n/a	n/a	n/a	1,815	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	1	1	n/a	n/a	n/a	n/a	20	n/a	831
2004	22	20	n/a	n/a	n/a	n/a	4,803	n/a	963
2005	16	15	n/a	n/a	n/a	n/a	4,162	n/a	n/a
2006	21	18	n/a	n/a	n/a	n/a	4,319	n/a	n/a
2007	19	15	n/a	n/a	n/a	n/a	5,487	n/a	n/a
2008	18	17	n/a	n/a	n/a	n/a	4,884	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Pedro Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Pedro Bay: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Perryville

People and Place

Location [1298]

Perryville is located on the south coast of the Alaska Peninsula near the outlet of the Kametolook River, 275 miles southwest of Kodiak and 500 miles southwest of Anchorage. Perryville is located in the Aleutian Islands Recording District and the Lake and Peninsula Borough Census Area.

Demographic Profile [1299]

In 2010, there were 113 inhabitants in Perryville, making it the 234th largest of 352 total Alaskan communities with recorded populations that year. Perryville first appeared in U.S. Census records in 1920 with 85 inhabitants. Overall between 1990 and 2010, the population of Perryville stayed relatively stable, increasing by 4.6%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 14%, with an average annual growth rate of 2.21%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that approximately six seasonal workers or transients are present in Perryville between June and August, and the greatest number of residents is generally present in September. They also indicated that population fluctuations are mostly driven by employment in fishing sectors.

In 2010, a majority of Perryville residents identified themselves as American Indian and Alaska Native (95.6%), 2.7% identified themselves as White, and 1.8% identified with two or more races. That year, 2.7% of Perryville residents also identified themselves as Hispanic. Compared to 2000, individuals identifying as American Indian and Alaska Native made up 1.6% less of the population in 2010, while residents identifying as White or two or more races made up 0.8% more of the population than in 2000. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Perryville decreased over time, from 3.4 persons per household in 1990 to 3.24 per household in 2000, and 2.97 in 2010. The number of households in Perryville increased slightly over time, from 31 occupied households in 1990 and 33 in 2000, to 38 occupied housing units in 2010. Of the 50 total housing units surveyed for the 2010 U.S. Census, 54% were owner-occupied, 22% were rented, and 24% were vacant or used only seasonally. Between 1990 and 2010, no residents of Perryville lived in group quarters.

[1298] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1299] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

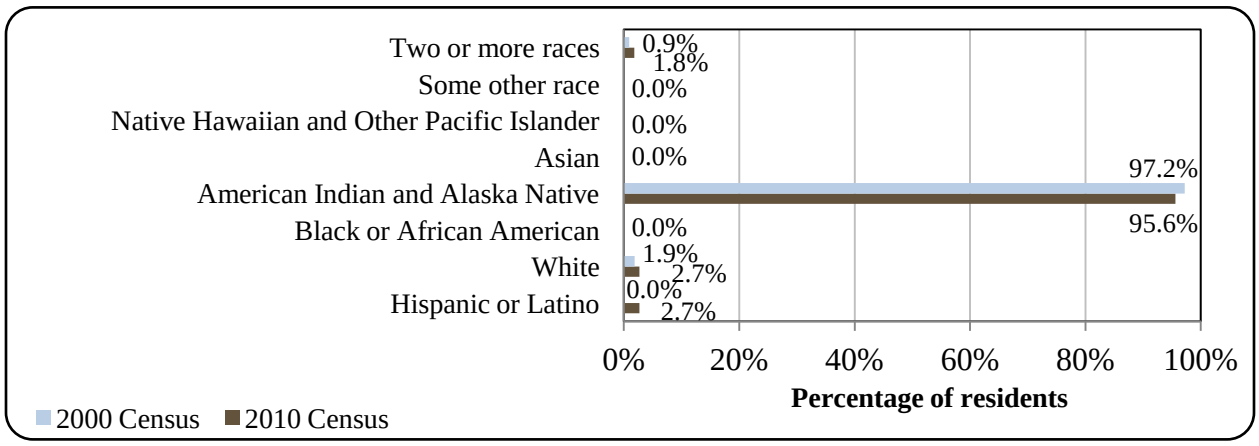
Table 1. Population in Perryville from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	108	-
2000	107	-
2001	-	114
2002	-	111
2003	-	106
2004	-	110
2005	-	114
2006	-	120
2007	-	117
2008	-	132
2009	-	122
2010	113	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

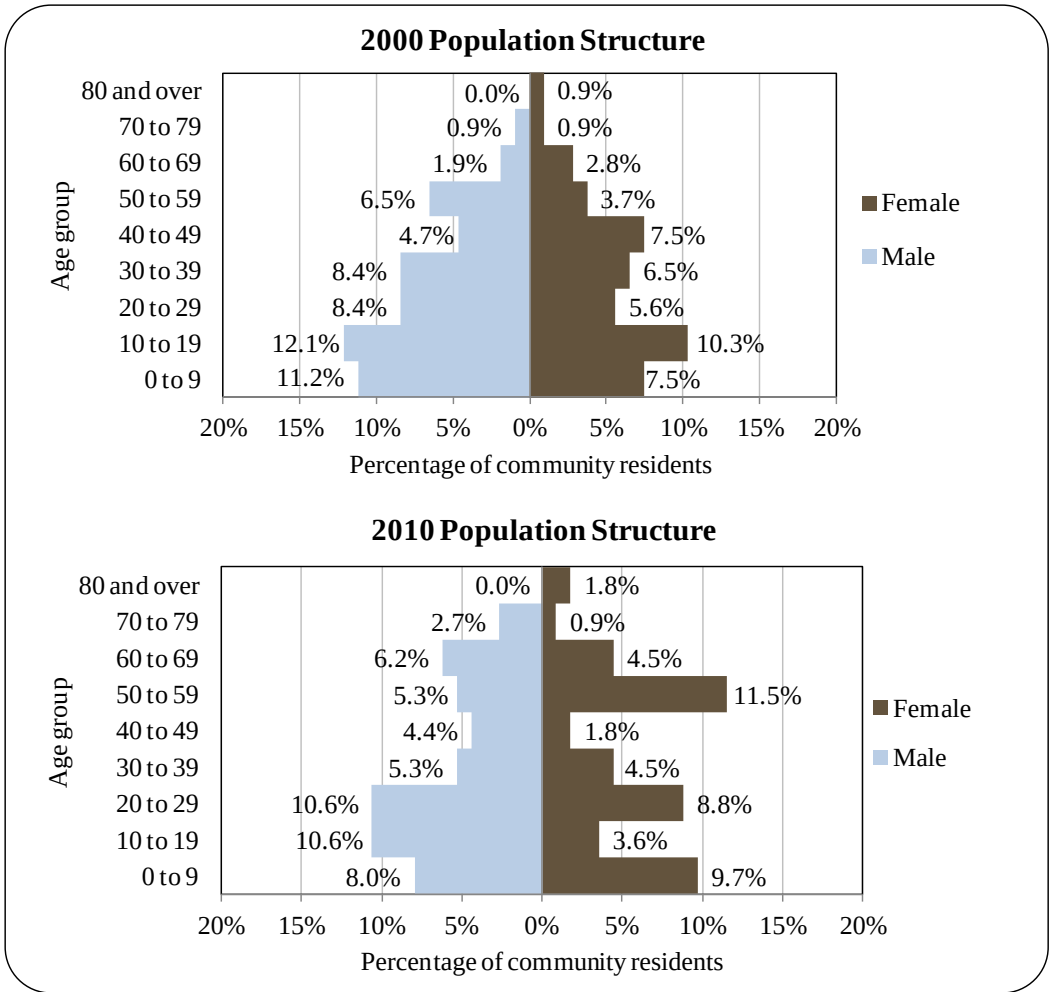
Figure 1. Racial and Ethnic Composition, Perryville: 2000-2010 (U.S. Census).



In 2010, the gender makeup of Perryville's population (53.1% male and 46.9% female) was slightly more weighted toward males than the population of Alaska as a whole, which was 52% male and 48% female. The median age of Perryville residents was 27.8 years, younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 16% of Perryville's population was between 60 and 69 years of age, and no one was over 70. The overall population structure of Perryville in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1300] 68.1% of Perryville residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 29.8% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 2.1% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 0% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 4.3% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

Figure 2. Population Age Structure in Perryville Based on the 2000 and 2010 U.S. Decennial Census.



[1300] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

Archaeological evidence suggests that Aleut (Unanga and Alutiiq) peoples have occupied the Alaska Peninsula for approximately 9,000 years.[1301,1302] Subsistence harvest of marine mammals and salmon has historically been of primary importance for the Aleut, and today salmon, Pacific halibut, octopus, shellfish, seal, and sea lion are an important part of the subsistence diet, along with some harvest of land mammals.[1303]

The community of Perryville was founded in 1912 as a refuge for Alutiiq people driven away from their villages by the eruption of Mt. Katmai. Many villagers from Douglas and Katmai, two Alutiiq villages on the southern coast of the Peninsula near present day Katmai National Park and Preserve, survived the eruption because they were out fishing at the time. Captain Perry of the ship "Manning" transported people from the Katmai area to Ivanof Bay and later to the new village site. The village was originally called "Perry," but the "ville" was added to conform to the name of the post office, which was established in 1930. The village maintains an Alutiiq culture and a subsistence lifestyle.[1304]

Natural Resources and Environment

Perryville's maritime climate is characterized by cool summers, warm winters, and rainy weather. Average summer temperatures range from 39 to 60 °F; winter temperatures average 21 to 50 °F. Low clouds, rain squalls, fog, and snow showers frequently limit visibility. Average annual precipitation is 127 inches, with 58 inches of snow.[1305] Local topography is steep, rugged, and mountainous, with headlands that jut into the ocean. Mt. Veniaminof is Perryville's backdrop, an active volcano that rises to an elevation of 7,075 feet within 30 miles of the coast.[1306]

Perryville is located within the boundaries of the Alaska Peninsula National Wildlife Refuge (NWR), which extends as far west as False Pass and east beyond Chignik Bay, and includes a separate unit south of Ugashik. Between the two units of the Alaska Peninsula NWR lies Aniakchak National Monument and Preserve, and, extending along the southern coast of the Peninsula, the Alaska Maritime NWR, which stretches from the Aleutian Islands to the Southeast Alaska Panhandle. All three protected areas were formed under the Alaska National Interest Land Conservation Act (ANILCA) of 1980.

The 3.7 million acre Alaska Peninsula NWR hosts a dramatic landscape of towering mountain peaks, including a number of active volcanoes, rolling tundra, and rugged coastlines. Salmon return to the rivers of the Alaska Peninsula NWR, supporting brown bear populations.

[1301] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

[1302] WHPacific. 2010. *Aleutians East Multi-Jurisdictional/Multi-Hazard Mitigation Plan.* Retrieved December 7, 2011 from: http://www.aleutianseast.org/.

[1303] Alaska Native Heritage Center. (n.d) *The Unangax & Alutiiq (Supiaq) People - Who We Are*. Retrieved January 4, 2012 from http://www.alaskanative.net/en/main_nav/education/culture_alaska/unangax/.

[1304] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1305] Ibid.

[1306] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

Other land mammals include wolverine, the 7,000-animal Northern Alaska Peninsula caribou herd, wolves, and moose. It is of note that no black bears are found in the Alaska Peninsula NWR. Marine mammals living along the coastline include sea otters, harbor seals, sea lions, and migrating whales. The Alaska Peninsula NWR also provides important habitat for migrating birds.[1307]

The Alaska Maritime NWR hosts a similar array of species in the Alaska Peninsula region. However, it contains a greater diversity overall, as it stretches from the tip of the Aleutian Islands to the Southeast Alaska Panhandle, and includes St. Matthew Island in the Bering Sea, Hagemeister Island in northern Bristol Bay, and two units bordering the Chukchi Sea. It was created in part to promote a program of scientific research on marine ecosystems. The Alaska Maritime NWR "protects breeding habitat for seabirds, marine mammals, and other wildlife on more than 2,500 islands, spires, rocks, and coastal headlands."[1308]

Aniakchak National Monument and Preserve was established to recognize the unique geological significance of a six-mile wide, 2,500 feet deep caldera formed by a massive eruption that took place 3,500 years ago. The explosion caused the loss of approximately 3,000 feet of the upper mountain. The Aniakchak volcano was last active in 1931, when a small explosion pockmarked the caldera floor.[1309]

This National Monument calls attention to the highly active tectonic zone in which Perryville is located. The Alaska Peninsula and Aleutian Island chain form part of the Pacific "Ring of Fire," one of the most active earthquake areas in the world.[1310] Some of these earthquakes are associated with explosive volcanic eruptions.[1311] Indeed, the original inhabitants of Perryville were relocated to the site after the 1912 explosion of the Mt. Katmai/Novarupta volcano destroyed the villages of Katmai and Douglas further northeast along the Alaska Peninsula.[1312]

The Perryville and Chignik region has at least 49 identified occurrences of base and precious metal deposits, as well as the Chignik and Herendeen Bay coalfields. Estimates of coal resources range from 200 million to 3 billion short tons. Reserves of oil and natural gas are thought to be present on the outer continental shelf (OCS) in the Bristol Bay Basin along the northern edge of the Aleutian Islands and Alaska Peninsula.[1313] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010, Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1314] On March 31, 2010, President Obama withdrew

[1307] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge*. Retrieved March 23, 2012 from http://www.fws.gov/refuges/profiles/index.cfm?id=74512.
[1308] U.S. Fish and Wildlife Service (n.d.). *Alaska Maritime National Wildlife Refuge.* Retrieved January 4, 2012 from http://alaskamaritime.fws.gov/.
[1309] National Park Service. 2011. *Aniakchak National Monument & Preserve*. Retrieved March 23, 2012 from http://www.nps.gov/ania/.
[1310] Sykes, Lynn R., Jerome B. Kisslinger, Leigh House, John N. Davies and Klaus H. Jacob. 1980. "Rupture Zones and Repeat Times of Great Earthquakes along the Alaska-Aleutian Arc, 1784-1980." *Science* 19 December 1980, Vol. 210 no. 4476 pp. 1343-1345.
[1311] U.S. Geological Survey. 1998. "Can Another Great Volcanic Eruption Happen in Alaska?" Retrieved December 5, 2011 from http://volcanoes.usgs.gov/about/publications/factsheets.php.
[1312] See footnote 1304.
[1313] See footnote 1306.
[1314] Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.

the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, for both exploratory or production purposes, through 2017.[1315] The Proposed OCS Oil & Gas Leasing Program for 2012-2017 does not include any lease sales adjacent to National Monument or NWR boundaries along the Alaska Peninsula. The Alaska Peninsula Unit of the Alaska Maritime NWR has been identified as an area of special concern, in which a large oil spill could have negative impacts on coastal habitats and fauna, and could affect subsistence use, commercial or recreational fisheries, and tourism.[1316]

A hazard analysis conducted for communities in the Lake and Peninsula Borough determined that Perryville is at high risk of tsunami, volcanic activity, and severe weather, and at medium risk of earthquake and wildfire.[1317] According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Perryville as of October, 2012.[1318]

Current Economy[1319]

According to a survey conducted by the AFSC in 2011, community leaders indicated that the local community is dependent on commercial fishing, as well as the sport hunting and fishing industries. During the summer, they indicated that a majority of Perryville residents leave town to fish in the Chignik salmon fishery. In 2000, the number of Perryville residents holding state fishing permits was equal to 11% of the total local population, and the number of crew license holders was equal to 27%. These numbers declined to 7% and 13% of the local population by 2010, respectively. Some local residents trap during the winter, and all rely heavily on subsistence food sources. Salmon, trout, marine fish, crab, clams, moose, caribou, bear, porcupine, and seal are harvested. Only a few year-round jobs are available in Perryville.[1320] In 2010, top employers in Perryville included the school, local government, regional housing, health, and other community services, and telecommunications.[1321]

Based on household surveys for the 2006-2010 ACS,[1322] in 2010, the per capita income in Perryville was estimated to be $9,351 and the median household income was estimated to be $23,750. This represents a large decrease from the per capita and median household incomes

[1315] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1316] U.S. Dept. of the Interior, Minerals Management Service. November, 2011. *Proposed Outer Continental Shelf Oil and Gas Leasing Program 2012-2017*. Retrieved February 2, 2012 from http://www.boem.gov/uploadedFiles/Proposed_OCS_Oil_Gas_Lease_Program_2012-2017.pdf.
[1317] Lake and Peninsula Borough. 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1318] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved October 18, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1319] Unless otherwise noted, all monetary data are reported in nominal values.
[1320] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1321] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1322] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

reported in the year 2000 ($20,935 and $51,875, respectively). The decrease is even greater if inflation is taken into account by converting the 2000 values to 2010 dollars,[1323] revealing a real per capita income in 2000 of $27,529 and a real median household income of $68,215. In 2010, Perryville ranked 283rd of 305 Alaskan communities with per capita income data, and 264th in median household income, out of 299 Alaskan communities with household income data that year.

Although Perryville's small population size may have prevented the ACS from accurately portraying economic conditions,[1324] additional evidence for an even larger decrease in per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Perryville in 2010 is $5,543.[1325] This is lower than the 2006-2010 ACS estimate, providing additional evidence that per capita income declined in Perryville between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[1326] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a smaller percentage of Perryville residents was estimated to be in the civilian labor force (58.3%) than the percentage of Alaska residents estimated to be in the civilian labor force statewide (68.8%). In the same year, 47.4% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 1.7%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which suggests a higher unemployment rate in 2010 of 16.9%, compared to a statewide unemployment rate estimate of 11.5%.[1327]

Also based on the 2006-2010 ACS, a majority of the Perryville workforce (61.8%) was estimated to be employed in the public sector, and the remaining 38.2% was estimated to work in the private sector. Of the 34 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number were estimated to be working in educational services, health care, and social assistance (44.1%), public administration (17.6%), transportation, warehousing, and utilities (14.7%), agriculture, forestry, fishing, hunting, and mining (11.8%), and information (11.8%) (Figures 3 and 4). However, the number of individuals employed in farming, fishing, and forestry occupations and industries may be underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly.

[1323] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1324] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1325] See footnotes 1321 and 1322.
[1326] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[1327] See footnote 1321.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 47 employed residents in Perryville in 2010, of which 59.6% were employed in local government, 10.6% in financial activities, 8.5% in educational and health services, 4.3% in professional and business services, 4.3% in information, 2.1% in construction, 2.1% in leisure and hospitality, and 8.5% in other industries.[1328] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Perryville (U.S. Census).

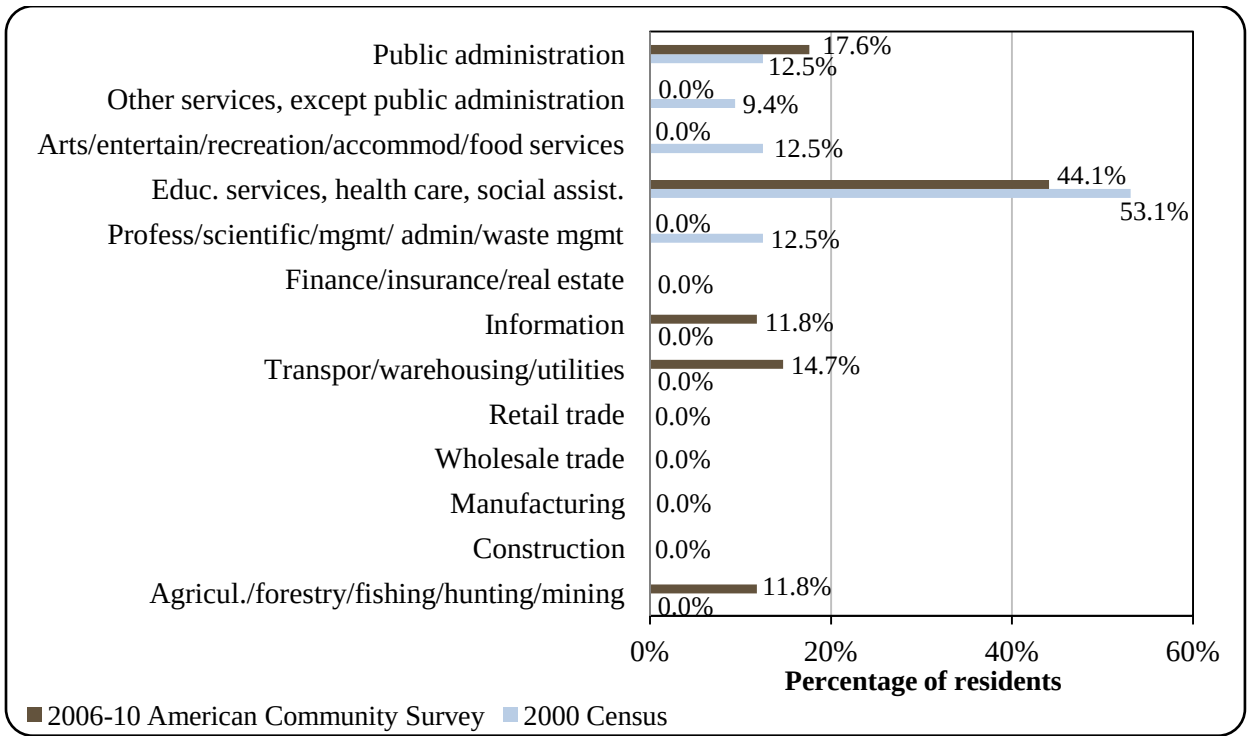
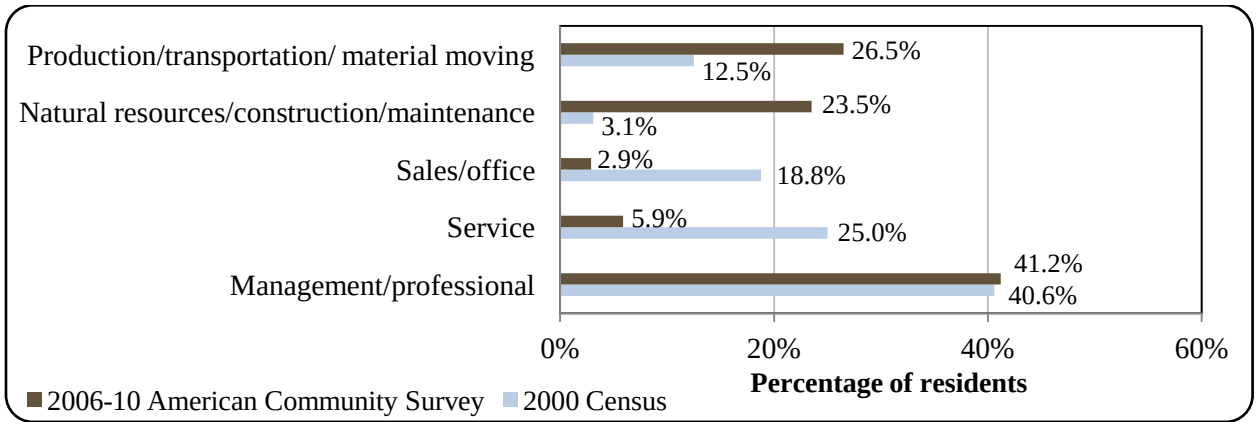


Figure 4. Local Employment by Occupation in 2000-2010, Perryville (U.S. Census).



[1328] Ibid.

Governance

Perryville is an unincorporated community in the Lake and Peninsula Borough. No municipal revenue was reported and no taxes were administered by the community between 2000 and 2010. However, the Borough administers a 2% fish tax, 6% bed tax, $3 per person/day guide tax, and a $1 person/day lodge guide tax.[1329] Perryville did not receive State or Community Revenue Sharing contributions between 2000 and 2010. However, Perryville did receive several fisheries-related grants during this period. These included $2,500,000 from the U.S. Army Corps of Engineers in 2002 for harbor construction, $10,200 in 2003 from the Alaska Department of Transportation and Public Facilities for a harbor feasibility study, $75,000 in 2003 from the Alaska Division of Community and Regional Affairs for coho salmon restoration in the Kametolook River, and $1,000,000 in 2010 from the Denali Commission for design and construction of a barge landing. Information about some of Perryville's revenue sources is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Perryville from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	$2,500,000
2003	n/a	n/a	n/a	$85,200
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	$1,000,000

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1329] Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved November 16, 2011 from http://www.dced.state.ak.us/dca/commdb/CF_COMDB.htm.

Perryville was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The authorized traditional entity recognized by the Bureau of Indian Affairs (BIA) is the Native Village of Perryville. The Native village corporation is the Oceanside Corporation, which manages 93,926 acres of land. The regional Native corporation to which Perryville belongs is the Bristol Bay Native Corporation (BBNC).[1330]

Perryville is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the tribes and the Native people of Bristol Bay.[1331] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[1332]

The closest regional office of the Alaska Department of Fish and Game (ADF&G) is located in Sand Point. Kodiak has the nearest National Marine Fisheries Service (NMFS) office, including a NOAA Fisheries Sustainable Fisheries Division and Enforcement Office, as well as the nearest office of the Alaska Department of Natural Resources (DNR). The nearest Alaska Department of Commerce, Community, and Economic Development office is in Dillingham, and the closest offices of the U.S. Bureau of Citizenship and Immigration Services are located in Unalaska and Kodiak. However, the Anchorage offices of these agencies may be more accessible to people from the Alaska Peninsula region.

Infrastructure

Connectivity and Transportation

Perryville is accessible by air and sea. There is a state-owned 3,300 feet long by 75 feet wide gravel runway and seaplane base.[1333] As of spring 2012, Peninsula Airways offered flights between King Salmon and Perryville on Mondays, Wednesdays, Fridays, and Saturdays for $608 roundtrip,[1334] and the price of a roundtrip ticket from King Salmon to Anchorage in early June of 2012 was $425.[1335] Cargo barges deliver fuel and supplies each spring. ATVs and skiffs are the primary means of local transportation.[1336]

Facilities

Water in Perryville is supplied by a nearby stream and 60,000-gallon timber dam system. Water is filtered and chlorinated and stored in a 50,000-gallon tank. The Village Council

[1330] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1331] Bristol Bay Native Association. (n.d.). *Homepage*. Retrieved November 16, 2011 from www.bbna.com.
[1332] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[1333] See footnote 1330.
[1334] Timetable information retrieved March 22, 2012 from http://www.penair.com/.
[1335] This price was calculated on November 21, 2011 using kayak.com.
[1336] See footnote 1330.

operates a piped water system which serves 30 homes and the school. A central watering point is available for hauling water. There is no piped sewer system in the community. Most homes have individual septic tanks, and community facilities are connected to a separate septic system. The Village Council also operates a diesel powerhouse that provides electricity to the community. A landfill is present in Perryville, but is not permitted. Police services are provided by state troopers stationed in King Salmon, and fire and rescue services are provided by the Perryville First Responders.[1337] According to a survey conducted by the AFSC in 2011, community leaders reported that progress is currently underway to develop alternative energy sources for Perryville, and a new landfill is also under development.

Additional community services and facilities in Perryville include a school library and a nutrition program for elders. Telephone and broadband internet service is available in Perryville, but no cable provider is present.[1338] According to the 2011 AFSC survey, community leaders indicated that a post office is also present.

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available for either permanent or transient vessel moorage. They also indicated that construction is currently under way for an improved barge landing area, dry dock space, and haul-out facilities. In addition, they reported that no fisheries-related businesses or services are available in Perryville, and local residents typically travel to Homer, Chignik Bay or Sand Point to access fisheries-related services.

Medical Services

Health care is provided by the Emillin Health Clinic in Perryville, which is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. The Emillin Clinic is a Community Health Aide Program site. Emergency Services have coastal and air access. Emergency service is provided by a health aide. Alternative health care is provided by the Perryville First Responders.[1339] The nearest hospitals are located in Dillingham and Kodiak.

Educational Opportunities

There is one school in the community, which offers preschool through 12th grade. As of 2011, the Perryville School had a total of 29 students and 3 teachers.[1340]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest has been important to residents of the Perryville area for thousands of years. Villages and fish camps were often located at mouths of streams for access to both fresh

[1337] Ibid.
[1338] Ibid.
[1339] Ibid.
[1340] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

water and abundant salmon runs.[1341] During Alaska's Russian period, salmon remained a subsistence resource, but soon after the purchase of Alaska by the United States in 1867, commercial exploitation of salmon was initiated.[1342] Herring was one of the earliest commercial fisheries, along with salmon, during the period when the product was salted for storing and shipment to be used for human consumption. Commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.[1343] Halibut and groundfish fisheries began to develop in the Alaska Peninsula region by the 1920s with the development of diesel engines, which allowed fishing vessels to undertake longer trips.[1344,1345]

Perryville participates in the Community Quota Entity (CQE) program, and has established a CQE nonprofit called Perryville CQE, Inc. Perryville is not eligible to participate in the Community Development Quota (CDQ) program. Perryville is located in Federal Statistical and Reporting Area 620, the Western Gulf of Alaska (GOA) Sablefish Regulatory Area, Pacific Halibut Fishery Regulatory Area 3B, and the Chignik Salmon Fishery Management Area.

Between 2000 and 2010, a majority of salmon permits held by Perryville residents were for the local Chignik purse seine fishery (see *Commercial Fishing* section). The Chignik salmon harvesting area extends along the south side of the Alaska Peninsula between Kilokak Rocks and Kupreanof Point. In the early years of this salmon fishery, pile traps were the primary harvest method, and historical harvest activity was focused in Chignik Lagoon and Chignik Bay. Fish traps were the primary harvest method until 1954. Starting in 1955, only purse seine gear has been permitted in the Chignik salmon fishery. Sockeye salmon makes up the greatest percentage of salmon catch in the Chignik area. Between 1980 and 2004, Chignik salmon harvests made up only 1.81% of total commercial salmon harvest in Alaska. However, based on average market value in 2004, as determined from permit sales, the most valuable limited entry permit types in Alaska were purse seine permits in the Chignik area.[1346] As of 2010, there were 91 total limited entry permits in the Chignik salmon fishery, a reduction from 99 in the year 2000.[1347]

In the early 2000s, a group of permit holders in the Chignik salmon fishery proposed a new fisheries management strategy, and in 2002 the Alaska Board of Fisheries passed regulations allowing for a portion of salmon harvest to be allocated to a cooperative. The Chignik Salmon Cooperative (Co-op) formed that year. Of approximately 100 limited entry permit holders in the Chignik salmon fishery in 2002, more than three-quarters joined the Co-op between 2002 and 2005. Approximately 20 of the Co-op member fishermen were hired to fish the Co-op's allocation annually, and all Co-op members were paid equal shares of the Co-op's profits. The Co-op was opposed by a minority of permit holders. It was eventually ended in

[1341] Alaska Native Heritage Center. (n.d) *The Unangax & Alutiiq (Supiaq) People - Who We Are*. Retrieved January 4, 2012 from http://www.alaskanative.net/en/main_nav/education/culture_alaska/unangax/.
[1342] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1343] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1344] See footnote 1342.
[1345] Thompson, William F. and Norman L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from http://ww.iphc.int/publications/scirep/Report0005.pdf.
[1346] See footnote 1342.
[1347] Alaska Dept. of Fish and Game. CFEC Fisheries Statistics. *CFEC Public Lookup Database*. Retrieved March 22, 2012 from http://www.cfec.state.ak.us/plook/.

2006, after the Alaska Supreme Court ruled that it violated a state law requiring permit holders to operate their own vessels.[1348]

In addition to salmon, between 2000 and 2010, Perryville residents participated in fisheries for halibut, groundfish, and herring. Groundfish fisheries target a variety of species, including pollock, Pacific cod, sablefish, Atka mackerel, lingcod, and various rockfish and flatfish species. Herring are harvested for bait in the vicinity of Unalaska when Togiak-spawning herring are in residence during the summer feeding period. On occasion, a herring sac roe fishery occurs near Port Moller when aerial surveys determine that a sufficient quantity of herring is present, and if processing capacity is available.[1349]

According to a survey conducted by the AFSC in 2011, community leaders indicated that Perryville participated in the fisheries management process in Alaska through sending a representative to sit on a regional fisheries advisory and/or working groups run by ADF&G, sending a representative to participate in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process, and also relies on organizations such as the Southwest Alaska Municipal Conference to gain access to information on fisheries management issues.

Community leaders also expressed the opinion that the transition to a catch share system and individual fishery quotas (IFQs) in the Pacific halibut fishery has resulted in fewer halibut boats actively fishing and has presented challenges for the younger generation of Perryville residents to enter the fishery. They were also concerned about the ability of smaller boats to compete in the state-waters Pacific cod fishery in state waters. They explained that the season begins in March, when marginal weather conditions favor larger vessels. In addition, larger vessels have a greater fishpack capacity. These factors combine to allow larger vessels to catch a majority of the cod quota early in the season, before smaller vessels have had a chance to catch enough to pay for their expenses in the fishery.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Perryville. However, the 2010 Intent to Operate list shows that active processing facilities are located in nearby communities of Chignik and Sand Point. More information about these processing facilities can be found in the profiles for each of these communities.

Fisheries-Related Revenue

No information was reported regarding fisheries-related revenue sources in Perryville between 2000 and 2010 (Table 3).

Commercial Fishing

Between 2000 and 2010, Perryville residents participated in commercial fisheries as permit holders, crew members, and vessel owners. In 2010, 8 Perryville residents held a total of 13 Commercial Fisheries Entry Commission (CFEC) permits. These included eight salmon permits in the Chignik purse seine fishery, of which seven (88%) were actively fished that year.

[1348] Knapp, Gunnar. 2008. "The Chignik Salmon Cooperative." In *Case studies in fisheries self-governance*. Eds. R. Townsend, R. Shotton, and H. Uchida. FAO Fisheries Technical Paper 504.
[1349] See footnote 1343.

It is important to note that almost all salmon permits held during the 2000-2010 period were for the Chignik purse seine fishery, with the exception of one Bristol Bay drift gillnet permit held in 2002 and two held in 2006.

In 2010, two halibut CFEC permits were held in the statewide longline fishery (vessels under 60 feet in length), both of which were actively fished. Also that year, two residents held a total of three groundfish CFEC permits in miscellaneous saltwater finfish fisheries. Two of these groundfish permits for the Gulf of Alaska mechanical jig gear fishery, and one was for the Gulf of Alaska pot gear fishery (vessels under 60 feet). No groundfish CFEC permits were actively fished in 2010.

The number of salmon permits and the percentage of salmon permits actively fished decreased slightly between 2000 and 2010, from 10 actively fished permits in 2000. The number of halibut permits increased slightly, while the number of groundfish permits decreased between 2000 and 2010. In 2000 and 2001, several Perryville residents were also involved in CFEC herring fisheries, although permits were not actively fished in those years. Information about CFEC permits held by Perryville residents is presented in Table 4.

Between 2000 and 2010, one Perryville resident held a License Limitation Permit (LLP) in a federal groundfish fishery. The last year during the 2000-2010 period in which this permit was actively fished was 2005. No LLPs were held by Perryville residents in federal crab fisheries between 2000 and 2010. From 2003 to 2005, two Federal Fisheries Permits (FFP) were held by Perryville residents, of which one was fished actively in those years. In 2006, the number of FFPs held decreased to one, which was actively fished in 2008 and 2010 (Table 4).

In 2000, one quota share account was held by a Perryville resident in the federal halibut catch share fishery, increasing to two account holders between 2001 and 2010. A total of 23,265 halibut quota shares were held in 2000, increasing to a stable level of 37,903 shares held between 2001 and 2010 (Table 6). The annual halibut individual fishing quota (IFQ) allotment decreased to 35% under 2000 levels by 2010. No Perryville residents held quota share accounts in the federal sablefish or crab catch share fisheries between 2000 and 2010 (Tables 7 and 8).

In 2010, a total of 15 Perryville residents held commercial crew licenses, 10 fishing vessels were primarily owned by Perryville residents, and 7 fishing vessels were registered as homeported in Perryville. These numbers represent declines in all categories, from 31 crew license holders in 2001 (a decline of approximately 50%), 15 primary owners of fishing vessels in 2000 (a 33% reduction), and 10 homeported vessels in 2000 (a 30% reduction). Information about the commercial fishing sector in Perryville is presented in Table 5. According to a survey conducted by the AFSC in 2011, community leaders indicated that the vessels using Perryville as a base of operations during the fishing season primarily vessels between 35 and 60 feet in length using purse seine or pot gear. They also reported that, compared to five years ago, there are fewer fishing boats in Perryville.

No landings or ex-vessel revenue were recorded in Perryville (Table 9), given the lack of fish buyers in the community (Table 5). Information about landings and ex-vessel revenue generated by vessels owned by Perryville residents is largely considered confidential between 2000 and 2010 due to the small number of participants, with the exception of salmon harvest data and Pacific cod landings and revenue in several years during the 2000-2010 period. On average, Perryville vessel owners harvested an average of 742,528 net pounds of salmon annually, valued on average at $590,402 in ex-vessel revenue. Pacific cod landings in 2002 totaled 274,257 net pounds, valued at $56,834, and landings in 2004 totaled 218,974 net pounds, valued at $52,116 in ex-vessel revenue (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Perryville: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries resource landing tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Perryville: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Active permits	1	1	1	0	1	1	0	0	0	0	0
	% of permits fished	100%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	2	2	2	1	1	1	1	1
	Fished permits	0	0	0	1	1	1	0	0	1	0	1
	% of permits fished	-	-	-	50%	50%	50%	0%	0%	100%	0%	100%
	Total permit holders	0	0	0	2	2	2	1	1	1	1	1
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	1	2	2	2	1	2	2	2	2	2
	Fished permits	1	1	2	2	2	1	2	2	2	2	2
	% of permits fished	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Total permit holders	1	1	2	2	2	1	2	2	2	2	2
Herring (CFEC) [2]	Total permits	2	1	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	-	-	-	-	-	-	-	-	-
	Total permit holders	2	1	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Perryville: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	4	3	5	5	5	4	3	0	4	3	3
	Fished permits	2	3	4	3	4	3	1	0	1	0	0
	% of permits fished	50%	100%	80%	60%	80%	75%	33%	-	25%	0%	0%
	Total permit holders	4	3	5	5	5	4	3	0	4	2	2
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	10	9	12	10	9	9	10	9	7	8	8
	Fished permits	10	9	7	7	5	9	6	8	7	7	7
	% of permits fished	100%	100%	58%	70%	56%	100%	60%	89%	100%	88%	88%
	Total permit holders	10	10	13	13	11	12	10	10	8	8	8
Total CFEC Permits [2]	*Permits*	*17*	*14*	*19*	*17*	*16*	*14*	*15*	*11*	*13*	*13*	*13*
	Fished permits	*13*	*13*	*13*	*12*	*11*	*13*	*9*	*10*	*10*	*9*	*9*
	% of permits fished	*76%*	*93%*	*68%*	*71%*	*69%*	*93%*	*60%*	*91%*	*77%*	*69%*	*69%*
	Permit holders	*12*	*10*	*14*	*13*	*12*	*12*	*11*	*10*	*8*	*8*	*8*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Perryville: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Perryville[2]	Total Net Pounds Landed In Perryville[2,5]	Total Ex-Vessel Value Of Landings In Perryville[2,5]
2000	29	0	0	15	10	0	0	$0
2001	31	0	0	15	10	0	0	$0
2002	18	0	0	19	10	0	0	$0
2003	28	0	0	17	10	0	0	$0
2004	16	0	0	15	10	0	0	$0
2005	30	0	0	13	10	0	0	$0
2006	19	0	0	13	8	0	0	$0
2007	20	0	0	12	6	0	0	$0
2008	19	0	0	11	6	0	0	$0
2009	16	0	0	12	6	0	0	$0
2010	15	0	0	10	7	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Perryville: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	1	23,265	6,486
2001	2	37,903	11,622
2002	2	37,903	12,044
2003	2	37,903	11,978
2004	2	37,903	10,908
2005	2	37,903	9,185
2006	2	37,903	7,585
2007	2	37,903	6,447
2008	2	37,903	7,622
2009	2	37,903	7,622
2010	2	37,903	6,922

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Perryville: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Perryville: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Perryville: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Perryville Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	274,257	-	218,974	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	917,750	674,297	491,974	1,131,752	520,993	738,963	616,478	697,178	724,723	951,892	701,806
Total[2]	*917,750*	*674,297*	*766,231*	*1,131,752*	*739,967*	*738,963*	*616,478*	*697,178*	*724,723*	*951,892*	*701,806*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	$56,834	-	$52,116	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$798,568	$434,823	$342,781	$752,825	$487,331	$632,481	$463,185	$439,881	$537,595	$894,767	$710,188
Total[2]	*$798,568*	*$434,823*	*$399,615*	*$752,825*	*$539,446*	*$632,481*	*$463,185*	*$439,881*	*$537,595*	*$894,767*	*$710,188*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses or licensed sport fish guides were present in Perryville. Licenses were not sold locally in Perryville. However, between 2 and 13 Perryville residents purchased sportfishing licenses each year, irrespective of point of sale. According to a survey conducted by the AFSC in 2011, community leaders indicated that Chinook, coho, chum, and sockeye salmon, halibut, and rockfish are the primary targets of sportfishing activity in Perryville, along with sport harvest of crab and clams. The Alaska Statewide Harvest Survey,[1350] conducted by ADF&G between 2000 and 2010, noted harvest of Chinook salmon in freshwater and pink salmon in saltwater. Given the lack of sport fish guide businesses, no kept/released log book data were reported for sportfishing charters out of Perryville between 2000 and 2010.[1351]

Perryville is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. This area includes all Alaskan waters, plus drainages, between Cape Douglas and the community of Naknek. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Perryville is also displayed in Table 11.

Table 11. Sport Fishing Trends, Perryville: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Perryville[2]
2000	0	0	13	0
2001	0	0	10	0
2002	0	0	13	0
2003	0	0	14	0
2004	0	0	8	0
2005	0	0	10	0
2006	0	0	5	0
2007	0	0	2	0
2008	0	0	7	0
2009	0	0	6	0
2010	0	0	6	0

[1350] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1351] Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11, cont'd. Sport Fishing Trends, Perryville: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Perryville residents maintain a subsistence lifestyle. Some residents trap during the winter, and all rely heavily on subsistence food sources. Salmon, trout, marine fish, crab, clams, moose, caribou, bear, porcupine, and seal are harvested.[1352] In a survey conducted by the AFSC in 2011, Perryville community leaders said that salmon, seal, and halibut are the most important marine subsistence resources utilized by local residents.

Results of an ADF&G subsistence survey found that, in 2003, 83% of Perryville households participated in salmon subsistence, 81% participated in halibut subsistence, 40% participated in marine invertebrate subsistence, 65% participated in marine mammal subsistence, and 43% participated in non-salmon fish subsistence (not including halibut). That year, the per capita harvest of land and sea-based subsistence resources was 518 pounds. This information about household and per capita use of subsistence resources is presented in Table 12.

Species of non-salmon fish harvested by the greatest number of Perryville households in 2003 were euchalon (hooligan candlefish), Pacific cod, Dolly Varden, and black rockfish. Species of marine invertebrate harvested by the greatest number of households were black

[1352] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

chitons, butter clams, sea urchin, Dungeness crab, cockles, red chitons, Pacific littleneck clams, Tanner crab, and mussels.[1353] A total of 4,599 pounds of marine invertebrates and 1,674 pounds of non-salmon fish were harvested by Perryville residents for subsistence purposes in 2003 (Table 13).

Some data are also available regarding total subsistence harvest of salmon, halibut, and marine mammals by Perryville residents during the 2000-2010 period. Between 2000 and 2008, the number of Perryville households that were issued subsistence salmon permits varied between 20 and 42. Coho, pink, and sockeye were the three most heavily harvested salmon species, averaging 1,309, 1,043, and 1,620 individual salmon harvested per year, respectively. A smaller number of Chinook and chum salmon were also reported harvested each year. This information about subsistence harvest of salmon is presented in Table 13.

Between 2003 and 2010, the number of Perryville residents that participated in the Subsistence Halibut Registration Certificates (SHARC) program varied between 11 and 47, and the number of SHARC cards returned each year varied between 7 and 28. The greatest subsistence harvest of halibut was reported in 2007, when 7,095 pounds of halibut were harvested using 26 SHARC cards. This information about the subsistence halibut fishery is presented in Table 14.

Marine mammal harvest by residents of Perryville was significant. According to data reported by ADF&G, this harvest appears to have been focused primarily on sea lion and harbor seal. No information was reported by management agencies regarding harvest of spotted seal, walrus, sea otter, or beluga whale between 2000 and 2010. Information about subsistence harvest of marine mammals by Perryville residents is presented in Table 15.

Additional Information

The 1912 Mount Katmai/Novarupta eruption was the largest volcanic eruption in recent history in North America, and the largest eruption on Earth in the 20th century, to date. This violent eruption forced several villages to relocate to the present community of Perryville.[1354]

[1353] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[1354] LaRoche + Associates. March 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

Table 12. Subsistence Participation by Household and Species, Perryville: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	83%	81%	40%	65%	43%	518
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Perryville: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	42	40	29	177	1,037	805	1,747	n/a	n/a
2001	27	27	9	88	1,312	2,688	911	n/a	n/a
2002	30	25	11	23	1,058	390	1,692	n/a	n/a
2003	46	45	28	279	1,962	1,498	2,199	4,599	1,674
2004	31	22	31	179	1,556	977	1,846	n/a	n/a
2005	38	34	4	315	1,576	600	1,863	n/a	n/a
2006	42	34	75	268	1,293	1,018	2,018	n/a	n/a
2007	34	29	25	162	1,231	899	1,495	n/a	n/a
2008	20	20	3	33	759	510	808	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Perryville: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	11	8	1,809
2004	45	18	5,225
2005	38	26	3,708
2006	47	28	4,391
2007	45	26	7,095
2008	39	14	2,007
2009	20	11	3,168
2010	18	7	1,945

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Perryville: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	5	21	n/a
2001	n/a	n/a	n/a	n/a	1	24	n/a
2002	n/a	n/a	n/a	n/a	3	34	n/a
2003	n/a	n/a	n/a	n/a	1	51	n/a
2004	n/a	n/a	n/a	n/a	2	20	n/a
2005	n/a	n/a	n/a	n/a	1	21	n/a
2006	n/a	n/a	n/a	n/a	0	27	n/a
2007	n/a	n/a	n/a	n/a	0	19	n/a
2008	n/a	n/a	n/a	n/a	3	47	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Pilot Point

People and Place

Location [1355]

Pilot Point is located on the northern coast of the Alaska Peninsula, on the east shore of Ugashik Bay. The community lies 84 air miles south of King Salmon and 368 air miles southwest of Anchorage. Pilot Point is in the Lake and Peninsula Borough Census Area and the Kvichak Recording District. The City encompasses 25.4 square miles of land and 115.1 square miles of water.

Demographic Profile [1356]

In 2010, there were 68 inhabitants in Pilot Point, making it the 283rd largest of 352 total Alaskan communities with recorded populations that year. Pilot Point first appeared in U.S. Decennial Census records in 1970. The population of Pilot Point almost doubled between 1990 and 2000, then declined by 32% between 2000 and 2010. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 34%, with an average annual growth rate of -1.55%. The change in population from 1990 to 2010 is provided in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that, in addition to year-round residents, approximately 1,825 seasonal workers or transients are present in Pilot Point each year between May and August. They reported that the annual population peak takes place in June and July, and population fluctuations are entirely driven by employment in commercial fishing. It is also important to note that some people from the nearby village of Ugashik live part of the year in Pilot Point as well.[1357]

In 2010, a majority of Pilot Point residents identified themselves as American Indian and Alaska Native (66.2%), 16.2% identified themselves as White, and 17.2% identified with two or more races. That year, no Pilot Point residents identified themselves as Hispanic. Compared to 2000, the number of residents of mixed race increased substantially, and the number of individuals identifying only as American Indians and Alaska Natives made up 19.8% less of the population in 2010. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

[1355] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1356] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[1357] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

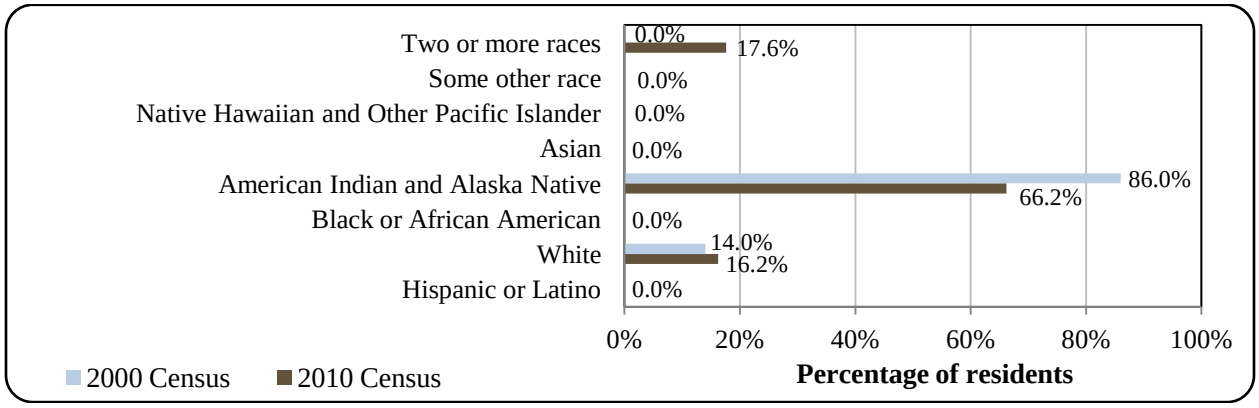
Table 1. Population in Pilot Point from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	53	-
2000	100	-
2001	-	86
2002	-	75
2003	-	70
2004	-	76
2005	-	73
2006	-	66
2007	-	60
2008	-	72
2009	-	66
2010	68	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

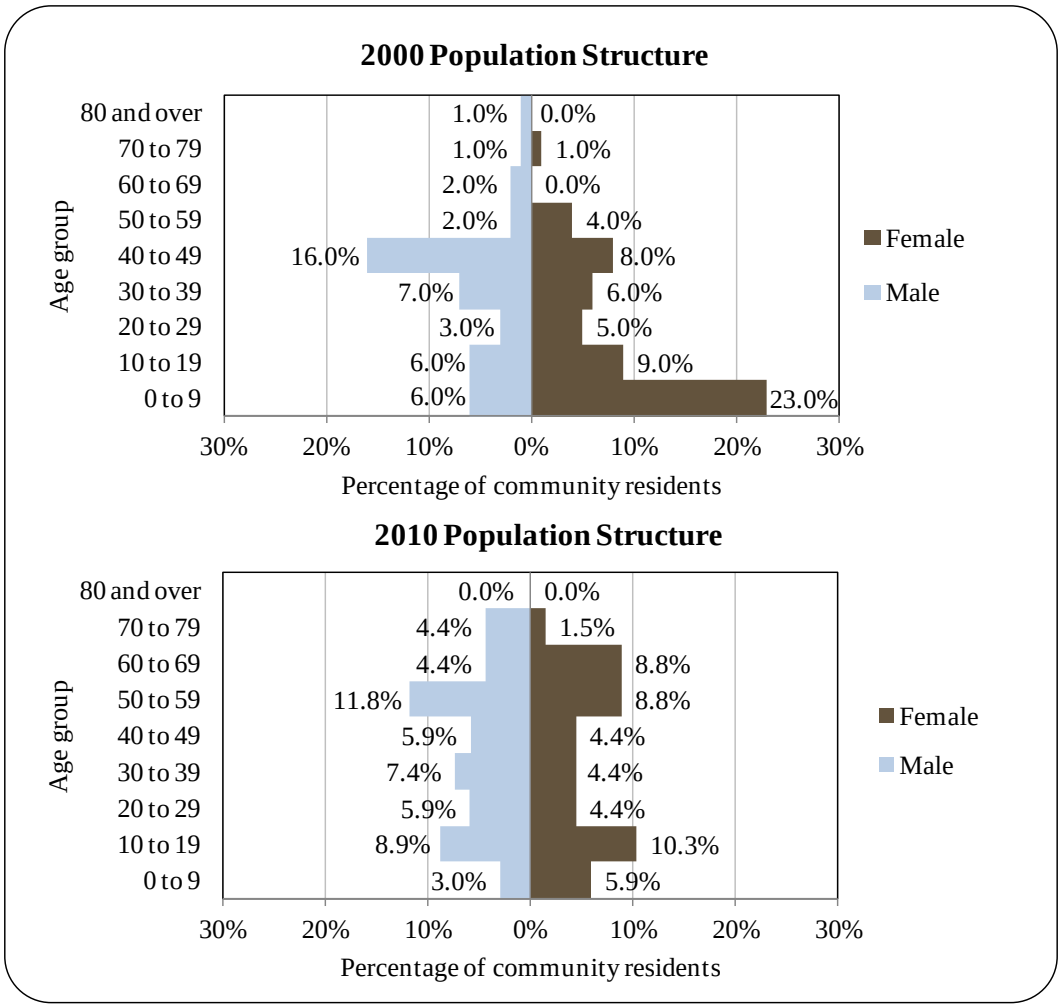
Figure 1. Racial and Ethnic Composition, Pilot Point: 2000-2010 (U.S. Census).



The average household size in Pilot Point increased between 1990 and 2000, from 3.1 persons per household to 3.45, and then decreased to 2.52 persons per household by 2010. The number of households in Pilot Point followed a similar pattern, increasing from 17 to 60 occupied housing units between 1990 and 2000, before decreasing to 27 occupied units in 2010. Of the 65 total housing units surveyed for the 2010 U.S. Census, 26.2% were owner-occupied, 15.4% were rented, and 58.5% were vacant or used only seasonally. This high vacancy rate reflects the steep population decline between 2000 and 2010. Between 1990 and 2010, no residents of Pilot Point lived in group quarters.

In 2010, the gender makeup of Pilot Point's population (51.6% male and 48.6% female) was similar to the state population as a whole, which was 52% male and 48% female. The median age of Pilot Point residents was 40.5 years, slightly older than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 19.1% of Pilot Point's population was between 60 and 79 years of age, and no one was over 80. In 2000, it is of note than 23% of the population of Pilot Point were females between the age of 0 and 9. By 2010, this age cohort (females 10-19 years) made up 10.3% of the population. The overall population structure of Pilot Point in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Pilot Point Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1358] 68.4% of Pilot Point residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 0% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 31.6% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 31.6% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 15.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 15.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Maritime hunters lived on the Alaska Peninsula as early as 7,000 years ago. The dividing line between prehistoric Aleutian and Eskimo linguistic groups was near Pilot Point, just west of Aniakchak National Monument and National Preserve. These two groups shared cultural traits as descendents of Eskaleut people and shared existence as marine hunters.[1359] Numerous cultural resource sites exist in the Pilot Point area, reflecting this long history of human occupancy.[1360]

A permanent settlement developed at Pilot Point after a fish salting plant was established by C.A. Johnson in 1889. At that time, the community was called "Pilot Station," after the river pilots stationed here to guide boats upriver to a large cannery located at Ugashik. In 1892, Charles Nelson opened a saltery, which was sold to the Alaska Packer's Association in 1895. The saltery continued to expand, and by 1918 had developed into a three-line cannery. Immigrants of diverse ethnicities, including Italians, Chinese and northern Europeans, came to work in the canneries. Reindeer-herding experiments at Ugashik helped to repopulate the area after the devastating 1918 flu epidemic, although the herding eventually failed. A Russian Orthodox church and a Seventh Day Adventist church were built in the village. A post office was established in 1933, and because another Alaskan village had already officially claimed the name Pilot Station, the name of the community was changed to Pilot Point at that time. The deterioration of the harbor forced the cannery to close in 1958. The City of Pilot Point incorporated in 1992. Today, Pilot Point remains a mixed Alutiiq and Yup'ik community. Inhabitants practice a commercial fishing and subsistence lifestyle.[1361]

[1358] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1359] National Park Service. (n.d.). *Prehistory of Alaska: Southwest Alaska and Pacific Coast*. Retrieved April 5, 2012 from http://www.nps.gov/akso/akarc/swest.htm.
[1360] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1361] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Natural Resources and Environment

Pilot Point's marine climate is characterized by cool, humid, and windy weather. Average summer temperatures range from 41 to 60 °F, and average winter temperatures range from 20 to 37 °F. Low cloud cover and fog frequently limit travel. Precipitation averages 19 inches per year, with 38 inches of snowfall.[1362] Pilot Point is located on the treeless coastal lowland that characterizes the northern side of the Alaska Peninsula. To the south, the Pacific side of the Alaska Peninsula provides a rugged, mountainous backdrop.[1363]

Protected areas in the vicinity of Pilot Point include the Pilot Point Critical Habitat Area (CHA), the Alaska Peninsula National Wildlife Refuge (NWR), Becharof NWR, and Aniakchak National Monument and National Preserve. The Pilot Point CHA and four other CHAs in the Bristol Bay region were established by the State of Alaska in 1972 to protect natural habitat and game populations, especially waterfowl and shorebirds. Together, the five CHAs encompass 284,050 acres.[1364] The NWRs and Aniakchak National Monument were established under the Alaska National Interest Land Conservation Act (ANILCA) of 1980. The Alaska Peninsula NWR has a total area of 3.7 million acres, including a smaller "Ugashik unit" immediately south of Pilot Point, and a larger unit further west on the Peninsula, extended approximately between Chignik Bay and False Pass. The dramatic mountains of the Alaska Peninsula NWR include a number of active volcanoes. The landscape also includes areas of rolling tundra and rugged coastlines. Salmon return to the rivers of this NWR, supporting brown bear populations. Other land mammals include wolverine, the 7,000-animal Northern Alaska Peninsula caribou herd, wolves, and moose. It is of note that no black bears are found in the Alaska Peninsula NWR. Marine mammals living along the coastline include sea otters, harbor seals, sea lions, and migrating whales. The Alaska Peninsula NWR also provides important habitat for migrating birds.[1365]

The Becharof NWR covers an area of 1,157,000 acres northwest of Pilot Point. It contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800-foot volcano. Wildlife species present in this NWR include brown bears, caribou, moose, over 200 species of migratory and resident birds, and provides an important nursery for Pacific salmon.[1366]

Aniakchak volcano is one of the most striking features in the landscape surrounding Pilot Point, rising to 4,400 feet[1367] in elevation within approximately 60 miles of the community. Aniakchak National Monument and Preserve, south of Pilot Point, was established to recognize the unique geological significance of a six-mile wide, 2,500 foot deep caldera formed by a massive eruption 3,500 years ago. The explosion caused the loss of approximately 3,000 feet of the upper mountain. The Aniakchak volcano was last active in 1931, when a small explosion

[1362] Ibid.
[1363] LaRoche + Associates. 2011. *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft.* Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1364] Alaska Dept. of Fish and Game. 2012. *Bristol Bay – Critical Habitat Area Management Plan*. Retrieved July 3, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=bristolbay.draftplan.
[1365] U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge*. Retrieved March 23, 2012 from http://www.fws.gov/refuges/profiles/index.cfm?id=74512.
[1366] U.S. Fish and Wildlife Service. 2011. *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.
[1367] Global Volcanism Program. (n.d.). *Aniakchak Volcano Information*. Retrieved April 4, 2012 from http://www.volcano.si.edu/world/volcano.cfm?vnum=1102-09-.

pockmarked the caldera floor.[1368] This National Monument calls attention to the highly active tectonic zone in which Pilot Point is located. The Alaska Peninsula and Aleutian Island chain form part of the Pacific "Ring of Fire," one of the most active earthquake areas in the world.[1369] Some of these earthquakes are associated with explosive volcanic eruptions.[1370]

No known mineral resources occur in the Pilot Point area. However, oil and gas potential in the Pilot Point area are believed to be moderate to high, and both State and Native landowners are pursuing licenses for oil and gas exploration and leasing. The Alaska Department of Natural Resources and the Lake and Peninsula Borough have both signed a memorandum of understanding (MOU) in support of oil and gas lease sales and licensing of state land in the Bristol Bay and Alaska Peninsula region.[1371] In a survey conducted by the AFSC in 2011, community leaders in Pilot Point indicated that oil and gas exploration is one of the natural resource-based industries on which the local economy is most dependent.

Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[1372] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010, Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1373] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1374]

Natural hazards with the potential to impact Pilot Point include severe weather, wildfire, flooding, earthquakes, and volcanic activity. Severe weather was identified to be the greatest threat, in part because of high probability of occurrence. Wildfire was rated as a medium-level threat with high likelihood of occurring. Flooding from storm surges was also rated a medium risk with high probability, while earthquakes and volcanic activity were rated as medium threats with low probability of occurrence. However, Pilot Point residents indicated that their proximity to active volcanoes is the hazard they are most concerned about.[1375]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Pilot Point as of July 2012.[1376]

[1368] National Park Service. 2011. *Aniakchak National Monument & Preserve*. Retrieved March 23, 2012 from http://www.nps.gov/ania/.

[1369] Sykes, Lynn R., Jerome B. Kisslinger, Leigh House, John N. Davies and Klaus H. Jacob. 1980. "Rupture Zones and Repeat Times of Great Earthquakes along the Alaska-Aleutian Arc, 1784-1980." *Science* 19 December 1980, Vol. 210 no. 4476 pp. 1343-1345.

[1370] U.S. Geological Survey. 1998. "Can Another Great Volcanic Eruption Happen in Alaska?" Retrieved December 5, 2011 from http://volcanoes.usgs.gov/about/publications/factsheets.php.

[1371] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

[1372] Ibid.

[1373] U.S. Dept. of the Interior, Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.

[1374] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.

[1375] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

[1376] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[1377]

Residents of Pilot Point depend upon commercial fishing for the majority of their cash income. Up to 700 commercial boats fish in the Ugashik district of the Bristol Bay salmon fishery.[1378] Between 2000 and 2010, the number of Pilot Point residents holding state commercial fishing permits was equivalent to between 19% and 27% of the total local population each year, and the number of crew license holders fluctuated between 18% and 41% of the population. Subsistence is also an important part of the community lifestyle, and trapping is a source of income during the fishing off-season. Salmon, caribou, moose, geese, and porcupine are harvested.[1379] According to a survey conducted by the AFSC in 2011, community leaders also indicated that oil and natural gas exploration and drilling and sport hunting and fishing are important industries for the local economy. They also noted the presence of sport fish lodges in the Pilot Point area. In addition to resource-based industries, top local employers in Pilot Point in 2010 included local government offices, the school, health services, and utilities.[1380]

Based on household surveys conducted for the 2006-2010 ACS,[1381] in 2010, the per capita income in Pilot Point was estimated to be $16,818 and the median household income was estimated to be $33,333. This represents an increase from the per capita income reported in 2000, but a decrease from the reported median household income ($12,627 and $41,250, respectively). The decrease in median household income is even greater if inflation is taken into account by converting the 2000 values to 2010 dollars,[1382] revealing a real median household income in 2000 of $54,243. Accounting for inflation, the real per capita income in 2000 ($16,604) was similar to the estimated per capita income in 2010. In 2010, Pilot Point ranked 177th of 305 Alaskan communities with per capita income data, and 228th in median household income, out of 299 Alaskan communities with household income data that year.

Pilot Point's small population size may have prevented the ACS from accurately portraying economic conditions.[1383] An additional estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Pilot Point in 2010 is $13,813.[1384] This estimate is slightly lower than the 2010 ACS estimate, providing evidence that per capita

[1377] Unless otherwise noted, all monetary data are reported in nominal values.
[1378] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1379] Ibid.
[1380] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1381] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1382] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1383] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1384] See footnotes 1380 and 1381.

income remained stable between 2000 and 2010, and is more likely to have decreased slightly than to have increased over the period. In 2010, Pilot Point did not meet the criteria of a "distressed" community according to the Denali Commission.[1385] It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a slightly lower percentage of Pilot Point residents was estimated to be in the civilian labor force (63%) than was estimated to be in the civilian labor force statewide (68.8%). In the same year, 2.3% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 18.5%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 20.4%, compared to a statewide unemployment rate estimate of 11.5%.[1386]

Also based on the 2006-2010 ACS, 75% of the Pilot Point workforce was estimated to be employed in the public sector and 25% were estimated to be self-employed. No Pilot Point residents were estimated to be employed in the private sector. Of the 12 people aged 16 and over that were estimated to be employed in the civilian labor force, 50% were estimated to be working in public administration, 25% in professional, scientific, management, and administrative and waste management services, and 25% in education, health care, and social assistance. None of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting and mining in 2010. However, the number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 42 employed residents in 2010, of which 76.2% were employed in local government, 11.9% in education and health services, 4.8% in trade, transportation, and utilities, 2.4% in construction, 2.4% in information, and 2.4% in other industries.[1387] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[1385] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[1386] See footnote 1380.
[1387] Ibid.

Figure 3. Local Employment by Industry in 2000-2010, Pilot Point (U.S. Census).

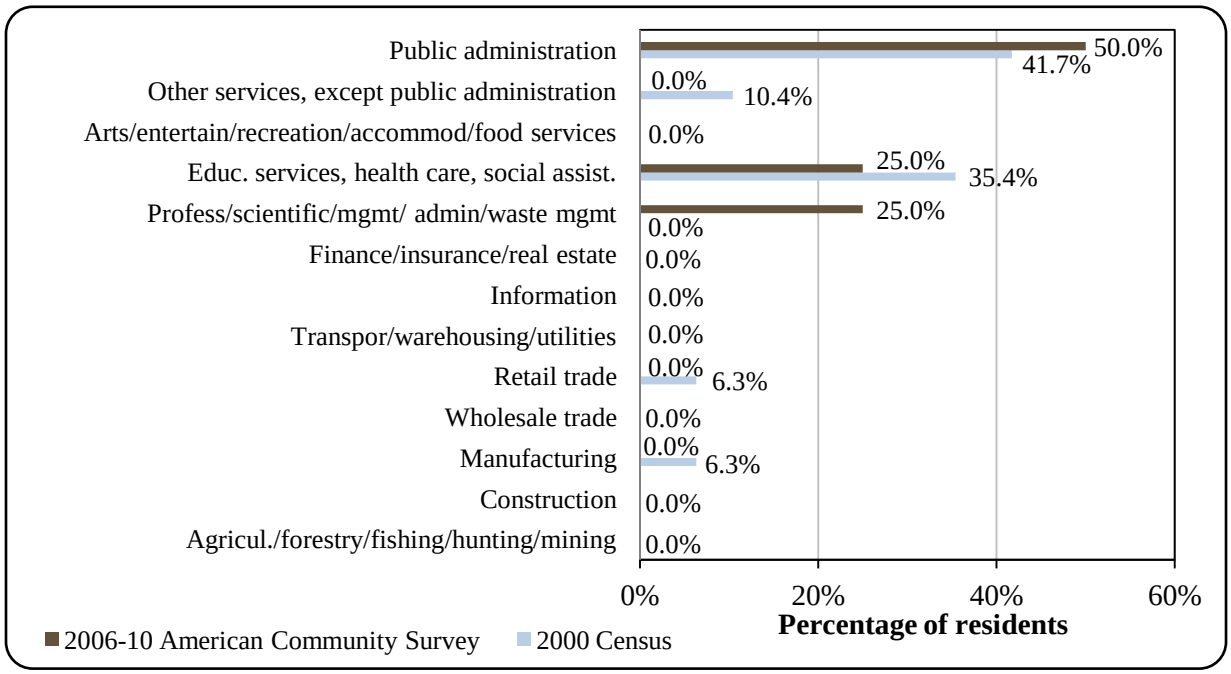
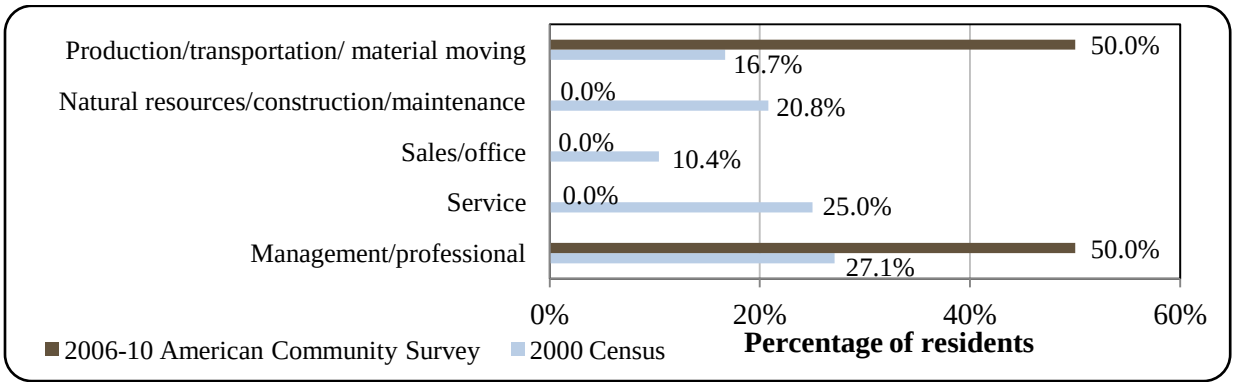


Figure 4. Local Employment by Occupation in 2000-2010, Pilot Point (U.S. Census).



Governance

Pilot Point is a 2nd Class City in the Lake and Peninsula Borough. The City was incorporated in 1992 and has a Strong Mayor form of government, which includes the mayor, a seven-person city council, a seven-person advisory school board, and several municipal employees.[1388] As of 2010, the City administered a 3% sales tax and a 3% raw fish tax. In addition, the Borough administered an additional 2% raw fish tax, a 6% bed tax, a $3 per person/day guide tax, and a $1 per person/day lodge guide tax.[1389] Municipal revenue in Pilot Point fluctuated between $309,575 and $762,394 per year between 2000 and 2010. Sales tax

[1388] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1389] Ibid.

revenue was only reported in Certified Financial Statements in one year during the period (2000). The City also collects a local fish tax, with made up a large percentage of total municipal revenues in some years (see Table 3 in the *Fisheries-Related Revenue* section). Other locally-generated municipal revenue sources in Pilot Point between 2000 and 2010 included charges for services such as water and sewer, equipment rentals, fuel sales, finance charges, and bank interest. Outside revenue sources received by the City of Pilot Point included state and federal grants, an airport maintenance contract, and shared revenues. Sources of shared revenue included the State Revenue Sharing program (approximately $25,000 per year from 2000 to 2003), the Community Revenue Sharing program (just under $100,000 per year in 2009 and 2010), and state raw fish tax refunds in some years during the period (see Table 3). One fisheries-related grant was reported to have been received by the City in 2001. The grant was received through a federal fisheries disaster relief funding program, and totaled $4,591. Refer to Table 2 for details on selected community finances from 2000 to 2010.

Pilot Point was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Native Village of Pilot Point. The Native village corporation is Pilot Point Native Corporation, which manages 98,937 acres of land. The regional Native corporation to which Pilot Point belongs is the Bristol Bay Native Corporation (BBNC).[1390]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Pilot Point from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$606,800	$266,681	$25,803	n/a
2001	$656,842	n/a	$26,227	$4,591
2002	$566,830	n/a	$25,186	n/a
2003	$431,542	n/a	$26,347	n/a
2004	$492,277	n/a	n/a	n/a
2005	$657,706	n/a	n/a	n/a
2006	$742,374	n/a	n/a	n/a
2007	$647,950	n/a	n/a	n/a
2008	$762,917	n/a	n/a	n/a
2009	$745,394	n/a	$99,673	n/a
2010	$309,575	n/a	$99,310	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1390] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Pilot Point is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the tribes and the Native people of Bristol Bay.[1391] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[1392]

The closest offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham, King Salmon, and Port Moller. The Port Moller station operates seasonally between May and September. An office of the Alaska Department of Commerce, Community, and Economic Development is located in Dillingham, and the nearest offices of the National Marine Fisheries Service (NMFS), Alaska Department of Natural Resources, and U.S. Bureau of Citizenship and Immigration Services are located in Kodiak. However, the Anchorage offices of these agencies may be more accessible to people in the Bristol Bay region.

Infrastructure

Connectivity and Transportation

Pilot Point is accessible by both air and water. A state-owned 3,280-feet-long by 75-feet-wide gravel airstrip is available. Air taxis provide regular flights six days a week out of King Salmon as part of the mail service.[1393] As of spring 2012, the lowest roundtrip airfare between Pilot Point and King Salmon was $338,[1394] and as of early June 2012, the roundtrip airfare between King Salmon and Anchorage was $452.[1395] There is a second 5,280-feet-long by 125-feet-wide gravel airstrip, owned by the U.S. Bureau of Land Management, located 10 miles southeast at Ugashik. Barge service is provided from Seattle in the spring and fall and is chartered from Naknek. Dago Creek serves as a natural harbor, and a dock is available there. The entrance to Dago Creek is only accessible at high tide. Modes of local transport include ATVs, snowmobiles, skiffs, and trucks.[1396]

Pilot Point and other communities on the Alaska Peninsula are currently very isolated. The Southwest Alaska Transportation Plan published in November 2002 prioritized development of a transportation corridor along the Alaska Peninsula. The desired corridor would link the communities of Egegik, Pilot Point, Ugashik, and Port Heiden via an overland route to Chignik on the south coast, from which fuel and supplies could be disbursed to these communities. The corridor would also extend west from Chignik to the communities of Perryville and Ivanof Bay, and east to Naknek.[1397]

[1391] Bristol Bay Native Association. (n.d.). *Homepage*. Retrieved November 16, 2011 from www.bbna.com.
[1392] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[1393] See footnote 1390.
[1394] Personal communication, Peninsula Airways reservation agent, April 6, 2012.
[1395] This price was calculated on November 21, 2011 using kayak.com.
[1396] See footnote 1390.
[1397] Parsons Brinkerhoff. 2002. *Southwest Alaska Transportation Plan Final Edition*. Prepared for the Alaska Department of Transportation and Public Facilities. Retrieved April 4, 2012 from http://www.dot.state.ak.us/stwdplng/areaplans/pub/SWplanfinalnov02.pdf.

Facilities

Water in Pilot Point is derived from surface water sources and individual wells. The City does not operate a piped water or sewer system. Individual homes use septic tanks or outhouses. The City operates a sewage lagoon for sewage treatment.[1398] According to a survey conducted by the AFSC in 2011, some water and sewer pipelines were completed in the last 10 years, and water treatment is available in Pilot Point. The City also operates a landfill, but does not provide refuse collection services. Electricity in Pilot Point is provided by a diesel powerhouse operated by the City.[1399] According to the 2011 AFSC survey, community leaders indicated that alternative energy sources are currently in development. Police services are provided by a Village Public Safety Officer stationed in Pilot Point, as well as state troopers stationed in King Salmon. Fire and rescue services are provided by the Pilot Point First Responders.[1400] Additional community facilities and services include a City Office building and school library. Internet and telephone service is available in Pilot Point, but there is no local cable service provider.[1401] According to the 2011 AFSC survey, community leaders reported the presence of a fire department and post office in Pilot Point as well.

With regard to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that a barge landing area is present in Pilot Point. They also noted that 200 feet of dock space is available for transient commercial or recreational vessels to moor, but no permanent vessel moorage is available. They indicated that vessels of up to 60 feet in length can use this dock facility. They reported that roads currently serve the dock, and electricity to the dock is currently in progress. The community plans to improve the existing dock structure and add a fish cleaning station within the next 10 years. Community leaders also indicated that Pilot Point offers haulout facilities for small boats (less than 60 tons), as well as dry dock storage, fishing gear storage, and fishing gear repair. Several types of boat repair services are available locally, including welding, hydraulics, and mechanical services. In addition, community leaders indicated that ice is available for sale in Pilot Point, and fishing lodges are present in the area. For fishing-related businesses and services not available in Pilot Point, community leaders indicated that local residents typically travel to Port Heiden, Dillingham, or Naknek.

In the 2011 AFSC survey, community leaders also noted that a majority of municipal services are funded by revenue from a raw fish tax, including harbor maintenance, roads, water and wastewater systems, police, enforcement, fire protection, and educational scholarships. Details about the raw fish tax and other fisheries-related revenue are discussed in the *Involvement in North Pacific Fisheries* section and presented in Table 3 below.

Medical Services

Local health care is provided by the Pilot Point Clinic, which is owned by the City and operated by Bristol Bay Area Health Corporation. The Pilot Point Clinic is a Community Health Aide Program site. Emergency Services have coastal and air access. Emergency service is

[1398] See footnote 1390.
[1399] Ibid.
[1400] Ibid.
[1401] Ibid.

provided by a health aide. Alternate health care is provided by the Pilot Point First Responders.[1402] The nearest hospital is located in Dillingham.

Educational Opportunities

There is one school in the community, which offers preschool through 12th grade. As of 2011, the Pilot Point School had a total of 19 students and 2 teachers.[1403]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest has been important to residents of the Pilot Point area for thousands of years. Early inhabitants of the Alaska Peninsula were maritime hunters.[1404] During Alaska's Russian period, salmon remained a subsistence resource, but soon after the U.S. purchase of Alaska in 1867, commercial exploitation of salmon was initiated.[1405]

In addition to salmon, commercial fisheries that have played a role in Pilot Point's history in include herring, halibut, and groundfish fisheries. Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. On occasion, a herring sac roe fishery occurs near Port Moller, when aerial surveys determine that a sufficient quantity of herring is present, and if processing capacity is available.[1406] Halibut and groundfish fisheries began to develop in the Alaska Peninsula region by the 1920s with the development of diesel engines that extended the range of fishing vessels.[1407,1408] Major groundfish fisheries in the Alaska Peninsula region include a jig fishery for black rockfish out of Unalaska and a Pacific cod fishery, in addition to a statewide lingcod fishery, a sablefish fishery within 0-3 miles of the coast for non federal sablefish quota share holders, and a statewide Pacific cod fishery in state waters.[1409]

Pilot Point is located in Federal Statistical and Reporting Area 508, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. In addition Pilot Point is located in the Ugashik Salmon District of the Bristol Bay salmon fishery. Pilot Point participates in the Community Development Quota (CDQ) program as a member of the Bristol

[1402] Ibid.
[1403] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1404] National Park Service. (n.d.). *Prehistory of Alaska: Southwest Alaska and Pacific Coast*. Retrieved April 5, 2012 from http://www.nps.gov/akso/akarc/swest.htm.
[1405] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." Alaska Fisheries Research Bulletin 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1406] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1407] Ibid.
[1408] International Pacific Halibut Commission. 1978. *The Pacific Halibut: Biology, Fishery, and Management*. Technical Report No. 16 (Revision of No. 6).
[1409] See footnote 1406.

Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity program.

According to a survey conducted by the AFSC in 2011, community leaders indicated that Pilot Point participates in fisheries management processes in Alaska through sending a representative to sit on regional fisheries advisory and/or working groups run by ADF&G. Community leaders also reported challenges for the Pilot Point fishing sector, noting that the current Pilot Point runway is not long enough to support the weights of fish necessary for cost-effective shipping of raw or processed products.

Processing Plants

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Pilot Point. A cannery near Pilot Point closed in 1958. It was originally established as a saltery in 1892, and began operating as a three-line cannery in 1918.[1410] Ownership of the old Pilot Point cannery was transferred to the City of Pilot Point in the 1990s. The buildings are currently used for storage by the City, and renovations are underway to convert the facility to a museum, visitor's center, metalsmithing and woodworking shops, and other potential uses. The Alaska Department of Environmental Conservation (DEC)'s Brownfield Program is providing assistance in resolving environmental concerns at the site, including asbestos insulation, lead-based paint, and possible leaching of the fuel-storage tank farm at the facility.[1411]

According to the 2010 Intent to Operate list, a processing facility is currently located upriver near Ugashik, and processing facilities are also in Bristol Bay communities of Egegik, Naknek, Port Moller, and Dillingham. More information about these processing facilities can be found in the profiles for each of these communities.

Fisheries-Related Revenue

In 2010, the City of Pilot Point received a greater amount of fisheries-related revenue than was reported in the municipal budget that year. According to Alaska Taxable, revenue from a raw fish tax totaled $382,983 that year, and an additional $5,034 was received from the Shared Fisheries Business Tax. Table 3 shows the annual revenue for these categories.[1412] In a survey conducted by the AFSC in 2011, community leaders reported additional "fish tax" revenue of $810,000 in 2010. This number is not reflected in Table 3. In addition to the revenue sources referenced above, from 2000 to 2005, Pilot Point received between $1,000 and $2,000 per year from the DEC's Brownfield Program to assess potential environmental threats at the old Pilot Point cannery and resolve known environmental concerns.[1413]

In addition to the revenue sources presented in Table 3, Pilot Point is also a member of the BBEDC. Fisheries revenue from the CDQ program is used to provide grants for

[1410] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1411] Alaska Dept. of Environmental Conservation. 2006. "Special Focus: Old Alaskan Canneries are Ripe for Brownfield Redevelopment." *Brownfield Bulletin*, Volume 06-3. Retrieved April 5, 2012 from http://dec.alaska.gov/spar/csp/docs/brownfields/bf_bull_10_06.htm.
[1412] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.
[1413] See footnote 1410.

infrastructure, fuel and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[1414] Pilot Point community leaders did not report receipt of funds from the BBEDC in 2010 in the 2011 AFSC survey.

Commercial Fishing

Between 2000 and 2010, Pilot Point residents participated in commercial fisheries as permit holders, crew members, and vessel owners. In 2010, there were 14 Pilot Point residents (equivalent to 21% of the local population) holding a total of 16 Commercial Fisheries Entry Commission (CFEC) permits. These included 15 salmon permits, of which 67% were actively fished that year. The number of salmon permits and permit holders decreased over the decade, from a high of 21 permit holders and 21 salmon permits held in 2000. All permits were for Bristol Bay set and drift gillnet fisheries, with the exception of one Lower Yukon set gillnet permit held by a Pilot Point fisherman in 2009.

In addition to salmon permits, in some years Pilot Point residents held CFEC permits in fisheries for halibut (2000-2008 and 2010), herring (2000-2001, 2005-2008), and groundfish (2000-2002). The number of halibut permits decreased from five in 2000 to one in 2010. The last year during the 2000-2010 period in which a herring permit was actively fished was 2005, while no groundfish permit was actively fished in any year during the 2000-2010 period. Information about CFEC permits is presented in Table 4.

From 2008-2010, one Pilot Point resident held one Federal Fisheries Permit (FFP), and one quota share account was held in the federal halibut catch share fishery. The amount of halibut quota stayed constant during these three years at 706 shares. The annual halibut individual fishing quota (IFQ) allotment decreased by more than a quarter during these three years. Between 2000 and 2010, no Pilot Point residents held License Limitation Program permits (LLP) in federal crab or groundfish fisheries. Likewise, no Pilot Point residents held quota share accounts or quota shares in federal catch share fisheries for sablefish or crab. Information about federal permits is presented in Table 4 and information about federal catch share participation is presented in Tables 6 through 8.

In 2010, a total of 17 Pilot Point residents (equivalent to 25% of the local population) held commercial crew licenses, and 5 fishing vessels were primarily owned by Pilot Point residents. The number of crew license holders declined over the decade, from 33 in the year 2000, while the number of vessels owned by local residents fluctuated between 9 and 5 between 2000 and 2010. The number of vessels homeported in Pilot Point was slightly higher, fluctuating between 8 and 14 during these years. Information about the commercial fishing sector in Pilot Point is presented in Table 5. According to a survey conducted by the AFSC in 2011, community leaders indicated that the vessels using Pilot Point as a base of operations during the fishing season were primarily salmon gillnet boats of 35 feet or less in length. They also noted than there are currently more commercial fishing boats of a variety of sizes in Pilot Point than were present five years ago, due to increased profitability of commercial fishing in recent years.

No landings or ex-vessel revenue were recorded in Pilot Point given the lack of fish buyers and shore-side processors in the community (Tables 5 and 9). Information about landings and ex-vessel revenue generated by vessels owned by Pilot Point residents is largely considered

[1414] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

confidential between 2000 and 2010 due to the small number of participants, with the exception of salmon harvest data. For the years reported between 2000 and 2009, Pilot Point vessel owners harvested an average of 358,033 net pounds of salmon, with an average ex-vessel value of the catch of $220,757. It is of interest to note that the year with the highest landings (2006 with 579,435 net pounds landed) did not coincide with the highest ex-vessel revenue, which was earned in 2009 when 478,814 net pounds of salmon were landed. This may reflect variations in species composition of the harvest, differences in price from year to year, and possible differences in the location where vessel owners delivered their catches. Information about commercial harvest and ex-vessel revenue earned by vessel owners residing in Pilot Point is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Pilot Point: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	$170,552	$38,000	n/a	$112,500	$3,000	n/a	n/a	$257,712	$480,902	$518,349	$382,983
Shared Fisheries Business Tax[1]	$5,128	$4,240	$6,604	$2,968	$2,536	$2,927	$3,648	$4,489	$4,132	$5,113	$5,034
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$19	$50	$190	$314	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maintenance of old cannery site[2]	$1,204	$1,204	n/a	$2,000	$2,000	$1,500	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$176,884*	*$43,444*	*$6,604*	*$117,468*	*$7,536*	*$4,427*	*$3,668*	*$262,251*	*$485,223*	*$523,776*	*$388,017*
Total municipal revenue[5]	*$606,800*	*$656,842*	*$566,830*	*$431,542*	*$492,277*	*$657,706*	*$742,374*	*$647,950*	*$762,917*	*$745,394*	*$309,575*

Note: n/a indicates that no data were reported for that year. Also, the percent of total municipal revenue sources that is derived from fisheries-related sources cannot be calculated for this community given that raw fish tax revenue is not always included in the municipal budget.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Pilot Point: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	1	1	1
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	5	1	3	1	2	1	1	1	1	0	1
	Fished permits	1	0	1	0	1	1	1	1	0	0	0
	% of permits fished	20%	0%	33%	0%	50%	100%	100%	100%	0%	-	0%
	Total permit holders	5	1	3	1	2	1	1	1	1	0	1
Herring (CFEC) [2]	Total permits	1	2	0	0	0	1	1	1	1	0	0
	Fished permits	0	1	0	0	0	1	0	0	0	0	0
	% of permits fished	0%	50%	-	-	-	100%	0%	0%	0%	-	-
	Total permit holders	1	1	0	0	0	1	1	1	1	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Pilot Point: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	2	1	1	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	-	-	-	-	-	-	-	-
	Total permit holders	2	1	1	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	21	17	15	13	15	13	16	15	15	18	15
	Fished permits	15	14	11	10	11	9	10	9	11	12	10
	% of permits fished	71%	82%	73%	77%	73%	69%	63%	60%	73%	67%	67%
	Total permit holders	21	19	16	15	15	14	17	16	16	18	14
Total CFEC Permits[2]	*Permits*	*29*	*21*	*19*	*14*	*17*	*15*	*18*	*17*	*17*	*18*	*16*
	Fished permits	*16*	*15*	*12*	*10*	*12*	*11*	*11*	*10*	*11*	*12*	*10*
	% of permits fished	*55%*	*71%*	*63%*	*71%*	*71%*	*73%*	*61%*	*59%*	*65%*	*67%*	*63%*
	Permit holders	*21*	*19*	*16*	*15*	*15*	*14*	*17*	*16*	*16*	*18*	*14*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Pilot Point: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in Pilot Point[2]	Total Net Pounds Landed in Pilot Point[2,5]	Total Ex-Vessel Value of Landings in Pilot Point[2,5]
2000	33	0	0	9	8	0	0	$0
2001	32	0	0	8	8	0	0	$0
2002	28	0	0	6	10	0	0	$0
2003	28	0	0	6	9	0	0	$0
2004	19	0	0	8	10	0	0	$0
2005	21	0	0	8	7	0	0	$0
2006	21	0	0	7	11	0	0	$0
2007	18	0	0	7	13	0	0	$0
2008	13	0	0	7	14	0	0	$0
2009	27	0	0	8	9	0	0	$0
2010	17	0	0	5	8	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. Dolly Varden Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Pilot Point: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	1	706	47
2009	1	706	38
2010	1	706	34

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Pilot Point: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Pilot Point: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Pilot Point: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Pilot Point Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	370572	168398	223400	205945	531105	345147	579435	425648	251865	478814	-
Total[2]	*370572*	*168398*	*223400*	*205945*	*531105*	*345147*	*579435*	*425648*	*251865*	*478814*	-
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	$236,345	$66,474	$108,375	$104,074	$271,978	$209,387	$369,736	$278,806	$182,074	$380,323	-
Total[2]	*$236,345*	*$66,474*	*$108,375*	*$104,074*	*$271,978*	*$209,387*	*$369,736*	*$278,806*	*$182,074*	*$380,323*	-

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses were present in Pilot Point. Over the same period, the number of licensed sport fish guides residing in Pilot Point varied from zero to two. Although no sportfishing licenses were sold in Pilot Point, local residents purchased them elsewhere. The number of sportfishing licenses held by residents of Pilot Point residents varied between 5 and 12 during the 2000-2010 period. According to a survey conducted by the AFSC in 2011, community leaders indicated that Chinook, coho, sockeye, and chum salmon are the primary targets of sportfishing activity in Pilot Point, along with clams. They also indicated that sport fishermen fish both from private boats and from the shore or docks, and that sportfishing lodges are present in the Pilot Point area.

Pilot Point is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Nelson Lagoon is also displayed in Table 11.

The Alaska Statewide Harvest Survey,[1415] conducted by ADF&G between 2000 and 2010, did not include information about species targeted by private anglers in Pilot Point, and no kept/release log book data were reported for sportfishing charters out of Pilot Point between 2000 and 2010.[1416]

[1415] ADF&G. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010.* ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).
[1416] ADF&G. 2011. *Alaska sport fish charter logbook database, 2000 – 2010.* ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Pilot Point: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Pilot Point[2]
2000	0	1	8	0
2001	0	2	9	0
2002	0	2	5	0
2003	0	2	6	0
2004	0	2	11	0
2005	0	2	12	0
2006	0	1	9	0
2007	0	0	10	0
2008	0	1	7	0
2009	0	0	11	0
2010	0	1	11	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Pilot Point residents combine subsistence harvest of a wide variety of marine resources with employment opportunities in commercial fishing.[1417] In a survey conducted by the AFSC in 2011, Pilot Point community leaders said that salmon, trout, and clams are the most important aquatic subsistence resources utilized by local residents.

No information is available from ADF&G regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, a survey of 1987 subsistence activity conducted by ADF&G provides information about harvest of marine invertebrates, non-salmon fish (not including halibut), and marine mammals at the household level. That year, the following species of marine invertebrates were harvested: cockles (41% of households reported harvest), razor clams (35%), butter clams (6%), butter clams (6%) and Tanner crab (6%). Species of non-salmon fish that were reported as harvested by Pilot Point households in 1987 included smelt (harvest reported by 65% of households), Dolly Varden char (41%), northern pike (24%), grayling (18%), lake trout (18%), cod (12%), and flounder (6%). Harvest of herring and whitefish was also reported, but no information was reported regarding the percentage of households using these resources. In addition, 6% of households reported harvesting herring roe spawn on kelp. Also in 1987, 18% of households reported harvesting harbor seal. In many cases, the number of households that reported using these subsistence resources was higher than the number of households involved in harvest, indicating the importance of sharing within the community.[1418]

Data are available for some years during the 2000-2010 period regarding total subsistence salmon harvest. In 2000, subsistence salmon permits were issued to 13 Pilot Point households, and this number declined to 4 permits issued in 2008. In all years for which information was reported, sockeye were the most heavily harvested of the salmon species, followed by coho. A small number of Chinook, chum, and pink were also harvested each year. No information was reported regarding subsistence harvest of marine invertebrates or non-salmon fish (not including halibut) between 2000 and 2010. Information about subsistence salmon permits and harvest of marine invertebrates and non-salmon fish is presented in Table 13.

Information about the Subsistence Halibut Registration Certificate (SHARC) program was reported by ADF&G for 2009 and 2010 only. In both of these years, two SHARC cards were issued to Pilot Point residents, but no information was reported about the number of SHARC cards returned or the total pounds of subsistence halibut harvested. This information about the subsistence halibut fishery is presented in Table 14.

Information is also available regarding marine mammal harvest by residents of Pilot Point between 2000 and 2010. According to data reported by the U.S. Fish and Wildlife Service and ADF&G, this harvest focused primarily on sea otter and harbor seal. No information was reported by management agencies regarding harvest of beluga whale, walrus, sea lion, or spotted seal between 2000 and 2010. Information about subsistence harvest of marine mammals by Pilot Point residents is presented in Table 15.

[1417] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1418] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Pilot Point: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Pilot Point: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	13	10	23	33	272	n/a	794	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	5	5	4	3	n/a	2	84	n/a	n/a
2005	5	5	n/a	14	73	2	110	n/a	n/a
2006	7	7	11	n/a	152	12	286	n/a	n/a
2007	7	6	13	13	76	4	349	n/a	n/a
2008	4	4	11	2	16	n/a	151	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). Dolly Varden Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Pilot Point: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	2	n/a	n/a
2010	2	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Pilot Point: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	5	n/a
2001	n/a	n/a	n/a	n/a	n/a	2	n/a
2002	n/a	2	n/a	n/a	n/a	2	n/a
2003	n/a	n/a	n/a	n/a	n/a	3	n/a
2004	n/a	n/a	n/a	n/a	n/a	2	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	3	n/a
2007	n/a	n/a	n/a	n/a	n/a	3	n/a
2008	n/a	n/a	n/a	n/a	n/a	3	n/a
2009	n/a	n/a	n/a	n/a	n/a	5	n/a
2010	n/a	n/a	n/a	n/a	n/a	2	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Port Alsworth (*also known as Tanalian*)

People and Place

Location [1419]

Port Alsworth is on the east shore of Lake Clark at Hardenburg Bay, 22 miles northeast of Nondalton, 28 miles north of Iliamna Lake, and 165 miles southwest of Anchorage. It lies within the boundaries of the Lake Clark National Park and Preserve. Port Alsworth is located in the Iliamna Recording District and the Lake and Peninsula Borough Census Area.

Demographic Profile [1420]

In 2010, there were 159 residents in Port Alsworth, ranking it as the 217th largest of 352 communities in Alaska with populations recorded that year. The population of Port Alsworth almost tripled between 1990 and 2010, increasing by 189%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 13.5%, with an average annual growth rate of 1.47%. In a survey conducted by the Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that between 40 and 75 seasonal workers or transients are present in Port Alsworth each year between May and October. They also noted that the local population peaks in July and August, and population fluctuations are somewhat driven by fishing-related activities, and particularly subsistence harvest activities.

In 2010, over half of the population of Port Alsworth identified themselves as White (67.9%), along with 21.4% individuals identifying as American Indian or Alaska Native, 4.4% identifying as Black or African American, 0.6% identifying as Asian, and 5.7% identifying with two or more races. In addition, 10.1% of Port Alsworth residents identified themselves as Hispanic in 2010. Compared to 2000, the percentage of the population that identified as White was 10% lower in 2010, while the percentage of the population identifying as Alaska Native was 22.2% higher in 2010. Several racial and ethnic groups appear to have been present in Port Alsworth in 2010 that were not present in 2000, including Black and African Americans, Asians and Hispanics. The change in population from 1990 to 2010 is provided in Table 1, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

Based on household surveys conducted for the U.S. Census, the average household size in Port Alsworth increased from 3.2 persons per household in 1990 to 3.64 in 2000, and then remained relatively stable, with 3.61 persons per household by 2010. The number of households in Port Alsworth stayed stable between 1990 (17 households), and 2000 (18 households), and then increased to 44 households by 2010. Of the total 74 housing units surveyed for the 2010

[1419] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1420] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

U.S. Decennial Census, 24.3% were owner-occupied, 35.1% were rented, and 40.5% were vacant or used only seasonally. From 1990 to 2010, no Port Alsworth residents were reported to be living in group quarters.

In 2010, the gender makeup in Port Alsworth's population was 54.6% male and 45.4% female, more heavily weighted toward males than the population of Alaska as a whole, which was 52% male and 48% female. That year, the median age of Port Alsworth residents was 25.1 years, significantly younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 6.9% of Port Alsworth's population was age 60 or older. The overall population structure of Port Alsworth in 2000 and 2010 is shown in Figure 2.

Table 1. Population in Port Alsworth from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	55	-
2000	104	-
2001	-	105
2002	-	109
2003	-	104
2004	-	114
2005	-	106
2006	-	112
2007	-	115
2008	-	124
2009	-	118
2010	159	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Port Alsworth: 2000-2010 (U.S. Census).

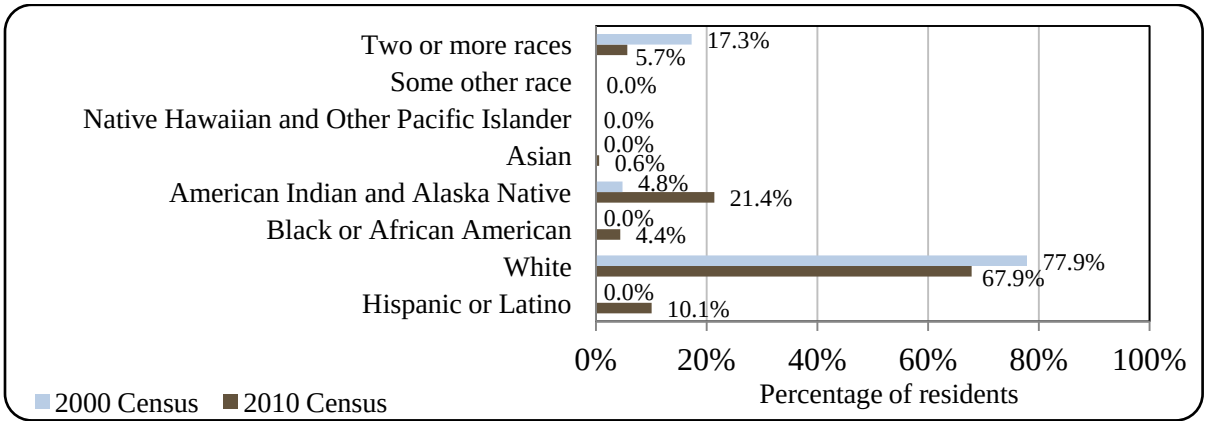
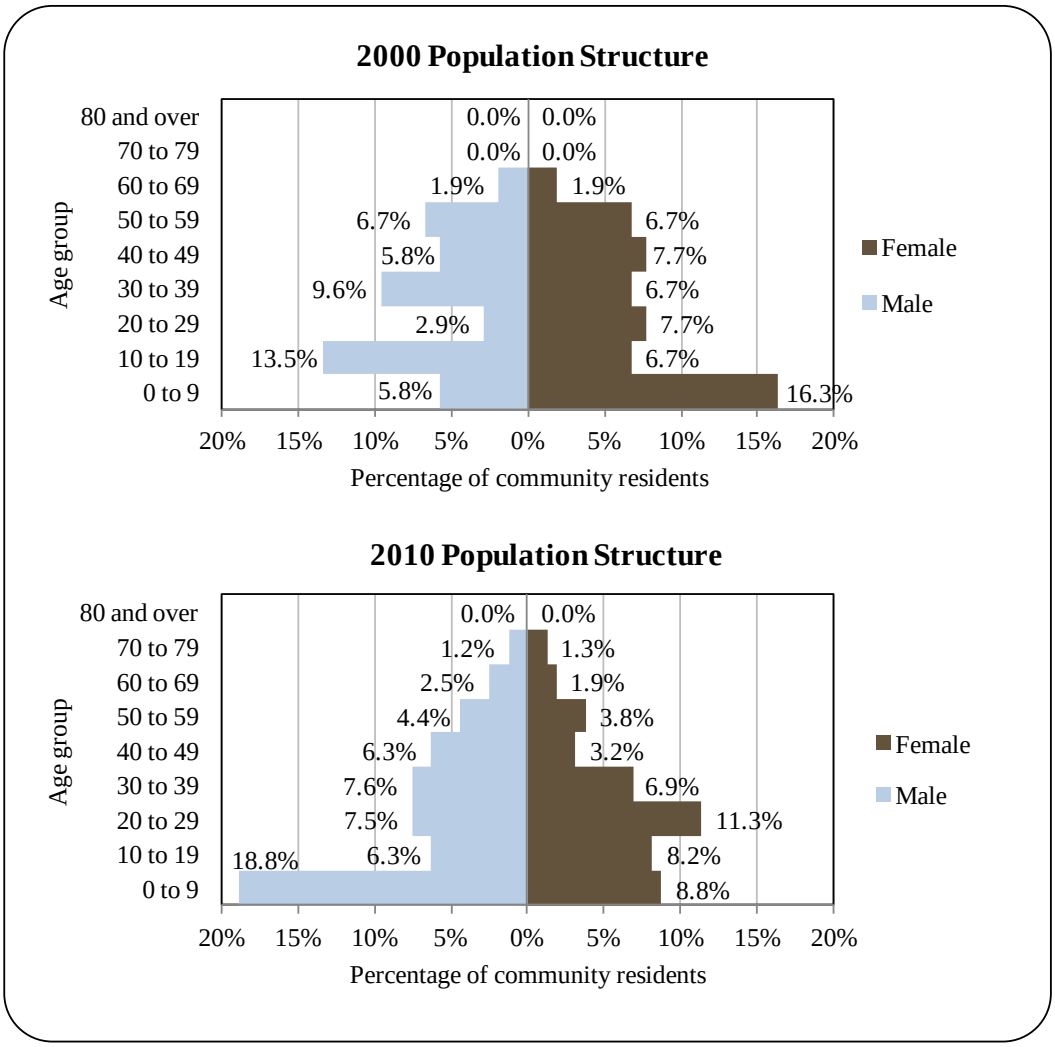


Figure 2. Population Age Structure in Port Alsworth Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1421] 100% of Port Alsworth residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 82.7% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 17.3% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

[1421] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

By 1500 AD, Dena'ina Athabascans had expanded from the east, establishing settlements as far south as Iliamna Lake and Lake Clark.[1422] Although the Dena'ina traveled across the mountains to Cook Inlet for trade during the Russian occupation of Alaska, few Russian explorers entered the Lake Clark area. The first documented American expedition into the region took place in 1891 under the leadership of Alfred B. Schanz and John W. Clark (an agent of the Alaska Commercial Company), for whom the lake was named. At the time of this expedition, the Dena'ina village of Kijik was present It was at the mouth of the Kijik River, on the Northwest shore of Lake Clark.[1423,1424]

Port Alsworth was originally settled in the late 1880s by Euro-American prospectors who arrived in search of copper and gold. After the settlement was established, some Dena'ina from Kijik moved to the site as well. The village shrank several decades later, after most of the prospectors had left, and the Dena'ina abandoned Kijik and moved to a new settlement at Nondalton in 1914.[1425]

A new era began in Port Alsworth in the 1940s, when the Leon "Babe" Alsworth and Mary Alsworth moved their family moved from Bristol Bay to Lake Clark. They originally settled on the north shore of the Lake, but in August 1944 relocated to Hardenburg Bay for its protected seaplane access and for the availalbility of level ground in the area that enabled construction of an airport.[1426] Babe Alsworth had a passion for aviation. He built a 4000-foot runway and started Lake Clark Air. Since that time, many guide services and lodges have been established in the area and have made Port Alsworth a base of operations. The establishment of Lake Clark National Park and Preserve in 1980, and the presence of the National Park Service Field Headquarters in Port Alsworth, make the community a jumping off point for adventure and ecotourism as well as sport hunting and fishing activity.[1427] A post office was established in Port Alsworth in 1950. Today, a majority of the population is non-Native.[1428]

Natural Resources and Environment

Port Alsworth lies in a transitional climatic zone. Average summer temperatures range from 42 to 62 °F; winter temperatures range from 6 to 30 °F. Annual rainfall averages 26 inches, with 70 inches of snowfall.[1429] Port Alsworth is located on the south shore of Lake Clark, within

[1422] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1423] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster. December 2006. *Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1424] Kijik village location information was provided in a personal communication with the son of Leon and Mary Alsworth, November 16, 2012.
[1425] See footnote 1423.
[1426] Personal communication with the son of Leon and Mary Alsworth, November 16, 2012.
[1427] Ibid.
[1428] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1429] Ibid.

the boundaries of Lake Clark National Park and Preserve. The land immediately surrounding the community is characterized by flat, lake-dotted tundra, and the landscape east of Lake Clark rises to steep, forested mountains.[1430]

Port Alsworth is located within the boundaries of the Lake Clark National Park and Preserve (Park), which occupies 4 million acres at the northeast end of the Alaska Peninsula. The Park was established to protect scenic beauty, wild rivers and waterfalls, populations of fish and wildlife, watersheds essential for sockeye salmon, and the traditional lifestyle of local residents. Subsistence use is permitted in the park. The National Park Service works closely with state and federal fish and wildlife management agencies to determine seasons, bag limits, and similar harvest controls. A diversity of wildlife is found in the Port Alsworth area, including brown and black bear, caribou, Dall sheep, moose, beaver, red fox, wolf, coyote, lynx, and over 125 species of birds.[1431]

Port Alsworth lies in an area that is integral to the Kvichak watershed, a highly productive spawning ground for sockeye and other salmon of Bristol Bay. Area lakes and rivers feed into Lake Clark, which is the 6th largest freshwater lake in Alaska. Lake Clark flows directly into Six Mile Lake. Waters are then funneled via the Newhalen River into Iliamna Lake, which in turn flows into Bristol Bay via the Kvichak River. Approximately 50% of the sockeye salmon caught in Bristol Bay spawn in the lakes and rivers of the Kvichak watershed, representing 33% of the entire U.S. sockeye catch.[1432] Sport fish in Lake Clark include Arctic char, Arctic grayling, Dolly Varden, northern pike, lake trout, rainbow trout, and sockeye and coho salmon. In addition, locals catch whitefish and burbot in the winter through the ice.[1433]

The region contains significant mineral potential for base, precious, rare, and strategic minerals, including the Pebble copper-gold-molybdenum deposit.[1434] The Pebble site is located approximately 40 miles southwest of Port Alsworth, at the divide between the Koktuli River and Upper Talarik Creek.[1435] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion pounds of copper, 107.3 ounces of gold, and 5.6 billion pounds of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[1436] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1437] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble mine is copper. Dissolved

[1430] LaRoche + Associates. 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1431] National Park Service. 2011. *Lake Clark National Park & Preserve*. Retrieved January 18, 2012 from http://www.nps.gov/lacl/.
[1432] Nondalton Tribal Council. 2006. *Nondalton Long-Range Environmental Plan*. Produced with assistance from Agnew::Beck Consulting. Retrieved January 17, 2012 from http://www.agnewbeck.com/pdf/bristolbay/Nondalton_LREP_Background.pdf.
[1433] See footnote 1431.
[1434] See footnote 1422.
[1435] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[1436] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[1437] See footnote 1422.

copper is known to be toxic to fish.[1438] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[1439]

Natural hazards present in Port Alsworth include high risk of wildfire and severe weather, medium risk of earthquakes and flooding, and low risk of volcanic activity. Wildfire was determined to be a top hazard since Port Alsworth is located in a heavily forested area with many dead trees resulting from a spruce bark beetle outbreak. Several homes in Port Alsworth are located in the floodplain of the Tanalian River, which is subject to shifting course. Power and telephone supply lines are also vulnerable to flooding. While wildfire and flooding were determined to have low likelihood of taking place, severe weather has a high probability of affecting Port Alsworth. Winds of greater than 100 mph are recorded several times per year.[1440]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Port Alsworth as of July 2012.[1441]

Current Economy[1442]

According to a survey conducted by the AFSC in 2011, community leaders indicated that some of the most important local industries are ecotourism and sport hunting and fishing. Port Alsworth offers several lodges and outfitters/guides for summer recreational enthusiasts.[1443] In 2010, two Port Alsworth residents also held state commercial fishing permits in Bristol Bay salmon drift and set gillnet fisheries. In addition to commercial fishing and fishing lodges, top employers in Port Alsworth in 2010 included the Lake and Peninsula School District, Lake Clark Air, Inc., and a missionary emergency relief organization.[1444]

Based on household surveys conducted for the 2006-2010 ACS,[1445] in 2010, the per capita income in Port Alsworth was estimated to be $20,834, a decrease from the per capita income reported in 2000 ($21,716), and the median household income was estimated to be $87,679, an increase from the reported median household income in 2000 ($58,750). After accounting for inflation by converting the 2000 values to 2010 dollars,[1446] real per capita income in 2000 is revealed to have been $28,556, and real median household income was $77,255,

[1438] See footnote 1435.
[1439] Pg. 36 in Duffield, John, Christopher Neher, David A. Patterson, and Oliver S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[1440] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1441] Alaska Dept. of Environmental Conservation. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1442] Unless otherwise noted, all monetary data are reported in nominal values.
[1443] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1444] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1445] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1446] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

indicating an overall decrease in per capita income and increase in median household income over the period. In 2010, Port Alsworth ranked 144th of 305 Alaskan communities with per capita income data that year, and 18th in median household income, out of 299 Alaskan communities with household income data.

Although Port Alsworth's small population size may have prevented the ACS from accurately portraying economic conditions,[1447] additional evidence for a decrease in per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Port Alsworth in 2010 is $4,542.[1448] This is lower than the 2006-2010 ACS estimate and provides additional evidence that per capita income declined in Port Alsworth between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[1449] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a higher percentage of Port Alsworth residents were estimated to be in the civilian labor force (80%) than in the civilian labor force statewide (68.8%). In the same year, 4% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 0% in Port Alsworth, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 9.5%, compared to a statewide unemployment rate estimate of 11.5%.[1450]

Also based on the 2006-2010 ACS, half of Port Alsworth's workforce was estimated to be employed in the public sector (50%), and half in the private sector (50%). No Port Alsworth residents were estimated to be self-employed in 2010. Of the 48 people aged 16 and over that were estimated to be employed in the civilian labor force, 41.7% were estimated to be employed in transportation, warehousing, and utilities, 20.8% in educational services, health care, and social assistance, 20.8% in arts, entertainment, recreation, accommodation, and food services, and 16.7% in public administration. No Port Alsworth residents were estimated to be employed in agriculture, forestry, fishing, hunting and mining in 2010. However, given the participation that some residents have in fishing (see *Commercial fisheries* section below), the number of individuals employed in farming, fishing, and forestry occupations and industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

[1447] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1448] See footnotes 1444 and 1445.
[1449] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[1450] See footnote 1444.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 33 employed residents in 2010, of which 33.3% were employed in local government, 27.3% in trade, transportation, and utilities, 15.2% in educational and health services, 9.1% in professional and businesses services, 9.1% in leisure and hospitality, 3% in natural resources and mining, and 3% in information industries.[1451] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Port Alsworth (U.S. Census).

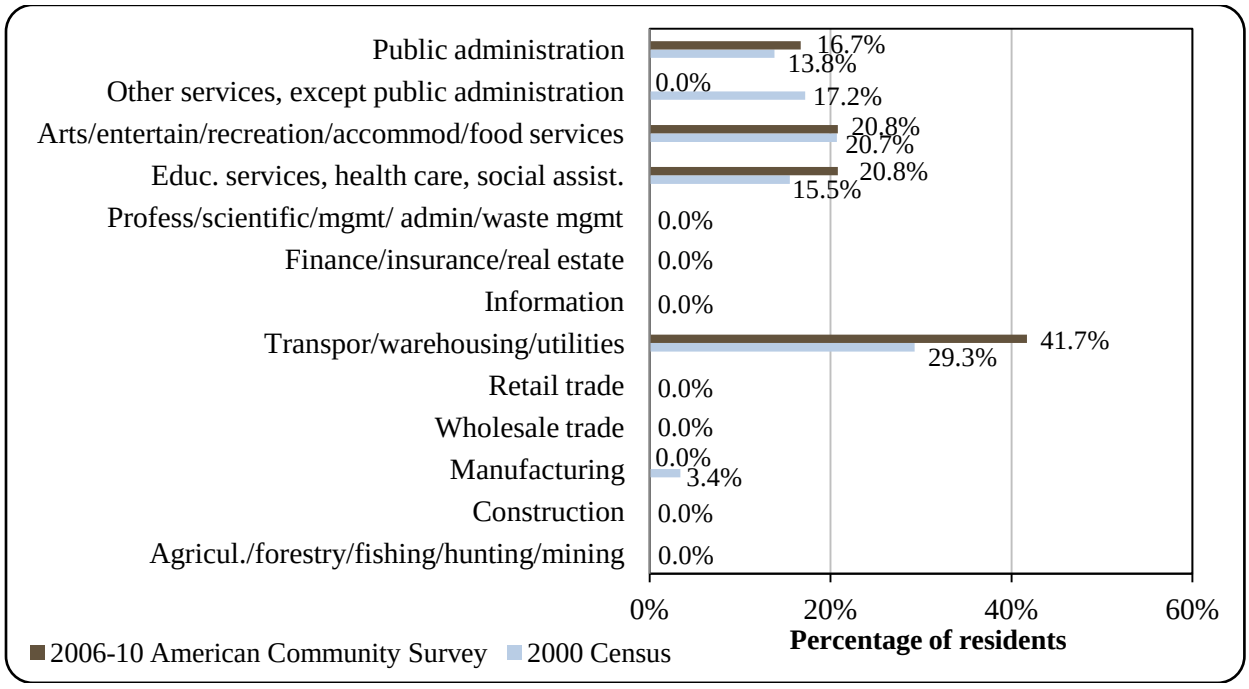
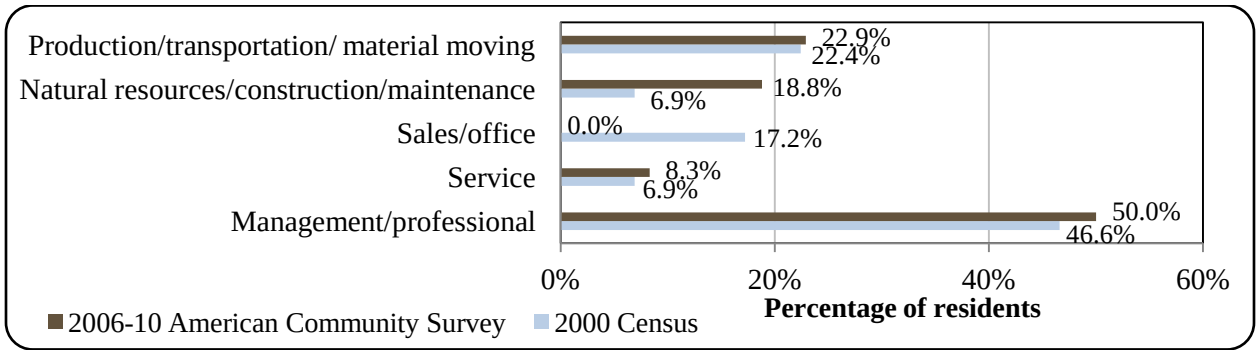


Figure 4. Local Employment by Occupation in 2000-2010, Port Alsworth (U.S. Census).



[1451] Ibid.

Governance

Port Alsworth is an unincorporated community located in the Lake and Peninsula Borough. The community is represented by the Port Alsworth Improvement Corporation, a non-profit that provides very limited local services, including fuel distribution.[1452] Although no taxes are administered by Port Alsworth, the Borough administers a 2% fish tax, 6% bed tax, $3 per person/day guide tax, and $1 per person/day lodge guide tax.[1453]

Given that Port Alsworth is not incorporated and did not administer taxes, the community did not receive municipal revenue or sales tax revenue between 2000 and 2010. No information was reported regarding State or Community Revenue Sharing contributions or fisheries-related grants received by Port Alsworth between 2000 and 2010. Information about selected revenue sources is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Port Alsworth from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1452] LaRoche + Associates. 2011. L*ake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.
[1453] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CIS.cfm.

Port Alsworth was not included under the Alaska Native Claims Settlement Act (ANCSA), is not federally recognized as a Native village.[1454] However, under Title 14 Amendments to ANCSA, individual Native residents in Port Alsworth that were enrolled at-large in the regional Bristol Bay Native Corporation (BBNC) were recognized to have formed a new group corporation, known as Tanalian Corporation.[1455,1456]

Infrastructure

Connectivity and Transportation

There are two privately-owned and operated airstrips in the area: a 4,200 feet long and 100 feet wide gravel airstrip and a 3,000 feet long by 100 feet wide dirt/gravel airstrip operated by Glen Alsworth and The Farm Lodge.[1457] As of June 2012, there was no scheduled air service to Port Alsworth. Iliamna Air Taxi offered charter service as well as mailplane several times per week. The price of a roundtrip ticket between Anchorage and Iliamna in June 2012 was $460, and a charter from Iliamna to Port Alsworth was $387. It is also possible to ride to Port Alsworth with scheduled mailplane service for $60 one-way from Iliamna. The mailplane departs Iliamna at 9:30 am on Mondays, Wednesdays, and Fridays.[1458]

Facilities

Approximately 50% of homes in Port Alsworth use individual wells and septic systems, and are fully plumbed. The remainder haul water from a nearby surface water source and use outhouses.[1459] The National Park Service operates a sewage lagoon in Port Alsworth.[1460] The Tanalian Electric Cooperative operates a diesel powerhouse in Port Alsworth.[1461] According to a survey conducted by the AFSC in 2011, community leaders indicated that alternative energy is expected to be available within the next 10 years. The Iliamna-Newhalen-Nondalton Electric Cooperative recently completed the first phase of the Tazimina Hydroelectric Project, which brings hydroelectric power from the Tazimina River to the communities of Iliamna, Newhalen, and Nondalton. The distribution system is expected to be expanded to serve Port Alsworth, as well as Pedro Bay and Kokhanok.[1462] A landfill/incinerator is operated by the National Park

[1454] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1455] Alaska Native Claims Settlement Act, 1991 Amendments. *Title XIV – Amendments to the Alaska Native Claims Settlement Act and Related Provisions*. Retrieved April 20, 2012 from http://alaska.fws.gov/asm/anilca/title14.html.
[1456] Tanalian Incorporated. (n.d.). *About Tanalian Incorporated*. Retrieved July 5, 2012 from http://alaskalakefrontproperty.com/ti.html.
[1457] See footnote 1454.
[1458] Personal communication, Iliamna Air Taxi reservation agent, June 13, 2012.
[1459] See footnote 1454.
[1460] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.
[1461] See footnote 1454.
[1462] LaRoche + Associates. 2011. *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

Service,[1463] but no refuse collection services are available, and residents and lodges typically burn their own refuse.[1464] According to the 2011 AFSC survey, community leaders expect a new landfill to be completed within the next 10 years.

Police services are provided by state troopers stationed in the City of Iliamna, and fire and rescue services are provided by the Port Alsworth First Responders. Telephone service is available in the community. Broadband internet is only available at the local school, and no cable service is available in Port Alsworth.[1465] According to the 2011 AFSC survey, community leaders expect broadband internet service to be in place within the next 10 years. Additional community facilities and services include a multi-purpose building owned by the Port Alsworth Improvement Corporation, including offices, a post office operated by a private contractor, a community hall that is also used as a school gymnasium, and teachers' quarters.[1466]

With regard to fisheries-related infrastructure, community leaders indicated in the 2011 AFSC survey that no dock space is available in Port Alsworth for either transient or permanent vessel moorage. They also reported that Port Alsworth cannot accommodate regulated vessels, such as Coast Guard, ferries, cruise ships, fuel barges, or HAZMAT. They indicated that a barge landing area is expected to be completed within the next 10 years. They did report that several fisheries-related businesses and services are available locally, including electrical, welding, and mechanical boat repair services, recreational fishing vessel moorage, dry dock storage, sale of boat fuel and fishing tackle, fishing lodges, and both seaplane and air taxi service.

Medical Services

No medical facilities are present in Port Alsworth. Emergency services have lake and helicopter access. Emergency service is provided by the Port Alsworth First Responders.[1467] According to a 2001 survey report by the Alaska Native Tribal Health Consortium, a metal prefabricated building has been erected in Port Alsworth, with plans to use half of the building for a new health clinic.[1468] Until the clinic is completed, the nearest health clinic is located in Nondalton, and the nearest hospital is located in Soldotna.

Educational Opportunities

The Tanalian School in Port Alsworth offers a pre-school through 12th grade education. As of 2011, there were 4 teachers and 36 students attending the school.[1469]

[1463] See footnote 1460.
[1464] See footnote 1454.
[1465] Ibid.
[1466] See footnote 1460.
[1467] Ibid.
[1468] Alaska Native Tribal Health Consortium. 2001. *Port Alsworth Health Clinic*. Retrieved April 20, 2012 from https://www.denali.gov/dcpdb/Data/attachments/Port%20Alsworth%20Code%20and%20Condition%20Survey.pdf.
[1469] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest of fisheries resources has been important for residents of the Iliamna Lake region since prehistory. Commercial exploitation of salmon resources began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, along with several other species harvested in lower volumes.[1470] Subsistence harvest remains important in Port Alsworth. A majority of local households participate in subsistence harvest of wild resources, although subsistence participation is slightly lower in Port Alsworth than other communities in the Lake Clark – Iliamna Lake region.[1471] A number of sportfishing lodges are present in Port Alsworth, and recreational fishing is an important sector of the local economy.[1472]

Cook Inlet is the nearest marine area to the community of Port Alsworth. The Inlet is included in Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf of Alaska Sablefish Regulatory Area. In addition, Bristol Bay, the area where most Port Alsworth residents engage in commercial fishing activity, is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Port Alsworth is not eligible to participate in either the Community Development Quota program or the Community Quota Entity program.

According to a survey conducted by the AFSC in 2011, community leaders reported that Port Alsworth participates in fisheries management processes in Alaska through sending a representative to sit on regional fisheries advisory and/or working groups run by ADF&G. In addition, they indicated that the community also sends a representative to participate in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council Process. A representative of Port Alsworth serves as a fisheries advisor to the Lake and Peninsula Borough. In the survey, community leaders also noted challenges for Port Alsworth's fishing economy, including the fact that fishing income is unlikely to yield sufficient year-round income, and a lack of space for boats along the shoreline. Community leaders also reported that most residents have sold their commercial fishing permits in recent years, and few participate in commercial fishing any more. They also noted that sportfishing and tourism have replaced commercial fishing as economy drivers.

[1470] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1471] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1472] Ibid.

Processing Plants

The ADF&G's 2010 Intent to Operate list does not list a registered shore-side processing plant in Port Alsworth. According to the list, several processing facilities are located in nearby communities in Bristol Bay, including Naknek, Egegik, and Dillingham.

Fisheries-Related Revenue

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Port Alsworth (Table 3). However, in a survey conducted by the AFSC in 2011, community leaders indicated that revenue from a borough raw fish tax and the Shared Fisheries Business is used to support road maintenance as well as police and fire and rescue services locally.

Commercial Fishing

Port Alsworth is an inland community, located on Lake Clark. According to a survey conducted by the AFSC in 2011, community leaders indicated that local involvement in commercial fisheries is minimal, and has been decreasing over time. Between 2000 and 2010, the number of Port Alsworth residents holding state commercial fishing permits varied between two and five per year (Table 4). Although permit and crew license holder numbers remained relatively stable during the period, vessel ownership declined dramatically, from 25 fishing vessels primarily owned by residents in 2000 to 2 in 2010. The number of fishing vessels homeported in Port Alsworth also declined, from 34 in 2000 to 0 in 2010. Community leaders echoed this in the 2011 AFSC survey, noting that no fishing vessels were present in Port Alsworth in 2010. They did note the presence of private pleasure boats and 16-20 foot boats used for recreational and tourism purposes. Information about the commercial fishing sector in Port Alsworth is presented in Table 5.

In 2010, two Port Alsworth residents held a total of three commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC), all of which were issued for salmon fisheries. Two permits were held for Bristol Bay drift gillnet salmon and one was held in the Bristol Bay set gillnet salmon fishery. All three were actively fished in 2010.

In addition to salmon permits, several groundfish permits and a shrimp permit were held in 2005. One of the groundfish permits was held in the statewide lingcod dinglebar troll fishery, and the other in the Southeast Alaska demersal rockfish longline fishery. The shrimp permit was for the Southeast Alaska pot gear fishery. No Federal Fisheries Permits (FFP) or License Limitation Program permits (LLP) in federal crab or groundfish fisheries were issued to Port Alsworth residents between 2000 and 2010. Information and state and federal permits is presented in Table 4. In addition, between 2000 and 2010, no quota share accounts or quota shares were held by Port Alsworth residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

Between 2000 and 2010, information about landings and ex-vessel revenue generated by Port Alsworth vessel owners is considered confidential due to the small number of participants (Table 10). Since no fish buyers or processing plants were present in Port Alsworth (Table 5), no ex-vessel revenue was generated in the community between 2000 and 2010 (Table 9). Newhalen vessel owners delivered their catches elsewhere.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Port Alsworth: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Port Alsworth: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	1	0	0	0	0	0
	% of permits fished	-	-	-	-	-	100%	-	-	-	-	-
	Total permit holders	0	0	0	0	0	1	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Port Alsworth: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	2	0	0	0	0	0
	Fished permits	0	0	0	0	0	1	0	0	0	0	0
	% of permits fished	-	-	-	-	-	50%	-	-	-	-	-
	Total permit holders	0	0	0	0	0	1	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	4	4	3	3	3	4	3	2	2	2	3
	Fished permits	4	3	2	2	1	4	2	2	1	2	3
	% of permits fished	100%	75%	67%	67%	33%	100%	67%	100%	50%	100%	100%
	Total permit holders	4	5	3	4	3	4	3	2	2	3	4
Total CFEC Permits[2]	*Permits*	*4*	*4*	*3*	*3*	*3*	*7*	*3*	*2*	*2*	*2*	*3*
	Fished permits	*4*	*3*	*2*	*2*	*1*	*6*	*2*	*2*	*1*	*2*	*3*
	% of permits fished	*100%*	*75%*	*67%*	*67%*	*33%*	*86%*	*67%*	*100%*	*50%*	*100%*	*100%*
	Permit holders	*4*	*5*	*3*	*4*	*3*	*4*	*3*	*2*	*2*	*3*	*4*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Port Alsworth: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Port Alsworth[2]	Total Net Pounds Landed In Port Alsworth[2,5]	Total Ex-Vessel Value Of Landings In Port Alsworth[2,5]
2000	2	0	0	25	34	0	0	$0
2001	1	0	0	25	34	0	0	$0
2002	2	0	0	25	42	0	0	$0
2003	4	0	0	13	42	0	0	$0
2004	1	0	0	13	45	0	0	$0
2005	0	0	0	2	0	0	0	$0
2006	1	0	0	1	0	0	0	$0
2007	1	0	0	1	0	0	0	$0
2008	2	0	0	1	0	0	0	$0
2009	3	0	0	1	0	0	0	$0
2010	4	0	0	2	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Port Alsworth: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Port Alsworth: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Port Alsworth: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Port Alsworth: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Port Alsworth Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
Total[2]	-	-	-	-	-	-	-	-	-	-	-
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
Total[2]	-	-	-	-	-	-	-	-	-	-	-

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
1 Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders indicated that recreational fishing is a driver of the Port Alsworth economy. Sport fish lodges began to be established after a local resident, Glen "Babe" Alsworth, built a 4000-foot runway near Hardenberg Bay in the 1940s, providing easier access to the area. With the creation of the Lake Clark National Park and Preserve (Park) under the Alaska National Interest Lands Conservation Act of 1980, Park Field Headquarters were sited there, further establishing Port Alsworth as a center for tourism and recreation in the region.[1473]

Between 2000 and 2010, numerous licensed sport fish guides were present in Port Alsworth, although no active sport fish guide businesses were registered in the community (Table 11). The number of licensed guides varied from 11 to 16 per year during the period.

[1473] Ibid.

Despite the predominance of sport fish lodges and guide activity in Port Alsworth,[1474,1475.1476] no sportfishing charter logbook data was reported between 2000 and 2010.[1477]

During this same period, Port Alsworth community members purchased between 45 and 72 sportfishing licenses (irrespective of point of sale), while the number of licenses sold in Port Alsworth varied between 194 and 508 per year. The fact that a greater number of licenses were sold in Port Alsworth than were purchased by local residents underscores the importance of recreational fishing as a tourism draw to the community. Information about sportfishing activity in Port Alsworth is presented in Table 11.

According to the 2011 AFSC survey, community leaders indicated that sportfishing takes place using guided charter or party boats, private boats owned by Alaska resident and non-resident sport fishermen, as well as shore-based fishing. The National Park Service notes sportfishing in Lake Clark for species including Arctic char, Arctic grayling, Dolly Varden char, northern pike, lake trout, rainbow trout, and sockeye and coho salmon, as well as winter ice fishing for burbot and whitefish by local residents.[1478] The Alaska Statewide Harvest Survey (SWHS),[1479] conducted by ADF&G between 2000 and 2010, noted sport harvest of coho salmon, Dolly Varden, Arctic grayling, and burbot in Port Alsworth. The SWHS also noted harvest of Pacific cod by Port Alsworth anglers, although this sportfishing activity took place in saltwater.

Port Alsworth is located within Alaska Sport Fishing Survey Area S – Kvichak River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, non-Alaska resident anglers fished more angler days than Alaska residents in both freshwater and saltwater. Non-Alaska resident anglers fished consistently more days than Alaska resident anglers in both freshwater and saltwater during this period, reflective of the large amount of sportfishing related tourism in the region. Freshwater sportfishing activity was significantly more important than saltwater fishing in the region. The number of freshwater angler days for non-Alaska resident sport fishermen varied between 17,234 and 30,340 between 2000 and 2010, while Alaska resident freshwater angler days varied between 3,077 and 10,297 (Table 11).

[1474] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1475] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.

[1476] Lake and Peninsula Borough. February 2009. *Multi-Hazard Mitigation Plan.* Retrieved January 17, 2012 from http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf.

[1477] Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1478] National Park Service. 2011. *Lake Clark National Park & Preserve Management*. Retrieved June 13, 2012 from http://www.nps.gov/lacl/parkmgmt/index.htm.

[1479] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 11. Sport Fishing Trends, Port Alsworth: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Port Alsworth[2]
2000	0	16	62	508
2001	0	15	51	482
2002	0	14	49	414
2003	0	14	52	400
2004	0	15	48	348
2005	0	16	55	266
2006	0	11	59	239
2007	0	11	45	262
2008	0	16	50	194
2009	0	14	57	268
2010	0	16	72	286

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

[1] ADF&G. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] ADF&G. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] ADF&G. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence harvest makes an important contribution to Port Alsworth's economy.[1480] In a survey conducted by the AFSC in 2011, community leaders reported that the primary local fishery is a subsistence fishery for sockeye salmon between July and August each year, and that other subsistence activities take place throughout the year. They noted that, in addition to sockeye salmon, lake trout and northern pike are two of the most important aquatic subsistence resources. Caribou, moose, and berries are some other commonly utilized subsistence resources in Port Alsworth. Residents typically look for wild food resources relatively close to home, while caribou harvest often requires longer trips. Sockeye salmon is typically harvested along the lakeshore immediately in front of the village, while lake trout, rainbow trout, whitefish, northern pike, and grayling are caught throughout Lake Clark, and Dolly Varden are harvested in Lake Kontrashibuna, south of Port Alsworth.[1481]

Based on a 2004 household subsistence survey conducted by ADF&G in the community of Port Alsworth, 99% of households were estimated to participate in salmon subsistence that year, 50% in halibut subsistence, 46% in marine invertebrate subsistence, and 39% in non-salmon fish subsistence (not including halibut). Estimates were also available in 2007, when 90% of households participated in salmon subsistence, and 2004, when 20% of households participated in non-salmon fish subsistence. No information was reported regarding marine mammal subsistence that year (Table 12).

The per capita annual subsistence harvest of land and sea based resources in Port Alsworth was 133 pounds that year, including 115 pounds of marine invertebrates and 1,175 pounds of non-salmon fish (not including halibut). Information about per capita subsistence harvest and subsistence participation by household and species is presented in Table 12, along with information about marine invertebrates and non-salmon fish presented in Table 13. Species of marine invertebrates harvested by the greatest percentage of Port Alsworth households in 2004 included razor clams and butter clams, and species of non-salmon fish harvested by the greatest percentage of households included lake trout, northern pike, Arctic grayling, Dolly Varden char, burbot, round whitefish, Arctic char, and least cisco. In addition, although no households reported engaging in harvest of sheefish and smelt in 2004, some households reported using these species, indicating the presence of sharing networks between communities.[1482]

Information about subsistence salmon permits is available between 2000 and 2008. During this period, the number of subsistence salmon permits issued to Port Alsworth households varied between 25 and 40. Sockeye salmon was by far the most heavily harvested salmon species in the area, with an average of 2,905 sockeye harvested in the years for which information was available (Table 13). No information was reported regarding the number of Subsistence Halibut Registration Certificates (SHARC) issued to residents of Port Alsworth

[1480] Fall, James A., Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster (2006).*Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth, Alaska, 2004.* Alaska Dept. of Fish and Game, Division of Subsistence, Technical Paper No. 302. Retrieved January 17, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp302.pdf.
[1481] Ibid.
[1482] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

residents between 2003 and 2010 (Table 14), despite the fact that ADF&G reported a high percentage of households participating in halibut subsistence (Table 12). In addition, no information was reported by management agencies regarding subsistence harvest of marine mammals by Port Alsworth residents between 2000 and 2010 (Table 15).

According to interviews conducted during ADF&G subsistence survey fieldwork, Port Alsworth residents voiced several concerns related to local subsistence resources. These concerns included the impact of wolves and bears on local moose numbers, fluctuations in sockeye salmon returns since 2000, diminished donations of meat from non-local hunters to Port Alsworth community members, and increasingly warm winters and poor snow conditions making winter travel for trapping difficult. In addition, they noted that the failure of Lake Clark and Sixmile Lake to freeze in some recent winters has impeded caribou movement in the area.[1483]

Table 12. Subsistence Participation by Household and Species, Port Alsworth: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	99%	50%	n/a	46%	39%	133
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	90%	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[1483] See footnote 1480.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Port Alsworth: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	40	38	1	n/a	n/a	n/a	3,336	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	40
2004	25	24	n/a	n/a	n/a	n/a	2,455	115	1,175
2005	25	24	n/a	n/a	n/a	n/a	2,527	n/a	n/a
2006	26	26	n/a	n/a	n/a	n/a	2,456	n/a	n/a
2007	31	29	n/a	n/a	n/a	n/a	3,238	n/a	n/a
2008	40	39	n/a	n/a	n/a	n/a	3,416	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Port Alsworth: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Port Alsworth: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Port Heiden (*HIGH-dun*)

People and Place

Location [1484]

Port Heiden is located 424 miles southwest of Anchorage, at the mouth of the Meshik River, on the north side of the Alaska Peninsula. It lies near the Aniakchak National Preserve and Monument. Port Heiden is located in the Kvichak Recording District and the Lake and Peninsula Census Area and is part of the Lake and Peninsula Borough. The City encompasses 50.7 square miles of land and 0.7 square miles of water.

Demographic Profile [1485]

In 2010 there were 102 residents, making Port Heiden the 102nd largest City out of 352 total Alaskan communities with recorded populations that year. Overall between 2000 and 2009, the population has experienced a 30.3% decline and the average growth rate during these years was 0.02%, which represents a slowing decline in population over time and a significant increase between 2009 and 2010. The change in population from 1990 to 2010 is provided in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimate that Port Heiden has approximately 20 seasonal workers that live in the city from May to October each year.

The racial composition of Port Heiden in 20101 was as follows: 83.3% of community residents identified themselves as American Indian and Alaska Native, 14.7% identified themselves as White, and 2% identified themselves as two or more races. The percentage of residents who identified themselves as American Indian and Alaska Native increased by 17.8% between 2000 and 2010, with corresponding decreases in the percentage of residents who identified themselves as White, Hispanic, two or more races, and other races. The changes in racial and ethnic composition in Port Heiden from 2000 to 2010 are provided in Figure 1.
In 2010, the average household size was 2.91, a very slight increase from 2.8 in 1990 and 2.9 in 2000. However, there has been a slight decrease in the total number of households, from 42 in 1990 to 41 in 2000 to 35 in 2010. Of the 56 total housing units available in Port Heiden, 22 were owner-occupied in 2010, with 21 vacant units and 13 occupied by renters. None of the population of Port Heiden was living in group quarters in 2010.

[1484] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1485] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

In 2010, the gender makeup was slightly skewed, with 55.9% males and 44.1% females, with a slightly larger percentage of males than the state as a whole (52% male, 48% female). The median age was 26.7 years, approximately 10 years younger than the U.S. national average of 36.8 years and also lower than the median age for Alaska, 33.8 years. The overall population structure of Port Heiden is shown in Figure 2. The largest percentage of the population fell within the age category 0-29 years old. The next largest percentage of the population fell within the age category 40-59 years old, with relatively few people age 60 or older.

Table 1. Population in Port Heiden from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	119	-
2000	119	-
2001	-	118
2002	-	108
2003	-	85
2004	-	90
2005	-	89
2006	-	79
2007	-	86
2008	-	90
2009	-	83
2010	102	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Port Heiden: 2000-2010 (U.S. Census).

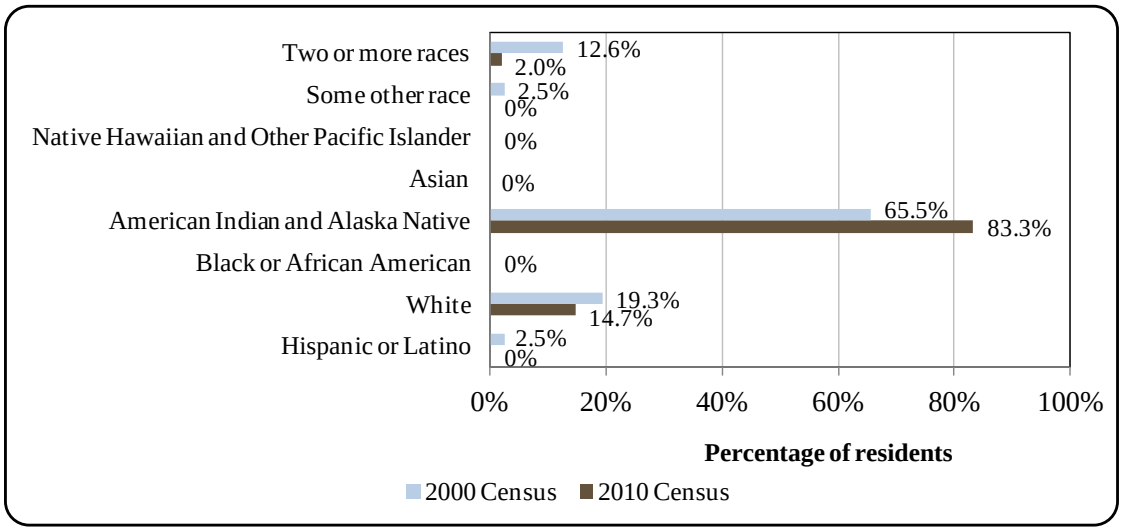
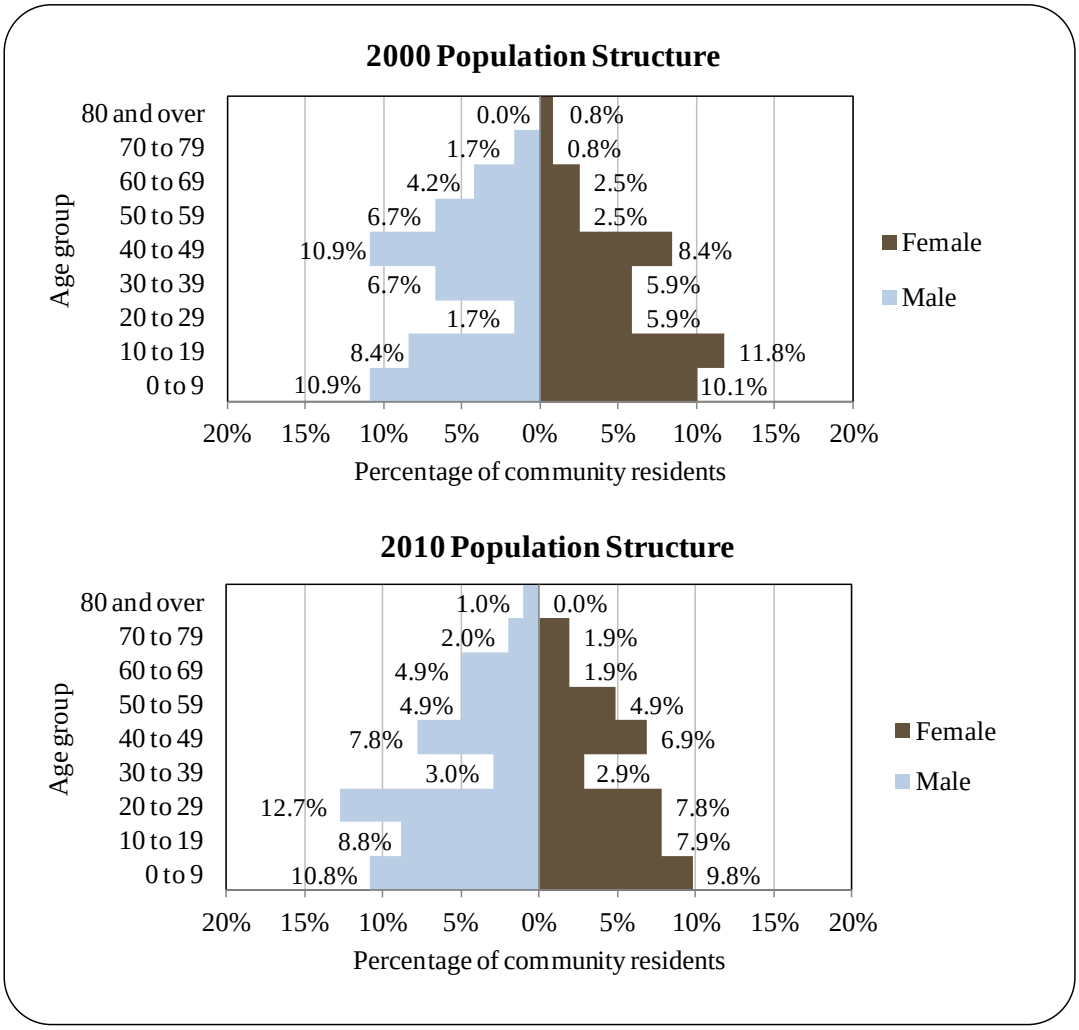


Figure 2. Population Age Structure in Port Heiden Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1486] 81% of residents aged 25 years and older were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also, in 2010, 19% of the population aged 25 years and older had a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 38.1% held a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 26.2% had some college but no degree, compared to 28.3% of Alaskan residents overall; 7.1% held a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 9.5% held a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

[1486] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture[1487]

The old village of Meshik was located at the current site of Port Heiden. Influenza epidemics during the early 1900s forced residents to relocate to other villages. During World War II, Fort Morrow was built nearby and 5,000 personnel were stationed at the base. The fort was closed after the war. A school was established in the early 1950s, which attracted people from surrounding villages. Port Heiden incorporated as a city in 1972. The community relocated inland, because storm waves had eroded much of the old townsite and threatened to destroy community buildings. Port Heiden is a traditional Alutiiq community with a commercial fishing and subsistence lifestyle.

Natural Resources and Environment[1488]

Port Heiden has a maritime climate with cool summers, relatively warm winters, and abundant rainfall. January temperatures average 25°F (-3.8°C) and July temperatures average 50°F (10°C). Snowfall in Port Heiden averages 58 inches per year.

In a survey conducted by the AFSC in 2011, community leaders reported local reliance on natural resource-based activities, especially fishing, for the Port Heiden economy.

Port Heiden is located on the Alaska Peninsula, near the Becharof National Wildlife Refuge to the north and the Aniakchak National Monument and Preserve to the south. The Becharof National Wildlife Refuge covers an area of 1,157,000 acres and contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800 foot volcano. Wildlife present in the Refuge includes brown bears, caribou, moose, over 200 species of migratory and resident birds, and provides an important nursery for Pacific salmon.[1489] The Aniakchak National Monument and Preserve contains the Aniakchak Caldera. Volcanic activity in the caldera subsided after the most recent eruption in 1931, but hot spots and warm springs on the caldera floor indicate that eruptive activity may resume at any time. Wildlife present in the National Monument and Preserve include brown bear, caribou, moose, wolf, wolverine, waterfowl, sea otter, harbor seal, sea lion, and numerous smaller species. The region also contains extensive wild runs of five species of Pacific salmon, including nursery areas for sockeye salmon runs that are part of the Bristol Bay and Kodiak/Chignik sockeye salmon fisheries.[1490]

Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[1491] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012

[1487] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1488] Ibid.
[1489] U.S. Fish and Wildlife Service. 2011. *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.
[1490] U.S. National Park Service. 2011. *Aniakchak National Monument and Preserve: Nature and Science*. Retrieved April 24, 2012 from http://www.nps.gov/ania/naturescience/index.htm.
[1491] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

program.[1492] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1493]

Current Economy[1494]

Commercial fishing and government jobs provide the majority of cash income in Port Heiden. In 2010, 11 residents held commercial fishing permits. Subsistence harvests of salmon, other fish, and marine mammals are important food sources in the community. Game, birds, plants, and berries are also an important part of villagers' diets.[1495]

Based on household surveys conducted for the 2006-2010 ACS,[1496] in 2010, the per capita income in Port Heiden was estimated to be $22,257 and the median household income was estimated to be $51,500, compared to $20,532 and $31,875 in 2000, respectively. However, after adjusting for inflation by converting the 2000 values to 2010 dollars,[1497] the 2000 real per capita income ($26,999) and real median household income ($41,915) indicate an overall decrease in per capita income between 2000 and 2010, but a large increase in median household income during the same time period. However, Port Heiden's small population size may have prevented the ACS from accurately portraying economic conditions.[1498] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Port Heiden in 2010 is $14,819.[1499,1500] This estimate provides support for an overall decrease in per capita income in Port Heiden between 2000 and 2010. Based on Census and ACS data, in 2010, Port Heiden ranked 133rd of 305 communities with per capita income that year, and 123rd out of 299 Alaskan communities with household income data.

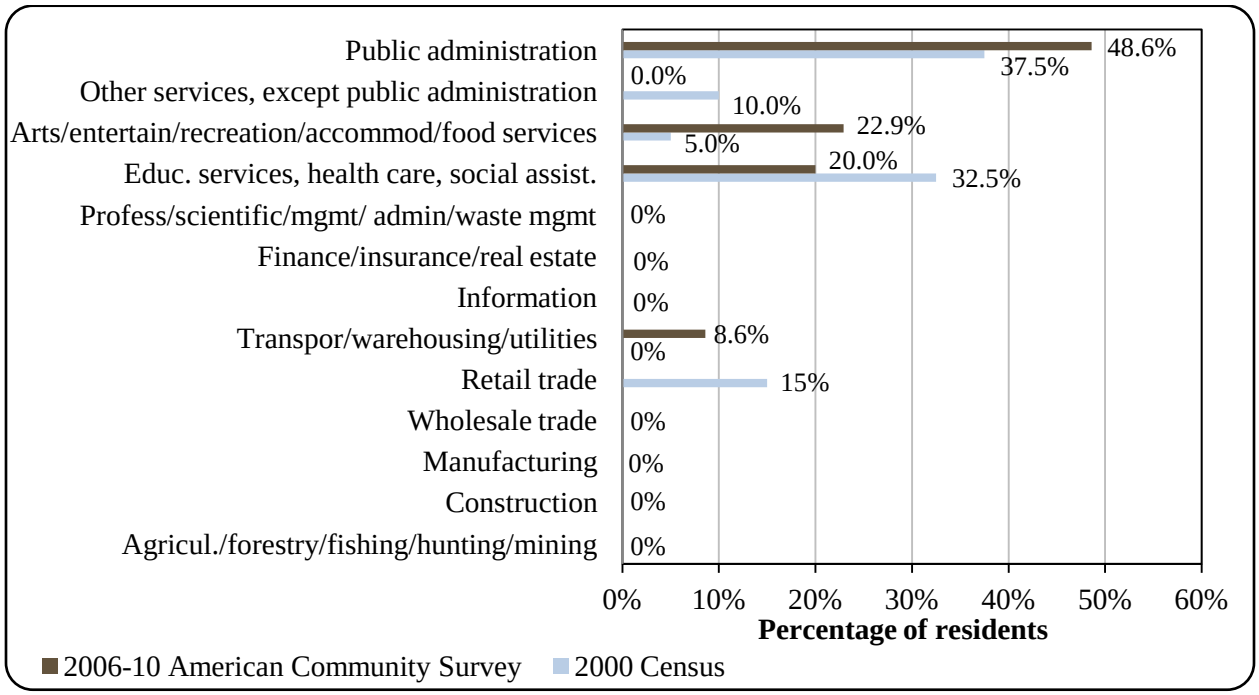
Based on the 2006-2010 ACS, in 2010, 67.3% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local

[1492] Minerals Management Service. 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1493] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1494] Unless otherwise noted, all monetary data are reported in nominal values.
[1495] See footnote 1487.
[1496] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1497] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1498] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1499] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1500] See footnote 1496.

unemployment rate was 0%, compared to the statewide unemployment rate of 5.9%. Also in 2010, approximately 27.9% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Port Heiden are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely to be inaccurate given Port Heiden's small population. Another estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 21.2%, twice the statewide ALARI unemployment rate estimate of 11.5%.[1501]

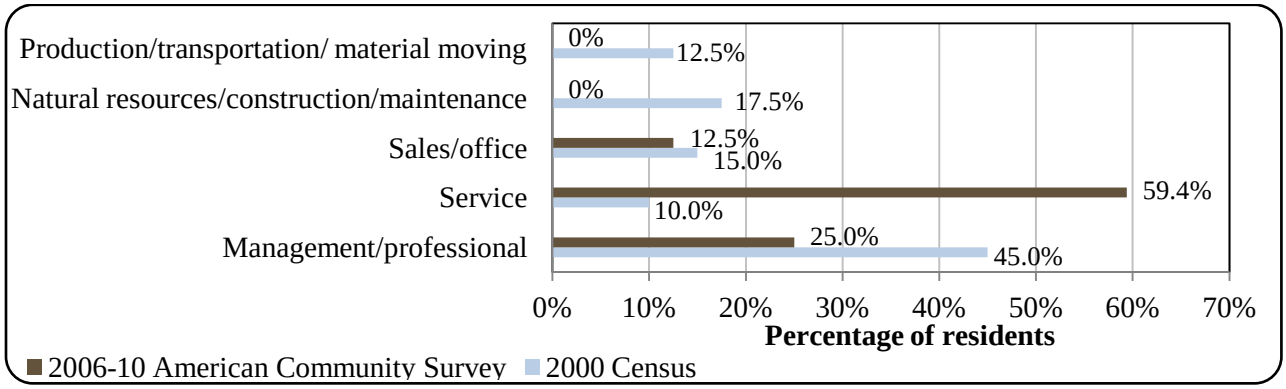
ACS employment estimates suggest that, in 2010, the greatest percentage of workers was employed in the public sector (77.1%), while 8.6% of workers were self-employed and 14.3% were unpaid family workers. Out of 35 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage (48.6%) worked in public administration industries. The remainder of the workforce was employed in three other industries: arts, entertainment, recreation, accommodations, and food services (22.9%), education services, health care, and social assistance (20%), and transportation, warehousing, and utilities (8.6%). All of the Port Heiden workforce was estimated to work in three occupation types, including 40% in service occupations (40%), 37.1% in management, business, science and arts, and the remaining 22.9% in sales and office occupations. No Port Heiden residents were estimated to be employed in fishing-related industries or occupations in 2010. The number of individuals employed in fishing may be underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is provided in Figure 3, and employment is broken down by occupation in Figure 4.

Figure 3. Local Employment by Industry in 2000-2010, Port Heiden (U.S. Census).



[1501] See footnote 1499.

Figure 4. Local Employment by Occupation in 2000-2010, Port Heiden (U.S. Census).



Governance

Port Heiden is a 2nd Class City located in the Lake and Peninsula Borough. As of 2010, the City of Port Heiden does not administer a sales tax.[1502] Locally-generated revenues in Port Heiden between 2000 and 2010 included charges for services such as electricity, garbage collection, the landfill, and fuel sales, equipment rentals, and land leases. Outside revenue sources included state and federal grants and revenue sharing programs. Sources of shared revenue included the State Revenue Sharing program (approximately $28,000 per year from 2000 to 2003), the Community Revenue Sharing program ($100,000 per year in 2009 and 2010), the SAFE Communities program (public safety, utilities, infrastructure, etc.), and state raw fish tax refunds in some years (see the *Fisheries-Related Revenue* section of this profile). Fisheries-related grants are also of note. In 2000, Port Heiden received a Magnuson-Stevens Commercial Fishery Disaster Assistance grant in the amount of $40,889 (Table 2).

There is also a federally-recognized Tribe in the community, the Native Village of Port Heiden. The village corporation is the Alaska Peninsula Corporation, and the regional Native corporation to which Port Heiden belongs is the Bristol Bay Native Corporation (BBNC).[1503] The Native Village of Port Heiden is also a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the tribes and the Native people of Bristol Bay.[1504] The BBNA is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[1505]

The nearest Alaska Department of Fish and Game (ADF&G) office is in Chignik, and the nearest National Marine Fisheries Service (NMFS) and Alaska Department of Natural Resources (DNR) offices are in Kodiak. The nearest Alaska Department of Commerce, Community, and

[1502] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010).* Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[1503] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1504] Bristol Bay Native Association. (n.d.). *Homepage*. Retrieved November 16, 2011 from www.bbna.com.
[1505] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Economic Development office is in Dillingham. The nearest offices for U.S. Immigration and Customs Enforcement and the Bureau of Citizenship and Immigration Services are in Unalaska and Kodiak.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Port Heiden from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3]	Fisheries-Related Grants (State and Federal)[4]
2000	$565,031	n/a	$29,081	$40,889
2001	$542,604	n/a	$28,135	n/a
2002	$305,446	n/a	$28,119	n/a
2003	$369,247	n/a	$28,165	n/a
2004	$883,050	n/a	n/a	n/a
2005	$277,794 *	n/a	n/a	n/a
2006	$873,138	n/a	n/a	n/a
2007	$755,142	n/a	n/a	n/a
2008	$549,402	n/a	n/a	n/a
2009	$635,259	n/a	$100,591	n/a
2010	$989,463	n/a	$100,163	n/a

Note: n/a indicates that no data were reported for that year. Cells showing – indicate that the data are considered confidential.
** This number reflects the year's budget estimate rather than the total reported in the certified financial statement.*
[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.
[4]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

Infrastructure[1506]

Connectivity and Transportation

The state-owned airport consists of a lighted gravel 5,000 feet long by 100 feet wide runway and a 4,000 feet long by 100 feet wide lighted gravel crosswind runway. It can accommodate up to the size of a Boeing 737 aircraft, and regular air services are provided. The airstrip serves as a point-of-transfer for flights to the Pacific side of the Alaska Peninsula. There is a natural boat harbor but no dock. A boat haul-out, a beach off-loading area, boat fuel sales, and marine storage facilities are available. Cargo from Seattle is delivered twice yearly by a Bureau of Indian Affairs (BIA)-chartered barge and is lightered and offloaded on the beach.

[1506] See footnote 1503.

Autos, ATVs, and snowmobiles are the local means of transportation. In June 2012, roundtrip airfare between Port Heiden and Anchorage was $840.[1507]

Facilities[1508]

Individual wells and septic tank systems are used by most homes in Port Heiden. The school operates its own well and treatment system. Thirty-one (31) of 37 occupied households are fully plumbed. The City provides septic pumping services and collects refuse three times a week. The permitted landfill is located 6.5 miles northeast of the community. Electricity is provided to the community by a diesel powerhouse operated by the City. Police services are provided by a local Village Public Safety Officer and state troopers stationed in Dillingham. Other community facilities include a city holding cell, city office building, high school gymnasium, and a school library. Telephone and internet service is available in Port Heiden, but no cable service providers operate locally.

Medical Services[1509]

The Bristol Bay Area Health Corporation operates the Port Heiden Clinic, which is a Community Health Aid Program site. There is a Port Heiden Volunteer Emergency Medical Service (EMS), and emergency services have coastal and air access, with emergency service provided by a health aide. The nearest hospitals are located in Dillingham and Kodiak.

Educational Opportunities[1510]

The Meshik School in Port Heiden provides instruction to students from pre-school through 12th grade. In 2011, the school had 26 students and 3 teachers.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest has been important to residents of the Port Heiden area for thousands of years. Villages and fish camps were often located at mouths of streams for access to both fresh water and abundant salmon runs.[1511] Subsistence activities remain important in the community today.[1512] With regard to commercial harvest, fisheries in which Port Heiden residents were most engaged during the 2000-2010 period included salmon, herring, and halibut.

[1507] Airfare was obtained on the travel website http://www.penair.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on November 21, 2011.
[1508] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1509] Ibid.
[1510] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1511] Alaska Native Heritage Center. (n.d) *The Unangax & Alutiiq (Supiaq) People - Who We Are*. Retrieved January 4, 2012 from http://www.alaskanative.net/en/main_nav/education/culture_alaska/unangax/.
[1512] See footnote 1508.

Commercial salmon fisheries began in the Alaska Peninsula region in 1882, when canneries were constructed at Orzinski Bay and Thin Point Cove. Today, the Peninsula-Aleutian salmon fishery is managed by ADF&G. Port Heiden is located in the Northern District the Peninsula-Aleutian fishery.[1513] Port Heiden residents also have access to the Bristol Bay salmon fishery to the east, and a majority of salmon permits held by Port Heiden residents between 2000 and 2010 were held in Bristol Bay set and drift gillnet salmon fisheries.

Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. During the 2000-2010 period, several Port Heiden residents held permits in Bristol Bay herring fisheries. On occasion, a herring sac roe fishery also occurs west of Port Heiden near Port Moller, when aerial surveys determine that a sufficient quantity of herring is present.[1514] Herring fisheries are managed by ADF&G.

Commercial exploitation of halibut first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.[1515] Pacific halibut fisheries are managed under the International Pacific Halibut Commission. Port Heiden is located in Pacific Halibut Regulatory Area 4E, as well as Federal Statistical and Reporting Area 512 and the Bering Sea Sablefish Regulatory Area.

In a survey conducted by the AFSC in 2011, community leaders reported that Port Heiden's annual population peak is "somewhat" driven by employment in the fishing sectors (e.g., processing plants, commercial fishing, subsistence fishing, recreation and sportfishing, and charter fishing). Port Heiden is a Community Development Quota (CDQ) eligible community and is represented by the Bristol Bay Economic Development Corporation (BBEDC).[1516] Port Heiden is not eligible to participate in the Community Quota Entity Program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Port Heiden does not have a registered processing plant. In a survey conducted by the AFSC in 2011, community leaders reported that while Port Heiden does not have a fish processing plant, the community is trying to establish one. The nearest processing plant is located in Ugashik.

[1513] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1514] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1515] Thompson, William F. and Norman L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from http://ww.iphc.int/publications/scirep/Report0005.pdf.
[1516] Western Alaska Community Development Association. (n.d.) *CDQ Entities*. Retrieved September 14, 2013 from http://www.wacda.org/pages/cdq-entities.php.

Fisheries-Related Revenue

Overall, in 2010, the City of Port Heiden received $11,734 from fisheries-related taxes and fees. This revenue came from the Shared Fisheries Business Tax. Table 3 shows the historical annual revenue for each of the fisheries-related categories. [1517]

Commercial Fishing

According to a survey conducted by the AFSC in 2011, community leaders reported that all local residents go to fish camps in Ugashik or Egegik to fish during the months of June and July. In addition, community leaders reported that Port Heiden does not have any docking or mooring facilities for permanent or transient vessels, and can only accommodate commercial fishing boats under 35 feet in length. In 2010, 14 Port Heiden residents held a total of 14 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Salmon permits made up 93% of the CFEC permits issued in 2010, compared to 67% in 2000. The majority of the salmon CFEC permits issued in 2010 were for the Bristol Bay drift gill net fishery, with the remainder issued for the Bristol Bay set gill net fishery. There was also one statewide halibut longline permit issued for vessels under 60 feet. Overall in 2010, 64% of the permits issued to residents of Port Heiden were actually fished, all of those in the salmon fishery. The halibut permit held in 2010 was not actively fished. It is also important to note that one set gillnet permit was held in the Peninsula-Aleutian salmon fishery from 2000 to 2002, but was not actively fished in these years.

In addition to CFEC permits, one License Limitation Program (LLP) permit was held each year from 2000 to 2010 in a federal crab fishery, but was not actively fished in any year during the period. No LLPs were held in federal groundfish fisheries and no Federal Fisheries Permits (FFP) were issued to Port Heiden residents between 2000 and 2010. Information about state and federal permits is presented in Table 4. While one individual held a quota share account, quota shares, and Individual Fishing Quota (IFQ) allotment in the federal halibut catch share fishery in 2000, no residents of Port Heiden held halibut quota share accounts between 2001 and 2010 (Table 6). In addition, no residents held quota share accounts in federal catch share fisheries for sablefish between 2000 and 2010 or crab between 2005 and 2010 (Table 7 and Table 8).

Those same years, there were no vessels landing catch in Port Heiden, though there were 20 licensed crew members. The number of crew license holders in Port Heiden remained relatively stable between 2000 and 2010, while the number of residents that were primary owners of fishing vessels showed a decreasing trend, declining from 23 in 2000 to 9 in 2010. The number of vessels homeported in Port Heiden followed a similar trend, declining from19 in 2000 to 11 in 2010. In a survey conducted by the AFSC in 2011, community leaders reported that the community is home to the same amount of commercial fishing boats compared to five years ago. In the same survey, community leaders reported that Port Heiden does not participate in the fisheries management process in Alaska.

[1517] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the City's financial statements.

Table 3. Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Port Heiden: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	$16,098	$16,098	$16,098	$7,775	$7,775	$7,500	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	$16,098	$11,911	$8,489	$7,760	$7,857	$9,309	$10,535	$11,969	$9,241	$12,474	$11,734
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	$16	$37	$394	$1,473	$1,001	$2,467	$1,825	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$0
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$0
Total fisheries-related revenue[4]	*$73,086*	*$28,009*	*$24,587*	*$15,551*	*$15,670*	*$17,203*	*$12,008*	*$12,971*	*$11,708*	*$14,300*	*$11,734*
Total municipal revenue[5]	*$565,031*	*$542,604*	*$305,446*	*$369,247*	*$883,050*	*$277,794 **	*$873,138*	*$755,142*	*$549,402*	*$635,259*	*$989,463*

Note: n/a indicates that no data were reported for that year.

** This number reflects the year's budget estimate rather than the total reported in the City's certified financial statement.*

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Port Heiden: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Federal Fisheries Permits [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	4	0	0	1	2	2	1	1	1	1	1
	Fished permits	0	0	0	1	1	1	1	1	1	1	0
	% of permits fished	0%	0%	0%	100%	50%	50%	100%	100%	100%	100%	0%
	Total permit holders	4	0	0	1	2	2	1	1	1	1	1
Herring (CFEC) [2]	Total permits	7	1	2	2	2	2	1	1	1	0	0
	Fished permits	1	1	2	1	0	0	0	0	0	0	0
	% of permits fished	14%	100%	100%	50%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	6	1	2	2	2	2	1	1	1	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Port Heiden: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	22	21	20	17	17	17	15	14	12	12	13
	Fished permits	18	14	11	12	12	15	15	13	11	9	9
	% of permits fished	82%	67%	55%	71%	71%	88%	100%	93%	92%	75%	69%
	Total permit holders	21	21	18	18	20	22	18	15	13	12	14
Total CFEC Permits[2]	*Permits*	*33*	*22*	*22*	*20*	*21*	*21*	*17*	*16*	*14*	*13*	*14*
	Fished permits	*19*	*15*	*13*	*14*	*13*	*16*	*16*	*14*	*12*	*10*	*9*
	% of permits fished	*58%*	*68%*	*59%*	*70%*	*62%*	*76%*	*94%*	*88%*	*86%*	*77%*	*64%*
	Permit holders	*21*	*21*	*18*	*18*	*20*	*22*	*18*	*15*	*13*	*12*	*14*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Port Heiden: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Port Heiden[2]	Total Net Pounds Landed In Port Heiden[2,5]	Total Ex-Vessel Value Of Landings In Port Heiden[2,5]
2000	22	0	0	23	19	0	0	$0
2001	24	0	0	16	16	0	0	$0
2002	14	0	0	15	15	0	0	$0
2003	12	0	0	16	15	0	0	$0
2004	15	0	0	12	10	0	0	$0
2005	21	0	0	14	14	0	0	$0
2006	19	0	0	14	12	0	0	$0
2007	13	0	0	12	10	0	0	$0
2008	15	0	0	11	9	0	0	$0
2009	19	0	0	9	8	0	0	$0
2010	20	0	0	9	11	0	0	$0

Note: Cells showing – indicate that the data are considered confidential.

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Port Heiden: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	1	1,723	213
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Port Heiden: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Port Heiden: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Port Heiden: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Port Heiden Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	677,752	367,143	650,719	426,273	1,003,202	890,465	1,278,771	1,290,415	738,971	1,010,028	719,060
Total[2]	*677,752*	*367,143*	*650,719*	*426,273*	*1,003,202*	*890,465*	*1,278,771*	*1,290,415*	*738,971*	*1,010,028*	*719,060*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$416,021	$149,073	$315,638	$215,662	$513,256	$550,450	$849,593	$847,845	$537,742	$802,587	$678,087
Total[2]	*$416,021*	*$149,073*	*$315,638*	*$215,662*	*$513,256*	*$550,450*	*$849,593*	*$847,845*	*$537,742*	*$802,587*	*$678,087*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

No active sport fish guide businesses or licensed sport fish guides were reported to have been present in Port Heiden between 2000 and 2010. However, a number of sportfishing licenses were sold in Port Heiden each year during this period. In addition, residents of Port Heiden were reported to purchase sportfishing licenses (irrespective of point of sale). According to the ADF&G Statewide Harvest Survey,[1518] Chinook salmon and coho salmon are caught by private anglers in Port Heiden. Given the lack of sportfishing businesses, no kept/released log book data were reported for sportfishing charters out of Ivanof Bay between 2000 and 2010.[1519]

Port Heiden is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Port Heiden is also displayed in Table 11.

Table 11. Sport Fishing Trends, Port Heiden: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Port Heiden[2]
2000	0	0	37	66
2001	0	0	23	36
2002	0	0	21	36
2003	0	0	23	26
2004	0	0	18	20
2005	0	0	15	29
2006	0	0	14	11
2007	0	0	10	8
2008	0	0	15	16
2009	0	0	16	12
2010	0	0	10	7

[1518] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1519] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11 cont'd. Sport Fishing Trends, Port Heiden: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Many residents of Port Heiden supplement their incomes and diet with subsistence resources.[1520] According to a survey conducted by the AFSC in 2011, community leaders reported that fish, moose, and berries are the three most important subsistence resources to the residents of Port Heiden.

No information is available from ADF&G between 2000 and 2010 regarding the percentage of Port Heiden households participating in the harvest of various subsistence resources or per capita subsistence harvest (Table 12). However, data were available from management agencies regarding subsistence harvest of salmon, halibut, and some species of marine mammals during this period.

Between 2000 and 2008, the number of subsistence salmon permits issued to Port Heiden households remained between two and three per year through 2006. In 2008, this number jumped dramatically to 29 permits issued. Total salmon harvest in 2008 was also much higher as a result of the increase in permits issued. Over the decade, the most heavily utilized salmon species appear to have been sockeye, coho, and Chinook, while smaller harvests of chum and pink were also reported in some years.

[1520] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

A small number of Subsistence Halibut Registration Certificates (SHARC) were issued to Port Heiden residents between 2003 and 2010. No SHARC card was reported to have been actively fished during this period, and no data were available regarding total pounds of halibut harvested that year (Table 14).

The species of marine mammal that appeared to be harvested most consistently by Port Heiden residents between 2000 and 2010 was harbor seal. For years in which data were available, the average harbor seal harvest was 20 animals. In addition, small numbers of sea otter and walrus were reported harvested in several years (Table 15).

Table 12. Subsistence Participation by Household and Species, Port Heiden: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Port Heiden: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	3	2	6	n/a	21	n/a	n/a	n/a	n/a
2001	3	3	64	10	50	n/a	132	n/a	n/a
2002	3	3	120	6	50	n/a	34	n/a	n/a
2003	3	3	101	6	40	n/a	7	n/a	n/a
2004	3	3	60	n/a	n/a	n/a	80	n/a	n/a
2005	3	2	n/a	n/a	n/a	n/a	375	n/a	n/a
2006	2	2	n/a	n/a	30	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	29	29	182	62	813	33	1,023	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Port Heiden: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	n/a	n/a
2008	2	n/a	n/a
2009	2	n/a	n/a
2010	2	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Port Heiden: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	4	n/a	n/a	n/a	20	n/a
2001	n/a	n/a	n/a	n/a	n/a	10	n/a
2002	n/a	n/a	n/a	n/a	n/a	30	n/a
2003	n/a	n/a	1	n/a	n/a	10	n/a
2004	n/a	n/a	n/a	n/a	n/a	20	n/a
2005	n/a	n/a	n/a	n/a	n/a	13	n/a
2006	n/a	n/a	n/a	n/a	n/a	17	n/a
2007	n/a	10	n/a	n/a	n/a	24	n/a
2008	n/a	n/a	n/a	n/a	n/a	36	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Portage Creek *(a.k.a. Ohgsenakale)*

People and Place

Location [1521,1522]

Portage Creek is located near the confluence of Portage Creek and the eastern braid of the Nushagak River, known as the "Keefer Cutoff". The community is located 29 miles southeast of Dillingham, 35 miles east of Clarks Point, and 300 miles southeast of Anchorage. Portage Creek is located in the Bristol Bay Recording District and Dillingham Census Area.

Demographic Profile [1523]

In 2010, the U.S. Decennial Census recorded two year-round residents in Portage Creek, making it the 2nd smallest of 352 Alaskan communities with populations recorded that year, and the smallest populated village in the Dillingham Census Area. The first permanent residents settled in Portage Creek in 1961, and by the winter of 1964-64, 11 families resided there.[1524] The community first appeared in U.S. Census records in 1970 with a population of 60 individuals. The population remained relatively stable until 1980, but declined to five residents by 1990. The population rebounded to 26 residents in 2000. According to Alaska Department of Labor estimates, the population rose as high as 61 permanent residents in 2003, and then declined to 7 by 2009. Between 2000 and 2009, the population of permanent residents was estimated to decrease by 94.4%, and the average annual growth rate over this period was -80.56%. According to the Portage Creek Comprehensive Plan, many long-time residents who have moved away continue to return seasonally to the Village, and imagine a future in which they will be able to make their year-round residences there.[1525]

In 2010, one of the two residents of Portage Creek identified as American Indian or Alaska Native (50% of the population) and the other resident identified as White (50%). In the year 2000, when 36 individuals resided in Portage Creek, 81.6% of the population identified themselves as American Indian or Alaska Native, and 13.9% as White. No Portage Creek residents identified themselves as Hispanic in 2000 or 2010. The change in population from 1990

[1521] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1522] Portage Creek Village Council, residents of Portage Creek, Agnew::Beck Consulting, LLC, and Bristol Environmental & Engineering Services Corporation. 2006. *Portage Creek Indian Reservation Roads Program 2007 Long-Range Transportation Planning*. Retrieved May 14, 2012 from http://www.commerce.state.ak.us/dca/plans/PortageCreek-TP-2006.pdf.
[1523] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1524] See footnote 1521.
[1525] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm.

to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Portage Creek was 2 persons per household, a sizeable decline from 5.14 persons per household in 2000, but an overall increase from 1.6 persons per household in 1990. The number of occupied households in Portage Creek increased from three in 1990 to seven in 2000, and then declined to one by 2010. Of the 12 total housing units surveyed for the 2010 Decennial Census, none were owner-occupied, and one (8.3%) was rented. The remaining 11 housing units were vacant due to seasonal use in 2010 (91.7%). Between 1990 and 2010, no residents of Portage Creek lived in group quarters.

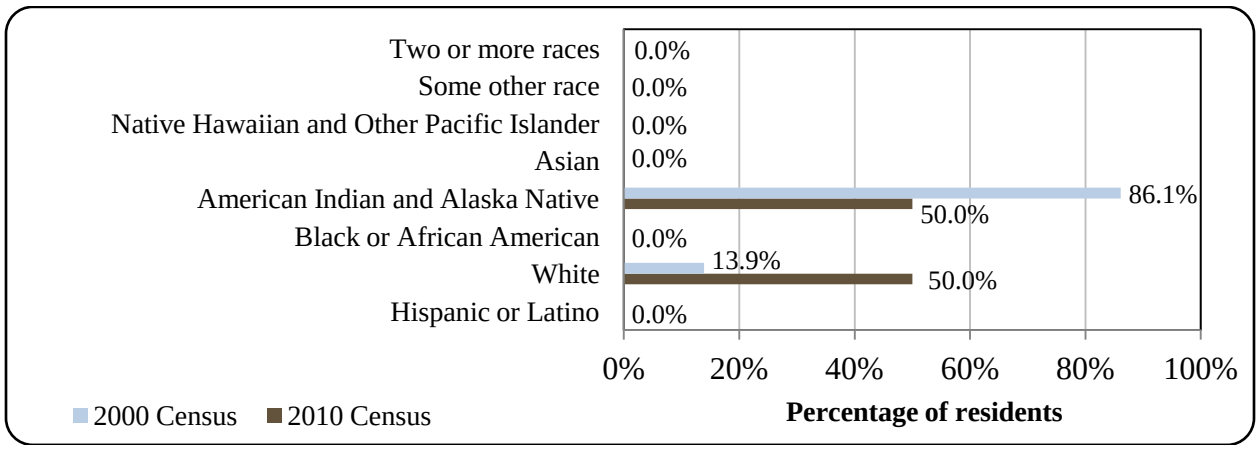
Table 1. Population in Portage Creek from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	5	-
2000	36	-
2001	-	47
2002	-	48
2003	-	61
2004	-	49
2005	-	37
2006	-	20
2007	-	9
2008	-	7
2009	-	7
2010	2	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

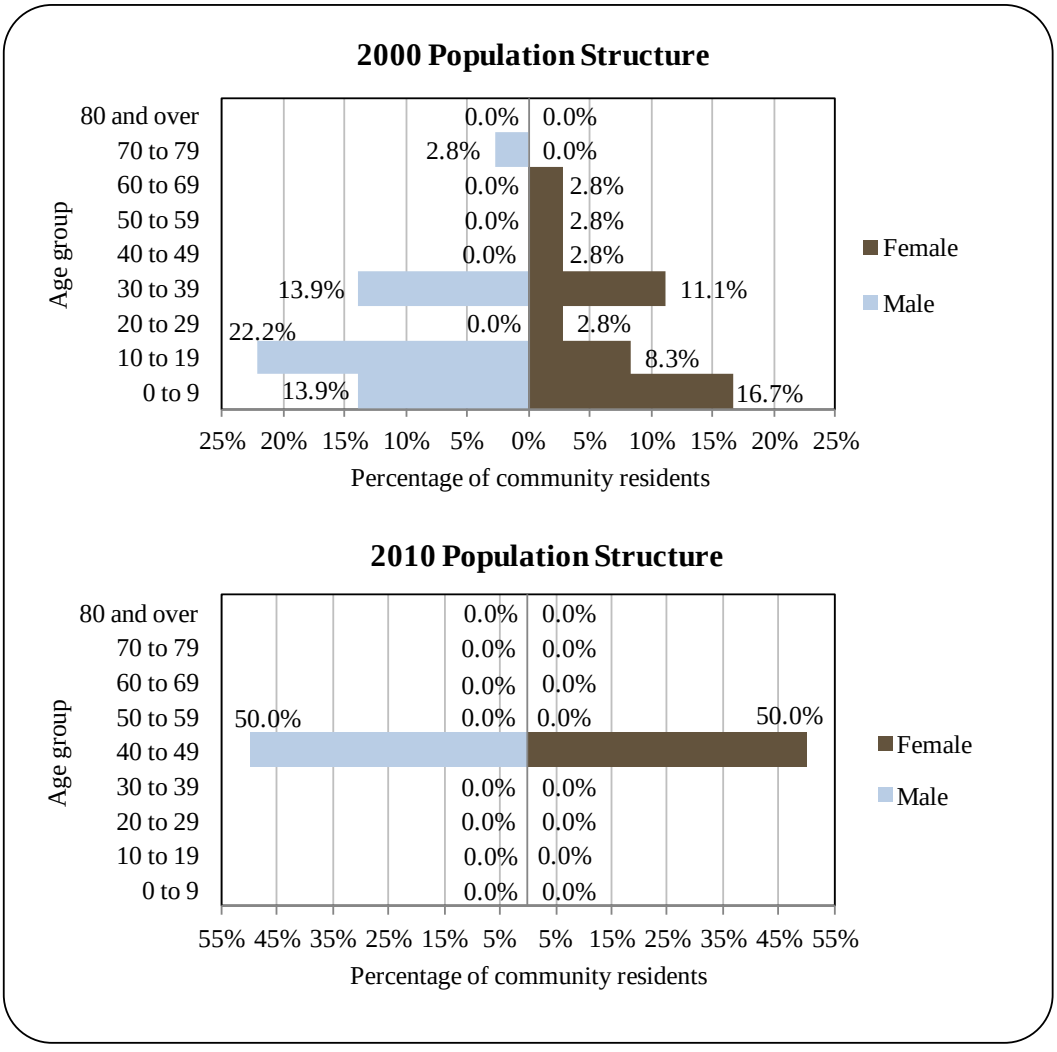
Figure 1. Racial and Ethnic Composition, Portage Creek: 2000-2010 (U.S. Census).



In 2010, one man and one woman were recorded as permanent residents in Portage Creek, making the gender balance evenly split at 50% male and 50% female, compared to a state population that was 52% male and 48% female. Both of Portage Creek's permanent residents were between the ages of 45 and 49 in 2010, and their median age was 48.5 years, older than the national average of 36.8 years and the median age for Alaska, 33.8 years.

It is also useful to examine the population structure of Portage Creek in 2000, when the population was somewhat higher. In 2000, the gender ratio in the Portage Creek (52.8% male and 47.2% female) was slightly more weighted toward males than the state population as a whole, which was 51.7% male and 48.3% female. The age groups particularly skewed toward males included 10-19 and 70-79, while there were more females than males in the age groups 20-29 and 40 to 69. The median age in 2000, 14 years, was much younger than the 2000 national average of 36.5 years and the 2000 Alaska median age of 32.4 years. In 2000, 61.6% of the population was under the age of 20, and 5.4% of the population was age 60 or older. The population structure of Portage Creek in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Portage Creek Based on the 2000 and 2010 U.S. Decennial Census.



The 2006-2010 American Community Survey (ACS) did not provide any information regarding educational attainment in Portage Creek in 2010. Although the U.S. Decennial Census recorded two individuals as permanent residents in Portage Creek in 2010, the ACS estimated a population of zero.[1526] Given the small population of Portage Creek in 2010, it is useful to look back at education statistics in the year 2000 as well, when the population (36 residents) was slightly higher than in 2010. In 2000, 4 Portage Creek residents were aged 25 or older. Of these, two (50%) held a high school diploma or higher degree, compared to 88.3% of Alaskan residents overall in 2000. Both of these residents had attended some college but had not received a degree, compared to 28.6% of Alaskan residents overall in 2000. The other 2 residents aged 25 or older (50%) had received a 9th to 12th grade education, and did not have a high school diploma, compared to 7.5% of Alaskan residents overall in the year 2000.

History, Traditional Knowledge, and Culture

The Portage Creek village site was historically used by Yup'ik Eskimos as an overnight summer camp. The site received its name because it was used to portage boats from the Nushagak River to the Kvichak River. In this way, travelers could avoid the open waters of Bristol Bay and the long trip around Etolin Point. The village was permanently settled in 1961 by families from Koliganek and other villages up the Nushagak River. A Bureau of Indian Affairs (BIA) school was established in 1963, and, during the winter of 1964-65, 11 families lived in Portage Creek. In 1965, the village was served by a local, scheduled air carrier. Through the mid-1980s, Portage Creek was an active community, but the population has since declined.[1527] According to the U.S. Decennial Census, there were two year-round residents in 2010.

Today, the village is a popular recreational fishing and camping site from May through July and a hunting location for Yup'ik residents.[1528,1529] Locals enjoy fishing, ice-fishing, berry picking, swimming, four-wheeling, snowmobiling, ice skating on Portage Creek, hiking, maqiis (steam baths), visiting with friends and family from villages along the river, and team sports.[1530]

Natural Resources and Environment

Portage Creek is located in a climatic transition zone. The primary influence is maritime, although a continental climate affects the weather. Average summer temperatures range from 30 to 66 °F, and winter temperatures range from well below 0 to 30 °F. Annual precipitation ranges from 20 to 35 inches. Fog and low clouds are common during the summer.[1531] Portage Creek is located in the Bristol Bay lowlands, which are characterized by low hills of only several hundred

[1526] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1527] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1528] Ibid.
[1529] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm.
[1530] Ibid.
[1531] See footnote 1527.

feet in elevation. The Nushagak River valley is covered by low shrubs and lichen tundra. Tidal action reaches approximately 40 miles upstream from the mouth of the Nushagak at Kanakanak, affecting the portion of the River at Portage Creek.[1532] The river is ice-free from June through mid-November.[1533]

Bristol Bay drainages produce the world's largest runs of sockeye salmon, and the area is productive for other species of salmon and marine fish as well.[1534] One of the largest runs of Chinook salmon in Alaska returns to the Nushagak River, but the run is not heavily harvested, partially due to low prices in the region.[1535] The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the Village of Togiak.[1536]

Wood-Tilchik State Park lies northwest of the Nushagak River region. Wood-Tilchik is the largest State Park in the U.S., and includes a diversity of terrain and ecosystems. The Wood River and Tilchik lake systems are surrounded by rugged mountains and alpine valleys. The deep, fjord-like lakes and associated rivers host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden char, and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou and brown bear are common in the park, along with black bear in limited areas of the park. Small game present in the area include beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.[1537]

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit northeast of Portage Creek. The Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.[1538] Northern Dynasty Minerals Limited calls the Pebble deposit, "one of the greatest stores of mineral wealth ever discovered," and estimates that the deposit includes 80.6 billion pounds of copper, 107.3 ounces of gold, and 5.6 billion pounds of molybdenum, including both indicated (high confidence) and inferred (low confidence) deposits.[1539] Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area.[1540] According to the Pebble Partnership, 95% of the metal that would be produced by the Pebble Mine is copper. Dissolved copper is known to be

[1532] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1533] See footnote 1527.
[1534] See footnote 1532.
[1535] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1536] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1537] Alaska Dept. of Natural Resources. (n.d.) *Wood-Tilchik State Park website*. Retrieved December 6, 2011 from http://dnr.alaska.gov/parks/units/woodtik.htm.
[1538] Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. "Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's Large Mine Permitting Process." *Alaska Law Review* 25:1.
[1539] Northern Dynasty Minerals Limited website. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from http://www.northerndynastyminerals.com/ndm/Pebble.asp.
[1540] See footnote 1532.

toxic to fish.[1541] If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.[1542]

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.[1543] However, given the importance of Bristol Bay fisheries to the Nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010, Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1544] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1545]

According to the Bristol Bay Coastal Management Plan, the Portage Creek area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian Trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure and sea ice conditions. The management plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[1546]

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites in the Portage Creek area as of May 2012.[1547]

Current Economy[1548]

All Portage Creek residents depend to some degree on subsistence activities. Salmon, moose, caribou, duck, geese, and berries are primary food sources. Most families have fish camps at Ekuk or Lewis Point. An exchange relationship exists between Portage Creek and

[1541] See footnote 1538.
[1542] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.
[1543] See footnote 1532.
[1544] U.S. Dept. of the Interior, Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1545] The White House, Office of the Press Secretary. March 31, 2010. *Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition*. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1546] Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[1547] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1548] Unless otherwise noted, all monetary data are reported in nominal values.

coastal communities in the region. Walrus, seal, and herring roe are sought in exchange for inland subsistence resources harvested by Portage Creek residents. Businesses in the community include the Portage Creek General Store and Lodge, which operates during summer months.[1549] Additional businesses in Portage Creek in the last decade have included babysitting, lodging opportunities, and guiding services.[1550] No information was available from the Alaska Department of Labor and Workforce Development regarding top employers in Portage Creek between 2007 and 2010.[1551]

Although the U.S. Decennial Census reported two residents age 16 or over in Portage Creek in 2010, household surveys conducted for the 2006-2010 ACS estimated that no residents lived in the community.[1552,1553] The civilian labor force was thus estimated to be zero. An alternative labor force estimate is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, there were three residents in Portage Creek aged 16 and over, but none of these residents were estimated to be employed, lending support for the ACS estimate of a civilian labor force of zero.[1554] Portage Creek was recognized as "distressed" by the Denali Commission in 2011, indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[1555] It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Although no income and employment data were reported in 2010, information was reported for the year 2000, when 36 individuals resided in the community. In 2000, the per capita income in Portage Creek was $8,010 and the median household income was $41,250. Taking inflation into account by converting the 2000 values to 2010 dollars,[1556] the real per capita income in 2000 is shown to have been $10,533, and the real median household income in 2000 was $41,250. Because no income information was reported for Portage Creek in 2010, the community's earnings were not ranked against other communities that year. Previously, in the year 2000, Portage Creek had ranked 305th of 344 Alaskan communities with per capita income data that year, and 141st in median household income, out of 341 Alaskan communities with household income data.

[1549] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1550] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm.

[1551] Alaska Dept. of Labor and Workforce Dev. (n.d.). *Alaska Local and Regional Information.* Retrieved May 22, 2012 from: http://live.laborstats.alaska.gov/alari/.

[1552] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[1553] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[1554] See footnote 1551.

[1555] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.

[1556] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

According to the U.S. Census, of 7 Portage Creek residents aged 16 or older in 2000, 4 were in the civilian labor force, with an unemployment rate of 0%. Both of the individuals employed in Portage Creek in 2000 reported working in the public sector, in the educational, health and social services industry, and neither were employed in agriculture, forestry, and fishing industries (Figures 3 and 4). The number of individuals employed in farming, fishing, and forestry industries is probably underestimated as fishermen may hold another job and characterize their employment accordingly. As with income statistics, it should be noted that these employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Portage Creek (U.S. Census).

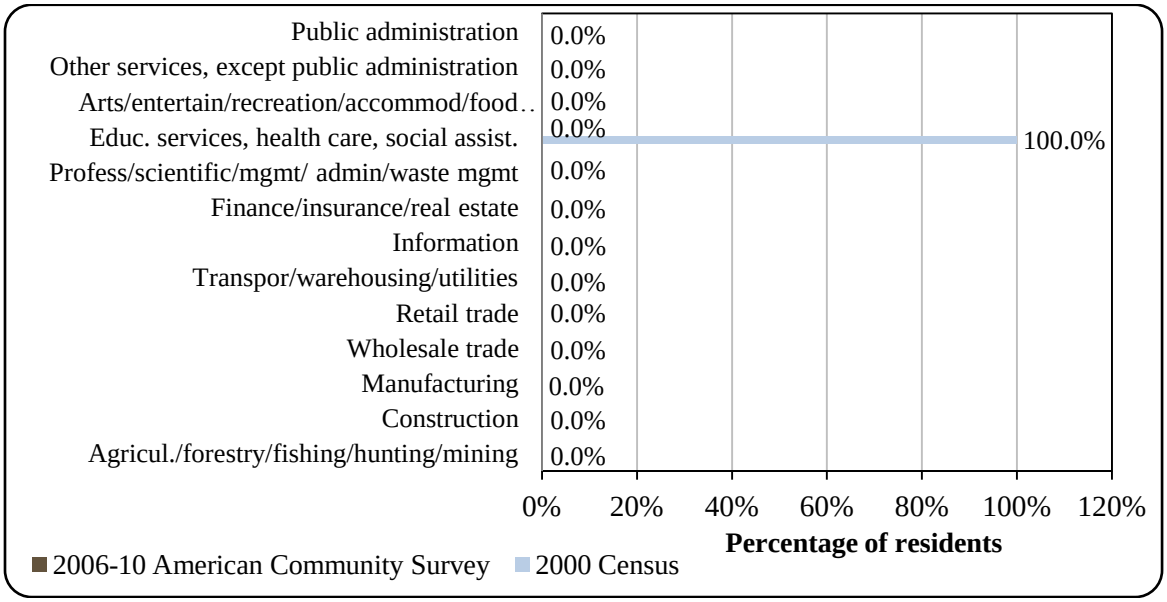
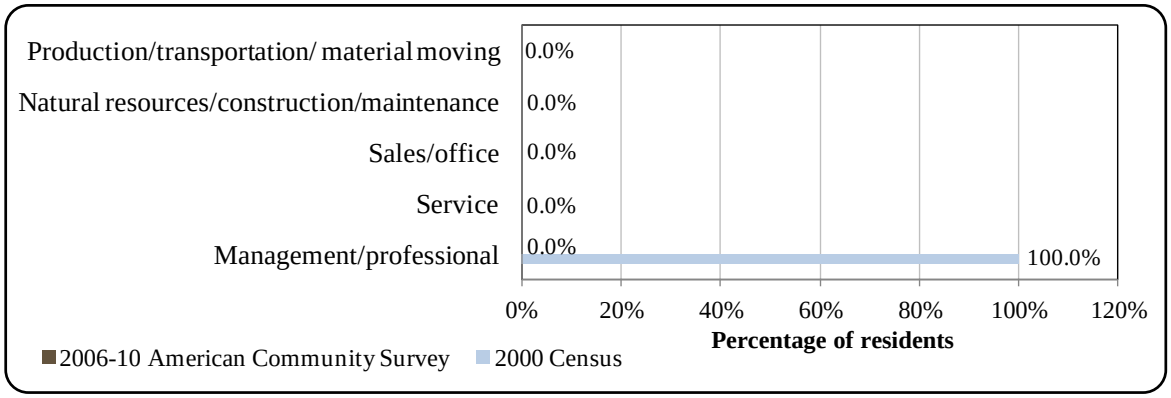


Figure 4. Local Employment by Occupation in 2000-2010, Portage Creek (U.S. Census).



Governance

Portage Creek is an unincorporated community, and is not located in an organized borough. No taxes are administered locally,[1557] and no municipal revenue was reported between 2000 and 2010. In addition, no information was reported regarding State and Community Revenue Sharing contributions or fisheries-related grants received by the Portage Creek between 2000 and 2010 (Table 2).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Portage Creek from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[1557] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Portage Creek was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the BIA, is the Portage Creek Village, also known as the Ohgsenakale Tribe. In the 1980s, the Native village corporation, the Portage Creek Association, merged with Choggiung, Limited, the Native village corporation for Dillingham.[1558] The Portage Creek Association remains Portage Creek's "appropriate village entity," a representative group that speaks for the Village on matters concerning ANCSA lands,[1559] while Choggiung, Limited manages 130,673 acres of land on behalf of the Portage Creek Association, in addition to managing its original 175,506-acre land entitlement. The regional Native corporation to which Portage Creek belongs is the Bristol Bay Native Corporation (BBNC).[1560]

Portage Creek is a member of the Bristol Bay Native Association (BBNA), a regional non-profit organization headquartered in Dillingham that provides social, economic, cultural, and educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.[1561] The BBNA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[1562]

The closest office of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development are located in Dillingham. Kodiak hosts an Alaska Department of Natural Resources Parks and Outdoor Recreation office, a National Marine Fisheries Service (NMFS) regional office, research laboratories, and enforcement office, and office of the U.S. Bureau of Citizenship and Immigration Services, although the Anchorage offices of these agencies may be more accessible to people from the Portage Creek area.

Infrastructure

Connectivity and Transportation

Portage Creek is inaccessible by road, although a local road system connects the Village to the airport, boat launch and landfill. In addition, a network of summer and winter trails exists around the Village.[1563] Locals commonly use ATVs and snowmobiles for overland travel. Skiffs and other watercraft are used for fishing and general transportation.[1564]

[1558] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm.

[1559] Alaska Dept. of Commerce, Community, and Economic Development. 2012. *Getting Started on 14(c)(3): A Basic Guide for City and Village Councils*. Retrieved May 14, 2012 from http://commerce.alaska.gov/dca/pub/14c3GettingStarted2012.pdf.

[1560] See footnote 1557.

[1561] Bristol Bay Native Association. (n.d.). *BBNA homepage.* Retrieved November 16, 2011 from www.bbna.com.

[1562] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

[1563] Portage Creek Village Council, residents of Portage Creek, Agnew::Beck Consulting, LLC, and Bristol Environmental & Engineering Services Corporation. 2006. *Portage Creek Indian Reservation Roads Program 2007 Long-Range Transportation Planning*. Retrieved May 14, 2012 from http://www.commerce.state.ak.us/dca/plans/PortageCreek-TP-2006.pdf.

[1564] See footnote 1557.

Chartered air transport is the most frequent mode of transportation used to reach Portage Creek. There is a state-owned 1,470 feet long by 60 feet wide gravel airstrip, maintained only during summer months, and seaplanes also land on the Nushagak River. Mail and cargo are delivered by air or by barge. Cargo goods delivered by barge are lightered to the beach since there are no docking facilities in Portage Creek.[1565] Until the mid-2000s, Peninsula Airways offered weekly scheduled flights to Portage Creek, but since the decline of the local population, regularly scheduled service has been discontinued. As of May 2012, a one-way charter flight with Shannon's Air Taxi from Dillingham to Portage Creek cost $420 (for up to six passengers).[1566] Additional companies that provide charter air service to Portage Creek include Bristol Bay Air and Mulchatna Air.[1567] As of early June 2012, roundtrip airfare between Dillingham and Anchorage cost $452.[1568]

Facilities

There are no central facilities currently in operation in Portage Creek. The central well is rusty, and most residents haul water from downriver. Some residents also have individual wells. Honeybuckets and outhouses are used for sewage disposal. There is no functioning central electric system, and residents use individual generators. The landfill is unpermitted, and no refuse collection services are provided. Police services are provided by state troopers stationed in Dillingham, and no fire or rescue services are available locally. Internet service is available at the school only. Telephone service is provided by Nushagak Telephone Co-op Inc. and AT&T Alascom. No cable service provider operates in Portage Creek.[1569] As of 2006, community facilities included a school, a health clinic building in need of major renovations, and a Village Council building which also needs upgrades.[1570]

Medical Services

Although a clinic building is present in Portage Creek, consistent medical services have not been provided in the community since the 1980's, and at present the building is old and unsafe. During years in which the school is in operation, a Bristol Bay Area Health Corporation dentist and nurse visit the Village once each year to provide dental work and general check-ups to local students as well as other residents. The school has been closed since the 2005-2006 school year, and as of 2012, no health care service was provided locally.[1571,1572] The nearest hospital is located in Dillingham.[1573]

[1565] Ibid.
[1566] Personal communication, Shannon's Air Taxi representative, May 22, 2012.
[1567] See footnote 1563.
[1568] Airfare was calculated using lowest fare. Retrieved November 22, 2011, from http://www.travelocity.com.
[1569] See footnote 1563.
[1570] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm.
[1571] Ibid.
[1572] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1573] Bristol Bay Area Health Corporation website. 2006. *Kanakanak Hospital*. Retrieved June 3, 2012 from http://www.bbahc.org/kanakanak.html.

Educational Opportunities

As of the 2011 school year, no students were enrolled in Portage Creek. The school last operated during the 2004-2005 school year, when seven students were enrolled.[1574]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence fishing activities have been important to residents of the Portage Creek area for thousands of years. The Nushagak region was historically inhabited by a coastal population that combined fishing and hunting of marine mammals and an interior population that focused on hunting and fishing with frequent trips to the coast, especially during summer months.[1575] Today, permanent residents of Portage Creek, as well as area residents who come to the Village during summer months, continue to rely on subsistence harvest of fish and wildlife resources.[1576] In some years during the 2000-2010 period, Portage Creek residents also held state commercial permits in fisheries for salmon and herring. The number of permits declined over the period, and no permits were held from 2007 to 2010 (Table 4).

The commercial salmon fishery began to develop in Bristol Bay in the 1890s, and today is one of the most important commercial salmon fisheries in the world. Harvest primarily consists of sockeye salmon returning to spawn in the many lakes of the Bristol Bay region, although several other species are harvested in lower volumes. One of the largest runs of Chinook salmon in Alaska occurs in the Nushagak River.[1577] The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, southwest of Nushagak River near the village of Togiak. Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.[1578]

Portage Creek is located on the Nushagak River which empties into Bristol Bay. This marine area is encompassed by the Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Portage Creek participates in the Community Development Quota (CDQ) program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity program.

[1574] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1575] VanStone, James W. 1968. "An Annotated Ethnographic Bibliography of the Nushagak River Region, Alaska." *Anthropology*, v. 54, no. 2. Field Museum of Natural History. Chicago.
[1576] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1577] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1578] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.

Processing Plants

The ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Portage Creek. However, several processing facilities were registered in nearby communities throughout Bristol Bay, including Dillingham, Egegik, and Naknek.

Fisheries-Related Revenue

No information was reported between 2000 and 2010 regarding fisheries-related revenue earned in the community of Portage Creek (Table 3).

Commercial Fishing

Between 2000 and 2006, Portage Creek residents participated in state fisheries as permit holders, crew members, and vessel owners. The number of vessels homeported in Portage Creek declined from 10 in the year 2000 to 1 in 2005 and 2006, and no vessels were reported as homeported in Portage Creek between 2007 and 2010. Similarly, the number of vessels primarily owned by Portage Creek residents declined from two in 2000 to one by 2005-2006, and none were reported as owned between 2007 and 2010. The number of crew license holders varied from one to six between 2000 and 2007, with two crew licenses held by Portage Creek residents in 2007. Between 2008 and 2010, no residents were issued commercial crew licenses. This information about the Portage Creek commercial fishing sector is presented in Table 5.

In 2000 and 2001, two residents held a total of three commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Two of these permits were held in the Bristol Bay drift gillnet salmon fishery, both of which were actively fished in 2000 and 2001. The third permit was held in the Bristol Bay roe herring gillnet fishery, and was not actively fished during these two years. No herring permits were held from 2002 to 2010. The number of Bristol Bay salmon permits held in Portage Creek declined to one between 2002 and 2006. It was actively fished in each of these years. Between 2000 and 2010, no Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Portage Creek residents, and no quota share accounts or quota shares were held in federal catch share fisheries for halibut, sablefish, or crab during the decade. Information about permits held in Portage Creek is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

No fish-buyers or shore-side processing facilities were present in Portage Creek from 2000 to 2010 (Table 5), and no information was reported regarding fisheries landings and ex-vessel revenue generated in the community (Table 9). Local vessel owners made landings between 2000 and 2006, but information about these landings and ex-vessel revenue generated by Portage Creek vessel owners is considered confidential due to the small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Portage Creek: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries resource landing tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the City reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Portage Creek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	1	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	-	-	-	-	-	-	-	-	-
	Total permit holders	1	1	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Portage Creek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	2	2	1	1	1	1	1	0	0	0	0
	Fished permits	2	2	1	1	1	1	1	0	0	0	0
	% of permits fished	100%	100%	100%	100%	100%	100%	100%	-	-	-	-
	Total permit holders	2	2	1	1	1	1	1	0	0	0	0
Total CFEC Permits[2]	*Permits*	*3*	*3*	*1*	*1*	*1*	*1*	*1*	*0*	*0*	*0*	*0*
	Fished permits	*2*	*2*	*1*	*1*	*1*	*1*	*1*	*0*	*0*	*0*	*0*
	% of permits fished	*67%*	*67%*	*100%*	*100%*	*100%*	*100%*	*100%*	-	-	-	-
	Permit holders	*2*	*2*	*1*	*1*	*1*	*1*	*1*	*0*	*0*	*0*	*0*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Portage Creek: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Portage Creek[2]	Total Net Pounds Landed In Portage Creek[2,5]	Total Ex-Vessel Value Of Landings In Portage Creek[2,5]
2000	2	0	0	2	10	0	0	$0
2001	1	0	0	2	9	0	0	$0
2002	2	0	0	2	9	0	0	$0
2003	4	0	0	2	9	0	0	$0
2004	6	0	0	2	9	0	0	$0
2005	4	0	0	1	1	0	0	$0
2006	3	0	0	1	1	0	0	$0
2007	2	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	0	0	0	0	0	0	0	$0
2010	0	0	0	0	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Portage Creek: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Portage Creek: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Portage Creek: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Portage Creek: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Portage Creek Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	0	0	0	0
Finfish	-	-	-	-	-	-	-	0	0	0	0
Halibut	-	-	-	-	-	-	-	0	0	0	0
Herring	-	-	-	-	-	-	-	0	0	0	0
Other Groundfish	-	-	-	-	-	-	-	0	0	0	0
Other Shellfish	-	-	-	-	-	-	-	0	0	0	0
Pacific Cod	-	-	-	-	-	-	-	0	0	0	0
Pollock	-	-	-	-	-	-	-	0	0	0	0
Sablefish	-	-	-	-	-	-	-	0	0	0	0
Salmon	-	-	-	-	-	-	-	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	$0	$0	$0	$0
Finfish	-	-	-	-	-	-	-	$0	$0	$0	$0
Halibut	-	-	-	-	-	-	-	$0	$0	$0	$0
Herring	-	-	-	-	-	-	-	$0	$0	$0	$0
Other Groundfish	-	-	-	-	-	-	-	$0	$0	$0	$0
Other Shellfish	-	-	-	-	-	-	-	$0	$0	$0	$0
Pacific Cod	-	-	-	-	-	-	-	$0	$0	$0	$0
Pollock	-	-	-	-	-	-	-	$0	$0	$0	$0
Sablefish	-	-	-	-	-	-	-	$0	$0	$0	$0
Salmon	-	-	-	-	-	-	-	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

The Nushagak and Mulchatna River drainage supports vibrant recreational fisheries. Within the drainage, the lower Nushagak River near the Village of Portage Creek is one area of concentrated sportfishing effort for coho and Chinook salmon.[1579] Portage Creek is a popular sportfishing site from May through July.[1580] Many seasonal residents come to fish camps in Portage Creek during summer months to participate in sportfishing activity. The General Store and Lodge sells products to boaters and fishers along the river, provides lodging facilities, boat storage, hauling, and rentals.[1581]

No active sport fish guide businesses were present in Portage Creek from 2000 to 2010. However, there was one licensed sport fish guide in the community from 2000 to 2002, and again in 2004. Between 2000 and 2010, a greater number of sportfishing licenses were sold in Portage Creek (50 per year on average) than were sold to local residents (3 per year on average, irrespective of point of sale), indicating that Portage Creek attracts sport fishermen from the surrounding region or beyond. This information about the local sportfishing industry in Portage Creek is presented in Table 11.

The Alaska Statewide Harvest Survey,[1582] conducted by ADF&G between 2000 and 2010, did not provide information regarding species targeted by private anglers in Portage Creek. However, the survey did note species targeted by anglers in nearby Dillingham: in freshwater, Dillingham recreational fishermen targeted all five salmon species, rainbow trout, Dolly Varden, whitefish, Arctic grayling, and northern pike. In saltwater, Dillingham anglers targeted Pacific halibut, rockfish, and smelt. No kept/release log book data were reported for sportfishing charters out of Portage Creek between 2000 and 2010.[1583]

Portage Creek is located within Alaska Statewide Harvest Survey Area T – Nushagak, Wood River and Togiak. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Overall between 2000 and 2010, there were more non-Alaska resident than Alaska resident angler days fished, and there was significantly greater freshwater harvest than saltwater. Between 2000 and 2010, the non-Alaska resident anglers fished between 15,676 and 33,089 freshwater angler days and between 81 and 767 saltwater angler days per year. Alaska resident anglers fished between 7,356 and 19,980 freshwater angler days and between 31 and 921 saltwater angler days per year. This information about the sportfishing sector in and near Portage Creek is displayed in Table 11.

[1579] Dunaway, D. O. and S. Sonnichsen. 2001. *Area Management Report for the Recreational Fisheries of the Southwest Alaska Sport Fish Management Area, 1999*. ADF&G Fishery Management Report No. 01-6. Retrieved May 14, 2012 from http://www.sf.adfg.state.ak.us/FedAidpdfs/Fmr01-06.pdf.
[1580] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1581] Portage Creek Village Council, residents of Portage Creek, and Agnew::Beck Consulting, LLC. 2006. *Portage Creek Comprehensive Plan*. Retrieved May 14, 2012 from http://www.agnewbeck.com/pages-portfolio/bristolbay/portagecreek-cp-lrtp.htm..
[1582] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).
[1583] Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Portage Creek: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Portage Creek[2]
2000	0	1	3	58
2001	0	1	5	63
2002	0	1	4	103
2003	0	0	1	45
2004	0	1	5	69
2005	0	0	4	52
2006	0	0	3	54
2007	0	0	1	50
2008	0	0	2	21
2009	0	0	2	35
2010	0	0	1	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Residents of Portage Creek depend on subsistence resources as food sources. Most families have fish camps at Ekuk or Lewis Point. Salmon, moose, caribou, duck, geese, and berries are the primary foods harvested. An exchange relationship exists between Portage Creek and coastal communities in Bristol Bay. Walrus, seal, and herring roe are sought in exchange for inland foods harvested near Portage Creek.[1584]

Between 2000 and 2010, no data were available from ADF&G regarding per capita subsistence harvest or the percentage of Portage Creek households utilizing various marine resources for subsistence purposes (Table 12). However, information is available from ADF&G between 2000 and 2008 regarding annual subsistence salmon harvest. For those years in which data were reported, an average of one salmon permit was issued to Portage Creek households. The salmon species most heavily harvested was Chinook, with an average of 75 salmon harvested per year, for those years in which information was reported. Some chum and sockeye salmon harvest was also reported between 2000 and 2008 (Table 13).

No information was reported by management agencies between 2000 and 2010 regarding total subsistence harvest of non-salmon fish, marine invertebrates, or various species of marine mammals (Tables 13 through 15).

Table 12. Subsistence Participation by Household and Species, Portage Creek: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[1584] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Portage Creek: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	3	2	117	15	n/a	n/a	15	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	1	1	78	7	n/a	n/a	12	n/a	n/a
2005	1	1	78	9	n/a	n/a	4	n/a	n/a
2006	1	1	87	12	n/a	n/a	4	n/a	n/a
2007	1	1	37	6	n/a	n/a	4	n/a	n/a
2008	1	1	53	3	n/a	n/a	2	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Portage Creek: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Portage Creek: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

South Naknek (*NACK-neck*)

People and Place

Location [1585]

South Naknek is a Census Designated Place (CDP) located on the south bank of the Naknek River, 297 miles southwest of Anchorage. South Naknek CDP encompasses 94 square miles of land and 2.5 square miles of water. It lies just west of the Katmai National Park and Preserve. South Naknek is located in the Kvichak Recording District, the Bristol Bay Borough, and the Bristol Bay Borough Census Area.

Demographic Profile [1586]

In 2010, there were 79 inhabitants in South Naknek, making it the 267th largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Naknek decreased by 50.36% with an average annual growth rate of -4.66%. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, a large majority of South Naknek residents identified themselves as American Indian and Alaska Native (82.3%), while 12.7% identified as White, 1.3% as Asian, and 3.8% identified with two or more races. Compared to 2000, several ethnic groups no longer appeared to be present in 2010, including Native Hawaiian and Other Pacific Islanders, and Black or African American. In addition, individuals identifying as Hispanic no longer appeared to be present in South Naknek in 2010. There were slight declines in the percentages of the population identifying as both White and American Indian and Alaska Native between 2000 and 2010, while there was an increase in the percentages identifying as Asian or identifying with two or more races. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in South Naknek was 2.26, a decrease from 3.4 persons per household in 1990 and 2.98 in 2000. The total number of households increased from 39 in 1990 to 46 in 2000, and then decreased to 35 occupied housing units in 2010. Of the 130 housing units surveyed for the 2010 Decennial Census, 22 were owner-occupied, 13 were renter-occupied, and 95 were vacant or used only seasonally. Throughout this period no residents of South Naknek were reported to be living in group quarters.

[1585] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1586] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

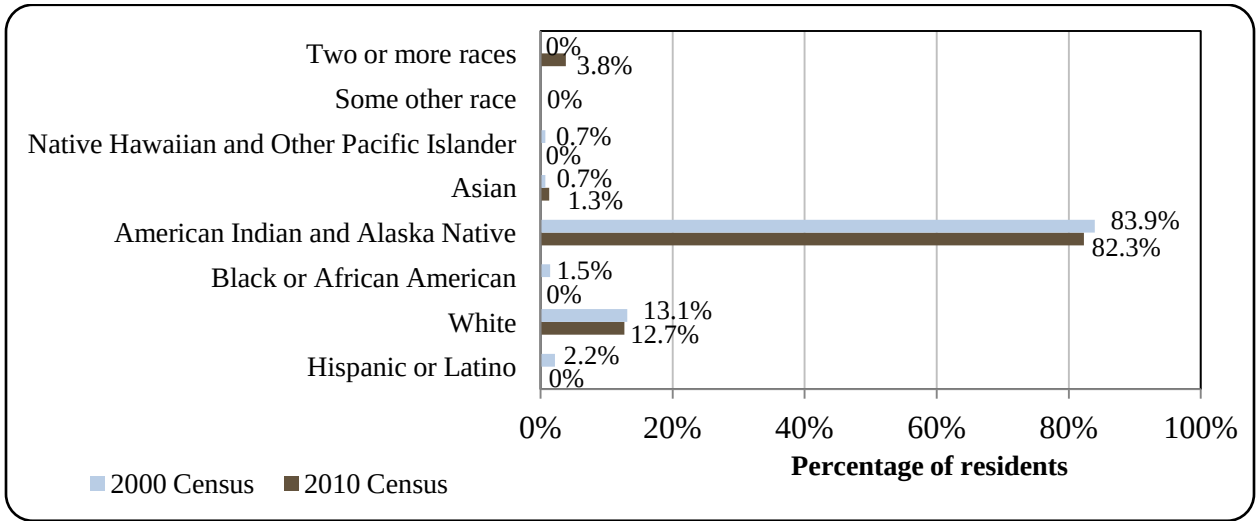
Table 1. Population in South Naknek from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	136	-
2000	137	-
2001	-	124
2002	-	120
2003	-	102
2004	-	89
2005	-	76
2006	-	75
2007	-	66
2008	-	68
2009	-	68
2010	79	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

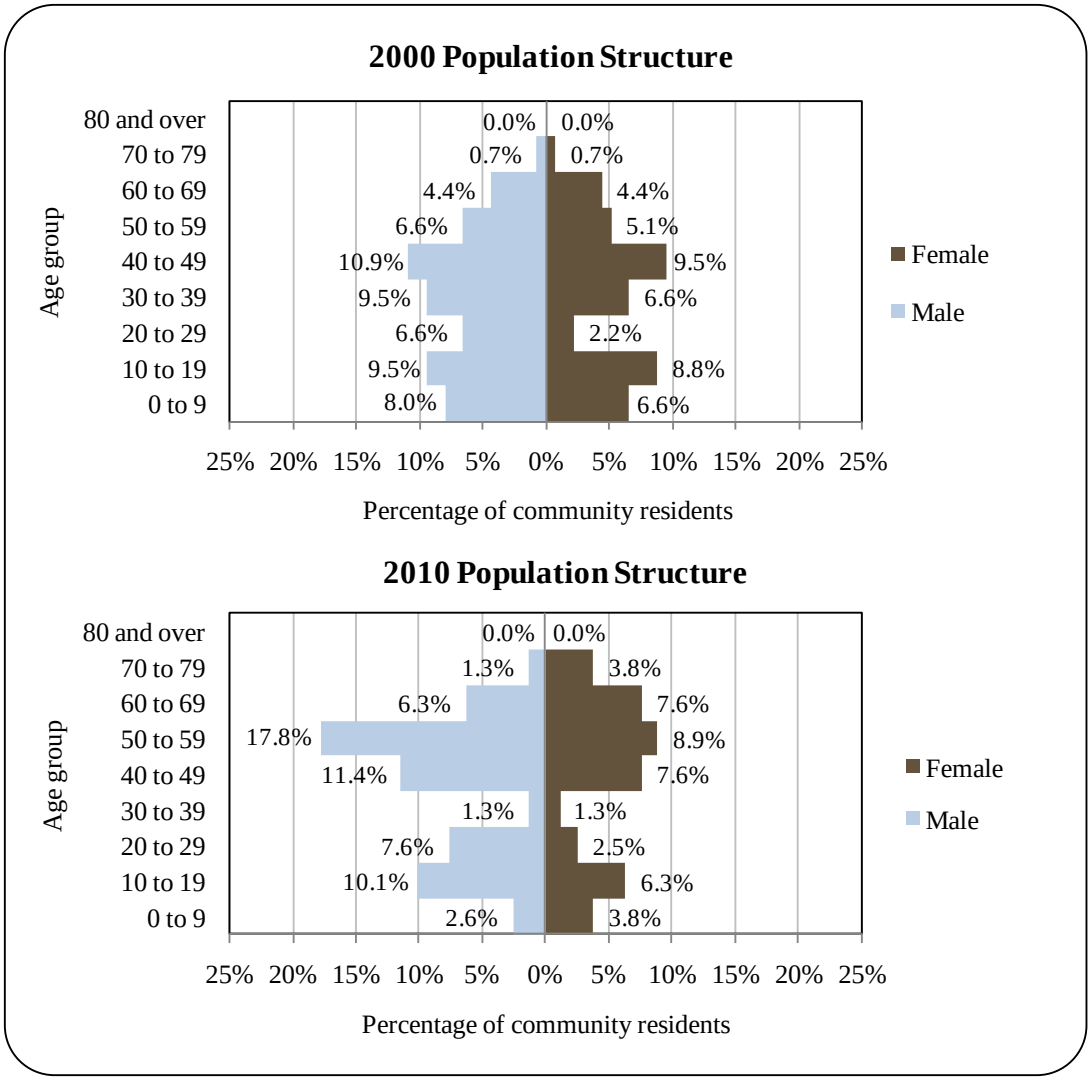
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, South Naknek: 2000-2010 (U.S. Census).



The gender makeup in South Naknek in 2010 was 58.2% male and 41.8% female, very similar to the state as a whole (52% male, 48% female). The local population was male skewed for most age groups in 2010; however, the bias towards males between 40 and 59 is most noteworthy. The median age was estimated to be 45.8 years, higher than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the largest percentage of the population fell within the age category 50 to 59 years old, with the next largest percentage in the age category 40 to 49 years old. Very few individuals between 30 and 39 years old reside in the community. There were no individuals over age 80 living in South Naknek in 2010, and relatively few individuals between ages 30 and 39 and over age 70. The overall population structure of South Naknek in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in South Naknek Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[1587] 93% of South Naknek residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, there were no residents of South Naknek aged 25 and older that were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 7% were estimated to have a ninth to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 16.3% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 37.2% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 18.6% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; and 20.9% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall. There were not estimated to be any South Naknek residents that had a graduate or professional degree in 2010.

History, Traditional Knowledge, and Culture

Starting 8,000 years ago there is evidence of seasonal camps along the Kvichak River by people of the Paleo-Arctic tradition. These people likely arrived following herds of caribou. By 6,000 ago, ancestors of the Kodiak and Aleutian traditions made seasonal use of the South Naknek area, probably utilizing both caribou and marine resources. By 1,900 B.C., ancestors of historic Yup'ik populations settled in the area. They were fishermen and hunters of caribou and marine mammals. Evidence of permanent settlements and river salmon fishing in the area starts around 400 B.C. [1588]

South Naknek is located across the Naknek River from Naknek, and the histories of the two communities are closely intertwined. By the time of European contact in the late 1700s, residents of the villages used rivers to interact with each other and for transport in pursuit of seasonal subsistence resources. In the 1880 U.S. Census, a village known as Qinuyang was located at the present site of South Naknek, and a village known as Paugvik was located at the present site of Naknek. At that time, the populations of these villages were counted together, with a total population of 192 Native people. Starting in the 1890 Census, the two villages were counted separately. As of 1890, Qinuyang had a reported population of one white person and 92 Natives.[1589]

There was a strong Russian presence in the area during the mid-1800s. The Russians built a fort near Naknek, and Russian fur trappers inhabited the area prior to the United States' purchase of Alaska in 1867.[1590] Soon after the sale of Alaska, the commercial fishing industry began to develop in the region. The community of South Naknek became more established

[1587] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1588] Morris, Judith (1985). The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska. *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[1589] Bristol Bay Native Association. (n.d.). *South Naknek*. Retrieved September 12, 2013 from http://www.bbna.com/villages/snaknek/snaknek1b.htm.
[1590] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

during the development of canneries along the Naknek River. The first salmon cannery opened on the Naknek River in 1890.[1591]

Many Native residents of South Naknek are descended from inhabitants of "Old Savonoski", an Aleut village that was located at the eastern end of Naknek Lake, within the modern boundaries of Katmai National Park and Preserve. Old Savonoski was abandoned during the 1912 eruptions of Mt. Katmai and Mt. Novarupta. Villagers relocated to a site at the confluence of King Salmon Creek and the Naknek River, six miles east of today's South Naknek, which they called "New Savonoski". Today, many descendents of Old Savonoski live in the present-day villages of King Salmon and South Naknek.[1592,1593]

Today, South Naknek remains a traditional Sugpiaq (Pacific Yup'ik / Aleut) village with a fishing and subsistence lifestyle.[1594]

Natural Resources and Environment

The climate is mainly maritime, characterized by cool, humid, and windy weather. Average summer temperatures range from 42 to 63 °F (5.6 to 17.2 °C); average winter temperatures range from 29 to 44 °F (-1.7 to 6.7 °C). Extremes from -46 to 88 °F (-43.3 to 31.1 °C) have been recorded. Total precipitation averages 20 inches annually, with 45 inches of snowfall. Fog is common during summer months. [1595]

South Naknek is located on the Alaska Peninsula, close to the Becharof National Wildlife Refuge (Refuge) to the south, Katmai National Park and Preserve to the east, and the Alagnak National Wild and Scenic River to the northeast. The Refuge covers an area of 1,157,000 acres and contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800 foot volcano. Wildlife present in the Refuge includes brown bears, caribou, moose, over 200 species of migratory and resident birds, and provides an important nursery for Pacific salmon.[1596] Katmai National Park is a 7,383 square mile wilderness area known for its high concentration of brown bears, volcanoes Mt. Katmai and Mt. Novarupta, and the Valley of 10,000 Smokes. The National Park is also a popular sportfishing destination. Visitors to Katmai may also pass through nearby Naknek, as King Salmon is one of the primary departure points for charter flights to the Park.[1597,1598] The Alagnak River, also known as the 'Branch River,' is a 79-mile long river with headwaters in Katmai National Park that joins the Kvichak River at Levelock. Sixty-seven miles of the Alagnak River are designated as wild.[1599]

[1591] See footnotes 1588 and 1590.
[1592] Feldman, K.D. Ethnohistory and the IRA Tribal Status Application of King Salmon Natives, Alaska. *Alaska Journal of Anthropology*. 1(1):100-117. Retrieved October 18, 2013 from http://www.uaa.alaska.edu/anthropology/people/upload/King_Salmon.pdf.
[1593] See footnotes 1589 and 1590.
[1594] See footnote 1590.
[1595] Ibid.
[1596] U.S. Fish and Wildlife Service. 2011. *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.
[1597] National Park Service. 2011. *Katmai National Park & Preserve*. Retrieved November 17, 2011 from http://www.nps.gov/katm/.
[1598] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1599] Lake Clark-Katmai Studies Center, National Park Service. *Alagnak Wild River: An Illustrated Guide to the Cultural History of the Alagnak Wild River*. Retrieved November 17, 2011 from http://www.nps.gov/alag/historyculture.

The Kvichak River System, including the Alagnak River and Iliamna Lake, is the single most important source of salmon in the Bristol Bay area, providing resources for commercial, subsistence and recreational fisheries. The Alagnak River attracts a large number of anglers each year for salmon, Arctic grayling, Arctic char and lake trout fisheries. The River's rainbow trout fishery has a world-class reputation.[1600]

Northeast of South Naknek, Iliamna Lake is near the proposed site for the Pebble Mine, a copper-gold-molybdenum mineral deposit. If the mine moves forward, South Naknek and other Bristol Bay communities that depend on local fisheries resources could be affected.[1601,1602] The immediate South Naknek area has no known mineral occurrences, but local potential exists for subsurface oil and gas resources. Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.[1603] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1604] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1605]

According to the Bristol Bay Coastal Management Plan, the South Naknek area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, and sea ice. A majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. Coastal flooding and erosion is affected by wind, site exposure, and sea ice conditions. The Management Plan notes the potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[1606]

[1600] See footnote 1598.
[1601] Southwest Alaska Municipal Conference website. (n.d.). *Industries: Mining*. Retrieved December 21, 2011 from http://www.swamc.org/html/industries/mining.php.
[1602] Pg. 36 in Duffield, John., Christopher Neher, David A. Patterson, and Oliver S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/.
[1603] See footnote 1598.
[1604] U.S. Dept. of the Interior, Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1605] The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1606] Glenn Gray and Associates (2008). *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in South Naknek as of September 2013.[1607]

Current Economy[1608]

Commercial fishing and salmon processing are the mainstays of South Naknek's economy. In 2010, 24 residents held commercial fishing permits. Seafood processing companies operate in the vicinity. Most other employment is in public services. A few people trap, and most residents depend on subsistence hunting and fishing. Salmon, trout, caribou, rabbit, porcupine, and seal are utilized.[1609] Top employers in 2010[1610] included Trident Seafoods, the South Naknek Village Council, the Bristol Bay Borough, and the Bristol Bay Area Health Corporation

According to the 2006-2010 ACS,[1611] in 2010, the per capita income in South Naknek was estimated to be $14,667 and the median household income was estimated to be $52,188, compared to $13,019 and $22,344 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[1612] the real per capita income in 2000 was $17,120 and the real 2000 median household income was $29,382. This shows that per capita income decreased between 2000 and 2010, while there was a real increase in household income during this period. In 2010, South Naknek ranked 208th of 305 Alaskan communities with per capita income that year, and 114th of 299 Alaskan communities with household income data. However, South Naknek's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[1613] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for South Naknek in 2010 is $10,637.[1614] This estimate provides support for a decrease in real per capita income between 2000 and 2010.[1615] These low per capita income estimates are reflected in

[1607] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[1608] Unless otherwise noted, all monetary data are reported in nominal values.
[1609] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1610] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1611] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[1612] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalcl.htm).
[1613] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1614] See footnotes 1610 and 1611.
[1615] See footnote 1610.

the fact that, in 2011, South Naknek was recognized as a distressed community (using a plus/minus 3% formula) by the Denali Commission, prioritizing it for economic assistance.[1616]

Based on the 2006-2010 ACS, in 2010, 64.7% of the population age 16 and over was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 11.8%, compared to the statewide unemployment rate of 5.9%. Approximately 17.6% of local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for South Naknek are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of South Naknek.[1617] A potentially more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 21.2%, almost double the statewide unemployment rate estimate of 11.5%.[1618]

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers in South Naknek was estimated to be employed in the public sector (55.6%), while 36.1% were employed in the private sector and 8.3% were self-employed. Out of 36 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, a majority were estimated to be employed in three primary industries: education services, health care, and social assistance (47.2%), construction (30.6%), and agriculture, forestry, fishing, hunting, and mining industries (16.7%). The remainder of the workforce was estimated to be employed in public administration (5.6%). The workforce was concentrated in fewer industries in 2010 compared to 2000. While this may be due to a real population decline in South Naknek, it is also important to note that the sampling methods utilized by the U.S. Census Bureau were altered between 2000 and 2010. The shift in sampling methods may also account for some of the differences observed in employment estimates.[1619] Employment distribution by industry is presented in Figure 3.

Occupations in which the greatest percentages of the South Naknek workforce were estimated to be employed in 2010 were natural resources, construction, and maintenance (36.1%), sales and office (30.6%), and management, business, science, and arts occupations (27.8%). Employment is broken down by occupation in Figure 4.

It is important to note that the number of individuals employed by fishing may be underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly.

[1616] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.
[1617] See footnote 1613.
[1618] See footnote 1610.
[1619] See footnote 1613.

Figure 3. Local Employment by Industry in 2000-2010, South Naknek (U.S. Census).

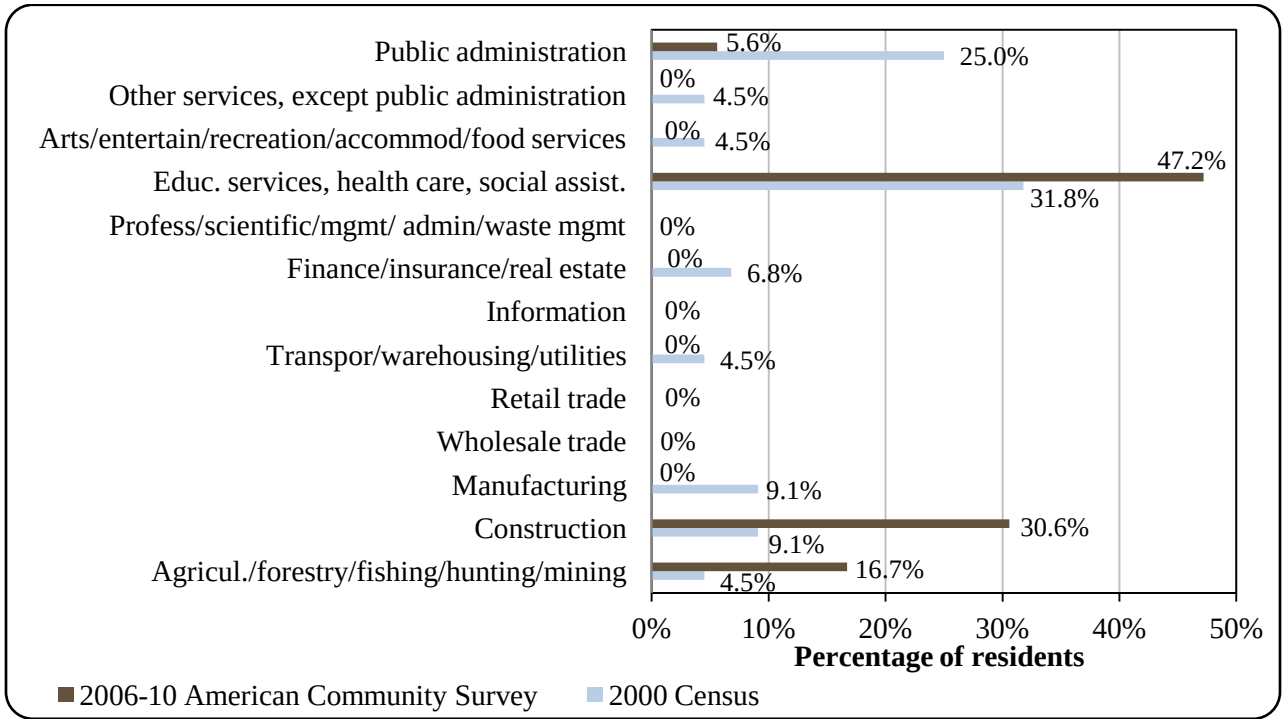
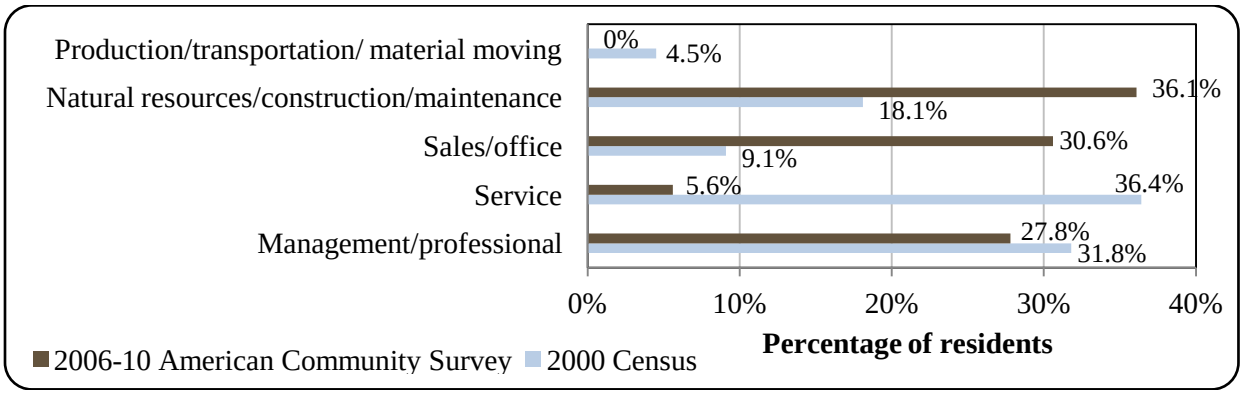


Figure 4. Local Employment by Occupation in 2000-2010, South Naknek (U.S. Census).



Governance

South Naknek is an unincorporated community located in the Bristol Bay Borough. The Bristol Bay Borough serves as the governing body for South Naknek. The Borough was incorporated in 1962, making it the first borough in Alaska. It is also one of the smallest boroughs in the State. It contains three CDPs – South Naknek, Naknek, and King Salmon. The seat of the Bristol Bay Borough is located in Naknek.[1620]

[1620] Southwest Alaska Municipal Conference. (n.d.) *Bristol Bay Borough*. Retrieved October 21, 2013 from http://www.swamc.org/html/southwest-alaska/bristol-bay-borough-raquo/bristol-bay-borough.php.

As of 2012, the Bristol Bay Borough did not administer a sales tax, but did levy a 13 mills property tax, 10% bed tax, and 3% raw fish tax.[1621,1622] In addition to tax revenues, other locally-generated income sources received by the Bristol Bay Borough between 2000 and 2010 included building and equipment rental income, charges for services provided by the Borough such as water and sewer, ambulance fees, and pool fees, land sales, building permit fees, and investment income. Outside revenue sources included state and federal grants and revenue sharing programs, as well as some state contracts including jail and special services contracts. State of Alaska sources of shared revenue during the 2000-2010 period included the State Revenue Sharing program from 2000 to 2003, the Community Revenue Sharing program in 2009 and 2010, municipal energy assistance, and state fish tax refunds (see the *Fisheries-Related Revenue* section of this profile for more information). Federal shared revenue sources included funds from the Payment In Lieu of Taxes program. A variety of special project and capital project grants were also received from the state and federal governments during this period.[1623] In 2008, a fisheries-related grant was received by the Bristol Bay Borough from the Alaska Department of Commerce, Community, and Economic Development's (DCCED's) Division of Community and Regional Affairs (DCRA). The award of $70,671 was provided to the Borough to purchase land for and development of a Fisherman's Dock and Industrial Park. Information regarding selected community revenue sources is reported in Table 2.

In addition to the Borough, South Naknek Native Village serves as a governing body for the Native population in the community. South Naknek Native Village was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized by the Bureau of Indian Affairs. The local village Native corporation is the Alaska Peninsula Corporation. The regional Native corporation to which Naknek belongs is the Bristol Bay Native Corporation.[1624]

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon. Nearby King Salmon also hosts offices of the National Park Service and U.S. Fish and Wildlife Service, and Dillingham has an office of the Alaska Department of Commerce, Community, and Economic Development's Division of Community and Regional Affairs. The nearest Alaska Department of Natural Resources office is a Division of Parks and Outdoor Recreation office in Homer, while Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices. However, the Anchorage offices of these agencies may be more easily accessible for the people of the Bristol Bay region. The U.S. Bureau of Citizenship and Immigration Services has its nearest offices in Kodiak and Anchorage.

[1621] Alaska Department of Commerce, Community, and Economic Development. 2013. *Alaska Taxable 2012*. Retrieved October 18, 2013 from http://commerce.alaska.gov/dnn/Portals/4/pub/OSA%20TAXABLE%202012%20-%20FINAL%202013-02-05.pdf.
[1622] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1623] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[1624] See footnote 1622.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Bristol Bay Borough, including South Naknek, from 2000 to 2010.

Year	Total Borough Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[1,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$7,175,572	n/a	$29,923	n/a
2001	$6,318,332	n/a	$27,975	n/a
2002	$4,801,219	n/a	$27,960	n/a
2003	$4,163,996	n/a	$28,013	n/a
2004	$6,098,710	n/a	n/a	n/a
2005	$4,213,625	n/a	n/a	n/a
2006	$5,475,184	n/a	n/a	n/a
2007	$6,248,803	n/a	n/a	n/a
2008	$8,374,133	n/a	n/a	$70,671
2009	$8,489,105	n/a	$498,484	n/a
2010	$8,839,652	n/a	$497,231	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

South Naknek is accessible by air or sea. There are two state-owned lighted gravel runways. One is 2,264-ft-long by 60-ft-wide, and the other is 3,314-ft-long by 60-ft-wide. The Pacific American Fisheries (PAF) Cannery airport lies 3 miles to the southeast. It has a 750-ft-long by 30-ft-wide dirt strip and a 650-ft-long by 75-ft-wide crosswind strip. Scheduled and charter flight services are available. A 3,000-ft designated stretch of the Naknek River is used by float planes. The frozen river provides an ice road to Naknek and King Salmon in winter. There is an unmaintained dirt road to New Savonoski. The Borough operates a mid- and high-tide cargo dock at South Naknek with 200 feet of berth space to accommodate barges. Trucks, cars, ATVs, snowmobiles, and boats are used for local travel.[1625] In June 2012, round-trip airfare to Anchorage was $588.[1626]

[1625] See footnote 1622.
[1626] Airfare was obtained on the travel website http://www.travelocity.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

Facilities[1627]

Individual water wells and septic systems serve the majority of the community; others use a piped water and sewer system. Two permitted landfills are available: one operated by the borough and one by Peter Pan Seafoods. Power lines cross the Naknek River 5 miles east of Naknek and connect to South Naknek. Law enforcement services are provided by the borough police department and Alaska state troopers in King Salmon. Fire and rescue services are provided by the volunteer Bristol Bay Borough Emergency Services. South Naknek also has a public library.

Medical Services[1628]

Medical services are provided by the South Naknek Health Clinic, which is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. The clinic is a Community Health Aid Program (CHAP) site. Alternate health care is provided by the Camai Medical Center in Naknek. Emergency Services have coastal air and river access and are provided by volunteers and a health aide. The nearest hospital is located in Dillingham.

Educational Opportunities[1629]

As of 2011, there were no schools located directly in South Naknek, which is within the Bristol Bay Borough School District. The Bristol Bay Borough School is located in nearby Naknek. The school has an Elementary School wing and a Middle/High School wing. As of 2011, the Elementary School (grades preschool through 6th) was attended by 93 students and had 7 teachers. That same year, the Middle/High School had 85 students and 8 teachers.[1630] During community review of this profile, a representative of the Bristol Bay Borough noted that enrollment numbers have been steadily decreasing in the Bristol Bay School District system.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Starting in 6,000 B.C., there is evidence of Ocean Bay peoples, ancestors of the Kodiak and Aleutian traditions, living in the Bristol Bay region. These people likely made use of marine resources along the coast. By 400 B.C., there is archaeological evidence of fishing activity by people of the Norton tradition in the South Naknek area. Notched pebbles used as sinkers

[1627] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1628] Ibid.
[1629] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[1630] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

allowed access to fishing sites along the Naknek River where deep swift water made wading impossible.[1631]

The community of South Naknek developed alongside the development of the commercial fishing industry in Bristol Bay. An influx of workers arrived from outside Alaska to help in the construction of canneries and to provide a sufficient labor force for fishing and cannery jobs. The lack of fishermen and cannery labor led to a practice of importing cannery crews and fishermen from outside Alaska.[1632] Historically this led to a lack of participation by local Native residents as fishermen in the Bristol Bay salmon fishery, although the start of World War II created a labor shortage in the United States. and provided an opportunity for local residents to enter the fishery.[1633,1634]

South Naknek is located at the mouth of the Naknek River, which empties into Bristol Bay. The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. South Naknek participates in the Community Development Quota program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, South Naknek does not have a registered processing plant. The nearest processing plants are located in nearby Naknek.

Fisheries-Related Revenue

Between 2000 and 2010, the primary sources of revenue to the Bristol Bay Borough that were directly tied to fisheries included income from both a borough and a state raw fish tax, as well as revenue sharing from the state Fisheries Business Tax. Based on information reported in the Bristol Bay Borough's yearly audits, the local raw fish tax remained a more stable source of revenue than the state raw fish tax through the decade, and the shared Fisheries Business Tax increased in importance over time, rising to $1.5 million per year in several later years of the period. Information about fisheries-related revenue sources is presented in Table 3.

It is important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel, and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[1635]

[1631] Morris, J. 1985. "The Use of Fish and Wildlife Resources by Residents of the Bristol Bay Borough, Alaska." *Alaska Dept. of Fish and Game Technical Paper Number 123*. Retrieved December 22, 2011 from http://www.subsistence.adfg.state.ak.us/TechPap/tp123.pdf.
[1632] Ibid.
[1633] Ibid.
[1634] Bristol Bay Economic Development Corporation (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved December 22, 2011 from http://www.bbsalmon.com/FinalReport.pdf.
[1635] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

Commercial Fishing

In 2010, there were 28 salmon Commercial Fisheries Entry Commission (CFEC) permit holders that held a total of 29 salmon CFEC permits in South Naknek. Of these, 26 were reported to have been actively fished. Of the 28 salmon CFEC permits issued in 2010, the majority were for the Bristol Bay set gill net fishery, and the remainder were issued for the Bristol Bay drift gill net fishery. Between 2000 and 2010, the number of salmon CFEC permits, permit holders, and permits reported as fished all decreased substantially. Prior to 2007, South Naknek residents also held CFEC permits for halibut and herring, though the number of permits and permit holders were small. The halibut CFEC permits were issued for the statewide longline fishery using vessels under 60 feet. The herring CFEC permits were issued for roe herring gill net fishery in Bristol Bay. Herring permits were actively fished from 2000 to 2006, and a halibut permit was actively fished in 2006 only. Information on CFEC permits and permit holders by species between 2000 and 2010 is presented in Table 4.

There were 13 crew license holders in South Naknek in 2010, which represents an overall decrease from 39 crew license holders in 2000 and a peak of 43 crew license holders in 2002. There were no fish buyers located in South Naknek between 2000 and 2010, and there have been no shore-side processing facilities located in the community since 2002. In 2010, 11 vessels were primarily owned by South Naknek residents and 39 vessels were homeported in South Naknek. Both of these numbers represent declines from 2000. Given the lack of fish buyers in South Naknek, no vessels were reported to land catch in South Naknek between 2000 and 2010. Table 5 presents information about characteristics of the commercial fishing sector.

Between 2000 and 2010, one halibut quota share account holder resided in South Naknek. The number of halibut quota shares held in this account remained stable at 1,575 throughout the period. The annual halibut IFQ allotment varied slightly from year to year. Between 2000 and 2010, there were no sablefish or crab quota account holders in South Naknek. This information about federal halibut, sablefish, and crab catch share participation is presented in Tables 6 through 8.

As previously noted, no commercial fishing vessels landing catch in South Naknek between 2000 and 2010 (Table 9). For catch landed in other ports by South Naknek vessel owners, a majority of landings and associated ex-vessel revenue for all species except salmon between 2000 and 2010 are considered confidential due to a small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Bristol Bay Borough: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Borough raw fish tax[1]	$1,376,536	$529,759	$337,112	$131,111	$311,369	$464,884	$729,623	$838,199	$1,143,108	$1,587,484	$1,170,907
State raw fish tax[1]	$789,759	$1,439,586	$918,305	$504,399	n/a	n/a	n/a	n/a	n/a	n/a	n/a
State Shared Fisheries Business Tax[1]	$8,232	$14,275	$12,108	n/a	$393,836	$460,752	$834,661	$1,178,357	$29,353	$1,581,617	$1,559,831
State Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue received by the Bristol Bay Borough[4]	*$2,174,527*	*$1,983,620*	*$1,267,525*	*$635,510*	*$705,205*	*$925,636*	*$1,564,284*	*$2,016,556*	*$1,172,461*	*$3,169,101*	*$2,730,738*
Total municipal revenue reported by the Bristol Bay Borough[5]	*$7,175,572*	*$6,318,332*	*$4,801,219*	*$4,163,996*	*$6,098,710*	*$4,213,625*	*$5,475,184*	*$6,248,803*	*$8,374,133*	*$8,489,105*	*$8,839,652*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[2] Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[3] Reported by community leaders in a survey conducted by the the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the Bristol Bay Borough reports each year in its audit. Alaska Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, South Naknek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	3	2	2	1	2	0	1	0	0	0	0
	Fished permits	0	0	0	0	0	0	1	0	0	0	0
	% of permits fished	-	-	-	-	-	-	100%	-	-	-	-
	Total permit holders	3	2	2	1	2	0	1	0	0	0	0
Herring (CFEC) [2]	Total permits	3	3	1	1	3	3	2	0	0	0	0
	Fished permits	2	1	1	1	1	1	1	0	0	0	0
	% of permits fished	67%	33%	100%	100%	33%	33%	50%	-	-	-	-
	Total permit holders	3	3	1	1	2	2	2	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, South Naknek: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	49	48	51	51	53	47	43	38	36	31	29
	Fished permits	46	45	43	44	49	44	41	34	30	26	26
	% of permits fished	94%	94%	84%	86%	92%	94%	95%	89%	83%	84%	90%
	Total permit holders	53	49	55	52	53	48	43	37	36	32	28
Total CFEC Permits[2]	*Permits*	*55*	*53*	*54*	*53*	*58*	*50*	*46*	*38*	*36*	*31*	*29*
	Fished permits	*48*	*46*	*44*	*45*	*50*	*45*	*43*	*34*	*30*	*26*	*26*
	% of permits fished	*87%*	*87%*	*81%*	*85%*	*86%*	*90%*	*93%*	*89%*	*83%*	*84%*	*90%*
	Permit holders	*54*	*50*	*55*	*52*	*53*	*48*	*43*	*37*	*36*	*32*	*28*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in South Naknek: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in South Naknek[2]	Total Net Pounds Landed in South Naknek[2,5]	Total Ex-Vessel Value of Landings in South Naknek[2,5]
2000	39	0	2	18	48	0	0	$0
2001	17	0	2	17	43	0	0	$0
2002	43	0	1	17	35	0	0	$0
2003	41	0	0	17	38	0	0	$0
2004	35	0	0	18	41	0	0	$0
2005	26	0	0	14	41	0	0	$0
2006	28	0	0	12	47	0	0	$0
2007	26	0	0	12	46	0	0	$0
2008	20	0	0	11	45	0	0	$0
2009	22	0	0	10	39	0	0	$0
2010	13	0	0	11	39	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in South Naknek: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	1	1,575	19
2001	1	1,575	22
2002	1	1,575	22
2003	1	1,575	22
2004	1	1,575	23
2005	1	1,575	22
2006	1	1,575	21
2007	1	1,575	19
2008	1	1,575	18
2009	1	1,575	16
2010	1	1,575	15

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of South Naknek: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of South Naknek: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in South Naknek: 2000-2010.

***Total Net Pounds*[1]**											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Ex-vessel Value (nominal U.S. dollars)											
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by South Naknek Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	494,244	624,125	300,832	343,600	485,195	817,008	504,233	605,077	555,688	739,669	465,588
Total[2]	*494,244*	*624,125*	*300,832*	*343,600*	*485,195*	*817,008*	*504,233*	*605,077*	*555,688*	*739,669*	*465,588*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$317,103	$260,292	$146,276	$169,939	$248,015	$491,868	$319,171	$391,751	$408,837	$581,077	$433,843
Total[2]	*$317,103*	*$260,292*	*$146,276*	*$169,939*	*$248,015*	*$491,868*	*$319,171*	*$391,751*	*$408,837*	*$581,077*	*$433,843*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses or licensed sport fish were registered in South Naknek. The number of sportfishing licenses sold to community residents (irrespective of the point of sale) varied between 8 and 33 per year. The number of sportfishing licenses sold within the community was minimal, and in all years was lower than the number of licenses sold to community residents, indicating the potential that South Naknek residents may travel to nearby Naknek and King Salmon or other areas to prepare for and engage in sportfishing activity.

South Naknek is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, non-Alaska resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-Alaska resident anglers during this period. In contrast, non-Alaska resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near South Naknek is also displayed in Table 11.

The Alaska Statewide Harvest Survey,[1636] conducted by the ADF&G between 2000 and 2010, noted the following species targeted by private anglers in South Naknek: sockeye salmon, smelt, razor clam, hardshell clam, and other shellfish. No kept/release log book data were reported for fishing charters out of South Naknek between 2000 and 2010.[1637]

Table 11. Sport Fishing Trends, South Naknek: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in South Naknek[2]
2000	0	0	27	0
2001	0	0	33	0
2002	0	0	30	0
2003	0	0	33	22
2004	0	0	28	9
2005	0	0	18	16
2006	0	0	25	17
2007	0	0	9	8
2008	0	0	25	16
2009	0	0	14	10
2010	0	0	8	2

[1636] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000-2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1637] Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000-2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11 cont'd. Sport Fishing Trends, South Naknek: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Most residents of South Naknek depend on subsistence hunting and fishing. Salmon, trout, caribou, rabbit, porcupine, and seal are particularly important local resources.[1638] Data regarding subsistence participation by household and species were available in 2007, the year that ADF&G conducted a household subsistence survey in South Naknek. That year, 49% of South Naknek households were reported to participate in salmon subsistence, 19% in halibut subsistence, 24% in marine mammal subsistence, 9% in marine invertebrate subsistence, and 68% in non-salmon fish subsistence (not including halibut). In addition, the survey provided a per capita estimate of 151 pounds of land- and sea-based resources utilized by South Naknek residents that year (Table 12).

Information about permits and total harvest is available for the 2000-2010 period for salmon, halibut, marine invertebrates and non-salmon fish, and marine mammals. The number of subsistence salmon permits issues to South Naknek households declined from 42 in 2000 to 26 in 2008, and the number reported as actively fished also declined over the period. Sockeye were consistently the most heavily harvested species, along with smaller harvests of Chinook, chum,

[1638] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

pink, and coho in all years for which salmon harvest data were reported. This information is presented in Table 13, along with information about total harvests of marine invertebrates and non-salmon fish. In 2007, the year of the ADF&G household subsistence survey, 185 pounds of marine invertebrates and 233 pounds of non-salmon fish (not including halibut) were estimated to have been harvested in South Naknek.

Additional detail is available from ADF&G regarding the species of marine invertebrates and non-salmon fish harvested. Marine invertebrate species harvested by South Naknek residents in 2007 were butter and softshell clams, and non-salmon fish species harvested were smelt, rainbow trout, and lake trout. It is important to note that, in addition to the species reported to have been actively harvested by South Naknek households, other species were also reported to have been used. Additional marine invertebrate species included razor clams, Dungeness crab, and king crab, while additional non-salmon fish species included herring and Pacific gray cod. In addition, the percentages of South Naknek households using smelt and clams were greater than the percentages engaged in their harvest.[1639] These facts point to the presence of sharing networks both within the community and between households in South Naknek and other communities.

Halibut subsistence harvest was minimal in South Naknek. From 2003 to 2009, the number of Subsistence Halibut Registration Certificate (SHARC) cards issued to South Naknek residents varied between one and three per year. No data were available regarding the number of SHARC cards were actively fished each year, or the total pounds of halibut harvested (Table 14).

The only marine mammal species harvested by South Naknek residents between 2000 and 2010 was harbor seal. For the years in which data were reported, total harbor seal harvest varied from 1 to 17 animals per year. No information was available from management agencies regarding subsistence harvest of sea otter, walrus, Steller sea lion, or spotted seal over the decade (Table 15). Additional data are available from ADF&G regarding marine mammal subsistence use patterns in South Naknek. Although South Naknek households did not report participating in harvest activities of species other than harbor seal in 2007, they reported using bowhead whale for subsistence purposes.[1640] As with marine invertebrate and non-salmon fish harvest and use patterns described above, this information suggests the presence of sharing networks between South Naknek and other communities that engage in bowhead harvest.

[1639] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[1640] Ibid.

Table 12. Subsistence Participation by Household and Species, South Naknek: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	49%	19%	24%	9%	68%	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, South Naknek: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	42	40	118	119	231	272	2,571	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	34	33	337	10	210	19	2,320	n/a	n/a
2005	31	27	219	18	352	64	1,561	n/a	n/a
2006	33	29	208	19	249	55	1,936	n/a	n/a
2007	26	22	171	117	287	134	1,967	185	233
2008	26	26	139	43	423	159	1,838	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, South Naknek: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	3	n/a	n/a
2006	3	n/a	n/a
2007	3	n/a	n/a
2008	2	n/a	n/a
2009	2	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, South Naknek: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	4	n/a
2001	n/a	n/a	n/a	n/a	n/a	11	n/a
2002	n/a	n/a	n/a	n/a	n/a	16	n/a
2003	n/a	n/a	n/a	n/a	n/a	1	n/a
2004	n/a	n/a	n/a	n/a	n/a	15	n/a
2005	n/a	n/a	n/a	n/a	n/a	17	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	1	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Togiak (*TOAG-ee-ack*)

People and Place

Location [1641]

Togiak is located at the head of Togiak Bay, 67 miles west of Dillingham and approximately 400 miles southwest of Anchorage. It lies in theTogiak National Wildlife Refuge and is the gateway to Walrus Island Game Sanctuary. The community encompasses 45.2 square miles of land and 183.3 square miles of water. Togiak was incorporated as a 2nd Class city in 1969, is located within the Dillingham Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [1642]

There were 817 inhabitants in Togiak in 2010, making it the 77th largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Togiak grew by 1.36%, though the average annual growth rate during that period was -0.26%, indicating a very slow rate of decline (Table 1).

In 2010, a majority of Togiak residents identified themselves as American Indian and Alaska Native (78%) (Figure 1). Other ethnic groups present in Togiak that year included White (5.5%), two or more races (15.9%), Hispanic or Latino (1.8%), some other race (0.2%), Black or African American (0.2%), and Native Hawaiian or Other Pacific Islander (0.1%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native fell by 8.3%, and the percentage of the population identifying themselves as White also decreased. During this period, there were corresponding increases in the percentages of the population identifying themselves as two or more races, Native Hawaiian and Other Pacific Islander, Black or African American, and Hispanic or Latino.

The average household size in Togiak in 2010 was 3.54, a decrease from 4.0 persons per household in both 1990 and 2000. There were a total of 261 housing units that year, compared to 200 in 1990 and 221 in 2000. Of the households surveyed in 2010, 61.3% were owner-occupied, compared to 74.7% in 2000; 27.2% were renter-occupied, compared to 16.7% in 2000; 9.2% were vacant, compared to 5.4% in 2000; and 2.3% were occupied seasonally, compared to 3.2% in 2000. No residents lived in group quarters between 1990 and 2010.

In 2010, the gender makeup in Togiak was 52.0% male and 48.0% female, which was the same as the statewide distribution (52.0% male, 48.0% female) and less even than the distribution in 2000 (50.3% male, 49.7% female). The median age was estimated to be 24.5 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska,

[1641] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1642] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

33.8 years. In 2010 the largest percentage of the population fell within the age group 0-19 years old, with the next largest percentage falling within the age group 40-59 years old. Relatively few individuals were age 60 or older (Figure 2).

According to the 2006-10 American Community Survey,[1643] in terms of educational attainment, 64.6% of Togiak residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 23.5% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 11.9% were estimated to have a ninth to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 33.2% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 2.7% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; and 1.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall.

Table 1. Population in Togiak from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	613	-
2000	809	-
2001	-	787
2002	-	809
2003	-	820
2004	-	803
2005	-	779
2006	-	783
2007	-	786
2008	-	801
2009	-	820
2010	817	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

[1643] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

Figure 1. Racial and Ethnic Composition, Togiak: 2000-2010 (U.S. Census).

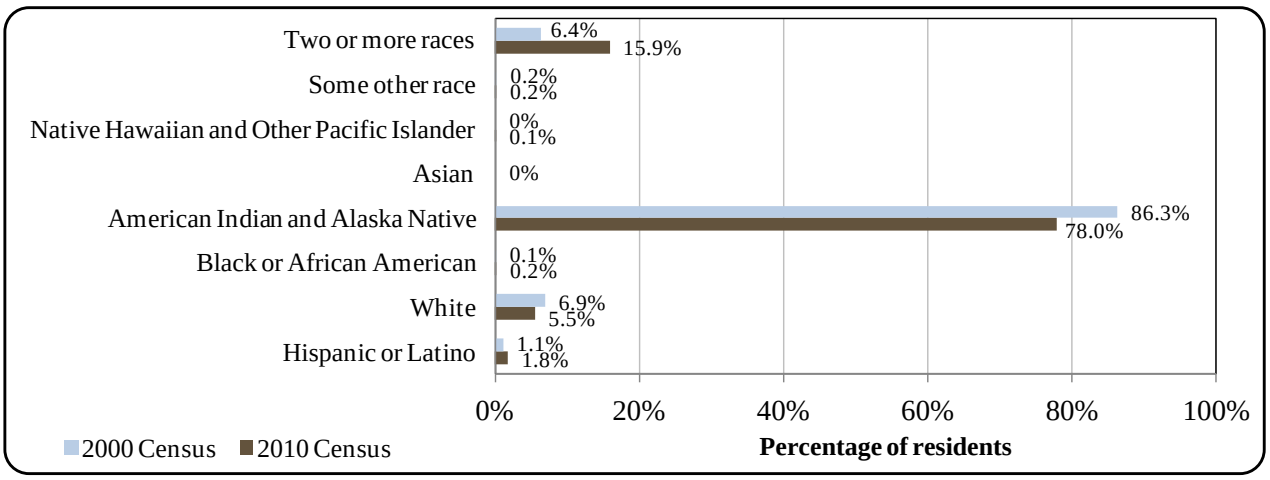
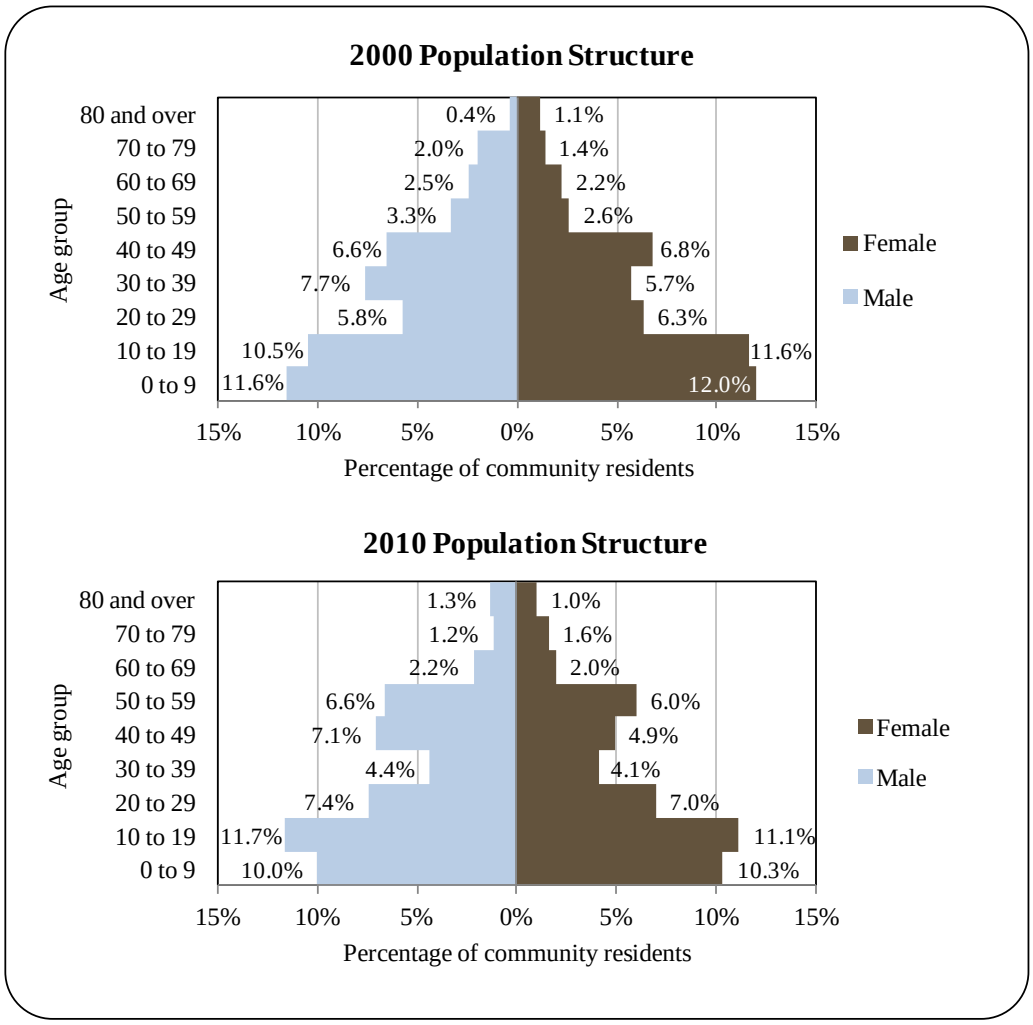


Figure 2. Population Age Structure in Togiak Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture[1644]

Togiak first appeared in the records of Lt. Gavrilla Sarichev of the Imperial Russian Navy between 1790 and 1792. The village was later recorded on maps produced between 1836 and 1850 by the Russian America Company.[1645] In 1880, "Old Togiak" or "Togiagamute" was located across the bay and had a population of 276. Heavy winter snowfalls made wood-gathering difficult at Old Togiak, so gradually people settled at a new site on the opposite shore, where the task was easier. Many residents of the Yukon-Kuskokwim region migrated south to the Togiak area after a devastating influenza epidemic in 1918-19. A school was established in an old church in 1950. A school building and a National Guard armory were constructed in 1959. Togiak was flooded in 1964, and many fish racks and stores of gas, fuel oil, and stove oil were destroyed. Three or four households left Togiak after the flood and developed the village of Twin Hills upriver. The city government was incorporated in 1969. Today, Togiak is a traditional Yup'ik Eskimo village with that is dependent on fishing and a subsistence lifestyle. The sale, importation, and possession of alcohol is banned in the village.

Natural Resources and Environment[1646]

Togiak is located in a climatic transition zone; however, the arctic climate also affects this region. Average summer temperatures range from 37 to 66 °F (2.8 to 18.9 °C); winter temperatures average 4 to 30 °F (-15.6 to -1.1 °C). Precipitation averages 20 to 26 inches annually. Fog and high winds are prevalent during the winter. The bay is ice-free from June through mid-November.

Togiak is located within the Togiak National Wildlife Refuge (TNWR), an area that is managed by the U.S. Fish and Wildlife Service (FWS). The following information is from the FWS.[1647] The TNWR totals 4.7 million acres. Almost half of these lands, the northern 2.3 million acres, are designated as the Togiak Wilderness Area. This constitutes the second largest contiguous Wilderness Area within the National Wildlife Refuge System. The TNWR was established to conserve fish and wildlife populations and habitats in their natural diversity including salmon, marine birds and mammals, migratory birds, and large mammals, to fulfill international treaty obligations; to provide for continued subsistence use; and to ensure necessary water quality and quantity. Special values of the TNWR include the Togiak Wilderness Area, the Kanektok, Goodnews and Togiak river drainages, and sportfishing. The wild lands of the refuge, including the Togiak Wilderness Area, provide valuable and diverse habitat for the fish and wildlife that make the area their home. The conservation of freshwater streams and rivers, wetland and alpine tundra, boreal forests, and coastal cliffs and beaches allow an amazing diversity of species to find suitable homes here. The lands also offer amazing opportunities for recreation and education.[1648]

[1644] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1645] Tryck Consulting. (2006). *Togiak Comprehensive Plan.* Retrieved July 11, 2012 from: http://www.commerce.state.ak.us/dca/plans/Togiak-CP-2006.pdf.
[1646] Ibid.
[1647] U.S. Fish and Wildlife Service (2011). *Togiak National Wildlife Refuge*. Retrieved from http://togiak.fws.gov/ on April 9, 2012.
[1648] U.S. Fish and Wildlife Service (2011). *Togiak National Wildlife Refuge: Wildlands*. Retrieved from http://togiak.fws.gov/wildland.htm on April 9, 2012.

The TNWR protects habitat that produces nearly 3 million Chinook, sockeye, chum, pink and coho salmon, and 27 other fish species. These fish species are the primary subsistence resource for residents of seven local villages. Fishery resources in this area of Alaska are economically important for commercial fisheries valued at over 8 million dollars, as well as a 6 million dollar sport fishery. Ensuring that adequate numbers of each fish species are allowed to spawn in each drainage is key to this region's aquatic and terrestrial ecosystems. The TNWR also contains prime habitat for several other fish species, including rainbow trout, Arctic grayling, Dolly Varden, and Arctic char. Anglers come from around the world for an opportunity to pursue these prized fish species. The TNWR is working to further our understanding of these fish species.

The TNWR conserves habitat for at least 201 staging, migrating, or breeding bird species. Bird species groups include landbirds, shorebirds, seabirds, raptors, and waterfowl. Birds from the North American Pacific Flyway and several Asiatic routes funnel through the area. It is home to more than 30 species of terrestrial mammals. With a wide variety of habitats, the TNWR supports brown bear, moose, caribou, wolves, and many smaller mammals. The Nushagak Peninsula, in the southeastern portion of the TNWR, was the site of a 1988 caribou reintroduction, and the caribou population continues to grow. Moose populations on the refuge have increased substantially in recent years as well, much to the delight of local people. Lynx and wolverines continue their elusive ways, seldom seen except for tracks they leave in the snow. In addition, 17 species of marine mammals are found along the coastline. The TNWR has haulout sites that provide animals a place to rest after feeding forays in the Bering Sea. Cape Peirce, on the southwestern tip of the TNWR, is one of only two regularly used land-based haulouts for Pacific walrus in North America. Up to 12,000 male walrus may haul out here at one time. Endangered Steller sea lions use haulouts within the TNWR, as do harbor and spotted seals. Marine and terrestrial mammals are important food resources for local village residents, and are important in the local tourism economy as well.[1649]

Togiak is also the gateway to the Walrus Islands State Game Sanctuary (WISGS), an area managed by the Alaska Department of Fish and Game (ADF&G). The sanctuary protects a group of seven small craggy islands and their adjacent waters in northern Bristol Bay, approximately 65 miles southwest of Dillingham. The WISGS includes Round Island, Summit Island, Crooked Island, High Island, Black Rock and The Twins. The WISGS was established in 1960 to protect one of the largest terrestrial haulout sites in North America for Pacific walrus (*Odobenus rosmarus divergens*). The sanctuary also protects important habitats for several species of seabirds, Steller sea lions (*Eumetopias jubatus*) and other marine and terrestrial birds and mammals. The ADF&G manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources including the opportunity for scientific and educational study, viewing, and photography.[1650]

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.[1651] However, given the importance of Bristol Bay fisheries to the nation and the proximity of the

[1649] U.S. Fish and Wildlife Service. 2011. Togiak National Wildlife Refuge: Wildlife. Retrieved from http://togiak.fws.gov/wildlife.htm on April 9, 2012.
[1650] Alaska Department of Fish and Game. 2011. Walrus Islands State Game Sanctuary: Area Overview. Retrieved from http://www.adfg.alaska.gov/index.cfm?ADFG=walrusislands.main on April 9, 2012.
[1651] Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.

Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1652] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1653]

The Bristol Bay area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, a majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. There is also potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.[1654]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Togiak in 2010.[1655]

Current Economy[1656]

Togiak's economic base is primarily commercial salmon, herring, and herring roe-on-kelp fisheries. In 2010, 224 residents held commercial fishing permits; fishermen use flat-bottom boats for the shallow waters of Togiak Bay. There is one on-shore fish processor and several floating processing facilities near Togiak. The entire community depends heavily on subsistence activities. Salmon, herring, seal, sea lion, whale, and walrus are among the species harvested. A few residents trap.[1657] Top employers in 2010[1658] included: Southwest Region Schools, City of Togiak, Alaska Commercial Co., Togiak Seafoods, Bristol Bay Area Health Corp., Bristol Bay Native Association, Traditional Council of Togiak, Omni Enterprises Inc., Togiak Native Ltd., and Alaska Island Air Inc.

In 2010, the per capita income in Togiak was estimated to be $10,406 and the median household income was estimated to be $42,813, compared to $9,676 and $23,977 in 2000,

[1652] Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1653] The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1654] Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.
[1655] Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved January 28, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm.
[1656] Unless otherwise noted, all monetary data are reported in nominal values.
[1657] See footnote 1644.
[1658] Alaska Department of Labor and Workforce Development (n.d.). Alaska Local and Regional Information Database. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[1659] the real per capita income in 2000 is shown to have been $12,724 and the real 2000 median household income was $31,529. This shows that per capita income decreased over the period, while there was a real increase in median household income. In 2010, Togiak ranked 267th of 305 Alaskan communities with per capita income that year, and 177th of 299 Alaskan communities with household income data. However, Togiak's small population size may have prevented the American Community Survey (ACS) from accurately portraying economic conditions.[1660] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, the per capita income in Togiak in 2010 was $5,338, which indicates a more significant decrease compared to the real per capita income values reported by the U.S. Census in 2000.[1661] This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. [1662] However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in the same year, 47% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 30.9%, compared to the statewide unemployment rate of 5.9%. Approximately 16.6% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Togiak are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Togiak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 14.3%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (63.5%), while 32.4% were employed in the private sector and 4.1% were self-employed. Out of 170 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (34%), retail trade (26.3%), public administration (12.8%), and transportation, warehousing, and utilities (12.2%). Smaller percentages of the workforce were employed in manufacturing (8.3%), other services, except public administration (4.5%), and construction (1.9%) (Figures 3 and 4). According to 2010 ALARI estimates,[1663] most (45.9%) employed residents worked in local government sectors; followed by trade,

[1659] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1660] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1661] See footnote 1658.
[1662] Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: www.denali.gov.
[1663] See footnote 1658.

transportation, and utilities (19.2%); education and health service (9.4%); and manufacturing (8.6%) sectors.

According to the 2006-2010 ACS, no residents were estimated to work in agriculture, forestry, hunting, or mining sectors. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed fishing industries is likely underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

Figure 3. Local Employment by Industry in 2000-2010, Togiak (U.S. Census).

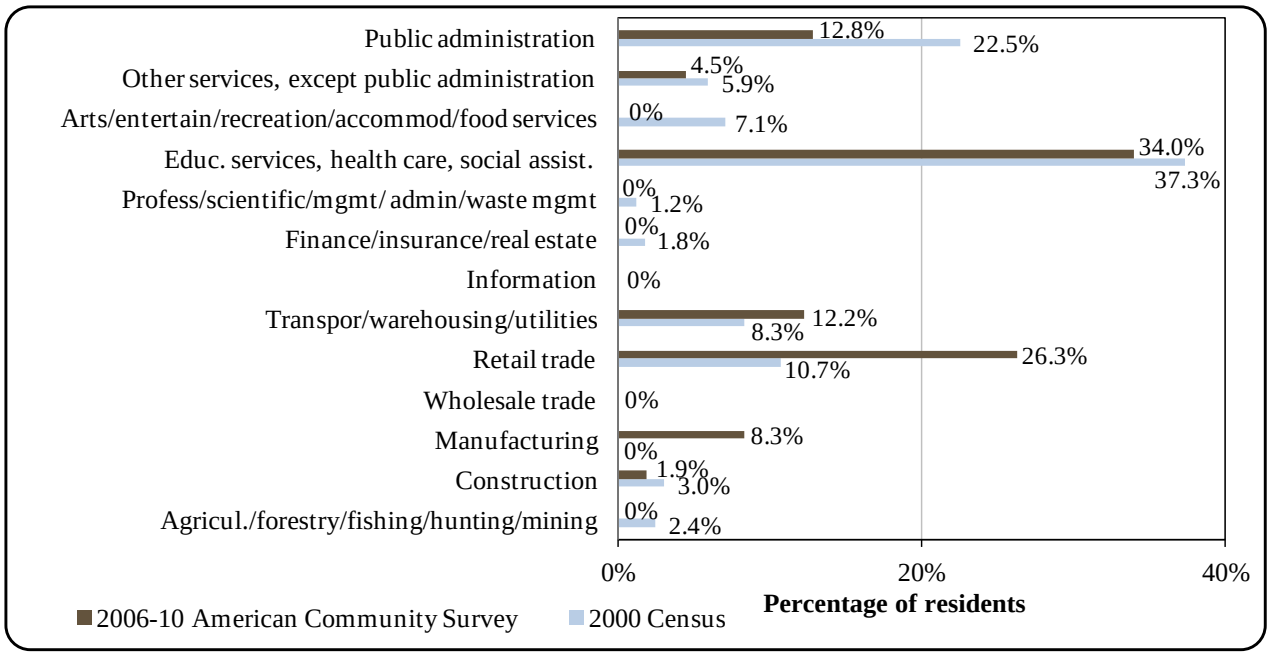
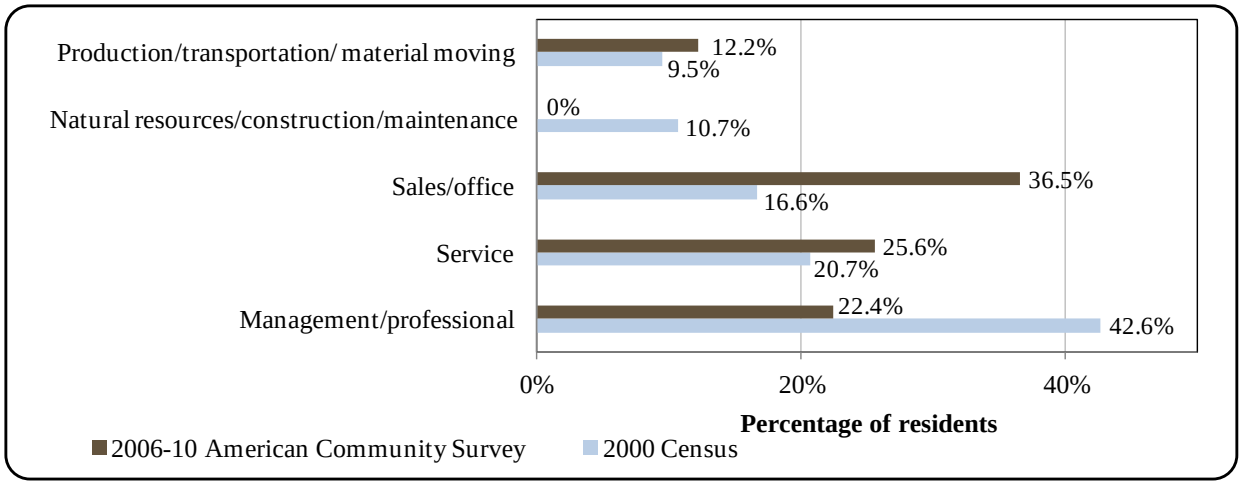


Figure 4. Local Employment by Occupation in 2000-2010, Togiak (U.S. Census).



Governance

Togiak is a Second-class city located in the Dillingham Borough. Total municipal revenue received by the city was highly variable between 2000 and 2010. The city of Togiak administered a 2% sales tax in 2010. Total municipal revenue was taken from *Certified Financial Statements* and financial audits (financial audits were used for 2002 through 2005, and 2008 figures.)[1664] When adjusted for inflation,[1665] total municipal revenues declined by 21.1% between 2000 and 2010 from $1.07 million, to $1.09 million. Yearly revenues were somewhat variable, peaking in 2004 at $1.47 million; thanks in part to sizable state and federal grants. In 2010, general fund revenues accounted for 82.1% of total municipal revenues, while utility, clinic, and grant revenues accounted for the remainder. In that year, 64.6% of general fund revenues were collected locally, while the remaining came from state revenue sharing sources. Of those locally generated revenues, most (21.3%) were collected from gravel sales, followed by sales taxes (20.6%), equipment rentals (15.0%), and raw fish taxes (10.9%). Most (44.5%) outside revenues were collected from federal payments in lieu of taxes, followed by state allocated Community Revenue Sharing (43.7%). Sales tax revenues accounted for 10.9% of total municipal revenues in 2010, compared to 5.5% in 2000. Community Revenue Sharing accounted for 12.6% of total revenues in 2010, compared to 2.5% from State Revenue Sharing in 2000. No fisheries-related grants were awarded to Togiak between 2000 and 2010. Information regarding municipal finances can be found in Table 2.

Togiak was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is Togiak Natives Limited. The regional Native corporation to which Togiak belongs is the Bristol Bay Native Corporation (BBNC). Formed under ANCSA, BBNC has approximately 9,000 shareholders who are Eskimo, Indian, and Aleut. BBNC is a diversified company with investment and business holdings in oilfield and industrial services, construction, government contracting and petroleum distribution. The foundation of BBNC is based on their land and their shareholders. BBNC's founders took their knowledge of the land and culture and built BBNC into a diversified corporation with more than $1 billion in annual revenue. This revenue has been shared with BBNC's 8,000 shareholders, who have received more than $70 million in dividends since BBNC's inception. BBNC has been and continues to be a major contributor to Alaska's economy.[1666]

The closest regional office of the Alaska Department of Fish and Game (ADF&G) and the Department of Commerce, Community, and Economic Development are located in Dillingham. The nearest offices of the Alaska Department of Natural Resources (DNR), National Marine Fisheries Service (NMFS), Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement are located in Anchorage.

[1664] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[1665] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.
[1666] Bristol Bay Native Corporation (2007). *Who We Are*. Retrieved on May 12, 2012 from http://www.bbnc.net/index.php/who-we-are11.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Togiak from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	$1,067,504	$59,213	$27,128	n/a
2001	$851,591	$64,998	$26,159	n/a
2002	$709,105	$70,728	$26,155	n/a
2003	$551,257	$73,993	$26,282	n/a
2004	$1,467,121	$32,680	-	n/a
2005	$648,505	$88,347	-	n/a
2006	$730,804	$98,281	-	n/a
2007	$904,380	$88,603	-	n/a
2008	$843,642	$90,430	-	n/a
2009	$1,430,811	$106,155	$136,913	n/a
2010	$1,088,817	$118,933	$137,124	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

A state-owned 4,400-ft long by 75-ft wide lighted gravel airstrip with a 981-ft long by 59-ft wide crosswind airstrip is available. Scheduled and chartered flights are dispatched from Dillingham. Round-trip airfare between Togiak and Anchorage in June 2012 was $864.[1667] Freight is brought in by air or barge and lightered to shore. There are no docking facilities in Togiak. Skiffs, autos, ATVs, and snowmachines are used for local transportation.[1668]

Facilities[1669]

Water is derived from a well and is treated and stored in a 500,000-gal tank. The majority (125 residences) of households are connected to the piped water and sewer system; the remaining homes have individual wells and septic tanks. In all, 210 homes are fully plumbed, and 14 are not. The water system is 25 to 30 years old and suffers from broken or corroded pipes, valves,

[1667] Airfare was obtained on the travel website http://www.travelocity.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.
[1668] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1669] Ibid.

and service connections. A permitted landfill is available. Law enforcement services are provided by the Togiak police department and by Alaska state troopers based in Dillingham. Fire and rescue services are provided by the city fire truck. The Togiak Department of Public Safety provides police, fire, emergency medical services and search and rescue. Visitor accommodations include the Ikaiyurvik Family Resource Center and Airport Inn B&B. Additional facilities include the Nangucuilnguq Arts and Crafts Center and the Traditional Council Senior Center, as well as both school and public libraries. Communications services include local and long distance telephone, and local television and radio.

Medical Services[1670]

Medical care is provided by the Togiak Sub-Regional Health Clinic, which is owned by the city and operated by the Bristol Bay Area Health Corporation. The clinic is a Community Health Aid Program site. Alternate health care is provided by the Togiak First Responders Group. Emergency services have coastal and air access and are provided by the Togiak Department of Public Safety.

Educational Opportunities[1671]

The Togiak School provides instruction to students in pre-school through 12th grade. In 2011 the school had 222 students enrolled and 17 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye salmon (91.2% of all salmon), about 880,000 chum salmon (4.7%), about 550,000 pink salmon (3.0%), about 120,000 coho salmon (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The Togiak River continuously exceeds minimum escapement

[1670] Ibid.
[1671] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.[1672]

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purses seine and gillnet fisheries harvest the spawning herring in a sac roe fishery, and a spawn-on-kelp harvest is also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million lbs between 1998 and 2002.[1673]

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.[1674]

Togiak is located at the head of Togiak Bay. The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Togiak participates in the Community Development Quota (CDQ) program through the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish catch share to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[1675] Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest allocated quota. BBEDC provides jobs, training, and educational opportunities to CDQ-eligible residents and economic development tools and resources for communities. A partial list of BBEDC programs includes: Bering Sea groundfishing jobs, the Harvey Samuelsen scholarship program, vocational funding, internship programs, technical assistance with business plans and feasibility studies, infrastructure and seed funds, and fisheries and economic research.[1676]

Processing Plants

According to ADF&G's 2010 Intent to Operate list, one shore-based processing plant is in operation in Togiak. The North Pacific Seafoods Togiak plant is known as Togiak Fisheries and began operations in 1957.[1677] It is located on Togiak Bay and is 2.5 miles away from the village of Togiak (accessible by boat or plane) and 6 miles away from the village of Twin Hills (by 4-wheel-drive vehicle). The plant was purchased by North Pacific Fisheries in 1996. The plant processes herring during early May, and salmon, halibut, and salmon roe from mid-June until the end of July. In 2010, the plant employed 118 workers during peak season. In 2010, the

[1672] Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1673] Woodby, D. et al. (2005). *Commercial Fisheries in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf..
[1674] Ibid.
[1675] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.
[1676] Bristol Bay Economic Development Corporation (n.d.). *About BBEDC.* Retrieved on May 12, 2012 from http://www.bbedc.com/web/index.html.
[1677] This information is based on the results of a survey of processing plant managers conducted by the Alaska Fisheries Science Center in 2011.

plant employed 18 J-1 workers.[1678] The plant provides free room and board, as well as free air transportation between Anchorage and King Salmon, to its fish processing workers. The plant includes a small store.[1679]

Fisheries-Related Revenue

Between 2000 and 2010, Togiak received fisheries-related revenue from a city-administered 2% raw fish tax, the Shared Fisheries Business Tax, and the Fisheries Resource Landing Tax. Amounts of revenue received from each source varied considerably during this period. Information about fisheries-related revenue received by Togiak between 2000 and 2010 is presented in Table 3.[1680]

Commercial Fishing

Between 2000 and 2010, there were a total of 330 permits issued by the Commercial Fisheries Entry Commission (CFEC) to 239 Togiak residents (29.3% of the population) for halibut, herring, and salmon. Overall and for each of the three species, the total number of CFEC permits, permit holders, and permits reported as fished declined between 2000 and 2010. The majority of CFEC permits issued during this period were for herring and salmon. In 2010, the majority of herring CFEC permits (160) were issued for the Bristol Bay herring spawn on kelp hand-picking fishery, with the remainder issued for the Goodnews Bay roe herring gill net fishery, the Nelson Island herring gill net fishery, the Bristol Bay and Goodnews Bay roe herring gill net fisheries, and the Cape Romanzof herring gill net fishery. Salmon CFEC permits were issued in 2010 for the Bristol Bay drift gill net and set gill net fisheries and the Kuskokwim gill net fishery. Halibut CFEC permits were issued in 2010 for the statewide longline fishery using vessels under 60 feet. There were no License Limitation Program (LLP) issued in Togiak during this period, and only two Federal Fisheries Permits issued between 2000 and 2002. Information about commercial fishing permits and permit holders by species is presented in Table 4.

The number of crew license holders in Togiak varied between 2000 and 2010, averaging 140 per year (17% of the population). The number of fish buyers located in Togiak also varied during this period, averaging 21 per year but decreasing overall. Throughout this period, there has been one shore-side processing facility located in Togiak. The number of commercial fishing vessels owned primarily by Togiak residents as well as the number of vessels homeported in Togiak both decreased between 2000 and 2010. The number of vessels landing catch in the community increased and then decreased again to 161 vessels in 2010. Both the total net lbs landed and the ex-vessel value of those landings increased overall during this period. Information about characteristics of the commercial fishing sector in Togiak is presented in Table 5. Togiak ranked 11th in landings and 25th in ex-vessel revenue out of 67 communities that received commercial fisheries landings in 2010.

Between 2000 and 2010, the number of halibut quota share account holders in Togiak, the number of quota shares held, and the total Individual Fishing Quota (IFQ) allotment

[1678] Ibid.
[1679] North Pacific Fisheries (n.d.) *Togiak Fisheries*. Retrieved April 26, 2012 from http://northpacificseafoods.com/index.php?option=com_content&task=view&id=42&Itemid=51.
[1680] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

decreased. Information on halibut IFQ between 2000 and 2010 is presented in Table 6. No IFQ shares were held by Togiak residents in the federal sablefish (Table 7) or crab (Table 8) fisheries during this period.

Commercial landings and associated ex-vessel revenue recorded in Togiak are considered confidential due to a small number of participants between 2000 and 2010 for all species except halibut, herring, and salmon in select years. Between 2000 and 2008, the number of lbs of herring landed experienced an increase followed by a decrease, as did the ex-vessel revenue associated with those landings. Herring landings and ex-vessel revenue in Togiak experienced a substantial increase between 2002 and 2010. For years in which data were reportable between 2000 and 2010, salmon landings in Togiak experienced an increase followed by a decrease, while the associated ex-vessel revenue increased overall during this period. Information about landed lbs and ex-vessel revenue in Togiak between 2000 and 2010 is presented in Table 9.

Landings and associated ex-vessel revenue recorded by Togiak residents are also considered confidential between 2000 and 2010 with the exception of landings and revenue for halibut, herring, and salmon in select years. Between 2000 and 2010, both landings and ex-vessel revenue of halibut, herring, and salmon landed by Togiak residents varied considerably. Information regarding landed lbs and ex-vessel revenue by Togiak residents is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Togiak: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$481	$40,952	n/a	$45,000	$32,680	$25,607	$35,396	$48,376	$62,767	$53,893	$72,923
Shared Fisheries Business Tax[1]	$70,395	$344,228	$166,704	$81,469	$13,064	$46,028	$31,514	$41,617	$48,629	$54,677	$56,088
Fisheries Resource Landing Tax[1]	$2,961	n/a	n/a	n/a	n/a	n/a	$50	$4,133	$2,476	$16,636	$2,235
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$73,837*	*$385,180*	*$166,704*	*$126,469*	*$45,744*	*$71,635*	*$66,960*	*$94,126*	*$113,872*	*$125,205*	*$58,323*
Total municipal revenue[5]	*$1.07 M*	*$851,591*	*$709,105*	*$551,257*	*$1.47 M*	*$648,505*	*$730,804*	*$904,380*	*$843,642*	*$1.43 M*	*$1.09 M*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Togiak: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	2	2	2	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	-	-	-	-	-	-	-	-
	Total permit holders	2	2	2	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	31	26	37	34	35	25	22	14	15	13	12
	Fished permits	14	17	22	23	15	15	13	10	9	8	8
	% of permits fished	45%	65%	59%	68%	43%	60%	59%	71%	60%	62%	67%
	Total permit holders	31	26	37	34	35	25	22	14	15	13	12
Herring (CFEC) [2]	Total permits	236	215	202	202	207	201	200	199	196	195	192
	Fished permits	22	5	39	32	2	0	0	4	4	4	3
	% of permits fished	9%	2%	19%	16%	1%	0%	0%	2%	2%	2%	2%
	Total permit holders	206	198	183	185	186	181	181	180	177	176	173

Table 4 cont'd. Permits and Permit Holders by Species, Togiak: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	134	137	140	137	128	123	128	127	127	124	126
	Fished permits	128	128	115	123	114	111	116	110	119	115	119
	% of permits fished	96%	93%	82%	90%	89%	90%	91%	87%	94%	93%	94%
	Total permit holders	150	156	150	151	146	136	143	140	136	140	141
Total CFEC Permits[2]	*Permits*	*401*	*378*	*379*	*373*	*370*	*349*	*350*	*340*	*338*	*332*	*330*
	Fished permits	*164*	*150*	*176*	*178*	*131*	*126*	*129*	*124*	*132*	*127*	*130*
	% of permits fished	*41%*	*40%*	*46%*	*48%*	*35%*	*36%*	*37%*	*36%*	*39%*	*38%*	*39%*
	Permit holders	*263*	*259*	*250*	*257*	*248*	*242*	*244*	*244*	*240*	*239*	*239*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Togiak: 2000-2010.

Year	Crew License Holders[1]	Count Of All Fish Buyers[2]	Count Of Shore-Side Processing Facilities[3]	Vessels Primarily Owned By Residents[4]	Vessels Homeported[4]	Vessels Landing Catch In Togiak[2]	Total Net Lbs Landed In Togiak[2,5]	Total Ex-Vessel Value Of Landings In Togiak[2,5]
2000	136	23	1	223	219	99	3,029,952	$1,740,094
2001	125	15	1	208	215	166	5,783,136	$2,183,537
2002	108	31	1	190	203	202	7,640,993	$1,761,888
2003	139	27	1	180	195	317	48,361,794	$5,901,630
2004	134	31	1	174	192	251	41,753,378	$4,568,170
2005	142	24	3	164	160	234	44,820,232	$5,560,616
2006	141	25	1	159	151	236	53,785,400	$6,666,758
2007	142	22	1	146	141	249	41,125,777	$6,722,468
2008	137	19	1	146	141	263	48,129,255	$6,705,046
2009	160	9	1	146	147	178	40,180,353	$6,027,242
2010	176	10	1	153	145	161	58,442,835	$8,667,883

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Togiak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lbs)
2000	9	6,210	768
2001	8	4,586	633
2002	8	4,586	646
2003	7	4,452	626
2004	7	4,452	643
2005	7	4,452	624
2006	6	3,596	476
2007	6	3,596	445
2008	5	1,456	120
2009	5	1,456	105
2010	5	1,456	95

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Togiak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lbs)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Togiak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (lbs)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Togiak: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	70,439	146,199	211,128	164,169	88,921	120,667	95,385	125,217	95,144	--	--
Herring	--	--	4,736,957	42,571,352	37,536,200	40,255,658	46,907,928	33,622,488	41,046,192	35,136,963	52,916,435
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	2,692,908	--	4,128,257	4,443,907	--	7,378,072	6,987,919	5,034,950	5,495,610
Total[2]	*70,439*	*146,199*	*7,640,993*	*42,735,521*	*41,753,378*	*44,820,232*	*47,003,313*	*41,125,777*	*48,129,255*	*40,171,913*	*58,412,045*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	$169,820	$241,887	$455,928	$291,256	$192,268	$219,965	$215,648	$373,012	$292,434	--	--
Herring	--	--	$360,009	$2,954,343	$2,657,059	$3,107,427	$3,256,829	$2,300,714	$2,750,186	$2,642,665	$4,047,768
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	$945,951	--	$1,718,843	$2,233,224	--	$4,048,742	$3,662,427	$3,367,122	$4,525,743
Total[2]	*$169,820*	*$241,887*	*$1,761,888*	*$3,245,599*	*$4,568,170*	*$5,560,616*	*$3,472,476*	*$6,722,468*	*$6,705,046*	*$6,009,788*	*$8,573,512*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Togiak Residents: 2000-2010.

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	29,166	66,110	50,949	72,738	24,491	55,135	25,093	25,861	11,433	8,074	30,059
Herring	203,311	164,846	18,331	2,133	--	--	--	379,110	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	3,366,112	3,439,182	1,272,565	2,429,143	1,991,735	3,048,880	3,878,515	4,123,926	3,428,604	2,829,476	3,132,750
Total[2]	*3,598,589*	*3,670,138*	*1,341,845*	*2,504,014*	*2,016,226*	*3,104,015*	*3,903,608*	*4,528,897*	*3,440,037*	*2,837,550*	*3,162,809*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	$75,789	$113,775	$112,292	$131,656	$56,746	$101,834	$47,903	$53,118	$35,019	$16,697	$92,131
Herring	$21,319	$12,602	$3,207	$747	--	--	--	$27,649	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$1,922,648	$1,182,390	$433,162	$1,122,944	$817,132	$1,311,083	$1,801,833	$2,046,545	$1,799,274	$1,895,228	$2,527,314
Total[2]	*$2,019,755*	*$1,308,767*	*$548,661*	*$1,255,346*	*$873,877*	*$1,412,917*	*$1,849,735*	*$2,127,313*	*$1,834,293*	*$1,911,925*	*$2,619,445*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net lbs refers to the landed weight recorded in fish tickets.

2 Totals only represent non-confidential data.

Recreational Fishing

Although there were sport fish guide businesses registered in Togiak between 2000 and 2010, none were active during those years. In 2010, five sport fish guide licenses were held in Togiak, compared to seven in 2000. The number of local sport fish guide licenses varied between 2000 and 2010, peaking at eight in 2001 and 2006, and bottoming at zero in 2005. In 2010, Togiak residents purchased 125 sportfishing licenses (irrespective of the location of the point of sale) and 10 licenses were sold in the community. Between 2000 and 2010, there were consistently more sportfishing licenses purchased by community residents than licenses purchased in the community, indicating the potential that residents travel to other areas or nearby communities to participate in sportfishing activities.

Togiak is located within the Nushagak, Wood River, and Togiak Alaska Sport Fishing Survey Area. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. For saltwater sportfishing, non-Alaska resident angler days fished varied between 0 and 767 between 2000 and 2010, while Alaska resident angler days fished varied between 31 and 921 during this period. During this period there were years in which non-Alaska residents fished a greater number of saltwater angler days as well as years in which Alaska residents fished a greater number of saltwater angler days. In contrast, non-Alaska resident anglers fished consistently more angler days in freshwater in this region (26,403 on average) than Alaska resident anglers (12,276 per year on average). Information about the sportfishing sector in and near Togiak is displayed in Table 11.

The Alaska Statewide Harvest Survey,[1681] conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Togiak: Chinook salmon, coho salmon, rainbow trout, Dolly Varden, Arctic grayling, Pacific halibut, lingcod, and smelt. No kept/released log book data were reported for sportfishing charters out of Togiak between 2000 and 2010.[1682]

[1681] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000-2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

[1682] Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000-2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Togiak: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Togiak[2]
2000	0	7	69	0
2001	0	8	64	0
2002	0	5	54	3
2003	0	2	64	0
2004	0	2	77	0
2005	0	0	105	0
2006	0	8	88	75
2007	0	5	120	104
2008	0	6	66	48
2009	0	7	38	1
2010	0	5	125	10

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

The entire community of Togiak depends heavily on subsistence activities. Salmon, herring, seal, sea lion, whale, and walrus are among the species harvested.[1683] Information about per capita subsistence harvest and household participation in subsistence activities (Table 12), marine invertebrate harvests, and non-salmon fish harvests (Table 13) was not reported between 2000 and 2010. However, individual species harvest data are available for salmon, halibut and marine mammal harvests.

In years for which data were reported between 2000 and 2010, an average of 55 subsistence salmon permits were issued to Togiak households, with an average of 47 permits returned. Sockeye salmon were the primary species harvested under subsistence permits during this period (an average of 2,650 sockeye per year), along with over a thousand Chinook salmon and several hundred chum, coho, and pink salmon every year (Table 13).

Between 2003 and 2010, an average of seven Subsistence Halibut Registration Certificate (SHARC) cards was issued to Togiak residents. Five SHARC cards were returned in 2004 and two were returned in 2006. Information regarding subsistence harvest of halibut under these permits was not reported during this period. Information about subsistence halibut harvest is presented in Table 14.

The number of marine mammals harvested for subsistence between 2000 and 2010 varied widely. Beluga whales and walrus were among the species harvested by Togiak residents. Information about subsistence harvest of marine mammals is presented in Table 15. There was also significant subsistence harvest of harbor seals (an average of 14 animals per year) and spotted seals (an average of 83 per year) reported in Togiak.

The ADF&G Division of Subsistence reported that the following species of marine invertebrates were used for subsistence in Togiak during this period: blue mussels, cockles, Dungeness crab, razor clams, red king crab, shrimp, softshell clams, Tanner crab, and unknown clams. Marine mammals reported as harvested for subsistence use included bearded seal, harbor porpoise, harbor seal, ringed seal, Steller sea lion, and unknown seal. Non-salmon fish reported as harvested for subsistence use included: blackfish, burbot, capelin (grunion), Dolly Varden, grayling, herring, herring sac roe, herring spawn on kelp, humpback whitefish, lake trout, least cisco, Pacific cod (gray), Pacific tom cod, pike, rainbow smelt, rainbow trout, round whitefish, salmon shark, sculpin, starry flounder, unknown trout, and yellowfin sole.[1684]

[1683] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1684] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Togiak: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (lbs)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Togiak: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	52	40	1,014	533	342	83	2,945	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	44	38	1,094	383	204	108	1,770	n/a	n/a
2005	43	36	1,444	259	281	26	2,223	n/a	n/a
2006	59	46	1,589	487	408	342	2,699	n/a	n/a
2007	45	33	1,227	420	110	19	2,521	n/a	n/a
2008	89	88	1,303	691	535	114	3,744	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Togiak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	2	n/a	n/a
2004	5	5	n/a
2005	10	n/a	n/a
2006	10	2	n/a
2007	10	n/a	n/a
2008	9	n/a	n/a
2009	9	n/a	n/a
2010	4	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Togiak: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	2	n/a	7	n/a	n/a	5	147
2001	1	n/a	2	n/a	n/a	5	61
2002	n/a	n/a	10	n/a	n/a	14	79
2003	n/a	n/a	7	n/a	n/a	22	33
2004	n/a	n/a	1	n/a	n/a	7	64
2005	n/a	n/a	n/a	n/a	n/a	11	82
2006	n/a	n/a	2	n/a	n/a	12	51
2007	n/a	n/a	2	n/a	n/a	8	63
2008	n/a	n/a	2	n/a	n/a	46	168
2009	n/a	n/a	2	n/a	n/a	5	147
2010	n/a	n/a	n/a	n/a	n/a	5	61

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Twin Hills

People and Place

Location [1685]

Twin Hills is located near the mouth of the Twin Hills River, a tributary of the Togiak River, 386 miles southwest of Anchorage. Twin Hills is located in the Bristol Bay Recording District and the Dillingham Census Area and is not located within an organized Borough.

Demographic Profile [1686]

In 2010, there were 74 inhabitants in Twin Hills, making it the 276th largest of 352 total Alaskan communities with recorded populations that year. The population of Twin Hills grew by 7.25% between 2000 and 2009, with an average annual growth rate of -0.87%, indicating a slow rate of decline. The change in population from 1990 to 2010 is provided in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that seven individuals come to Twin Hills as seasonal workers or transients each year during the months of June, July, and August, with the population reaching its annual peak in July. Community leaders noted that this annual peak in population is mostly driven by employment in the fishing sectors.

A majority of Twin Hills residents identified themselves as American Indian and Alaska Native in 2010 (94.6%). Other ethnic groups present in Twin Hills that year included White (2.7%) and two or more races (2.7%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native increased by 10.5%, with corresponding decreases in the percentages of the population identifying themselves as White and two or more races. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Twin Hills increased from 2.6 in 1990 to 2.88 in 2000, and then decreased to 2.55 persons per household in 2010. The number of households decreased from 25 in 1990 to 24 in 2000, then increased to 29 occupied housing units by 2010. Of the 36 housing units surveyed for the 2010 Decennial Census, 16 were owner occupied and 13 were renter occupied, while seven housing units were vacant or used only seasonally. Throughout this period no residents of Twin Hills were reported to be living in group quarters.

[1685] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1686] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

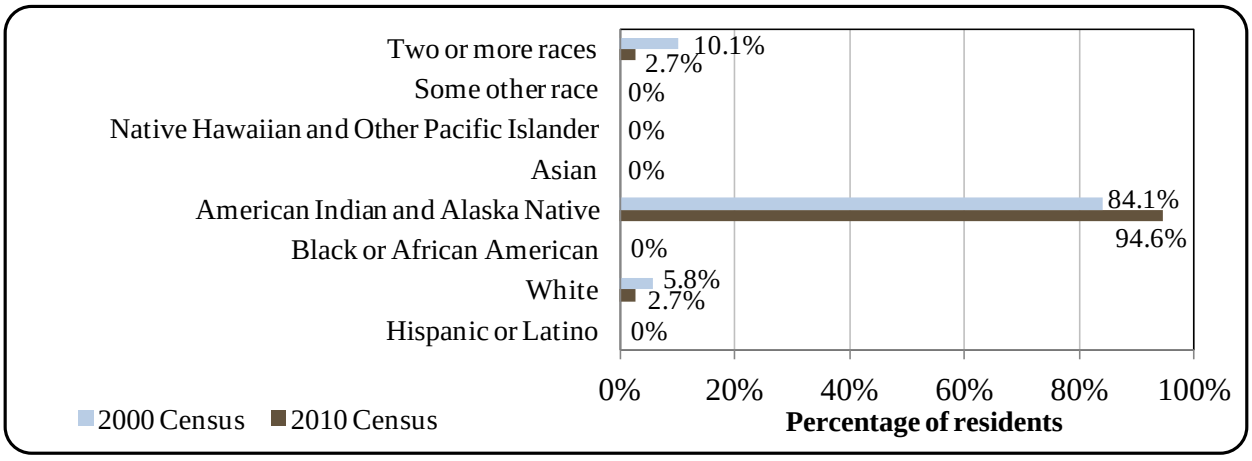
Table 1. Population in Twin Hills from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	66	-
2000	69	-
2001	-	64
2002	-	77
2003	-	76
2004	-	68
2005	-	71
2006	-	77
2007	-	81
2008	-	75
2009	-	74
2010	74	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Twin Hills: 2000-2010 (U.S. Census).

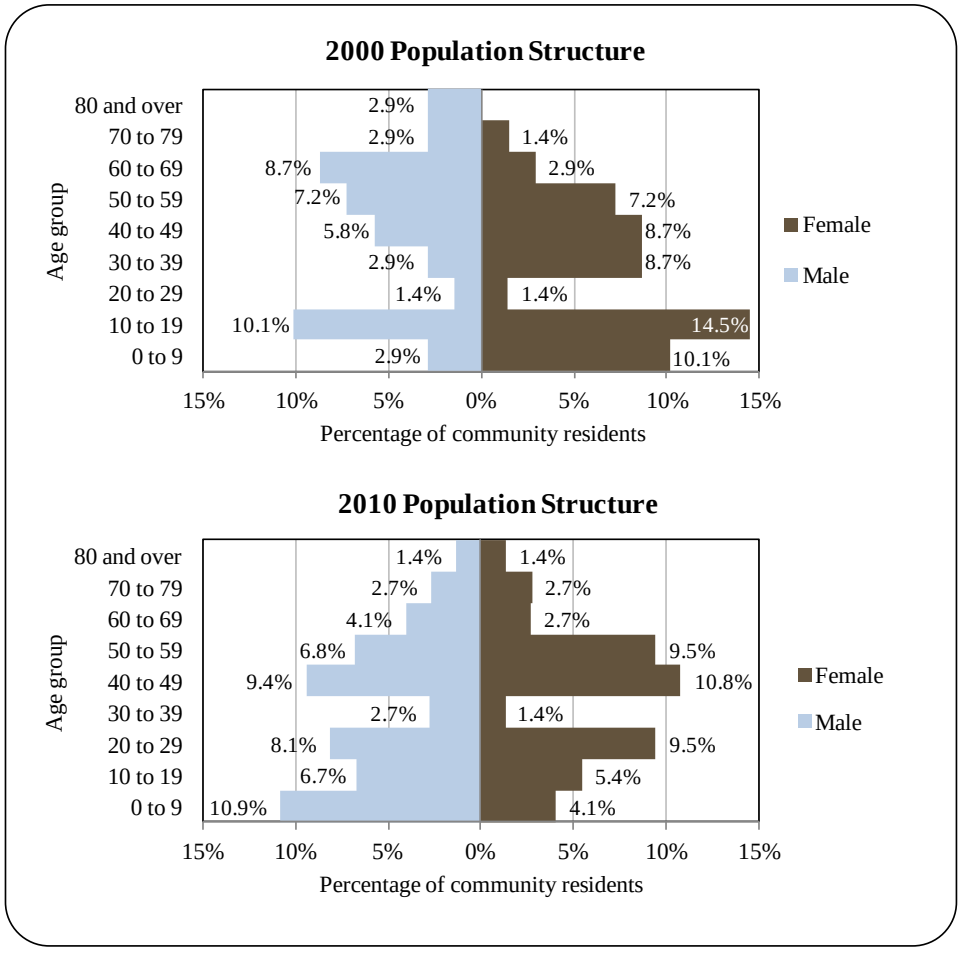


The gender makeup in Twin Hills in 2010 was 52.7% male and 47.3% female, similar to the state as a whole (52% male, 48% female). The median age was estimated to be 41.5 years, higher than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the greatest percentage of the population fell within the age group 40-49 years, with the second largest percentage falling within the 20-29 age group. Relatively few individuals fell within the 30-39 age group, and few were age 70 or older. While the age groups 20-29, 40-49, and 50-59 were more skewed towards females, the 0-9, 10-19, 30-39, and 60-69 were more skewed towards males. The 70-79 and 80 and older age groups had an even distribution of males

and females. The overall population structure of Twin Hills in 2000 and 2010 is shown in Figure 2.

According to the 2006-10 American Community Survey,[1687] in terms of educational attainment, 85.7% of Twin Hills residents aged 25 and older were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 14.3% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 51.4% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 28.6% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; and 5.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall. No Twin Hills residents were estimated to have a ninth to 12th grade education but no diploma, an Associate's degree, or a graduate or professional degree in 2010.

Figure 2. Population Age Structure in Twin Hills Based on the 2000 and 2010 U.S. Decennial Census.



[1687] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture[1688]

Alaska Native populations in Bristol Bay can trace their ancestry to early hunting and gathering societies. The coastal area between Togiak and the Northern Alaska Peninsula was populated early by Yupiit Eskimo; however, there was a great deal of movement and migration between other communities, bringing many different groups into the region. Contact with Europeans occurred in the mid-eighteenth century, and Russians moved into the area around 1818. Following contact, disease epidemics and cultural upheavals created a great deal of social reorganization throughout Bristol Bay communities.[1689]

The village was established in 1965 by families who moved from Togiak to avoid the recurrent flooding there. Some residents migrated from Quinhagak on Kuskokwim Bay. The people have strong cultural ties to the Yukon-Kuskokwim region, because many of their ancestors migrated to Togiak following the 1918-19 influenza epidemic. School classes were first conducted in the church during 1967-68. A school building was constructed in 1972, but it burned in 1976. A new school was built in 1978. A post office was established around 1977, although there have been some interruptions of service.

Twin Hills is a traditional Yup'ik Eskimo village with a fishing and subsistence lifestyle. The sale, importation, and possession of alcohol is banned in the village.

Natural Resources and Environment[1690]

The area experiences a transitional climate that is primarily maritime, although the arctic climate also affects this region. Average summer temperatures range from 37 to 66 °F (2.8 to 18.9 °C); winter temperatures average 4 to 30 °F (-15.6 to -1.1 °C). Annual precipitation ranges from 20 to 26 inches. Fog and high winds are prevalent during winter months. The Togiak River is ice-free from June through mid-November.

Twin Hills is located within the Togiak National Wildlife Refuge (Refuge), an area that is managed by the U.S. Fish and Wildlife Service (FWS). The following information is from the FWS.[1691] The Refuge totals 4.7 million acres - an area about the size of the states of Connecticut and Rhode Island combined. Almost half of these lands, the northern 2.3 million acres, are designated as the Togiak Wilderness Area. This constitutes the second largest contiguous Wilderness Area within the National Wildlife Refuge System. The Refuge was established to conserve fish and wildlife populations and habitats in their natural diversity including salmon, marine birds and mammals, migratory birds, and large mammals, to fulfill international treaty obligations; to provide for continued subsistence use; and to ensure necessary water quality and quantity. Special values of the Refuge include the Togiak Wilderness Area, the Kanektok, Goodnews, and Togiak river drainages, and sportfishing. The wild lands of the Refuge, including the Togiak Wilderness Area, provide valuable and diverse habitat for the fish and wildlife that make the area their home. The conservation of freshwater streams and rivers, wetland and alpine tundra, boreal forests, and coastal cliffs and beaches allow an amazing diversity of species to

[1688] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1689] Lowe, M. (2007). *Socioeconomic Review of Alaska's Bristol Bay Region.* Retrieved July 12, 2012 from: http://www.iser.uaa.alaska.edu/Publications/bb-socio-review.pdf.
[1690] Ibid.
[1691] U.S. Fish and Wildlife Service (2011). *Togiak National Wildlife Refuge*. Retrieved from http://togiak.fws.gov/ on April 9, 2012.

find suitable homes here. The lands also offer amazing opportunities for recreation and education.[1692]

The Refuge protects habitat that produces nearly 3 million Chinook, sockeye, chum, pink and coho salmon, and 27 other fish species. These fish species are the primary subsistence resource for residents of seven local villages. Fishery resources in this area of Alaska are economically important for commercial fisheries valued at over $8 million, as well as a $6 million sport fishery. Ensuring that adequate numbers of each fish species are allowed to spawn in each drainage is key to this region's aquatic and terrestrial ecosystems.

The Refuge also contains prime habitat for several other fish species, including rainbow trout, Arctic grayling, Dolly Varden, and Arctic char. Anglers come from around the world for an opportunity to pursue these prized fish species. The Refuge is working to further our understanding of these fish species. The Refuge conserves habitat for at least 201 staging, migrating, or breeding bird species. Bird species groups include landbirds, shorebirds, seabirds, raptors, and waterfowl. Birds from the North American Pacific Flyway and several Asiatic routes funnel through the area. The Refuge is home to more than 30 species of terrestrial mammals. With a wide variety of habitats, the Refuge supports brown bear, moose, caribou, wolves, and many smaller mammals. The Nushagak Peninsula, in the southeastern portion of the Refuge, was the site of a 1988 caribou reintroduction, and the caribou population continues to grow. Moose populations on the refuge have increased substantially in recent years as well, much to the delight of local people. Lynx and wolverines continue their elusive ways, seldom seen except for tracks they leave in the snow. In addition, 17 species of marine mammals are found along the coastline. The Refuge has haulout sites that provide animals a place to rest after feeding forays in the Bering Sea. Cape Peirce, on the southwestern tip of the Refuge, is one of only two regularly used land-based haulouts for Pacific walrus in North America. Up to 12,000 male walrus may haul out here at one time. Endangered Steller sea lions use haulouts within the Refuge, as do harbor and spotted seals. Marine and terrestrial mammals are important food resources for local village residents, and are important in the local tourism economy as well.[1693]

Twin Hills is located near Togiak, which is the gateway to the Walrus Islands State Game Sanctuary (WISGS), an area managed by the Alaska Department of Fish and Game (ADF&G). The sanctuary protects a group of seven small craggy islands and their adjacent waters in northern Bristol Bay, approximately 65 miles southwest of Dillingham. The WISGS includes Round Island, Summit Island, Crooked Island, High Island, Black Rock and The Twins. The WISGS was established in 1960 to protect one of the largest terrestrial haulout sites in North America for Pacific walrus (*Odobenus rosmarus divergens*). The sanctuary also protects important habitats for several species of seabirds, Steller sea lions (*Eumetopias jubatus*) and other marine and terrestrial birds and mammals. The ADF&G manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources including the opportunity for scientific and educational study, viewing, and photography.[1694]

[1692] Ibid.
[1693] Ibid.
[1694] Alaska Department of Fish and Game (2011). *Walrus Islands State Game Sanctuary: Area Overview*. Retrieved from http://www.adfg.alaska.gov/index.cfm?ADFG=walrusislands.main on April 9, 2012.

Current Economy[1695]

In a survey conducted by the AFSC in 2011, community leaders reported that the Twin Hills economy relies on fishing. In 2010, eight residents held commercial fishing permits, primarily for salmon, herring, herring roe, or sac roe. Fishermen use special flat-bottomed boats for the shallow waters of Togiak Bay. Togiak Fisheries and other fish buyers provide a market for fishermen in nearby Togiak. The community depends heavily on subsistence activities for various food sources. Seal, sea lion, walrus, whale, salmon, clams, geese, and ducks are harvested. An exchange relationship exists between Twin Hills, Togiak, and Manokotak. Seal oil is exchanged for blackfish. Handicrafts also supplement incomes.[1696] Top employers in 2010[1697] included Twin Hills Village Council, Twin Hills BFU Project, Southwest Region Schools, Bristol Bay Area Health Corp., Bristol Bay Native Association, and Peninsula Airways Inc.

In 2010, the per capita income in Twin Hills was estimated to be $23,034 and the median household income was estimated to be $36,667, compared to $16,856 and $29,375 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[1698] the real per capita income in 2000 is shown to have been $22,165 and the real 2000 median household income was $38,628. This shows that per capita income increased in Twin Hills between 2000 and 2010, while the median household income decreased during this period. In 2010, Twin Hills ranked 125th of 305 Alaskan communities with per capita income that year, and 209th of 299 Alaskan communities with household income data. However, Twin Hill's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[1699] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, the per capita income in Twin Hills in 2010 was $9,778, which indicates a substantial decrease compared to the real per capita income values reported by the U.S. Census in 2000.[1700] This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. [1701] However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the 20069-10 American Community Survey, 68.4% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was zero, compared to the statewide unemployment rate of

[1695] Unless otherwise noted, all monetary data are reported in nominal values.
[1696] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1697] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[1698] Inflation was calculated using the Anchorage Consumer Price Index for 2020 (retrieved October 18, 2011 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1699] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1700] See footnote 1697.
[1701] Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: www.denali.gov.

5.9%. There were no Twin Hills residents estimated to be living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Twin Hills are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Twin Hills. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 12.7%.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the public sector (61.5%), while 38.5% were employed in the private sector. Out of 26 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (42.9%) and public administration (23.8%). Smaller percentages of the population were employed in transportation, warehousing, and utilities (19%) and retail trade (14.3%). No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

Figure 3. Local Employment by Industry in 2000-2010, Twin Hills (U.S. Census).

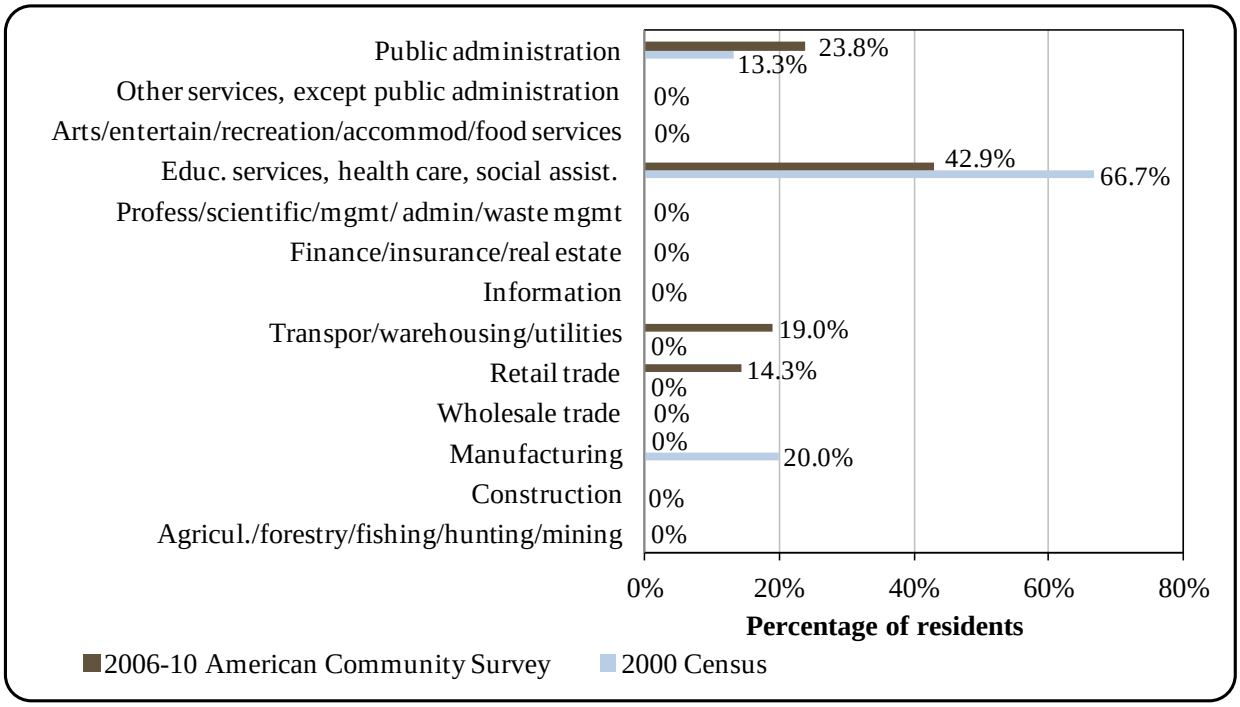
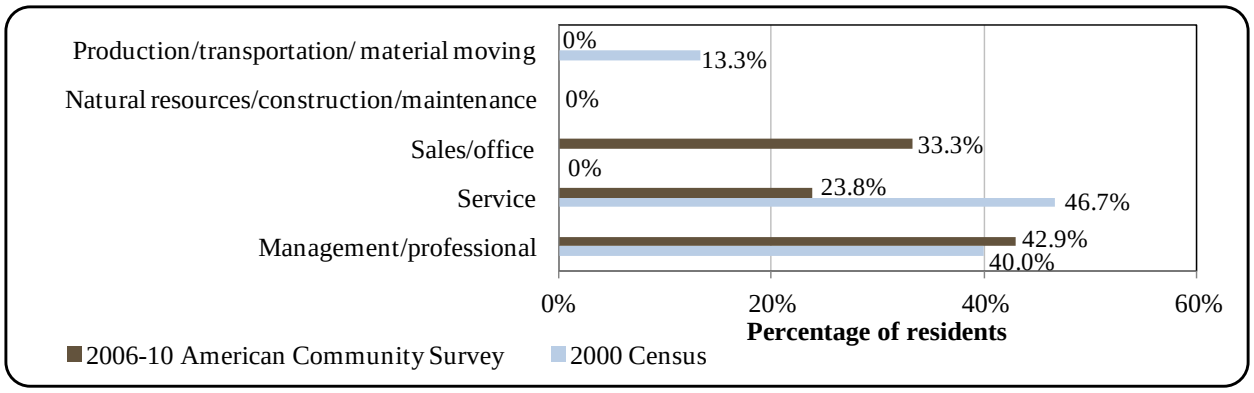


Figure 4. Local Employment by Occupation in 2000-2010, Twin Hills (U.S. Census).



Governance

Twin Hills is an unincorporated town that is not located within an organized borough. Because of the community's unincorporated status, no municipal taxes were administered between 2000 and 2010. Twin Hills did receive State Revenue Sharing contributions from 2000 to 2003, ranging from approximately $3,600 to approximately $4,100 per year. Twin Hills did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of the Twin Hills community revenue is presented in Table 2.

Twin Hills was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The authorized traditional entity, recognized by the

Bureau of Indian Affairs (BIA), is the Twin Hills Native Corporation. The regional native corporation to which Twin Hills belongs is the Bristol Bay Native Corporation.

The closest regional office of ADF&G and the Department of Commerce, Community, and Economic Development are located in Dillingham. The nearest offices of the Alaska Department of Natural Resources, National Marine Fisheries Service (NMFS), Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement are located in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Twin Hills from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	$4,170	n/a
2001	n/a	n/a	$3,707	n/a
2002	n/a	n/a	$3,681	n/a
2003	n/a	n/a	$3,631	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

Twin Hills is primarily accessible by air and water. Regular and charter flights are dispatched from Dillingham. There is a state-owned 3,000 foot long by 60 foot wide lighted gravel runway on a ridge east of the village. Most cargo is delivered by air. In June 2012, round-trip airfare between Twin Hills and Anchorage was $848.50.[1702] There is a boat landing area but no docking facilities; bulk goods must be lightered to shore. Cars, ATVs, and snowmobiles are

[1702] Airfare was obtained on the travel website http://www.penair.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

used for local transportation. Residents drive along the beach to access the Togiak Fisheries cannery. A winter trail for snowmobiles connects Twin Hills with Togiak.[1703]

Facilities[1704]

Piped water and sewer systems provide services to some households; other use individual wells and septic tanks. Water is drawn using a submersible pump and is treated and stored in a 60,000-gallon steel tank. The gravity sewage system feeds to a disposal lagoon on the far west side of town. The school operates its own system. A coin-operated washeteria is available. Law enforcement services are provided by a Village Public Safety Officer. Fire and rescue services are provided by the Twin Hills First Responder Group. The community has a recreation center and a village council building. The nearest state trooper's post is located in Dillingham.

In a survey conducted by the AFSC in 2011, community leaders reported that the following infrastructure projects have been completed in the past ten years: haul out facilities, road, airport/seaplane base, water and sewer pipelines, diesel powerhouse, sewage treatment, water treatment, new landfill/sold waste site, public safety-police department, emergency response, fire department, school, telephone service, and a post office. In the same survey, community leaders noted that there is no dock space available for public moorage in Twin Hills, and that the port of Twin Hills is capable of handling rescue vessels and fuel barges.

Medical Services[1705]

Medical care is provided at the Julius Pleasant Health Center, which is owned by the Village Council and operated by the Bristol Bay Area Health Corporation. The health center is a Community Health Aid Program site. Alternate health care is provided by the Twin Hills First Responder Group. Emergency services have limited air and river access and are provided by a health aide. The nearest hospital is located in Dillingham.

Educational Opportunities[1706]

The Twin Hills School provides instruction to students from pre-school through eighth grade. In 2011 the school had 16 students and two teachers.

[1703] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1704] Ibid.
[1705] Ibid.
[1706] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye salmon (91.2% of all salmon), about 880,000 chum salmon (4.7%), about 550,000 pink salmon (3.0%), about 120,000 coho salmon (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The Togiak River continuously exceeds minimum escapement goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.[1707]

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purses seine and gillnet fisheries harvest the spawning herring in a sac roe fishery, and a spawn-on-kelp harvest is also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million pounds between 1998 and 2002.[1708]

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.[1709]

Twin Hills is located near the mouth of the Twin Hills River, a tributary of the Togiak River.[1710] The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Twin Hills participates in the Community Development Quota (CDQ) program through the Bristol Bay Economic Development Corporation (BBEDC). The community is not eligible for the Community Quota Entity (CQE) program.

In a survey conducted by the AFSC in 2011, community leaders also noted that Twin Hills does not participate in the fisheries management process in Alaska, and that a current challenge for the local economy is permit retention in the village.

[1707] Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1708] Woodby, D. et al. (2005). *Commercial Fisheries in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[1709] Ibid.
[1710] Ibid.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Twin Hills does not have a registered processing plant. However, Togiak Fisheries operates as a fish buyer in nearby Togiak.

Fisheries-Related Revenue

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Twin Hills (Table 3). However, in a survey conducted by the AFSC in 2011, community leaders reported that Twin Hills received $150,000 in funding or grants from the BBEDC in 2010. It is also important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel, and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[1711]

Commercial Fishing

In 2010, there were eight Twin Hills residents holding total of 10 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the salmon, herring, and halibut fisheries. None of the herring or halibut CFEC permits were reported as fished in 2010. Herring CFEC permits were issued for the Bristol Bay herring spawn on kelp hand-picking fishery, the Bristol Bay roe herring gill net fishery, and the statewide halibut long line fishery using vessels under 60 feet. Between 2000 and 2010, the number of halibut CFEC permits issued to Twin Hills residents remained relatively stable, with permits reported as fished between 2002 and 2009. The number of herring CFEC permits and permit holders decreased slightly during this period, but these permits were only reported as fished in 2001, 2002, 2004, and 2006. The number of salmon CFEC permits, permit holders, and permits reported as fished all decreased between 2000 and 2010. In 2010, three salmon CFEC permits were issued for the Bristol Bay drift gill net fishery and one was issued for the Kuskokwim gill net fishery. There were no residents of Twin Hills holding Federal Fisheries Permits or License Limitation Program (LLP) permits during this period. Information on commercial fishing permits and permit holders by species between 2000 and 2010 is shown in Table 4.

The number of crew license holders in Twin Hills decreased overall between 2000 and 2010, and there were no fish buyers or shore-side processing facilities located in the community during this period. The number of vessels homeported in Twin Hills and the number of vessels owned primarily by community residents both decreased between 2000 and 2010. In a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing boats under 35 feet using gillnets use Twin Hills as their base of operations during the fishing season. There were no vessels landing catch in Twin Hills during this period; therefore, there are no landings or associated ex-vessel revenue to report during this period. Information on characteristics of the commercial fishing sector in Twin Hills between 2000 and 2010 is presented in Table 5.

There was one halibut quota share account holder in Twin Hills between 2000 and 2010. In each year during this period, the account holder held 270 halibut quota shares and the total

[1711] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

annual Individual Fishing Quota (IFQ) allotment averaged 34 pounds. Information on halibut IFQ between 2000 and 2010 is presented in Table 6. There were no sablefish or crab quota share account holders in Twin Hills between 2000 and 2010 (Tables 7 and 8). As previously stated there were no commercial landings or associated ex-vessel revenue in Twin Hills between 2000 and 2010 (Table 9). Landings and ex-vessel revenue recorded by Twin Hills residents between 2000 and 2010 were considered confidential due to a small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Twin Hills: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Twin Hills: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	1	2	3	3	1	1	1	1	1	1
	Fished permits	0	0	1	1	2	1	1	1	1	1	0
	% of permits fished	0%	0%	50%	33%	67%	100%	100%	100%	100%	100%	0%
	Total permit holders	1	1	2	3	3	1	1	1	1	1	1
Herring (CFEC) [2]	Total permits	8	8	5	5	7	7	7	7	7	5	5
	Fished permits	0	1	3	0	1	0	1	0	0	0	0
	% of permits fished	0%	13%	60%	0%	14%	0%	14%	0%	0%	0%	0%
	Total permit holders	8	7	5	4	5	5	5	5	5	4	4

Table 4 cont'd. Permits and Permit Holders by Species, Twin Hills: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	10	10	9	6	7	5	4	5	5	4	4
	Fished permits	10	9	5	5	7	4	3	4	4	4	3
	% of permits fished	100%	90%	56%	83%	100%	80%	75%	80%	80%	100%	75%
	Total permit holders	12	13	11	7	9	6	5	7	7	5	5
Total CFEC Permits[2]	*Permits*	*19*	*19*	*16*	*14*	*17*	*13*	*12*	*13*	*13*	*10*	*10*
	Fished permits	*10*	*10*	*9*	*6*	*10*	*5*	*5*	*5*	*5*	*5*	*3*
	% of permits fished	*53%*	*53%*	*56%*	*43%*	*59%*	*38%*	*42%*	*38%*	*38%*	*50%*	*30%*
	Permit holders	*16*	*16*	*14*	*10*	*13*	*10*	*8*	*10*	*10*	*8*	*8*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Twin Hills: 2000-2010.

Year	Crew License Holders[1]	Count of All Fish Buyers[2]	Count of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in Twin Hills[2]	Total Net Pounds Landed in Twin Hills[2,5]	Total Ex-Vessel Value of Landings in Twin Hills[2,5]
2000	12	0	0	6	10	0	0	$0
2001	14	0	0	9	11	0	0	$0
2002	7	0	0	6	9	0	0	$0
2003	13	0	0	6	10	0	0	$0
2004	4	0	0	7	11	0	0	$0
2005	11	0	0	5	9	0	0	$0
2006	6	0	0	4	6	0	0	$0
2007	5	0	0	4	6	0	0	$0
2008	6	0	0	5	7	0	0	$0
2009	5	0	0	4	8	0	0	$0
2010	5	0	0	4	8	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Twin Hills: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	1	270	33
2001	1	270	37
2002	1	270	38
2003	1	270	38
2004	1	270	39
2005	1	270	37
2006	1	270	35
2007	1	270	33
2008	1	270	31
2009	1	270	28
2010	1	270	26

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Twin Hills: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Twin Hills: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Twin Hills: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Twin Hills Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, there were no sport fish guide businesses located in Twin Hills, and no Twin Hills residents holding sport fish guide licenses. Given this, no kept/released log book data were reported for sportfishing charters out of Twin Hills between 2000 and 2010.[1712] The number of sportfishing licenses sold to community residents (irrespective of the location of the point of sale) during this period varied considerably, between one and 14, with 12 licenses sold to Twin Hills residents in 2010. Between 2000 and 2010, there were no sportfishing licenses sold within the community of Twin Hills (Table 11).

Twin Hills is located within the Nushagak, Wood River, and Togiak Alaska Sport Fishing Survey Area. Information is available from ADF&G about both saltwater and freshwater sportfishing activity at this regional scale. For saltwater sportfishing, non-Alaska resident angler days fished varied between 0 and 767 between 2000 and 2010, while Alaska resident angler days fished varied between 31 and 921 during this period. During this period there were years in which non-Alaska residents fished a greater number of saltwater angler days as well as years in which Alaska residents fished a greater number of saltwater angler days. In contrast, non-Alaska resident anglers fished consistently more angler days in freshwater in this region (26,403 on average) than Alaska resident anglers (12,276 per year on average) (Table 11).

The Alaska Statewide Harvest Survey,[1713] conducted by ADF&G between 2000 and 2010, noted that Dolly Varden are targeted by private anglers in Twin Hills. In addition, in a survey conducted by the AFSC in 2011, community leaders reported that the following species are targeted by recreational fishermen that use boats based in Twin Hills: pink salmon, chum salmon, Chinook salmon, coho salmon, sockeye salmon, halibut, and clams. Community leaders also noted that recreational fishing in Twin Hills takes place from private boats owned by local residents.

Table 11. Sport Fishing Trends, Twin Hills: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Twin Hills[2]
2000	0	0	5	0
2001	0	0	2	0
2002	0	0	1	0
2003	0	0	3	0
2004	0	0	1	0
2005	0	0	10	0
2006	0	0	14	0
2007	0	0	6	0
2008	0	0	3	0
2009	0	0	8	0
2010	0	0	12	0

[1712] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000-2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1713] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000-2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 11 cont'd. Sport Fishing Trends, Twin Hills: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

The community of Twin Hills depends heavily on subsistence activities for various food sources. Seal, sea lion, walrus, whale, salmon, clams, geese, and ducks are harvested. An exchange relationship exists between Twin Hills, Togiak, and Manokotak. Seal oil is exchanged for blackfish. Handicrafts also supplement incomes.[1714] Data are not available for subsistence participation by household and species or per capita subsistence harvest between 2000 and 2010 (Table 12). However, data are available for total harvests at the species level.

In years for which data were reported on salmon harvests between 2000 and 2010, an average of two subsistence salmon permits were issued to Twin Hills households, with an average of one permit returned each year. Chinook salmon were the primary species harvested under subsistence permits during this period (an average of 47 Chinook per year), along with some harvest of sockeye, chum, pink, and coho salmon (Table 13). Data regarding subsistence harvest of marine invertebrates and non-salmon fish were not reported during this period.

Between 2005 and 2010, an average of two Subsistence Halibut Registration Certificate (SHARC) cards were issued to Twin Hills residents. Data regarding how many SHARC cards

[1714] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

were returned and the amount of halibut harvested were not reported between 2003 and 2010. Information about subsistence halibut harvest is presented in Table 14.

Information about subsistence harvest of marine mammals was reported between 2000 and 2008, with the exception of 2005. Two to five walrus were reportedly harvested by Twin Hills residents in most years. In years for which data were reported between 2000 and 2010, an average of one sea lion, three harbor seals, and five spotted seals were harvested each year. Information about subsistence harvest of seals and sea lions is presented in Table 15.

The ADF&G Division of Subsistence reported that the following species of marine invertebrates were used for subsistence in Twin Hills during this period: blue mussels, cockles, Dungeness crab, razor clams, red king crab, shrimp, softshell clams, Tanner crab, and unknown clams. The ADF&G also reported that the following species of marine mammals were harvested for subsistence in Twin Hills: bearded seal, harbor porpoise, harbor seal, ringed seal, Steller sea lion, and unknown seal. Non-salmon fish reported as harvested for subsistence use included: blackfish, burbot, capelin (grunion), Dolly Varden, grayling, herring, herring sac roe, herring spawn on kelp, humpback whitefish, lake trout, least cisco, Pacific cod (gray), Pacific tom cod, pike, rainbow smelt, rainbow trout, round whitefish, salmon shark, sculpin, starry flounder, unknown trout, and yellowfin sole.[1715]

In a survey conducted by the AFSC in 2011, community leaders reported that the three most important subsistence marine or aquatic resources are putting up/freezing fish, seal, and herring/roe.

Table 12. Subsistence Participation by Household and Species, Twin Hills: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

[1715] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Twin Hills: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	1	1	102	36	n/a	7	68	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	1	1	33	n/a	n/a	n/a	n/a	n/a	n/a
2006	3	3	61	12	n/a	16	29	n/a	n/a
2007	1	1	6	n/a	n/a	n/a	1	n/a	n/a
2008	2	1	34	10	6	n/a	26	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Twin Hills: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	1	n/a	n/a
2006	2	n/a	n/a
2007	2	n/a	n/a
2008	2	n/a	n/a
2009	2	n/a	n/a
2010	2	n/a	n/a

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Twin Hills: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	5	n/a	n/a	2	7
2001	n/a	n/a	n/a	n/a	n/a	n/a	3
2002	n/a	n/a	n/a	n/a	n/a	2	10
2003	n/a	n/a	n/a	n/a	n/a	6	4
2004	n/a	n/a	2	n/a	1	7	1
2005	n/a	n/a	n/a	n/a	n/a	2	5
2006	n/a	n/a	5	n/a	n/a	1	4
2007	n/a	n/a	n/a	n/a	n/a	1	2
2008	n/a	n/a	n/a	n/a	n/a	n/a	7
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	3	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

Ugashik (*yoo-GASH-ick*)

People and Place

Location [1716]

Ugashik is located on the northwest coast of the Alaska Peninsula, 16 miles up the Ugashik River. Ugashik is located in the Kvichak Recording District, the Lake and Peninsula Borough Census Area, and the Lake and Peninsula Borough.

Demographic Profile [1717]

In 2010, there were 12 inhabitants in Ugashik, making it the 342nd largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Ugashik grew by 36.36% with an average annual growth rate of 3.93%, indicating a moderately fast rate of population growth. The change in population from 1990 to 2010 is provided in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that approximately six seasonal workers or transients live in Ugashik each year during the months of June, July, and August, with the population reaching its annual peak in July. Community leaders noted that the annual peak in population is entirely driven by employment in the fishing sectors.

A majority of Ugashik residents identified themselves as American Indian and Alaska Native (58.3%) and White (25%) in 2010. There was also a percentage of the population that identified themselves as two or more races (16.7%) in 2010. Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native decreased by 14.4%, with corresponding increases in the percentages of the population identifying themselves as White and as two or more races (Figure 1).

The average household size in Ugashik in 2010 was 1.71, an increase from 1.57 persons per household in 2000 (data regarding average household size were not available for 1990). The total number of households in Ugashik increased from four occupied housing units in 1990 to seven in 2000 and 2010. Of the 38 housing units surveyed for the 2010 Decennial Census, six were owner-occupied, one was renter-occupied, and 31 were vacant or used only seasonally. Throughout this period no residents of Ugashik were reported to be living in group quarters.

[1716] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[1717] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

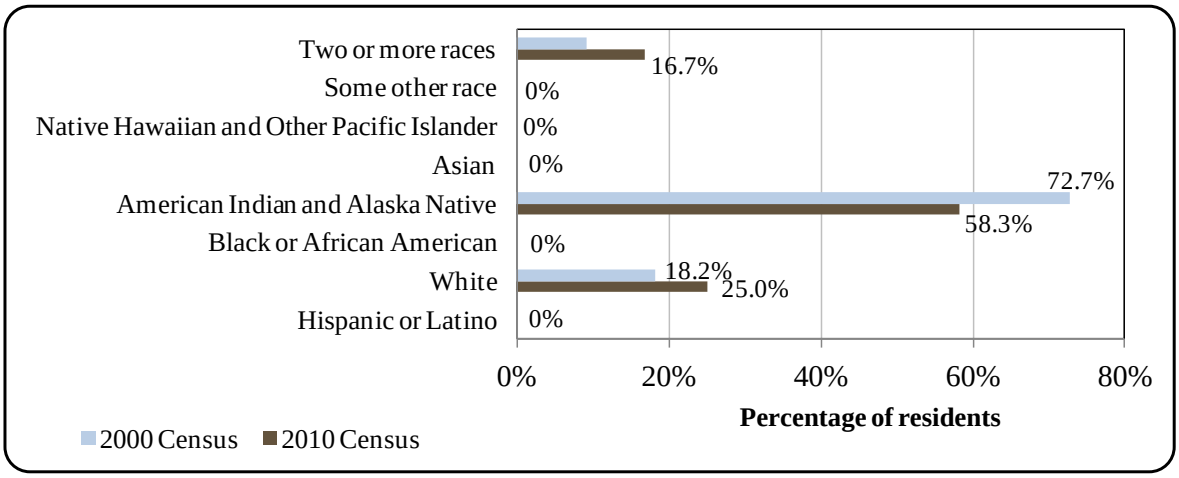
Table 1. Population in Ugashik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	7	-
2000	11	-
2001	-	12
2002	-	12
2003	-	12
2004	-	12
2005	-	15
2006	-	17
2007	-	13
2008	-	15
2009	-	15
2010	12	-

[1] (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from http://www.census.gov/prod/www/abs/decennial/1990.html. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

Figure 1. Racial and Ethnic Composition, Ugashik: 2000-2010 (U.S. Census).

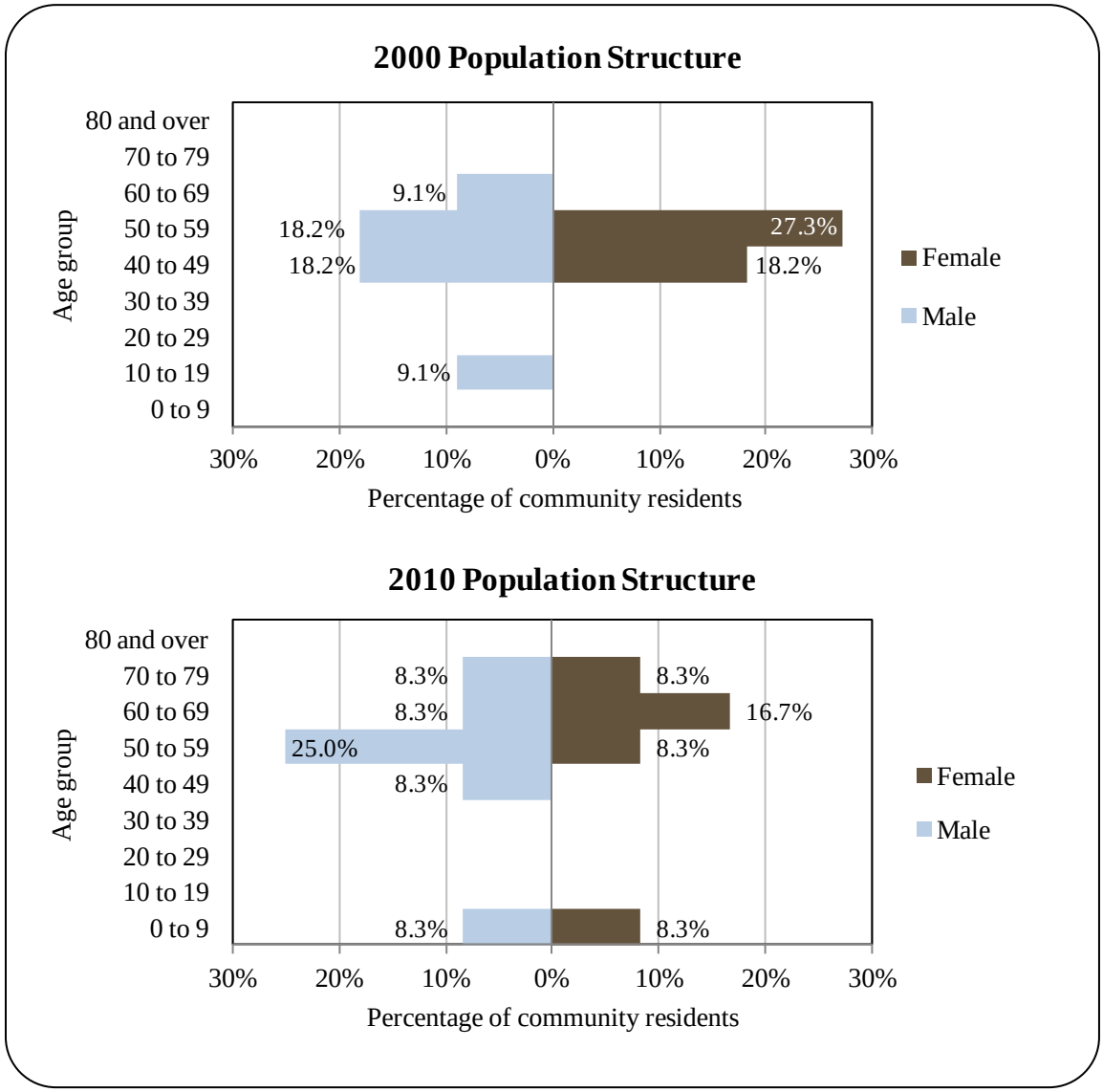


The gender makeup in Ugashik in 2010 was 58.3% male and 41.7% female, similar to the state as a whole (52% male, 48% female). The median age was estimated to be 53.5 years, higher than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the greatest percentage of the population fell within the age group 50 to 59 years old, with the second largest percentage of the population falling within the age group 60 to 69 years. There were no individuals between ages 10 and 39 or over age 80 in Ugashik in 2010 (Figure 2).

According to the 2006-10 American Community Survey, in terms of educational attainment, 100% of Ugashik residents aged 25 and over were estimated to hold a high school

diploma or higher degree in 210, compared to 90.7% of Alaskan residents overall. Also in 2010, 50% of Ugashik residents aged 25 and older were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 50% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall. However, Ugashik's small population size may have prevented the American Community Survey from accurately portraying the educational attainment of local residents. While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

Figure 2. Population Age Structure in Ugashik Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture[1718,1719]

Aleuts and Yup'ik Eskimos have occupied the Alaska Peninsula for thousands of years. The original occupants of Ugashik were forced to leave the area several thousand years ago following major eruptions of the Aniakchak volcano. The area was again populated approximately 2,250 years ago. Yup'ik Eskimos and Aleuts jointly occupied the area historically. This Aleut village was first recorded in 1880 as "Oogashi". In the 1890s, the Red Salmon Company developed a cannery, and Ugashik became one of the largest villages in the region. In 1919, the flu epidemic decimated the population. The cannery has continued to operate under various owners. The Briggs Way Cannery opened in 1963. By 1970, many residents had left to find work in other communities following the closure of the local cannery and downturn of the commercial fishing industry. As of 2010, a small year-round population remained.

Ugashik is a traditional site of the Alutiiq; however very few people now live in Ugashik year-round. Some of the village's people live in nearby Pilot Point on the coast. Tribal members live throughout Alaska, California, and Washington. Commercial fishing, fish processing, and subsistence activities sustain residents of the area.

Natural Resources and Environment

Ugashik's maritime climate is characterized by cool, humid, and windy weather. The average summer temperatures range from 41 to 60 °F (5 to 15.6 °C); winter temperatures average 12 to 37 °F (-11.1 to 2.8 °C). Annual precipitation averages 19 inches, 38 inches of snow. [1720]

Ugashik is located on the Alaska Peninsula, near the Becharof National Wildlife Refuge (Refuge) to the north and the Aniakchak National Monument and Preserve to the south. The Refuge covers an area of 1,157,000 acres and contains Becharof Lake, the second largest lake in Alaska, and Mt. Peulik, a 4,800 foot volcano. Wildlife present in the Refuge includes brown bears, caribou, moose, over 200 species of migratory and resident birds, and provides an important nursery for Pacific salmon.[1721] The Aniakchak National Monument and Preserve contains the Aniakchak Caldera. Volcanic activity in the caldera subsided after the most recent eruption in 1931, but hot spots and warm springs on the caldera floor indicate that eruptive activity may resume at any time. Wildlife present in the National Monument and Preserve include brown bear, caribou, moose, wolf, wolverine, waterfowl, sea otter, harbor seal, sea lion, and numerous smaller species. The region also contains extensive wild runs of five species of Pacific salmon, including nursery areas for sockeye salmon runs that are part of the Bristol Bay and Kodiak/Chignik sockeye salmon fisheries.[1722]

Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and

[1718] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1719] Traditional Village of Ugashik. (2005). *Ugashik Traditional Village Community Comprehensive Strategic Plan.* Retrieved July 12, 2012 from: http://www.commerce.state.ak.us/dca/plans/Ugashik-CP-2005.pdf.
[1720] Ibid.
[1721] U.S. Fish and Wildlife Service (2011). *Becharof National Wildlife* Refuge. Retrieved December 21, 2011 from http://becharof.fws.gov/.
[1722] U.S. National Park Service (2011). *Aniakchak National Monument and Preserve: Nature and Science*. Retrieved April 24, 2012 from http://www.nps.gov/ania/naturescience/index.htm.

Alaska Peninsula.[1723] However, given the importance of Bristol Bay fisheries to the Nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.[1724] On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.[1725]

Current Economy[1726]

In a survey conducted by the AFSC in 2011, community leaders reported that Ugashik's economy relies on fishing. The top employer in 2010 was Ugashik Traditional Village.

In 2010, estimated per capita and median household income data were not available for Ugashik. Per capita income in 2000 was estimated to be $12,530 and the median household income in Ugashik in 2000 was estimated to be $28,750. Taking inflation into account by converting the 2000 values to 2010 dollars,[1727] the real per capita income in 2000 is shown to have been $16,477 and the real 2000 median household income was $37,806. Based on the American Community Survey, in 2010, 50% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was zero, compared to the statewide unemployment rate of 5.9%. The American Community Survey estimated that none of the local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. However, Ugashik's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[1728] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, the per capita income in Ugashik in 2010 was $13,856, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.[1729]

Based on household surveys conducted for the 2006-2010 American Community Survey, all workers were employed in the public sector. Out of three people aged 16 and older that were estimated to be employed in the civilian labor force in 2010, all were estimated to be employed in educational services, health care, and social assistance. No individuals characterized

[1723] Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm.
[1724] U.S. Dept. of the Interior, Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf.
[1725] The White House, Office of the Press Secretary (2010). Memorandum for the Secretary of the Interior: Withdrawl of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf.
[1726] Unless otherwise noted, all monetary data are reported in nominal values.
[1727] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[1728] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[1729] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Ugashik are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Ugashik. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 11.1%.

Figure 3. Local Employment by Industry in 2000-2010, Ugashik (U.S. Census).

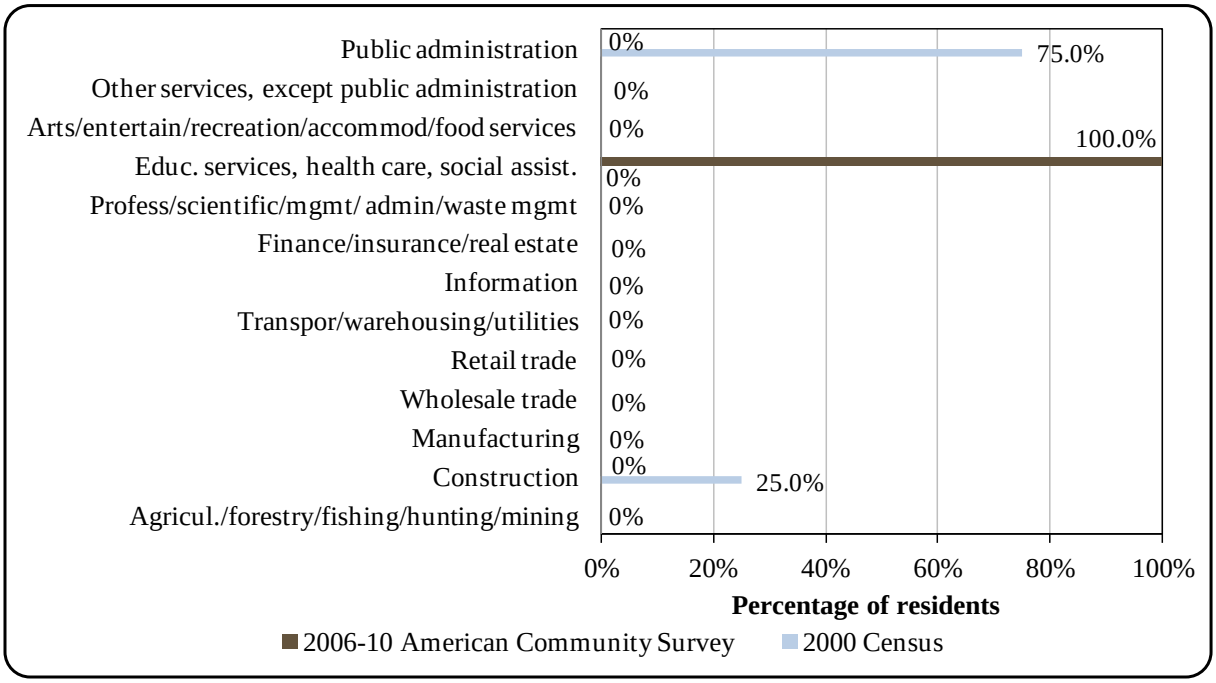
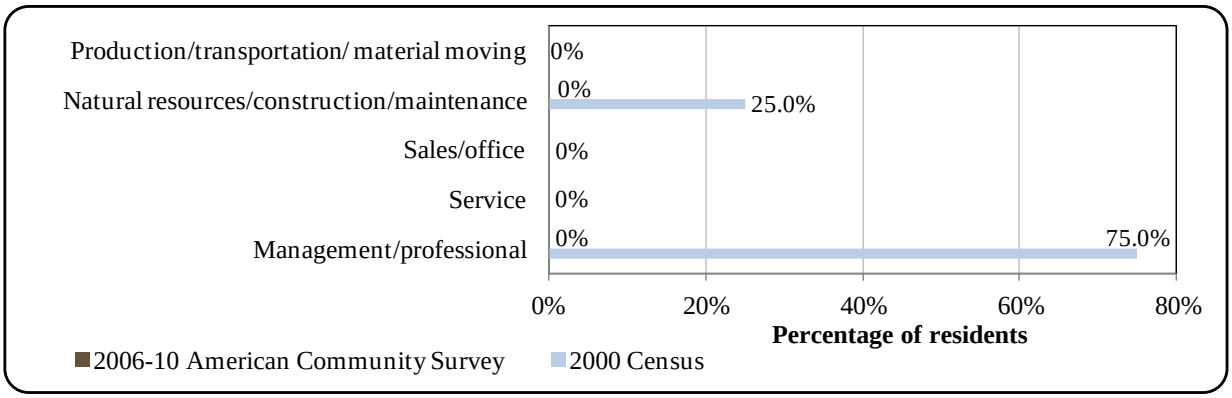


Figure 4. Local Employment by Occupation in 2000-2010, Ugashik (U.S. Census).



Governance

Ugashik is an unincorporated town located in the Lake and Peninsula Borough. Because of Ugashik's unincorporated status, no municipal taxes were administered between 2000 and 2010. Ugashik did not receive State or Community Revenue Sharing contributions or fisheries-related grants between 2000 and 2010. Information about selected aspects of Ugashik's community revenue is presented in Table 2.

Ugashik was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Alaska Peninsula Corporation. The regional native corporation to which Ugashik belongs is the Bristol Bay Native Corporation.

The closest regional offices of the Alaska Department of Fish and Game (ADF&G) are in Dillingham and King Salmon. The nearest Alaska Department of Natural Resources office is a Division of Parks and Outdoor Recreation office in Homer, and the nearest Alaska Department of Commerce, Community and Economic Development offices are in Anchorage. Kodiak and Homer have the nearest National Marine Fisheries Service (NMFS) offices although Anchorage is also a potentially accessible office for the people of this area. Anchorage and Kodiak have the closest Bureau of Citizenship and Immigration Services offices.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Ugashik from 2000 to 2010.

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation

Ugashik is accessible by air and water. There is a 5,280' gravel airstrip at Ugashik Bay, owned by the U.S. Bureau of Land Management, Division of Lands. It is approximately 12 miles from the village of Ugashik. There is a 3,200' gravel airstrip in the village. There is also a state-owned 3,100' long by 60' wide gravel runway available. There is also a barge landing. Barged freight is brought in from Naknek. ATVs and skiffs are the primary means of local transportation.[1730] Round-trip airfare between Ugashik and Anchorage in June of 2012 was $754.[1731]

Facilities[1732]

Ugashik has no public water, sewer, or electric services. All homes have individual wells. Most residents use septic systems; a sewage pumper is available. There are no law enforcement services available in Ugashik. Fire and rescue services are provided by volunteers. The Village Council operates a community hall. The nearest state troopers post is located in King Salmon.

In a survey conducted by the AFSC in 2011, community leaders reported that the following infrastructure projects have been completed in the past 10 years: barge landing area, roads serving dock space, roads, and a new landfill/solid waste site. Community leaders also noted that infrastructure projects currently in progress include: construction of new dock space, improvements to existing dock structure, dry dock space, airport/sea plane base, and telephone service. In the same survey, community leaders indicated that pilings and emergency response infrastructure are planned for completion during the next 10 years. Currently, community leaders reported, there is no dock space available for permanent or transient vessels to moor in Ugashik, and the port of Ugashik is capable of handling fuel barges. For businesses that are not available in Ugashik, community leaders noted that residents travel to Naknek, King Salmon, and Anchorage.

Medical Services[1733]

There are no health care facilities located in Ugashik. The nearest communities with health care facilities are Port Heiden and South Naknek.

Educational Opportunities[1734]

There were no schools located in Ugashik in 2011.

[1730] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1731] Airfare was obtained on the travel website http://www.penair.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.
[1732] See footnote 1730.
[1733] Ibid.
[1734] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye salmon (91.2% of all salmon), about 880,000 chum salmon (4.7%), about 550,000 pink salmon (3.0%), about 120,000 coho salmon (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Sockeye salmon are the most important commercial fish in the region, and large runs occur in Egegik and Nushagak River drainages. These fish return to Bristol Bay in late June and early July with most adults entering their spawning stream by late July or early August. In addition, research has shown that the largest outmigrating sockeye salmon smolts in the Bristol Bay area are from the Egegik River system.[1735]

Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The Togiak River continuously exceeds minimum escapement goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.[1736]

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purses seine and gillnet fisheries harvest the spawning herring in a sac roe fishery, and a spawn-on-kelp harvest is also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million pounds between 1998 and 2002.[1737]

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.[1738]

Ugashik is located on the northwest coast of the Alaska Peninsula, 16 miles up the Ugashik River.[1739] The area is included in Federal Statistical and Reporting Area 512, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Ugashik participates in the Community Development Quota (CDQ) program as a member of the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a

[1735] See footnote 1730.
[1736] Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[1737] Woodby, D. et al. (2005). *Commercial Fisheries in Alaska.* Retrieved July 11, 2012 from: http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf..
[1738] Ibid.
[1739] See footnote 1730.

percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.[1740] Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

In a survey conducted by the AFSC in 2011, community leaders noted that Ugashik participates in the fisheries management process in Alaska through a representative that sits on regional fisheries advisory and/or working groups run by ADF&G. Community leaders stated that the past or current fisheries policy or management action that affected Ugashik the most is, "The allocations program and fishing periods open to protect the biological aspect of the salmon season, not the economics of fishing."

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Ugashik Wild Salmon Company operates a seafood processing plant in Ugashik. The plant processes salmon and is a family-run operation that began in 1961.[1741] In 2010, the plant employed between two and nine workers, with largest number of workers employed between June and August.[1742] During the months of August and September, the Ugashik Wild Salmon Company is often the only buyer the east side of Bristol Bay.[1743]

Fisheries-Related Revenue

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Ugashik (Table 3). However, in a survey conducted by the AFSC in 2011, community leaders reported that Ugashik received $171,600 in funding or grants from BBEDC in 2010. It is also important to note that the BBEDC uses fisheries revenue from the CDQ program to provide grants for infrastructure, fuel, and electrical assistance to member communities. The BBEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.[1744]

Commercial Fishing

In 2010, there were four Ugashik residents holding four commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the Bristol Bay drift gill net and set gill net salmon fisheries. In the same year, all salmon CFEC permits were reported as fished. While the number salmon CFEC permits held by Ugashik residents decreased between 2000 and 2010, the number of permit holders and the number of permits reported as fished remained relatively stable during this period. In 2000, one Ugashik resident held a halibut CFEC

[1740] Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.
[1741] Ugashik Wild Salmon Company. 2011. Retrieved from http://briggsway.com/ in April 2012.
[1742] A survey conducted with shore-based processing plant managers in 2011 by NOAA's Alaska Fisheries Science Center (AFSC).
[1743] Ibid.
[1744] Bristol Bay Economic Development Corporation. *Annual Report 2010*. Retrieved November 16, 2011 from http://www.bbedc.com.

permit that was not reported as fished. Between 2000 and 2002, between two and five herring CFEC permits were held by Ugashik residents, though only one permit was reported as fished in 2002. There were no Ugashik residents holding Federal Fisheries Permits or License Limitation Program (LLP) permits between 2000 and 2010. Information on permits and permit holders by species is presented in Table 4.

The number of crew license holders in Ugashik varied considerably between 2000 and 2010, from one crew license holder between 2001 and 2003 to 10 in 2005. There were four crew license holders in Ugashik in 2010. There were no fish buyers located in Ugashik in 2000, and between 2001 and 2010 there were an average of 12 fish buyers in Ugashik. There was one shore-side processing facility located in Ugashik between 2000 and 2010 with the exception of 2002, when there were two processing facilities located in Ugashik.

In a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing vessels under 35 feet use Ugashik as their base of operations during the fishing season, and that the gear types used by these vessels include gill nets and setnets. The number of vessels owned primarily by Ugashik residents decreased from six in 2000 to two in 2010. An average of 13 vessels were homeported in Ugashik between 2000 and 2010. There were no vessels landing catch in Ugashik in 2000, and between 2001 and 2010 an average of 322 vessels landed catch in Ugashik each year. There were 350 vessels landing catch in Ugashik in 2010. The amount of landings and associated ex-vessel revenue recorded in Ugashik varied between 2001 and 2010, with an average of 15,412,468 pounds landed during this period, bringing in an average amount of $10,325,774 in ex-vessel revenue. Ugashik was among the top ports in Alaska in landings and ex-vessel revenue in 2010, ranking 16th in landings and 18th in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings. Information on characteristics of the commercial fishing sector in Ugashik between 2000 and 2010 is presented in Tables 5 and 9.

Landings and ex-vessel revenue for all species except crab (no landings recorded) and salmon were considered confidential between 2000 and 2010 due to a small number of participants. As previously stated, landings of salmon and the associated ex-vessel revenue were variable during this period. Because landings and ex-vessel revenue for salmon were the only landings reported for Ugashik during this period, the information presented in the discussion of Table 5 is the same as the information presented in the discussion of landings and ex-vessel revenue by species in Ugashik between 2000 and 2010 (Table 9). Landings and associated ex-vessel revenue recorded by Ugashik residents in other communities were considered confidential between 2000 and 2010 due to a small number of participants (Table 10).

There were no Ugashik residents holding quota share account for halibut (Table 6) or sablefish (Table 7) between 2000 and 2010, and no community residents holding quota share account for crab (Table 8) between 2005 and 2010.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Ugashik: 2000-2010.

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

Note: n/a indicates that no data were reported for that year.

[1] Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

[2] Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

[3] Reported by community leaders in a survey conducted by the AFSC in 2011.

[4] Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

[5] Total municipal revenue represents the total revenue that the city brings in each year from all sources, including fisheries-related revenue streams. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

Table 4. Permits and Permit Holders by Species, Ugashik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	-	-	-	-	-	-	-
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	5	2	2	0	0	0	0	0	0	0	0
	Fished permits	0	0	1	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	50%	-	-	-	-	-	-	-	-
	Total permit holders	2	1	1	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Ugashik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	4	6	6	6	6	6	6	4	4	5	4
	Fished permits	4	5	5	5	4	5	5	4	4	4	4
	% of permits fished	100%	83%	83%	83%	67%	83%	83%	100%	100%	80%	100%
	Total permit holders	4	5	5	5	5	6	5	4	4	5	4
Total CFEC Permits[2]	*Permits*	*10*	*8*	*8*	*6*	*6*	*6*	*6*	*4*	*4*	*5*	*4*
	Fished permits	*4*	*5*	*6*	*5*	*4*	*5*	*5*	*4*	*4*	*4*	*4*
	% of permits fished	*40%*	*63%*	*75%*	*83%*	*67%*	*83%*	*83%*	*100%*	*100%*	*80%*	*100%*
	Permit holders	*4*	*5*	*5*	*5*	*5*	*6*	*5*	*4*	*4*	*5*	*4*

[1] National Marine Fisheries Service. 2011. Data on License Limitation Program, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Ugashik: 2000-2010.

Year	Crew License Holders[1]	Count of All Fish Buyers[2]	Count of Shore-Side Processing Facilities[3]	Vessels Primarily Owned by Residents[4]	Vessels Homeported[4]	Vessels Landing Catch in Ugashik[2]	Total Net Pounds Landed in Ugashik[2,5]	Total Ex-Vessel Value of Landings in Ugashik[2,5]
2000	3	0	1	6	10	0	0	$0
2001	1	6	1	3	11	61	638,235	$267,837
2002	1	15	2	3	10	363	8,493,866	$4,089,673
2003	1	12	1	3	11	438	11,096,579	$5,555,885
2004	6	15	1	3	16	442	20,006,510	$10,162,639
2005	10	13	1	3	9	357	14,671,001	$8,968,541
2006	5	11	1	3	18	242	15,083,917	$9,476,283
2007	5	11	1	2	14	417	30,871,411	$20,027,189
2008	6	13	1	2	16	273	12,836,817	$9,199,925
2009	4	11	1	3	15	276	15,745,212	$12,324,169
2010	4	13	1	2	13	350	24,681,134	$23,185,598

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Ugashik: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Ugashik: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Ugashik: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Ugashik: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	--	--	--	--	--	--	--	--	--	--
Halibut	0	--	--	--	--	--	--	--	--	--	--
Herring	0	--	--	--	--	--	--	--	--	--	--
Other Groundfish	0	--	--	--	--	--	--	--	--	--	--
Other Shellfish	0	--	--	--	--	--	--	--	--	--	--
Pacific Cod	0	--	--	--	--	--	--	--	--	--	--
Pollock	0	--	--	--	--	--	--	--	--	--	--
Sablefish	0	--	--	--	--	--	--	--	--	--	--
Salmon	0	638,235	8,493,866	11,096,579	20,006,510	14,671,001	15,083,917	30,871,411	12,836,817	15,745,212	24,681,134
Total[2]	*0*	*638,235*	*8,493,866*	*11,096,579*	*20,006,510*	*14,671,001*	*15,083,917*	*30,871,411*	*12,836,817*	*15,745,212*	*24,681,134*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	--	--	--	--	--	--	--	--	--	--
Halibut	$0	--	--	--	--	--	--	--	--	--	--
Herring	$0	--	--	--	--	--	--	--	--	--	--
Other Groundfish	$0	--	--	--	--	--	--	--	--	--	--
Other Shellfish	$0	--	--	--	--	--	--	--	--	--	--
Pacific Cod	$0	--	--	--	--	--	--	--	--	--	--
Pollock	$0	--	--	--	--	--	--	--	--	--	--
Sablefish	$0	--	--	--	--	--	--	--	--	--	--
Salmon	$0	$267,837	$4,089,673	$5,555,885	$10,162,639	$8,968,541	$9,476,283	$20,027,189	$9,199,925	$12,324,169	$23,185,598
Total[2]	*$0*	*$267,837*	*$4,089,673*	*$5,555,885*	*$10,162,639*	*$8,968,541*	*$9,476,283*	*$20,027,189*	*$9,199,925*	*$12,324,169*	*$23,185,598*

Note: Cells showing – indicate that the data are considered confidential.

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

1 Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Ugashik Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

There was one sport fish guide business registered in Ugashik in 2000, although it was not active during that year. No sport fish guide businesses were registered in the community between 2001 and 2010. In 2000 and 2001, one sport fish guide license was issued locally per year, but no Ugashik residents held sport fish guide licenses between 2002 and 2010. No kept/released log book data were reported for sportfishing charters out of Ugashik between 2000 and 2010.[1745]

The number of sportfishing licenses sold to Ugashik residents (irrespective of the location of the point of sale) between 2000 and 2010 varied, averaging six per year. No sportfishing licenses were sold in the community during this period, indicating the potential that Ugashik residents travel to other areas or nearby communities to participate in sportfishing activities.

Ugashik is located within Alaska Sport Fishing Survey Area R – Alaska Peninsula / Aleutian Islands. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, non-resident angler days fished varied between 1,603 and 4,126 during this period, while Alaska resident angler days fished varied between 3,261 and 12,721 days. Alaska resident anglers fished consistently more saltwater days than non-resident anglers during this period. In contrast, non-resident anglers fished more angler days in freshwater in the Alaska Peninsula / Aleutian Islands region on average (18,462 per year on average) than Alaska resident anglers (15,290 per year on average). This information about the sportfishing sector in and near Ugashik is also displayed in Table 11.

The Alaska Statewide Harvest Survey,[1746] conducted by ADF&G between 2000 and 2010, did not report any species targeted by private anglers in Ugashik. However, in a survey conducted by the AFSC in 2011, community leaders reported that the following species are targeted by recreational fishermen that use boats based in Ugashik: Chinook, coho, and sockeye salmon. Community leaders also noted that recreational fishing in Ugashik takes place from private boats owned by local residents.

[1745] Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000-2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[1746] Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000-2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportifshingsurvey/ (Accessed September 2011).

Table 11. Sport Fishing Trends, Ugashik: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Ugashik[2]
2000	0	1	7	0
2001	0	1	10	0
2002	0	0	8	0
2003	0	0	6	0
2004	0	0	6	0
2005	0	0	4	0
2006	0	0	7	0
2007	0	0	4	0
2008	0	0	4	0
2009	0	0	4	0
2010	0	0	2	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Ugashik residents rely on subsistence activities to provide food sources, including salmon, trout, grayling, moose, caribou, and bear.[1747] In a survey conducted by the AFSC in 2011, community leaders reported that salmon is the most important subsistence marine or aquatic resource to the residents of Ugashik. Data are not reported on subsistence participation by household and species or per capita subsistence harvest in Ugashik between 2000 and 2010 (Table 12). However, data are provided as total harvests reported by species.

In years for which data were reported between 2000 and 2010, an average of eight subsistence salmon permits was issued to Ugashik households, with 100% of permits issued being returned in all years for which data were available. Sockeye salmon were the primary species harvested for subsistence (an average of 458 sockeye per year), along with coho, chinook, chum, and pink salmon (Table 13). Data were not reported on per capita subsistence harvest of marine invertebrates or non-salmon fish (not including halibut) during this period.

The ADF&G Division of Subsistence reported that the following species of marine invertebrates were used for subsistence in Ugashik during this period: butter clams, cockles, razor clams, and Tanner crab. Non-salmon/non-halibut fish reported as harvested for subsistence use included: cod, Dolly Varden, flounder, grayling, herring, herring spawn on kelp, lake trout, pike, rainbow trout, smelt, and whitefish.[1748]

Data were not reported on subsistence harvest of halibut in Ugashik between 2003 and 2010 (Table 14). Information about subsistence harvest of marine mammals was reported in 2002, during which one sea otter was reported as harvested for subsistence purposes. Further information regarding subsistence harvest of marine mammals is not available (Table 15), although data reported by ADF&G from a 1987 subsistence survey indicates that harbor seals have historically been harvested by residents of Ugashik.[1749]

[1747] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[1748] Alaska Department of Fish and Game (2011). *Community Subsistence Information System (CSIS)*. ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).
[1749] Ibid.

Table 12. Subsistence Participation by Household and Species, Ugashik: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Ugashik: 2000-2010.

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	8	8	15	1	137	1	395	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	9	8	46	5	224	1	495	n/a	n/a
2005	9	9	25	1	166	n/a	482	n/a	n/a
2006	7	7	13	4	160	4	366	n/a	n/a
2007	7	7	21	n/a	155	n/a	306	n/a	n/a
2008	8	8	34	4	206	1	702	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Ugashik: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Ugashik: 2000-2010.

Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	1	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. J. Cetacean Res. Manage. 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[3] Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.

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