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Community Profiles for North Pacific Fisheries - Alaska

Volume 4

by
A. Himes-Cornell, K. Hoelting, C. Maguire, L. Munger-Little,
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Alaska Fisheries Science Center
Resource Ecology and Fisheries Assessment Division
Economics and Social Sciences Research Program
7600 Sand Point Way N.E.
Seattle, WA 98115

www.afsc.noaa.gov

U.S. DEPARTMENT OF COMMERCE
Penny. S. Pritzker, Secretary
National Oceanic and Atmospheric Administration
Kathryn D. Sullivan, Under Secretary and Administrator
National Marine Fisheries Service
Samuel D. Rauch III, Acting Assistant Administrator for Fisheries

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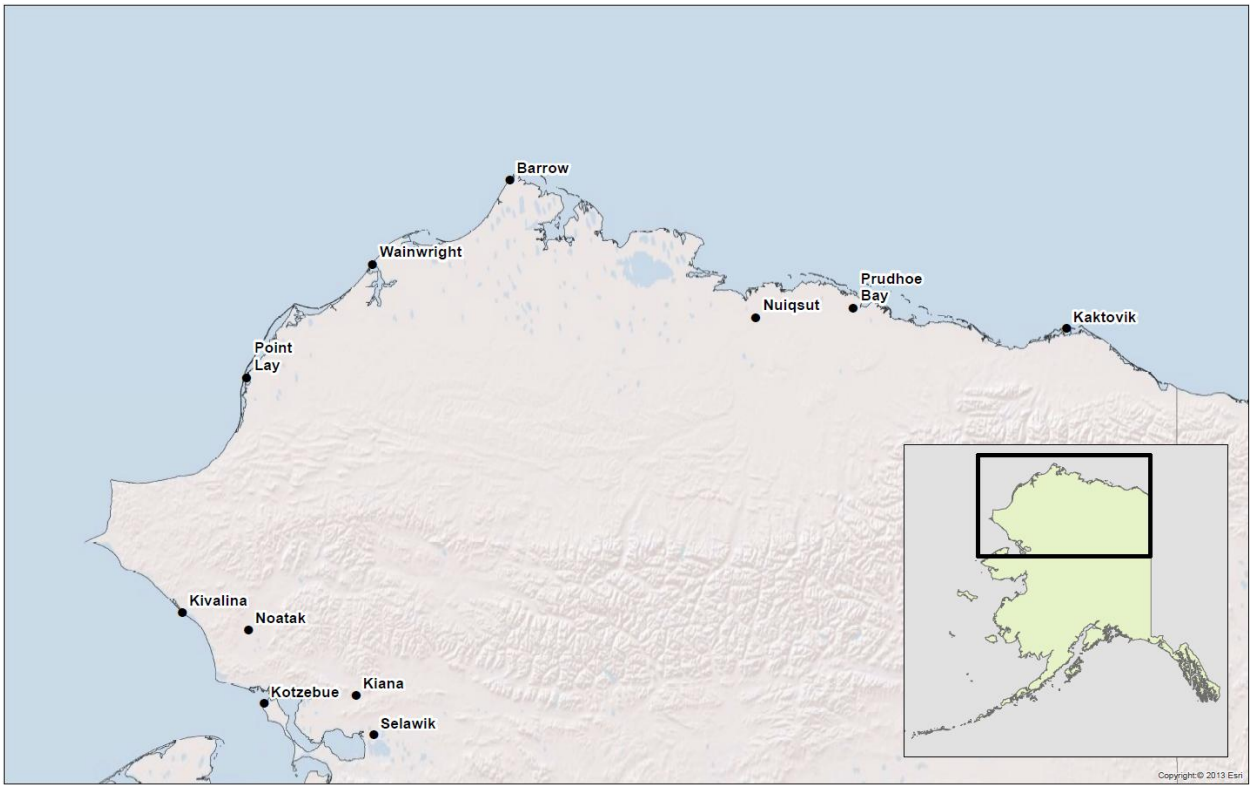
Northern Alaska

REGIONAL INTRODUCTION: NORTHERN ALASKA

Regional Introduction: Northern Alaska

Communities

Barrow
Kaktovik
Kiana
Kivalina
Kotzebue
Noatak
Nuiqsut
Point Lay
Prudhoe Bay
Selawik
Wainwright



People and Place

Location

Covering a total of 135,525 square miles, the Northern Alaska region is occupied by both the Northwest Arctic Borough and North Slope Borough. Selawik (66.60° N by -160.00° W) occupies the southernmost point of the region, while Barrow (71.29° N by -156.79° W) occupies the northernmost point. The region is bordered by the Chuckchi Sea to the west, Beaufort Sea to the north, and Yukon Territory, Canada, to the east. The region's largest city, Barrow, is located 725 miles from Anchorage.

Demographic Profile

A total of 11 communities met profiling criteria within the Northern Alaska region; six of which had populations over 500, including three that had populations over 2,000. The total regional population in 2010 was 16,953, 24.8% of which lived in Barrow. Almost 13% of area residents reside in Prudhoe Bay, although most of those residents are non-permanent oil workers. At 3,201 residents (19.3% of the region's population), Kotzebue is the regional center for the Kobuk River and Kotzebue Sound sub-region. It is also the center for commercial fishing within the Northern Alaska region.[1]

In 2010, 71.1% of residents in the region identified themselves as at least part American Indian or Alaska Native, 23.7% identified themselves as White, 3.5% identified themselves as at least part Asian, 1.4% identified themselves as at least part Black or African American, and 1.1% identified themselves as at least part Native Hawaiian or Other Pacific Islander. In addition, 1.8% of residents identified themselves as Hispanic or Latino.[2] It should be noted that almost half of the residents who identified themselves as White in 2010 resided in Prudhoe Bay, whose 2010 Decennial Census population is grossly misrepresentative of the community's permanent population due to the seasonal presence of oil exploration company employees. According to Alaska Department of Labor (DOL) population estimates, Prudhoe Bay had a permanent population of three in 2009.[3] DOL population estimates are based on addresses listed on Alaska Permanent Fund Dividend applications, and are likely more reliable sources of permanent residents in some instances.

The region's economy is mixed. Prudhoe Bay is entirely dependent on oil extraction and exploration, while most other communities in the area are dependent on a subsistence economy. Commercial fishing is limited for communities within the North Slope Borough. Under the current Arctic Fishery Management Plan (FMP), commercial fishing is prohibited in federal waters.[4] Limited commercial fishing does occur in state waters however. While communities within the Kotzebue Sound region are also governed by the current Arctic FMP, commercial fishing in that area is more intensive due to a state regulated salmon fishery. Kotzebue is a

[1] U.S. Census Bureau (2010). *Profile of selected social, economic and housing characteristics of all places within*
[2] Ibid.
[3] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.
[4] North Pacific Fishery Management Council. (2009). *Fishery Management Plan for Fish Resources of the Arctic Management Area.* Retrieved December 4, 2012 from: http://alaskafisheries.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.

service and transportation center for many villages in the Northwest Arctic Borough. Due to its location at the confluence of three river drainages, Kotzebue is the transfer point between ocean and inland water shipping and also the air transport center for the region. Activities related to oil and mineral exploration and development have contributed to the economy. Barrow is the economic center of the North Slope Borough, the city's primary employer, and numerous businesses provide support services to oil field operations. State and federal agencies also provide employment. The midnight sun has attracted tourism, and arts and crafts provide some cash income. Smaller villages within the region largely depend on local government and education services for wage employment.

In 2010,[5] the estimated per capita income for the Northern Alaska region was $21,694 and the estimated median household income was $61,867. Broken down by community, estimated per capita and median household incomes were similar across the region. Of those aged 16 and older, an estimated 64.9% were considered part of the civilian labor force. Of those employed, most (30.5%) worked in education services, health care, and social assistance sectors; followed by public administration (18.0%) and transportation, warehousing, and utilities sectors (10.3%). Finally, an estimated 25.3% of residents were unemployed in 2010.

It should be noted that U.S. Census statistics do not represent the value of subsistence to the regional economy, and many residents who hold seasonal wage positions, including those in commercial fisheries, may have been misrepresented during Census sampling. Subsistence resources are not only consumed by individual household units, but are traded throughout the community (and the region) for other goods and services, supplying an "informal" economy that is difficult to measure using traditional survey methods. However, the informal subsistence economy is essential in communities where standard wage employment is scarce, and living expenses are high.[6]

History

Approximately 10 to 25 thousand years ago, during the Pleistocene Ice Age, the level of the ocean was up to 300 feet lower than present levels. At that time, the Seward Peninsula was connected to the Asian continent via the Bering land bridge, which formed a flat, grassy, treeless plain.[7] The land bridge is thought to have been a primary route by which humans migrated to the North American continent from Asia. Archaeologists have identified evidence of human inhabitation in the Bering Land Bridge National Preserve dating to 12,000 years before the present.[8] Archaeological findings in northwest Alaska indicate that people have continuously occupied the Kotzebue Sound area for the past 4,000 years. Two cultures can be linked with continuous occupation of the Kotzebue Sound area: the Arctic Small Tool tradition (4,200 to 1,000 years ago) and Northern Maritime tradition (1,400 years ago to present).

[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] Goldsmith, S. (2008). *Understanding Alaska's Remote Rural Economy.* University of Alaska Research Summary No. 10. Retrieved November 30, 2012 from: http://www.iser.uaa.alaska.edu/Publications/researchsumm/UA_RS10.pdf.
[7] National Park Service (2010). *Shared Beringian Heritage Program*. Retrieved February 22, 2012 from http://www.nps.gov/akso/beringia/.
[8] National Park Service (2009. *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from http://www.nps.gov/bela/.

Most settlements were semi-permanent as most people of the area followed migratory caribou herds. But the coastal resources of the area allowed for permanent settlement, and *Kikitaruk* (present day Kotzebue) established itself as a regional trading hub. Centuries before European contact, *Kikitaruk* was a busy center of trading activities and a stopping point for trade routes throughout the Arctic linking Siberian Chukchi and northern MacKenzie Eskimos and Canadian Athabascans. Interior peoples traded furs, jade, salmon skin clothing, and birch bark baskets for muktuk, seal oil, ivory, and walrus hides from coastal peoples. Tobacco, metal implements, and firearms reached the Kotzebue and Norton Sound region before trade routes from Russians were established.[9]

Around 1,000 years ago, the Thule culture expanded into the North Slope region, characterized by winter ice-hunting, kayak and umiaq[10] open sea hunting, use of dogs and dog sleds, and settlement in large coastal villages.[11] Although major settlements have always occurred on the North Slope, traditionally people lived in small groups and travelled throughout the region to hunting and fishing areas. Today, most people live in permanent villages, "yet the animals still roam widely, and seasonal locations for fishing and trapping are scattered over a vast territory." [12] The use of snowmachines and motor boats allows residents to extend the range of their subsistence use while still living in a permanent community.[13]

Exploration of the Naval Petroleum Reserve Number 4 (now National Petroleum Reserve in Alaska, NPR-A) began in 1946. The Prudhoe Bay oilfields have been heavily developed since the 1970s, following the completion of a oil pipeline connecting the North Slope with Valdez. The pipeline has 12 pump stations and a maximum capacity of 2 million barrels of crude oil per day.[14]

Natural Resources and Environment

The weather in the North Slope Borough is arctic with temperatures ranging from -56 to 78 °F. Precipitation is about 5 inches per year; however, snowfall averages approximately 20 inches. The coastal region of the Baldwin Peninsula, where Kotzebue is located, is in the transitional climate zone, which is characterized by long, cold winters and cool summers. The average low temperature during January is -12 °F; the average high during July is 58 °F. Temperature extremes have been measured from -52 to 85 °F. Annual snowfall averages 40 inches, with total precipitation of 9 inches per year. Kotzebue Sound is ice-free from early July until early October.[15]

[9] Alaska State Housing Authority. (1971). *Kotzebue, Alaska Comprehensive Development Plan.* Retrieved August 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kotzebue-CP-1971.pdf.
[10] An umiaq is a large open Inuit or Eskimo boat made of skins stretched on a wooden frame, usually propelled by paddles. (Source: http://www.thefreedictionary.com. Retrieved June 21, 2012.)
[11] National Park Service (n.d.) *Archaeology of the Tundra and Arctic Alaska*. Retrieved December 8, 2011 from http://www.nps.gov/akso/akarc/arctic.htm.
[12] North Slope Borough Planning Commission and Commission on History and Culture (1979). *Nuiqsut Heritage: A Cultural Plan*. Retrieved February 29, 2012 from http://www.alaska.boemre.gov/native/Nuiqsut_Guide.pdf.
[13] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[14] 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.
[15] Ibid.

The Baldwin Peninsula is composed primarily of unconsolidated Quaternary sediments. These sediments are mostly eolian, glacial, and marine in origin. Illinoian glaciers deposited till and outwash over marine sediments. Loess was deposited over the glacier sediments during glacial retreat. Sea level rose, and in some areas, marine sediments were deposited over the eolian silts. Late Wisconsin and Holocene sediments are primarily silts, clays, and fine sands; with the oldest sediments exposed on coastal bluffs. An exploratory petroleum well drill 10 miles east of Cape Blossom hit bedrock at a depth of 900 feet. The nearest bedrock outcrops at sea level are on the Choris Peninsula to the southeast, at Ekichuk Lake on Hotham Inlet to the northeast, and at Cape Krusenstern Lagoon northwest of the project site. The Baldwin Peninsula is located within a zone of continuous permafrost. The depth of the bottom of permafrost is probably between 200 and 300 feet. During the summer, the active permafrost layer extends two to four inches beneath the surface.[16] The prominent vegetation type on the Baldwin Peninsula is moist coastal tundra. Continuous, uniformly developed cotton grass tussocks with sparse groups of other sedges and dwarf shrubs dominate. Few trees grow in the area, particularly near Kotzebue. However, some stands can be found in the Noatak and Kobuk River drainages, and driftwood is scattered along the coast. Kotzebue residents collected various edible plants including greens, berries (cranberries, salmon berries, blue berries, and black berries), and roots. Cotton grass, wild rhubarb, and wild onion, wild peas, willow leaves, and sprouts are also traditionally gathered.[17]

The primary mineral development project on the Baldwin Peninsula is the Red Dog Mine, which is the world's largest zinc and lead mine. Mineral deposits are located in the DeLong Mountains, which are part of the Brooks Range. The Kobuk River Valley contains many placer gold deposits. On Jade Creek, gold and jade deposits can be found. The Ambler Mining District, east of Kotzebue, has vast deposits of jade, copper, and other minerals. The Noatak District, north of Kotzebue, contains gold deposits at Lucky Six Creek. The Selawik District, southeast of Kotzebue, has one reported gold operation on Shovel Creek, which was mined until shortly after World War II. Finally, the Shungnak District, east of Kotzebue, contains many placer gold deposits throughout several drainages.[18]

The coastal landscape of the North Slope is characterized by bays and inlets, lagoons with barrier islands, gravel and sandy shores, basins, shallow lakes, and deltas. Coastal plains are characterized by low terraces, floodplains, shallow lakes, and streams. Peat bluffs run about 40 miles southwest of Barrow's coastline. Soils are generally poorly drained sandy loams, peats, and marine sediments. The permafrost layer generally ranges from 650 to 1,300 feet deep. Coastal plains ecoregions are characterized broadly as nearshore wet tundra and river floodplains. Vegetation is extremely limited within these coastal areas, where grasses prevail.

Natural resources in the area include the expansive North Slope oil and gas fields, as well as several offshore oil and gas fields in the Beaufort and Chukchi seas. Production in the North Slope area began in the 1970s and reached a production rate of 2.2 million barrels per day by 1988. However, by 2007 production had declined to 720,000 barrels per day representing approximately 14% of U.S. domestic production at that time. By the end of 2007, the North

[16] The City of Kotzebue, Donahue, J., McClintock, B., and Kotzebue IRA Council. (2000). *City of Kotzebue Comprehensive Plan.* Retrieved August 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kotzebue-CP-2000.pdf.
[17] Ibid.
[18] Stoops, L. (2004). *Northwest Arctic Borough Comprehensive Economic Development Strategy.* Retrieved August 20, 2012 from: http://www.commerce.state.ak.us/dca/plans/NorthwestArcticBorough-EDP-2004.pdf.

Slope oil fields had produced 15.7 billion barrels of oil, with about 6.1 billion barrels of economically recoverable oil remaining. As of 2009, gas reserves of the North Slope were estimated at approximately 35 trillion cubic feet. However, long-term (2005 to 2050) optimistic assumptions estimate the total amount of economically recoverable oil to total 35 to 36 billion barrels and economically recoverable gas to total 137 trillion cubic feet. However, these projections are contingent on the opening of Area 1002 of the Arctic National Wildlife Refuge (ANWR) to extraction.[19]

Governance

The Northern Alaska region is governed by two boroughs: the Northwest Arctic Borough (Kotzebue Sound sub-region), and the North Slope Borough (North Slope sub-region). With the exception of Prudhoe Bay, all profiled communities within the region are incorporated into municipalities and have federally recognized Tribal governments and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporations. The regional ANCSA chartered Native corporation representing Northern Alaska include NANA Regional Corporation (Kotzebue Sound sub-region) and Arctic Slope Regional Corporation (North Slope sub-region). The regional ANCSA chartered non-profit corporations include Arctic Slope Native Association (North Slope sub-region), and Maniilaq Association (Kotzebue Sound sub-region).

In 2010, the North Slope Borough administered an 18.5 mills property tax. The Northwest Arctic Borough did not administer any taxes that year. No communities are eligible to participate in the federal Community Development Quota program.

Involvement in North Pacific Fisheries

As previously mentioned, the current Arctic FMP prohibits commercial fishing in federal waters. Most commercial fishing effort is concentrated on the Kotzebue Sound area in state waters, where a summer chum salmon season runs from July through August in the Noatak and Kobuk river systems. Small harvests of sockeye, Chinook, coho, and pink salmon also occur, but at a negligible level. Dolly Varden are, at times, incidentally harvested during the final weeks of the salmon season.[20] Commercial catches vary from year to year due to changes in migration patterns of chum salmon. Fishing usually begins in mid-July when fishermen in small outboard skiffs fish set gillnets. Kotzebue chum salmon are of high quality and are in high demand. Fish are typically dressed with heads on, iced, and transported to offshore Japanese freezer ships or shipped to Anchorage or Seattle markets. Commercial fisheries for Arctic char and inconnu (whitefish) also occur. Arctic char run later than salmon and are fished following the salmon season.

Funding for the State-owned Sikusuliaq Springs Fish Hatchery on the Noatak River was discontinued in 1983. The State had invested close to $20 million in capital improvement and

[19] U.S. Dept. of Energy. (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.

[20] Georgette, S. and Loon, H. (1993). *Subsistence Use of Fish and Wildlife in Kotzebue, a Northwest Alaska Regional Center.* Technical Paper No. 167. Alaska Dept. of Fish and Game. Retrieved August 22, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp167.pdf.

operating costs of the hatchery.[21] The hatchery closed in 1996, however runs continued until 2000.[22]

A commercial fishery for sheefish has operated in the Kotzebue Sound since the 1960s, but is historically small and does not contribute significantly to the local economy. In most years, sheefish quota was not met, and the fishery remained open throughout the winter. Fishermen use gill setnets under ice, and most commercial catch is sold to local residents or kept for personal use.[23] No sheefish have been fished commercially since 2005. The Alaska Department of Fish and Game (ADF&G) permits commercial harvests of freshwater species including whitefish, sheefish, char, northern pike, blackfish, and Arctic lamprey in the Northern Region, north of Point Hope. Arctic least cisco are commercially harvested within the Colville River delta (60 miles west of Prudhoe Bay) from October through November. [24]

As of 2010, there were no shoreside processors registered with ADF&G within the region, although several fish brokers were located in Kotzebue.[25] While landings were reported in Kotzebue that year, totals are considered confidential. In addition, despite commercial fishing permits being actively fished in Barrow, Kivalina, Kotzebue, and Noatak, landings were only reported by residents of Barrow. Again, landings made by residents are considered confidential.[26]

In 2010, residents held a total of 179 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC), 82.7% of which were held by residents of Kotzebue. Of those permits, only 39.1% were actively fished. Salmon accounted for 96.6% of total CFEC permits held in 2010, while freshwater finfish, crab, "other" shellfish, and herring making up the few remaining.[27] No residents held quota share for halibut, sablefish, or crab fisheries.[28]

Tourism is a rapidly growing industry in Kotzebue, driven in large part to sport hunting and fishing. To complement this growth, tourism infrastructure has been expanding. NANA

[21] Stoops, L. (2004). *Northwest Arctic Borough Comprehensive Economic Development Strategy.* Retrieved August 20, 2012 from: http://www.commerce.state.ak.us/dca/plans/NorthwestArcticBorough-EDP-2004.pdf.
[22] Eggers, D. M.; and Clark, J. H. (2006). *Assessment of Historical Runs and Escapement Goals for Kotzebue Area Chum Salmon.* Fishery Manuscript No. 06-01. Retrieved August 22, 2012 from: http://www.sf.adfg.state.ak.us/FedAidpdfs/fms06-01.pdf.
[23] Georgette, S. and Loon, H. (1993). *Subsistence Use of Fish and Wildlife in Kotzebue, a Northwest Alaska Regional Center.* Technical Paper No. 167. Alaska Dept. of Fish and Game. Retrieved August 22, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp167.pdf.
[24] Estensen, J. L., Hayes, S., Buckelew, S., Green, D., and Bergstrom, D. J. (2012). *Annual Management Report Yukon and Northern Areas 2010.* Alaska Department of Fish and Game. Fishery Management Report No. 12-23. Retrieved December 5, 2012 from: http://www.adfg.alaska.gov/FedAidpdfs/FMR12-23.pdf.
[25] 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.]
[26] 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.]
[27] 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.]
[28] 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.]

Regional Corp. opened a new 78 room hotel in Kotzebue in 2011.[29] Golden Eagle Outfitters provides guided sportfishing excursions, targeting Dolly Varden northern pike, sheefish, Arctic graying, and chum salmon.[30] Sheefish are a popular target for private anglers on the Kobuk River, as the river supports one of the largest sheefish populations in the world. Typically, private anglers based in Kotzebue will fly to remote locations on the Upper Kobuk River to target this species. The communities of Ambler and Kobuk are seasonally inundated with recreational fishermen, many of whom originate in Kotzebue or Bettles. Dolly Varden, northern pike, Arctic grayling, burbot, lake trout, and Arctic char are also popular targets within the Kobuk River watershed.[31] Outside the Kotzebue region, recreational fishing is less popular. For example, the communities if Point Lay, Wainwright, Nuiqsut, Prudhoe Bay, and Kaktovik did not have registered sport fish guide businesses between 2000 and 2010, and Barrow has not had one since 2005.

In 2010, there were three registered sport fish guide business in the Northern Alaska region: one in Kiana and two in Kotzebue. In that year, 730 sport fish guide licenses were sold in the region, 60.0% of which were sold in Kotzebue. In addition, 941 sportfishing licenses were held by residents; 44.7% of which were held in Kotzebue, and 33.4% of which were held in Barrow.[32]

Subsistence activities are extremely important to Northern Alaska residents. In the Kotzebue Sound region, The subsistence season begins each year at spring ice breakup, usually in May. During breakup, travel becomes increasingly difficult, and many residents move to seasonal subsistence camps on the coast northwest of Kotzebue before travelling on ice becomes unsafe. When the water becomes open enough to permit boat travel, local hunters go out in search of marine mammals, particularly bearded seal, but also ringed seal and walrus. Migrating waterfowl are also hunted, and their eggs are gathered when available. Near Kotzebue, residents continue to jig for sheefish on the last remnants of shoreside ice. As the ice clears, residents fish for herring, whitefish, and Dolly Varden. Beluga whale hunting also begins at this time. From a subsistence perspective, May through July is the busiest time of year for harvesting. With cool, dry weather, oil and "black meat" (half-dried bearded seal) is produced from harvested seal.[33]

Summer arrives in late June or July. At this time many residents turn their efforts towards salmon fishing for both subsistence and commercial purposes. Berry picking begins around this time, and many residents gather salmonberries, blueberries, blackberries, and cranberries. Incidental Dolly Varden harvesting begins in early August. Salmon fishing concludes around the end of August, while berry picking continues through September. Migrating caribou herds make their way through the area around the beginning of fall in late August. Both caribou and moose are hunted during this time. As sea ice begins to form in October, Kotzebue hunters pursue young bearded seals and spotted seals. Saffron cod (tomcod) are jigged on ice forming near

[29] Associated Press. (2011, August 31). NANA development opens new Kotzebue hotel. *Anchorage Daily News*. Retrieved August 22, 2012 from: http://www.adn.com/2011/08/31/2041468/nana-development-opens-new-kotzebue.html.
[30] Golden Eagle Outfitters. (n.d.). *Kotzebue*. Retrieved August 22, 2012 from: http://www.alaskawildernessexpeditions.com/kotzebue.html.
[31] Alaska Dept. of Fish and Game. (n.d.). *Northwest Drainages Management Area.* Retrieved August 22, 2012 from: http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorNorthwest.moreoverview.
[32] 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.]
[33] See footnote 23.

shorelines. During the winter, caribou, moose, ptarmigan, and hare are hunted. Wolf, wolverine, and fox are also hunted or trapped for furs. In early winter, nets are set under the ice in the Hotham Inlet to fish for sheefish. In late winter, sheep hunting takes place in the Baird Mountains, and moose, caribou, seal, and fur bearer hunting continues.[34] Coastal communities on the North Slope rely on bowhead whale, seal, walrus, beluga whale, salmon, whitefish, and arctic grayling. Rod and reel, gill net, and jigging are techniques used to harvest fish in the summer, while gill nets and jigs are used in the winter.[35] Whale hunts are a central part of Barrow's identity, and a focal point of cohesion and reciprocity within the community.[36]

In 2008, residents reported harvesting 843 salmon, 88.0% of which were reported by residents of Barrow. Sockeye accounted for 80.2% of salmon harvests reported for that year, while Chinook accounted for 18.6%.[37] It is important to note that reported harvests may not have occurred locally. Also in 2008, an estimated 27 walrus and 15 polar bear were harvested in the region, most by residents of Barrow.[38]

Regional Challenges

Challenges impacting Northern Alaska residents are largely tied to climate change and oil extraction. Expansion of oil development in the ANWR, particularly within the currently closed Area 1002, has become a source of conflict between proponents of development and those concerned with potential impacts to the local ecosystem and migratory caribou herds.[39] In addition, drilling operations within the Beaufort Sea can potentially pose risks to aquatic subsistence resources heavily relied upon by local communities.

Climate change, particularly sea ice retreat, is already impacting the availability of subsistence resources. Marine mammals dependent on sea ice (e.g., ice seals and walrus) retreat further offshore in search of suitable haul-out locations, making them more costly for subsistence hunters to harvest. As conditions continue to change, food chain disruptions may impact the abundance of subsistence resources across trophic scales. Communities' ability to predict and adapt to impacts from climate change is both crucial and challenging. Moreover, the risks to current Traditional Ecological Knowledge systems due to rapidly changing environmental conditions pose additional challenges to local adaptation.[40]

Some species may experience an increase in abundance as pack ice retreats. These include marine mammals such as beluga and bowhead whales, harbor and harp seals, and walrus.

[34] North Pacific Fishery Management Council. (2009). *Arctic Fishery Management Plan.* Retrieved January 3, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf
[35] Ibid.
[36] Polar Field Services. (n.d.). *Polar Field Services Newsletter.* Retrieved January 3, 2012 from: http://www.polarfield.com/blog/barrow-whaling/.
[37] 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.
[38] 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.
[39] U.S. Fish and Wildlife Service. *Arctic National Wildlife Refuge.* Retrieved December 5, 2012 from: http://www.fws.gov/refuges/profiles/index.cfm?id=75600.
[40] Chapin, F. S. III, et al. (2004). Resilience and Vulnerability of Northern Regions to Social and Environmental Change. *Ambio, 3*(6), pp. 344-349.

This may in turn have a beneficial impact on the subsistence economy. Sub-arctic fish populations, including whitefish, Northern pike, and lake trout, may experience changes to their range and availability. Depending on local conditions, these changes could come in the form of increases or declines in abundance.[41]

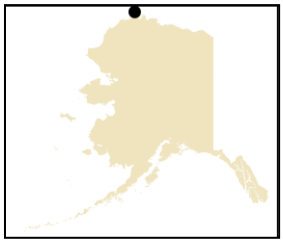
Finally, sea ice melt may alter climatic conditions in ways that could threaten community infrastructure. Changes in the seasonality of sea ice pack not only increases the frequency and intensity of fall and early winter storms, but leaves shorelines more exposed to erosion as well; as is occurring already in Kivalina.[42] If the rate of sea ice retreat continues to the point that seasonal shipping routes become viable, a unique set of challenges and opportunities may be imposed on communities in Northern Alaska. Already limited shipping is being undertaken along Russia's Northern Sea Route.[43]

[41] Gregory, R., Failing, L., & Leiserowitz, A. (2006). *Climate change impacts, vulnerabilities, and adaptation in Northwest Alaska* (No. 06-11). Eugene: Decision Research. Retrieved December 5, 2012 from: http://www.decisionresearch.org/Projects/Climate_Change/.

[42] Shearer, C. (2012). The Political Ecology of Climate Adaptation Assistance. *Journal of Political Ecology, 19*, pp. 174-183.

[43] The Arctic Institute. (2012). *The Future of Arctic Shipping.* Retrieved December 5, 2012 from: http://www.thearcticinstitute.org/2012/10/the-future-of-arctic-shipping.html.

Barrow (*BARE-row*)



People and Place

Location [44]

Barrow, the northernmost community in the United States, is located on the Chukchi Sea coast, 10 mi south of Point Barrow, from which it takes its name; and 725 mi northwest of Anchorage. The area encompasses 18.4 sq mi of land and 2.9 sq mi of water. Barrow was incorporated as a Fourth-class city in 1958. Today, the community is a First-class city and North Slope Borough seat.

Demographic Profile[45,46]

In 2010, there were 4,212 residents, ranking Barrow 27th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 21.4%. Between 2000 and 2009, the population fell by 10.1% with an average annual growth rate of -0.97%; which was somewhat lower than the statewide average of 0.75% and indicative of recovering growth following a steady decline between 2000 and 2007. According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the permanent population was estimated at 4,380 based on a household survey. In addition the estimated number of seasonal or transient workers living in Barrow was 30 to 50. Seasonal employment is primarily driven by construction projects in the area, and the seasonal population depends on when projects are available. Population peaks are not at all driven by employment in the fishing sectors, but rather by construction and tourism. Information regarding population trends can be found in Table 1.

Barrow's racial composition is relatively diverse, with a majority Inupiat Eskimo population. In 2010, 61.2% of residents identified themselves as American Indian and Alaska Native, compared to 57.2% in 2000. Also in that year, 16.9% the population identified themselves as White, compared to 21.8% in 2000; 9.1% identified themselves as Asian, compared to 9.4% in 2000; 8.7% identified themselves as two or more races, compared to 8.5% in 2000; 2.4% identified themselves as Native Hawaiian and Other Pacific Islander, compared to 1.4% in 2000; 1.0% identified themselves as Black or African American, compared to 1.0% in 2000; and 0.8% of the identified themselves as some other race, compared to 0.7% in 2000. In addition, 3.1% of residents identified themselves as Hispanic or Latino, compared to 3.3% in 2000. Information regarding racial and ethnic composition can be found in Figure 1.

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[44] 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.

[45] 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.

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

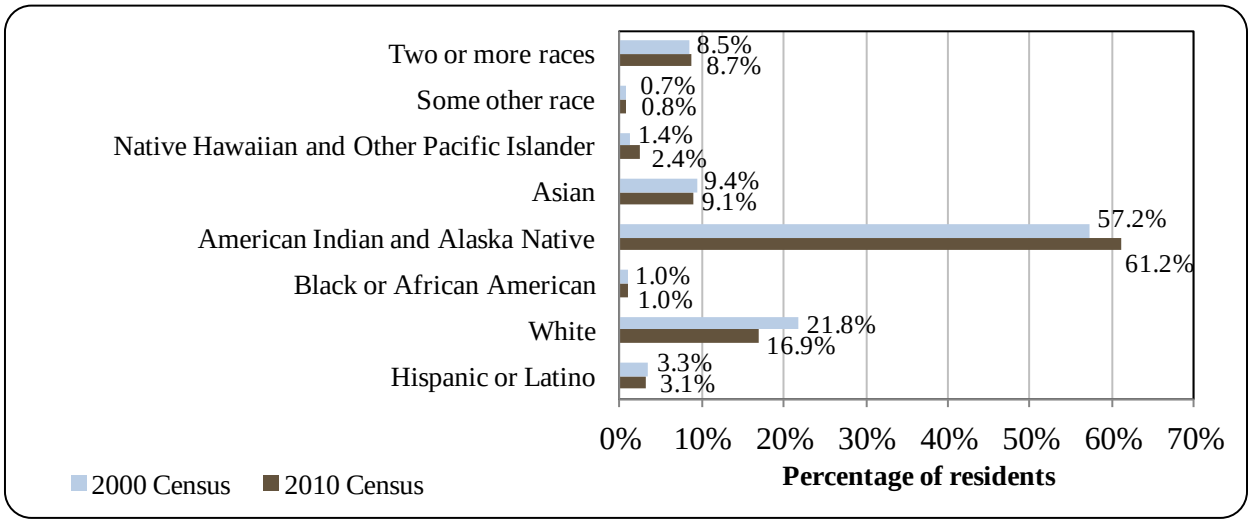
Table 1. Population in Barrow from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	3,469	-
2000	4,581	-
2001	-	4,443
2002	-	4,436
2003	-	4,412
2004	-	4,369
2005	-	4,180
2006	-	4,069
2007	-	4,036
2008	-	4,051
2009	-	4,119
2010	4,212	-

[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, Barrow: 2000-2010 (U.S. Census).

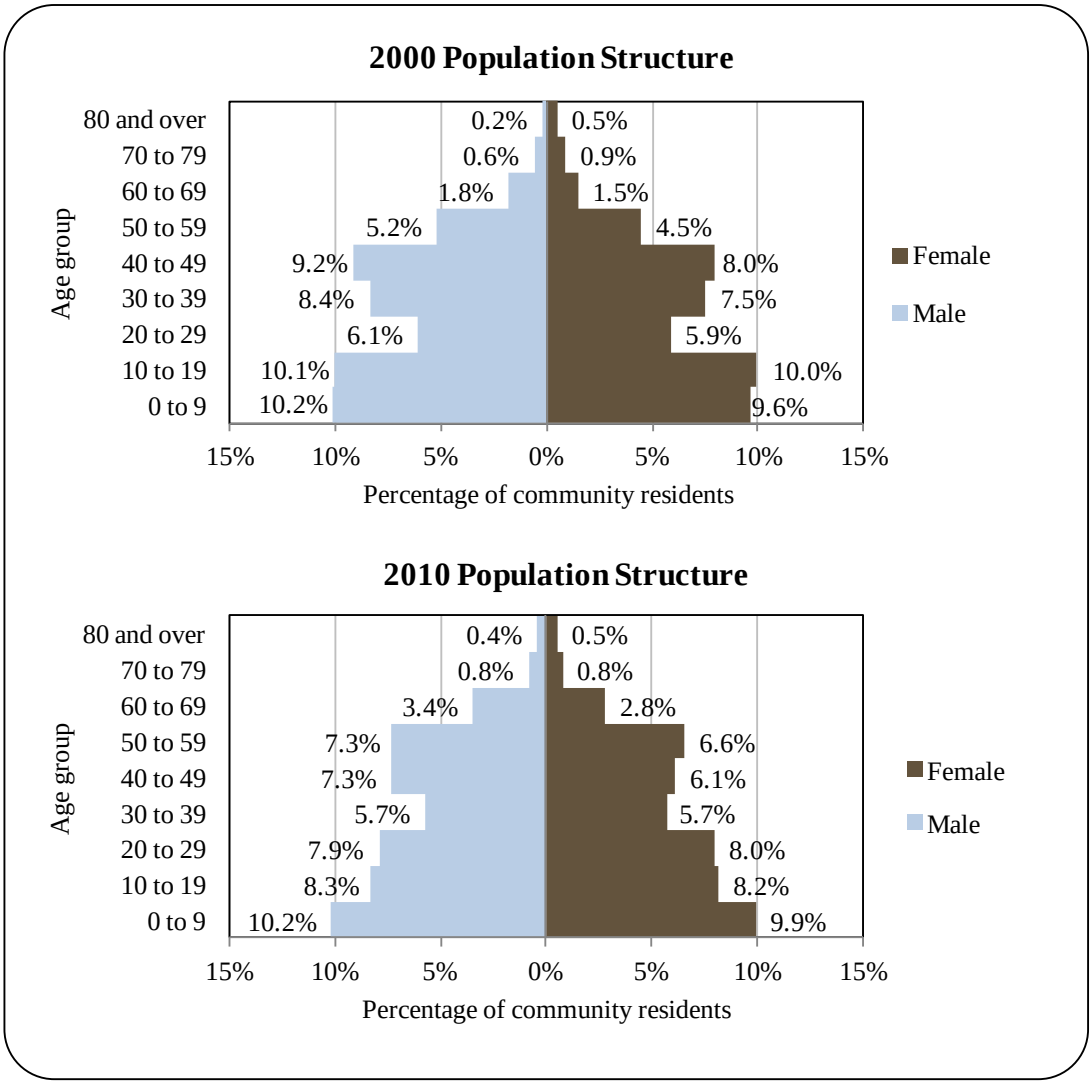


In 2010, the average household size was 3.26, compared to 3.2 in 1990 and 3.91 in 2000. In that same year there were 1,554 total housing units, compared to 1,184 in 1990 and 1,620 in 2000. Of the households surveyed in 2010, 33.8% were owner-occupied, compared to 34.5% in 2000; 48.5% were renter-occupied, compared to 50.1% in 2000; 12.3% were vacant, compared to 12.9% in 2000; and 5.3% were occupied seasonally, compared to 2.5% in 2000. In 2010, there were 34 people living in group quarters, compared to 13 in 1990 and 95 in 2000.

Gender distribution in 2010 was relatively even at 51.4% male, and 48.6% female. This was similar to both the distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (51.7% male, 48.3% female). The median age that year was 28.0 years, which was somewhat younger than the statewide median of 33.8 years and similar to the 2000 median of 28.8 years.

Overall, the population structure in both 2010 and 2000 was expansive. In addition, cohorts maintained their overall structure as they aged, indicating a stable population. In 2010, 36.6% of residents were under the age of 20, compared to 39.9% in 2000; 8.7% were over the age of 59, compared to 5.5% in 2000; 38.7% were between the ages of 30 and 59, compared to 42.8% in 2000; ann15.9% were between the ages of 20 and 29, compared to 12.0% in 2000.

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



Gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 40 to 49 range (7.3% male, 6.1% female), followed by the 50 to 59 (7.3% male, 6.6% female) and 60 to 69 (3.4% male, 2.8% female) ranges. Of those three, the greatest relative difference occurred in the 60 to 69 range. Information regarding trends in Barrow's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[47] estimated that 80.2% 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 7.1% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 12.7% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 25.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3.2% held an Associate's degree, compared to an estimated 8.0% of Alaska residents overall; an estimated 7.2% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 10.9% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[48]

While human habitation in the arctic can be traced to as early as 8,000 years ago, archaeological sites indicate habitation in the Barrow area from around 1,600 to 1,000 years ago. Inupiats traditionally depended on subsistence marine mammal hunting, supplemented by inland hunting and fishing. Archaeological remains of 16 dwelling mounds from the Birnirk culture exist today. Barrow was named for Sir John Barrow, the second Secretary of the British Admiralty. The city's Eskimo name is Ukpeagvik ("place where owls are hunted"). In 1881, the U.S. Army established a meteorological and magnetic research station near Barrow. The Cape Smythe Whaling and Trading Station was constructed there in 1893. A Presbyterian church was established in 1899, and a post office was opened in 1901. Exploration of the Naval Petroleum Reserve Number 4 (now National Petroleum Reserve in Alaska, NPR-A) began in 1946. The Naval Arctic Research Laboratory, 3 mi north of Barrow, soon followed. The city was incorporated in 1958. Formation of the North Slope Borough in 1972 and the Arctic Slope Regional Corporation, as well as construction of the Prudhoe Bay oilfields and Trans-Alaska Pipeline, have each contributed to the development of Barrow. Today, tax revenues from the North Slope oil fields fund borough-wide services. The sale of alcohol is prohibited.

Barrow has one property listed on the National Register of Historic Places (NRHP). The Cape Smyth Whaling and Tradition Station is a nineteenth-century American-built frame structure located around Point Barrow. In its day, it played a significant role in early commerce in the region as a whaling and fur-trading post.[49]

[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] 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.
[49] National Park Service. (n.d.) *National Register of Historic Places.* Retrieved December 29, 2011 from: http://nrhp.focus.nps.gov/natregsearchresult.do?fullresult=true&recordid=0.

Archaeological sites along the coast from Kotzebue to Barrow include Walakpa, Point Hope, and Cape Krusenstern. Birnirk houses and artifacts are nearly identical to those of the historic Inupiat people. Tool assemblages include ivory harpoon heads, flakes and blades, ulus, tool handles, and composite tool parts. Dwellings include semi-subterranean winter houses.[50]

Natural Resources and Environment

The climate of Barrow is arctic. Annual precipitation is light, averaging 5 inches, and annual snowfall is 20 inches. Temperatures range from -56 to 78 °F (-49 to 26 °C), with an average temperature of 40 °F (4 °C) during summer. The sun does not set between May 10th and August 2nd each summer and does not rise between Nov. 18th and January 24th each winter. The daily low temperature is below freezing for 324 days of the year. Prevailing winds are easterly and average 12 mph. The Chukchi Sea is typically ice-free from mid-June through October.[51]

The coastal landscape surrounding Barrow is characterized by bays and inlets, lagoons with barrier islands, gravel and sandy shores, basins, shallow lakes, and deltas.[52] Coastal plains are characterized by low terraces, floodplains, shallow lakes, and streams. Peat bluffs run about 40 mi southwest of Barrow's coastline. Soils are generally poorly drained sandy loams, peats, and marine sediments. The permafrost layer generally ranges from 650 to 1,300 ft deep. Coastal plains ecoregions are characterized broadly as nearshore wet tundra and river floodplains. Vegetation is extremely limited within these coastal areas, where grasses prevail. Upland areas closer to the Brooks Range to the south consist of dwarf shrubs and sedges.[53] Wildlife present in the North Slope region include many species of freshwater and marine fish, migratory birds, and terrestrial and marine mammals. Marine and freshwater fish species include arctic cisco, burbot, broad whitefish, arctic grayling, humpback whitefish, least cisco, pink, Chinook, and chum salmon, Dolly Varden char, round whitefish, four-horned sculpin, rainbow smelt, northern pike, arctic cod, capelin, arctic char, and lake trout.[54] Terrestrial mammals on the North Slope include caribou, polar bear, arctic fox, red fox, snowshoe hare, moose, black bear, grizzly bear, beaver, muskrat, lynx, mink, marten, land otter, weasel, wolverine, coyote, wolf, and Alaska tiny shrew.[55,56] Aquatic mammals include bowhead whales, gray whales, minke whales, humpback whales, beluga whales, narwhal, bearded seal, ringed seal, spotted seal, ribbon seal, and Pacific walrus.[57]

Natural resources in the area include the expansive North Slope oil and gas fields, as well as several offshore oil and gas fields in the Beaufort and Chukchi seas. Production in the North Slope area began in the 1970s and reached a production rate of 2.2 million barrels per day by

[50] U.S. Fish and Wildlife Service. (2011). Arctic Refuge Draft Comprehensive Conservation Plan. Retrieved December 30, 2011 from: http://arctic.fws.gov/pdf/ccp/06_Arctic_CH4_050911.pdf.
[51] See footnote 48.
[52] See footnote 50.
[53] Ibid.
[54] George, C. (2008). *Common Subsistence Fish of the North-Slope.* Retrieved December 30, 2011 from: http://www.north-slope.org/departments/wildlife/.
[55] See footnote 50.
[56] City of Barrow. (1970). *Barrow Plan.* Retrieved December 30, 2011 from: http://www.commerce.state.ak.us/dca/plans/Barrow-CP-1970.pdf.
[57] Alaska Department of Fish and Game. (n.d.). *Wildlife Action Plan: Appendix 4 – Marine Mammals.* Retrieved December 30, 2011 from: http://www.adfg.alaska.gov/static/species/wildlife_action_plan/appendix4_marine_mammals.pdf.

1988. However, by 2007 production had declined to 720,000 barrels per day representing approximately 14% of U.S. domestic production at that time. By the end of 2007, the North Slope oil fields had produced 15.7 billion barrels of oil, with about 6.1 billion barrels of economically recoverable oil remaining. As of 2009, gas reserves of the North Slope were estimated at approximately 35 trillion cu ft. However, long-term (2005 to 2050) optimistic assumptions estimate the total amount of economically recoverable oil to total 35 to 36 billion barrels and economically recoverable gas to total 137 trillion cu ft. However, these projections are contingent on the opening of Area 1002 of the Arctic National Wildlife Refuge (ANWR) to extraction.[58]

Natural hazards in the area include extensive coastal erosion due climate change and human impacts. Large amounts of gravel were removed from Barrow's shoreline during the 1960s in order to support local construction. This removal resulted in the destabilization of shorelines and subsequent erosion. In addition, shorter periods of ice-cover in the Beaufort and Chukchi seas have resulted in greater and prolonged impacts of storm surges and general tidal forces on coastlines.[59] Peat bluffs often experience the most rapid rate of erosion.[60]

Current Economy[61]

Barrow is the economic center of the North Slope Borough (the city's primary employer) and numerous businesses provide support services to oil field operations. State and federal agencies also provide employment. The midnight sun has attracted tourism, and arts and crafts provide some cash income. Many residents rely upon subsistence food sources; whale, seal, polar bear, walrus, duck, caribou, grayling, and whitefish are harvested from the coast or nearby rivers and lakes.[62] In a survey conducted by the AFSC in 2011, community leaders reported that Barrow's economy is reliant on oil and gas exploration and extraction. Top employers in 2010[63] were North Slope Borough, North Slope Borough School, Arctic Slope Native Assoc., Native Village of Barrow, Ilisagvik College, Ukpeagvik Inupiat Corp., City of Barrow, Barrow Utilities, Harpoon Construction Group, and AK Commercial Co.

In 2010,[64] the estimates per capita income was $25,528 and the estimates median household income was $78,250, compared to $22,902 and $67,097 in 2000, respectively. However, after adjusting for inflation by converting 2000 values to 2010 dollars,[65] the real per capita income ($30,116) and real median household income ($88,232) indicate a decline in both individual and household incomes. However, it should be noted that data are based on wage earnings and does not take into account the value of subsistence within the local economy. In

[58] U.S. Department of Energy. (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[59] See footnote 56.
[60] See footnote 50.
[61] Unless otherwise noted, all monetary data are reported in nominal values.
[62] See footnote 48.
[63] 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/.
[64] 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.
[65] 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).

2010, Barrow ranked 100th of 305 Alaskan communities from which per capita income was estimates, and 27th of 299 Alaskan communities from which median household income was estimated.

According 2006-2010 ACS estimates, 66.8% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 14.3%, compared to 5.9% statewide; and an estimated 14.5% of residents were living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Of those employed in 2010, an estimated 37.9% worked in the private sector, an estimated 60.4% worked in the public sector, and an estimated 1.7% were self-employed.

Barrow supported a diverse economy in 2010. By industry, most (27.1%) employed residents were estimated to work in public administration sectors; followed by education services, health care, and social assistance sectors (26.4%) and transportation, warehousing, and utilities sectors (9.0%). By occupation type, most (41.6%) employed residents were estimated to hold management or professional positions; followed by sales or offices positions (24.8%); service positions (20.9%); production, transportation, or material moving positions (7.1%); and natural resources, construction, or maintenance positions (5.6%). An estimated 4.1% of employed residents worked in agriculture, forestry, fishing, hunting, and mining sectors; although the proportion of employment derived from fisheries sectors cannot be determined. Between 2000 and 2010, there was a significant proportional decline in education services, health care, and social assistance sectors; while there were increases in public administration, professional, scientific, management, administrative, waste management, arts, entertainment, recreation, accommodations, and food service sectors. Information regarding employment trends can be found in Figures 3 and 4.

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

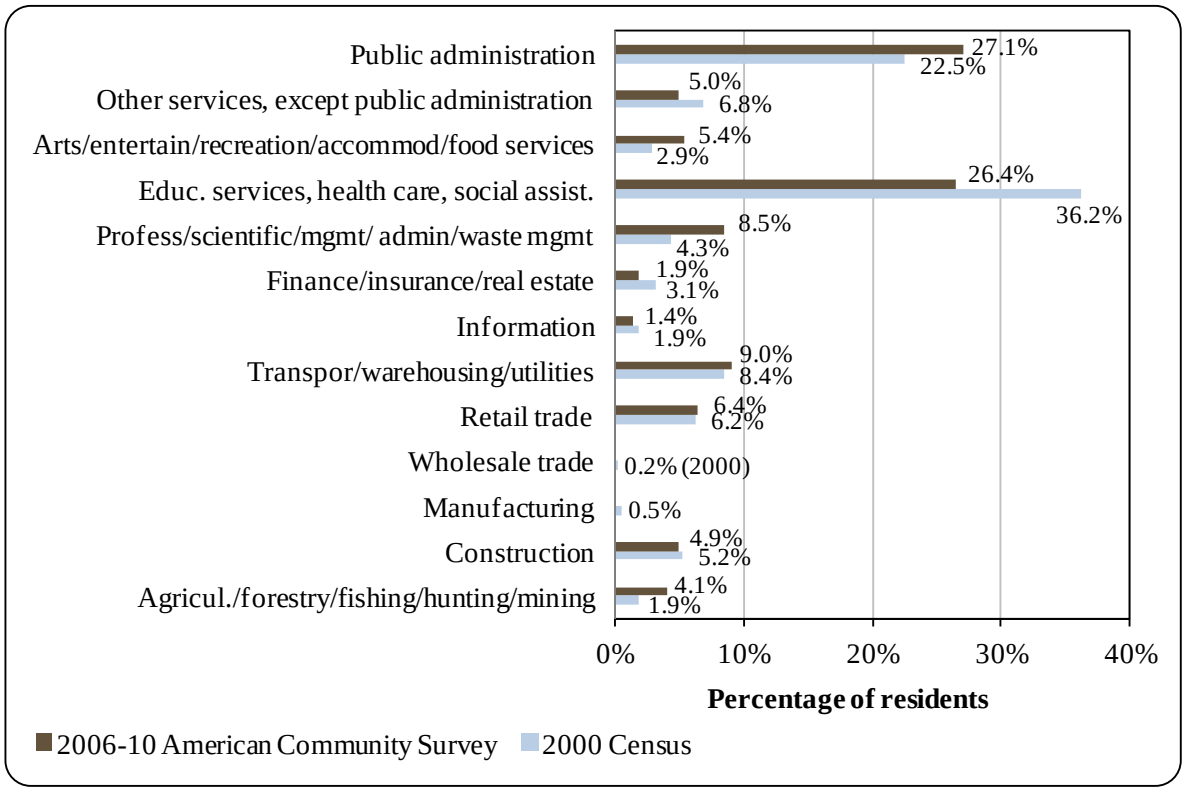
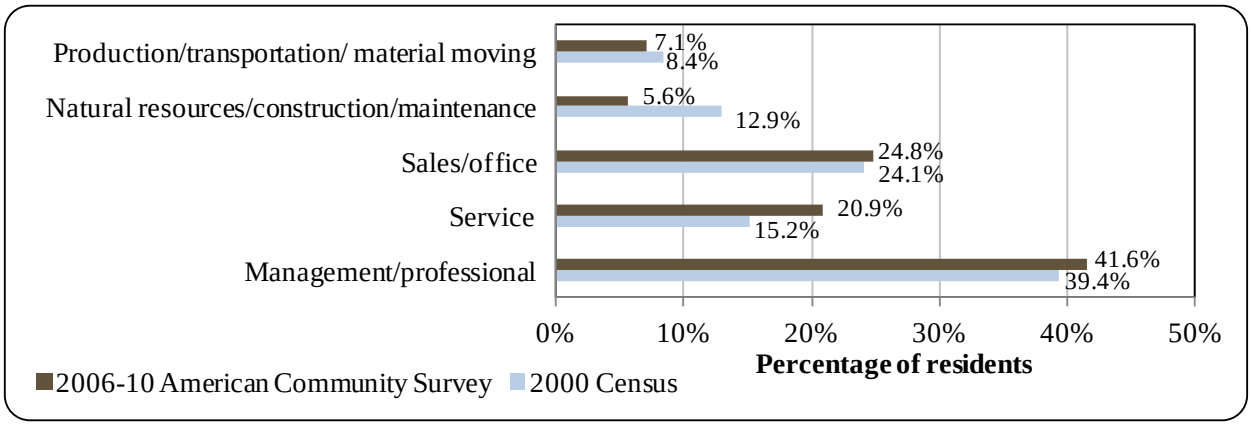


Figure 4. Local Employment by Occupation in 2000-2010, Barrow (U.S. Census).



According to the Alaska Local and Regional Information (ALARI) network compiled by the Alaska Department of Labor and Workforce Development (DOLWD),[66] most (54.1%) employed residents were estimated to work in local government sectors; followed by trade, transportation, and utilities sectors (9.0%); and professional and business service sectors (8.5%).

Governance

Barrow is a First-class city with a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized Tribal government (Native Village of Barrow), and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Ukpeagvik Inupiat Corporation). The regional ANCSA Native corporation representing Barrow is the Arctic Slope Regional Corporation. Other organizations located in the community include the Alaska Eskimo Whaling Commission, the Inupiat Community of Arctic Slope, and the North Slope Borough seat. The Alaska Department of Fish and Game (ADF&G) maintains an office in barrow. The closest U.S. Bureau of Citizenship and Immigration Services (BCIS) office is located in Fairbanks, 500 mi southeast. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage 725 mi southwest.

In 2010, the borough administered an 18.5 mills property tax, and the city administered a 5% accommodations tax, $1 tobacco tax, and 3% alcohol tax. Total municipal revenues increase by 76.3% between 2000 and 2010 (after adjusting for inflation[67]), thanks in large part to increases in the city's general fund and outside grants awarded. In 2010, most locally generated revenue came from tobacco taxes, property taxes, sales taxes, property leases, Barrow sales tax distribution center, and gaming revenues. Outside revenue came chiefly from Community Revenue Sharing, grants, and payments in lieu of taxes. In that same year, the community was allocated $301,812 in state allocated Community Revenue Sharing accounting for 8.0% of the municipal budget, compared to 1.7% from State Revenue Sharing in 2000. Between 2000 and 2010, Barrow received several state and federal fisheries-related grants including $4.0 million for several boat ramp projects, $1.25 million for several fish inventory, harvest, and health

[66] See footnote 63.
[67] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.

monitoring projects, and $109,000 for harbor upgrades. Information regarding community finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Barrow 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	$1,666,477	$0	$28,217	$1,250,000
2001	$1,678,279	$0	$28,217	$1,000,000
2002	$1,643,953	$0	$26,500	$209,000
2003	$1,573,133	$0	$26,500	n/a
2004	$1,381,242	$0	-	$956,620
2005	$2,221,776	$0	-	n/a
2006	$1,521,623	$0	-	n/a
2007	$3,552,092	$0	$309,957	n/a
2008	$4,835,833	$0	$265,968	n/a
2009	$4,694,038	$0	$304,923	n/a
2010	$3,799,695	$0	$302,812	$2,000,000

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

[1] Alaska Department of Community 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 Department of 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 Rev. (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 Community 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

Connectivity and Transportation

Regularly-scheduled jet services provide Barrow's only year-round access. The state-owned Wiley Post-Will Rogers Memorial Airport serves as the regional transportation center for the borough. The airport has a 6,500-ft long by 150-ft wide asphalt runway. Marine and land transportation provide seasonal access.[68] Roundtrip airfare between Barrow and Anchorage in June 2012 was $566.[69]

[68] 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.

[69] Airfare was calculated using lowest fare. Source: http://www.travelocity.com (retrieved November 22, 2011).

Facilities

Water is derived from a dam on Isatkoak Lagoon and is stored in a tank. Most residents have piped water. Funds have been requested to serve remaining houses and to construct a second water reservoir. The member-owned Barrow Utilities & Electric Cooperative operates the water and sewage treatment plants, generates and distributes electric power, and distributes piped natural gas for home heating. The North Slope Borough provides all other utilities. Refuse collection services are provided by the North Slope Borough. The Barrow Power Plant is fueled by natural gas. Businesses and services include several hotels, consulting and contracting services, internet services, community services, a church, and a restaurant.[70] Public safety services are provided by Borough policy and local state troopers. Fire and rescue services are provided by Borough volunteer fire department. Judicial services are provided by a local state magistrate. Additional public facilities include a youth center, community center, senior center, school gym, movie theater, museum, and one public and four school libraries.

In a survey conducted by the AFSC in 2011, community leaders reported that local infrastructure completed in the past 10 years includes sewage treatment facilities, and a new landfill. Infrastructure currently in progress or planned includes, harbor access roads, harbor dredging, broadband internet expansion, new dock space, community center/library expansion, and recreation center expansion. Currently there is no dock space available for permanent or temporary public moorage. Facilities are capable of handling regulated vessels including offshore rescue vessels, fuel barges, and container vessels. While there are no fisheries-related businesses or services in the community, a seafood processor is in the planning stages. Additional public services provided by the community include medical services, food bank, job placement services, public library, and a recreation center.

Medical Services[71]

There are both a hospital and a clinic in the community providing primary health care, acute care, and emergency care, and are Community Health Aid Program sites. Specialized care includes a substance abuse treatment center, and mental health services.

Educational Opportunities[72]

There are four schools operated through the borough school district. Barrow High School offers 9th through 12th grade instruction, and had 218 students enrolled and 19 teachers as of 2011. Eben Hopson Middle School offers 6th through 8th grade instruction, and had 202 students enrolled and 16 teachers as of 2011. Fred Ipalook Elementary offers preschool through 5th grade instruction, and had 638 students enrolled and 34 teachers as of 2011. Kiita Learning Community offers 6th through 12th grade instruction, and had 53 students enrolled and 5 teachers as of 2011. Ilisagvik College offers associate degrees and certificates in a range of vocational, health services, art, and business fields.

[70] City of Barrow. (n.d.). Retrieved December 30, 2011 from: http://www.cityofbarrow.org/content/view/13/19/.
[71] See footnote 68.
[72] 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

History of fisheries participation in the Barrow area dates back to almost 2,000 years ago, with the early Birnirk and Thule traditions. By 1867, commercial whaling was taking place along the Barrow coast, until markets declined in 1915. The introduction of outside whaling fleets radically changed traditional subsistence practices with the introduction of repeater rifles, and subsistence harvests rapidly increased.[73] Today, participation is limited mostly to subsistence and recreational fisheries. Commercial fishing is extremely limited in both the Beaufort and Chukchi Seas as the current Arctic Fishery Management Plan (FMP) allows only several small fisheries occurring in state waters.[74] Barrow is located in the Arctic Management Area for federal management. In a survey conducted by the AFSC in 2011, community leaders reported while there is no commercial fishing within the community, subsistence fishing is practiced from June through September. In addition, the community participates in fisheries management through the support of research organizations including the Barrow Arctic Science Consortium (BASC) and the National Science Foundation (NSF). Other local advocacy organizations include the Barrow Whaling Captains Association and Alaska Eskimo Whaling Commission.

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, there were no reports of fisheries-related revenue being collected in either Barrow or the North Slope Borough (Table 3).

Commercial Fishing

Commercial fishing is prohibited in federally regulated waters within the Arctic Management Area. Only in state regulated waters are their limited commercial fisheries, none of which were prosecuted in 2010 by residents of Barrow.[75] In 2010, 5 residents held a total of 7 permits issued by the Commercial Fisheries Entry Commission (CFEC), compared to 7 residents holding 8 CFEC permits in 2000 (Table 4). Salmon permits made up 71% while "other" shellfish permits made up the remaining CFEC permits issued that year. In 2000, 100% of CFEC were for salmon. Of the CFEC permits issued in 2010, a total of 71% were actively fished, compared to 63% in 2000. This varied by species from 100% of shellfish permits to 60% of salmon permits

[73] City of Barrow. (1970). *Barrow Plan.* Retrieved December 30, 2011 from: http://www.commerce.state.ak.us/dca/plans/Barrow-CP-1970.pdf.
[74] North Pacific Fishery Management Council. (2009). *Arctic Fishery Management Plan.* Retrieved January 3, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf
[75] Commercial Fisheries Entry Commission. (2010). *Preliminary Permit Activity for 2010*. Retrieved January 3, 2012 from: http://www.cfec.state.ak.us/gpbycen/2010/185392.htm

being fished that year. In 2010, salmon CFEC permits were fished in the Yakutat, Cook Inlet, and Bristol Bay set-gillnet fisheries. "Other" shellfish CFEC permits were fished in the southeast sea cucumber fishery. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFPs) or License Limitation Program (LLP) permits (Table 4). In addition, no residents held quota share for halibut, sablefish, or crab between 2010 and when the programs began. In 2010, four residents held commercial crew licenses, compared to six in 2000. In addition, residents held majority ownership of three vessels that year, compared to two in 2000. No landings were reported in Barrow between 2000 and 2010 and landings made by residents of Barrow are considered confidential (Tables 5 through 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Barrow: 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]	*$1.67 M*	*$1.68 M*	*$1.64 M*	*$1.57 M*	*$1.38 M*	*$2.22 M*	*$1.52 M*	*$3.55 M*	*$4.84 M*	*$4.69 M*	*$3.80 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 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, Barrow: 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	2
	Fished permits	0	0	0	0	0	0	0	0	0	0	2
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	1
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, Barrow: 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	8	7	6	6	7	7	8	8	7	6	5
	Fished permits	5	3	1	2	4	4	4	4	3	5	3
	% of permits fished	63%	43%	17%	33%	57%	57%	50%	50%	43%	83%	60%
	Total permit holders	7	6	5	5	6	7	7	9	7	6	4
Total CFEC Permits[2]	*Permits*	*8*	*7*	*6*	*6*	*7*	*7*	*8*	*8*	*7*	*6*	*7*
	Fished permits	*5*	*3*	*1*	*2*	*4*	*4*	*4*	*4*	*3*	*5*	*5*
	% of permits fished	*63%*	*43%*	*17%*	*33%*	*57%*	*57%*	*50%*	*50%*	*43%*	*83%*	*71%*
	Permit holders	*7*	*6*	*5*	*5*	*6*	*7*	*7*	*9*	*7*	*6*	*5*

[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 Barrow: 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 Barrow[2]	Total Net Pounds Landed In Barrow[2,5]	Total Ex-Vessel Value Of Landings In Barrow[2,5]
2000	6	0	0	2	0	0	0	$0
2001	6	0	0	1	0	0	0	$0
2002	4	0	0	2	0	0	0	$0
2003	4	0	0	2	1	0	0	$0
2004	6	0	0	2	0	0	0	$0
2005	6	0	0	1	0	0	0	$0
2006	7	0	0	3	0	0	0	$0
2007	6	0	0	2	0	0	0	$0
2008	6	0	0	2	0	0	0	$0
2009	5	0	0	2	0	0	0	$0
2010	4	0	0	3	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 Barrow: 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 Barrow: 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 Barrow: 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 Barrow: 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 Barrow 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

One sport fish guide business was active in Barrow in 2000 and 2004-2005, although it is not clear whether it was the same business in each of those years. Sport fish guide licenses were held between 2000 and 2005, although numbers were low. In 2010, 108 sportfishing licenses were sold in the community and a total of 314 residents held sportfishing licenses, compared to 74 and 238 in 2000, respectively. The number of sportfishing licenses sold to residents peaked in 2010, and was at its lowest in 2008 (228).

The community is located in the North Slope-Brooks Range ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages flowing into the Beaufort and Chukchi seas, north of the Brooks Range and east of Point Hope. Reports on total saltwater angler days fished between 2000 and 2010 are limited and trends are difficult to determine. In 2010, there were a total of 4,384 freshwater angler days fished, compared to 3,996 in 2000. In that year, non-Alaska residents accounted for 30.1% of freshwater angler days fished, compared to 13.1% in 2000. There is no kept/released charter information available for Barrow.

According to ADF&G Harvest Survey data, species targeted by private anglers in the area include all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, burbot, arctic grayling, Pacific halibut, rockfish, and razor clams. In a survey conducted by the AFSC in 2011, community leaders reported that recreational fishing within the community mainly targets Dolly Varden char, and pink and chum salmon. Sportfishing by residents is typically done by private vessel. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence fishing is an important part of Barrow's identity, culture, and economy. In a survey conducted by the AFSC in 2011, community leaders reported that species harvested include bowhead whale, seal, walrus, beluga whale, salmon, whitefish, and arctic grayling. Rod and reel, gill net, and jigging are techniques used to harvest fish in the summer, while gill nets and jigs are used in the winter.[76] Whale hunts are a central part of Barrow's identity, and a focal point of cohesion and reciprocity within the community.[77] According to the ADF&G *Community Subsistence Information System,*[78] species which Barrow residents harvest or use include bearded seal, bowhead whale, ringed seal, spotted seal, Arctic char, Arctic cod, Bering cisco, broad whitefish, burbot, capelin, flounder, grayling, humback whitefish, lake trout, least cisco, northern pike, rainbow smelt, round whitefish, saffron cod, and sculpin. Information on subsistence participation is limited, and data regarding the percentage of households participating in subsistence activities are unavailable.

Of the species listed by ADF&G in Table 13, sockeye salmon were harvested the most, followed by Chinook, coho, and chum salmon. In 2008, residents reported harvesting 742 salmon, compared to 231 in 2000. Salmon harvests peaked in 2005 when residents reported harvesting 780 fish. One Subsistence Halibut Registration Certificate (SHARC) between 2006 and 2010 although harvests were only reported in 2010. In that year, an estimated 800 lbs of halibut was harvested on 1 SHARC. Between 2000 and 2010, an estimated 43 beluga whales, 265 walrus, and 161 polar bears were harvested. Beluga whale harvests peaked in 2007 at an estimated 15 whales. Walrus harvests peaked in 2003 at an estimated 52 walrus. Polar bear harvests peaked in 2002 at an estimated 27 bears. Data on Steller sea lion, harbor seal, and spotted seal harvests are unavailable. Information regarding subsistence trend can be found in Tables 12 through 15.

[76] North Pacific Fishery Management Council. (2009). *Arctic Fishery Management Plan.* Retrieved January 3, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf
[77] Field Notes. (n.d.). *Barrow Whaling.* Retrieved from: http://www.polarfield.com/blog/barrow-whaling/.
[78] 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, Barrow: 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 Barrow[2]
2000	1	2	238	74
2001	0	1	242	80
2002	0	1	240	58
2003	1	2	240	40
2004	1	2	240	46
2005	1	1	256	55
2006	0	0	243	50
2007	0	0	242	41
2008	0	0	228	49
2009	0	0	252	82
2010	0	0	314	108

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	n/a	743	523	3,473
2001	n/a	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	n/a	96	1,131	2,084
2005	n/a	n/a	2,183	2,169
2006	18	341	495	2,609
2007	n/a	83	733	3,338
2008	140	n/a	990	4,469
2009	n/a	n/a	1,505	2,400
2010	n/a	n/a	1,319	3,065

[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, Barrow: 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, Barrow: 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	10	n/a	n/a	n/a	221	n/a	n/a
2001	15	13	17	n/a	n/a	n/a	382	n/a	n/a
2002	13	7	5	n/a	n/a	n/a	343	n/a	n/a
2003	11	11	14	n/a	n/a	n/a	322	n/a	n/a
2004	21	16	34	5	n/a	n/a	340	n/a	n/a
2005	13	10	192	n/a	75	n/a	513	n/a	n/a
2006	9	6	3	n/a	5	n/a	123	n/a	n/a
2007	7	6	41	n/a	5	n/a	251	n/a	n/a
2008	11	10	154	n/a	10	n/a	578	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, Barrow: 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	1	n/a	n/a
2007	1	n/a	n/a
2008	1	n/a	n/a
2009	1	n/a	n/a
2010	1	1	800

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, Barrow: 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	17	12	n/a	n/a	n/a
2001	1	n/a	36	16	n/a	n/a	n/a
2002	1	n/a	42	27	n/a	n/a	n/a
2003	2	n/a	52	23	n/a	n/a	n/a
2004	1	n/a	48	8	n/a	n/a	n/a
2005	7	n/a	13	19	n/a	n/a	n/a
2006	1	n/a	8	19	n/a	n/a	n/a
2007	15	n/a	14	12	n/a	n/a	n/a
2008	10	n/a	24	11	n/a	n/a	n/a
2009	2	n/a	10	8	n/a	n/a	n/a
2010	2	n/a	1	6	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.

Kaktovik (*kack-TOH-vick*)

People and Place

Location

Kaktovik, also known as Qaaktugvik, lies on the north shore of Barter Island, between the Okpilak and Jago Rivers on the Beaufort Sea coast.[79] The community is 360 miles east of Barrow, 72 miles west of the U.S.-Canadian border, and 640 miles north of Anchorage. It lies on the coast of the Arctic National Wildlife Refuge (ANWR). Kaktovik is located in the North Slope Borough and the Barrow Recording District. The area encompasses 0.8 square miles of land and 0.2 square miles of water.[80]

Demographic Profile [81]

In 2010, there were 239 residents in Kaktovik, ranking it as the 181st largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population increased by 6.7%. According to Alaska Department of Labor estimates, between 2000 and 2009, the average annual growth rate -0.81%, reflecting small increases and decreases and an overall stable population during the decade. In 2010, the majority of Kaktovik residents identified themselves as American Indian and Alaska Native (54.1%), while 33% identified themselves as White, and 12.8% as two or more races. In addition, 3.7% of residents identified themselves as Hispanic or Latino 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.

From 1990 to 2010, the average household size in Kaktovik stayed quite stable, decreasing very slightly from 3.30 in 1990 to 3.29 in 2000 and 2010. In 2010, there were a total of 72 occupied housing units in Kaktovik, compared to 89 in 2000 and 67 in 1990. Of a total of 87 housing units surveyed for the 2010 U.S. Decennial Census, 47% were owner-occupied, 35.6% were renter-occupied, and 17.2% were vacant or used only seasonally. No residents were reported to live in group quarters in 1990 or 2000, while two were recorded to be living in group quarters in 2010.

[79] North Slope Borough Risk Management Division. 2003. *City of Kaktovik Local All Hazard Mitigation Plan*. Retrieved August 23, 2012 from http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Kaktovik_Final_HMP.pdf.

[80] 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.

[81] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 1990 and 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.

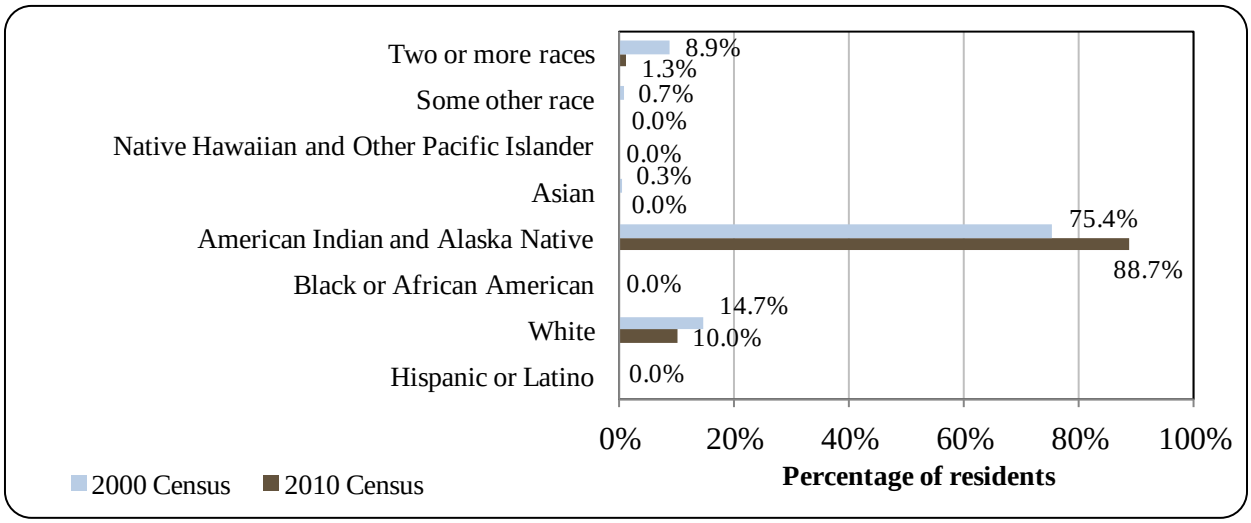
Table 1. Population in Kaktovik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	224	-
2000	293	-
2001	-	279
2002	-	306
2003	-	296
2004	-	285
2005	-	276
2006	-	288
2007	-	286
2008	-	274
2009	-	286
2010	239	-

[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.

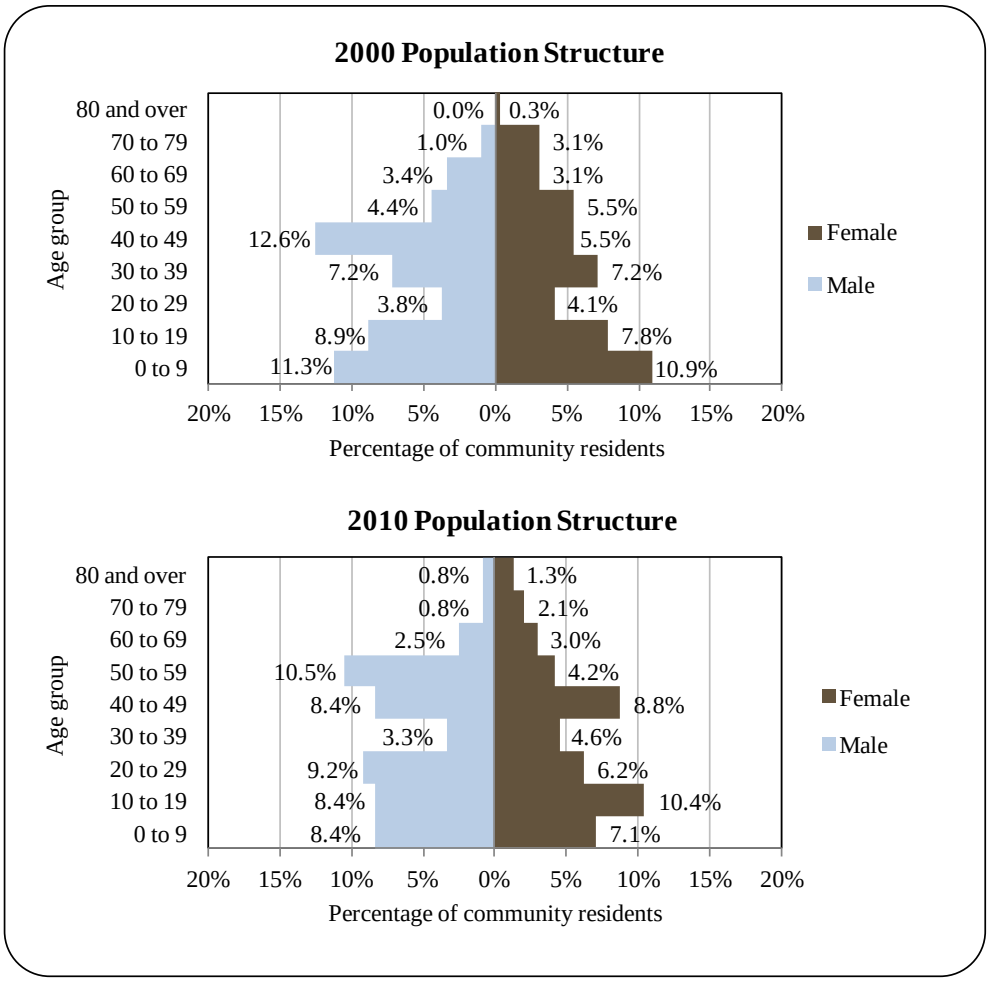
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

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



In 2010, the gender makeup in Kaktovik was 52.3% male and 47.7% female, very similar to the makeup of the state population as a whole (52% male, 48% female). The median age was estimated to be 30.5 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 10.5% of the Kaktovik population was age 60 or older. The overall population structure of Kaktovik in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Kaktovik 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)[82] estimated that 58.4% 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, 28.3% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 13.4% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 13.7% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 1% of residents held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall.

[82] 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

Until the late nineteenth century, the island on which Kaktovik is located – Barter Island – was a major trade center for the Inupiat. It was especially important as a bartering place for Inupiat from Alaska to trade with Inuit from Canada.[83] During the 1890s and early 1900s, Kaktovik was an important stop for commercial whalers, and remained a key trading point for residents of the region who came to rely on trade goods provided by the whalers such as food, utensils, firearms, and alcohol. By the 1900s, foodstuffs such as flour and molasses had become necessities for the local Inupiat people.[84]

Whaling had been the first commercial industry to enter the Arctic, and when bowhead whaling came to an end around 1910, the Inupiat experienced the first in a series of boom and bust cycles. The next industry to enter the region was fur trapping, which brought a new source of income beginning in the 1920s. A permanent settlement was first established at Kaktovik in 1923, when Tom Gordon established a fur trading post at the site for the H.B. Liebes Company of San Francisco. However, the price of fox fur dropped in the late 1930s and the industry declined in importance. Another industry that was attempted during this time period involved reindeer herding within what is now the ANWR. Semi-domesticated reindeer[85] had been brought into western Alaska from Siberia in an effort to provide a stable economy for the local people and prevent food shortages. However, most of the herd starved during the severe winters of 1936 and 1937. Others were killed during that time to provide food and clothing for local residents who were also close to starvation during those years, according to a Bureau of Indian Affairs (BIA) survey conducted in the spring of 1936. In late 1937, 3,000 additional reindeer were transferred from Barrow to Barter Island in one more attempt to establish the herd, but the herd diverted course and returned back to Barrow, taking the remnants of the Barter Herd with it. Kaktovik residents were discouraged and killed the few remaining animals, bringing the era of reindeer herding in ANWR to a close.[86]

Trading posts throughout the Arctic region began to shut down after the decline of the fur trade, and the last of the trading posts had closed by 1943. In the case of Barter Island, the trading post closed in 1938 following Tom Gordon's death. Without a local source of supplies, Kaktovik residents were forced to travel to Canada for trade, and some moved to Canada permanently. Some wage employment came to the region when the U.S. Coast and Geodetic Survey began mapping the Beaufort Sea coastline in 1945. Villagers were forced to relocate in the 1940s due to installation of a Distant Early Warning system and contribution of a U.S. Air force runway and hangar. They were forced to relocate again in 1951, when the area surrounding Kaktovik was made a military reserve. With another relocation in 1964, villagers finally received title to the village site, and government services began to create some stable jobs in the area.[87] The City of Kaktovik was incorporated in 1971. Today, the village maintains its Inupiat Eskimo traditions, in part due to its isolation. The possession of alcohol is banned in the village.[88]

[83] 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.
[84] Arctic Circle, University of Connecticut. *The Inupiat Eskimo of Kaktovik, Alaska – Cultural History*. Retrieved May 14, 2012 from http://arcticcircle.uconn.edu/ANWR/anwrculthistory.html
[85] The semi-domesticated reindeer were the same species as the local caribou. (See footnote 84.)
[86] See footnote 84.
[87] Ibid.
[88] See footnote 83.

Natural Resources and Environment

The climate of Kaktovik is arctic. Temperatures range from -56 to 78 °F. Precipitation is light, averaging 5 inches, with snowfall averaging 20 inches.[89] Kaktovik is located at the northern boundary of the ANWR, a wilderness area that covers 19,286,722 acres and contains calving grounds for both the Central Arctic and Porcupine Caribou Herds.[90] The coastal marine region of ANWR is characterized by salt marshes, lagoons, barrier islands, beaches and river deltas that are important to polar bears, fish, and migratory birds.[91] ANWR contains a diversity of ecosystems and animals and plant life, including polar, grizzly, and black bears, wolves, lynx, wolverine, red fox, moose, muskox, Dall sheep, beaver, and other small mammals.[92] Residents of Kaktovik use areas in ANWR and adjacent waters for subsistence harvest. In particular, bowhead whale, caribou, Dall sheep, muskoxen, and various fish species are essential food sources for the Kaktovikmiut (people of Kaktovik).[93]

ANWR is currently closed to oil and gas drilling activities under Section 1003 of the Alaska National Interest Lands Conservation Act (ANILCA).[94] Estimates of recoverable oil in ANWR range between 4.2 and 11.8 billion barrels.[95] In village meetings conducted to inform the North Slope Borough's 2004 Comprehensive Plan, Borough residents expressed concerns about current and cumulative effects of oil and gas development on subsistence resources and harvest activities. More specifically, their concerns centered on habitat fragmentation, disruption of migration routes and pathways for fish and wildlife, disturbance and deflection of wildlife from traditional harvest areas, restrictions or exclusions of Borough residents from areas traditionally used for harvest, cumulative contamination, and potential catastrophic events such as oil spills.[96]

Offshore, initial oil and gas exploration in the outer continental shelf (OCS) of the Beaufort Sea began in 1981, and a total of 20 wells were drilled by 1989. The Bureau of Ocean Energy Management (formerly Minerals Management Service) held six sales in the Beaufort OCS between 1991 and 2007, resulting in the leasing of 1,742,987 acres. After reevaluation of their Beaufort Sea exploration plan due to a 2007 lawsuit, and numerous appeals by Native communities and environmental groups during the permitting process,[97] Shell began drilling exploratory wells in non-petroleum zones on October 3rd, 2012. Before Shell could receive final authorization to drill in petroleum zones, its spill response barge was required to be in place. The

[89] Ibid.
[90] U.S. Fish and Wildlife Service. 2011. *Arctic National Wildlife Refuge*. Retrieved March 2, 2012 from http://arctic.fws.gov/.
[91] U.S. Fish and Wildlife Service. 2011. *A Sense of the Refuge – Arctic National Wildlife Refuge*. Retrieved August 23, 2012 from http://arctic.fws.gov/pdf/senseofrefuge.pdf.
[92] See footnote 90.
[93] Arctic Slope Regional Corporation. 2012. *Communities: Kaktovik*. Retrieved August 23, 2012 from http://www.asrc.com/Communities/Pages/Kaktovik.aspx.
[94] Arctic Refuge Draft Comprehensive Conservation Plan. Retrieved December 30, 2011 from: http://arctic.fws.gov/pdf/ccp/06_Arctic_CH4_050911.pdf.
[95] U.S. Dept. of Energy. (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[96] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[97] Bailey, Alan. October 2011. "One More Step for Shell: EPA Issues Shell's air permit for the Kulluk to drill in Beaufort Sea in 2012." *Petroleum News* 16(44). Retrieved March 1, 2012 from http://www.petroleumnews.com/pntruncate/183741151.shtml.

barge was damaged in September, but was expected to be in place in time for the 2013 drilling season.[98] The proposed 2012-2017 OCS oil and gas leasing program also schedules one additional lease sale in the Beaufort Sea planning area.[99]

The impact of oil and gas development activities on marine subsistence resources has been the focus of considerable research. There is evidence that off-shore activities are disrupting migratory patterns of bowhead whales, causing difficulty for whalers from Kaktovik and other villages in the area that depend on harvest of these animals.[100] A 3-year study confirmed the reports of local elder and whaling captains that migrating bowhead whales deflect around seismic noise at a minimum distance of 20 kilometers (12 miles).[101]

Natural hazards that present a high risk to the community of Kaktovik coastal and river erosion, coastal storm surges, snow and avalanche, tsunami, and severe weather events. The community is also at low risk of wildland fire, earthquakes, and flooding.[102] Storm surges cause almost annual flooding to the runway in Kaktovik. Storm surges, or coastal floods, occur when the sea is driven inland above the high-tide level onto land that is normally dry. Often, heavy surf conditions driven by high winds accompany a storm surge adding to the destructive force of the flooding waters. The conditions that cause coastal floods also can cause significant shoreline erosion as the floodwaters undercut roads and other structures. Storm surges have flooded the Barter Island Runway on multiple occasions, in some cases causing the airport to close for several days, blocking all transport of persons and supplies in and out of the community.[103] The community is also very vulnerable to power breakdowns associated with extreme weather events or other problems such as fuel supply. Outages during winter storms can result in significant damage and present a threat to public health and safety.[104]

As of August, 2012, no contaminated sites were reported near Kaktovik by the Alaska Department of Environmental Conservation's Spill Prevention and Response program.[105] However, local communities are concerned about pollution from military and oil and gas exploration and production activities. Kaktovik and five other communities in the North Slope Borough have restoration advisory boards to work with the local community during cleanup of contaminated sites.[106]

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[98] Associated Press. October 3, 2012. "Shell Begins Beaufort Sea Drilling Off Alaska's North Coast." *Huffington Post*. Retrieved October 19, 2012 from http://www.huffingtonpost.com/2012/10/04/shell-beaufort-sea-drilling_n_1937715.html.

[99] 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.

[100] See footnote 96.

[101] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.

[102] North Slope Borough Risk Management Division. 2003. *City of Kaktovik Local All Hazard Mitigation Plan*. Retrieved August 23, 2012 from http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Kaktovik_Final_HMP.pdf.

[103] ASGC Incorporated. August 2005. *North Slope Borough Comprehensive Transportation Plan*. Prepared for the North Slope Borough. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/information/comp_plan/TransportationPlan_Final.pdf.

[104] See footnote 96.

[105] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved August 22, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

[106] See footnote 101.

Current Economy[107]

Because of Kaktovik's isolation from the rest of Alaska, economic opportunities are limited and there is high local unemployment. A majority of jobs are provided by the school district, the North Slope Borough, and the City of Kaktovik. In addition, part-time seasonal jobs provide some wage income, such as construction projects. The community relies heavily on subsistence harvest, with particular focus on caribou.[108] The economy of Kaktovik may drastically change in the years to come, as the community is at the epicenter of the oil drilling debate unfolding in ANWR.

Based on household surveys conducted for the 2006-2010 ACS,[109] in 2010, the per capita income in Kaktovik was estimated to be $17,799 and the median household income was estimated to be $46,458. This represents a decrease from the per capita and median household incomes reported in the year 2000 ($22,031 and $55,625, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,[110] the income decrease is revealed to be even larger, falling from a real per capita income of $28,970 and a real median household income of $73,146 in 2000. In 2010, Kaktovik ranked 171st of 305 Alaskan communities with per capita income data that year, and 156th in median household income, out of 299 Alaskan communities with household income data.

However, Kaktovik's small population size may have prevented the ACS from accurately portraying economic conditions.[111] 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 Kaktovik in 2010 is $17,192.[112,113] This estimate is very close to the 2006-2010 ACS estimate, providing additional evidence for a decrease in per capita income between 2000 and 2010. Kaktovik was not recognized as a "distressed" community by the Denali Commission in 2011.[114] 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.

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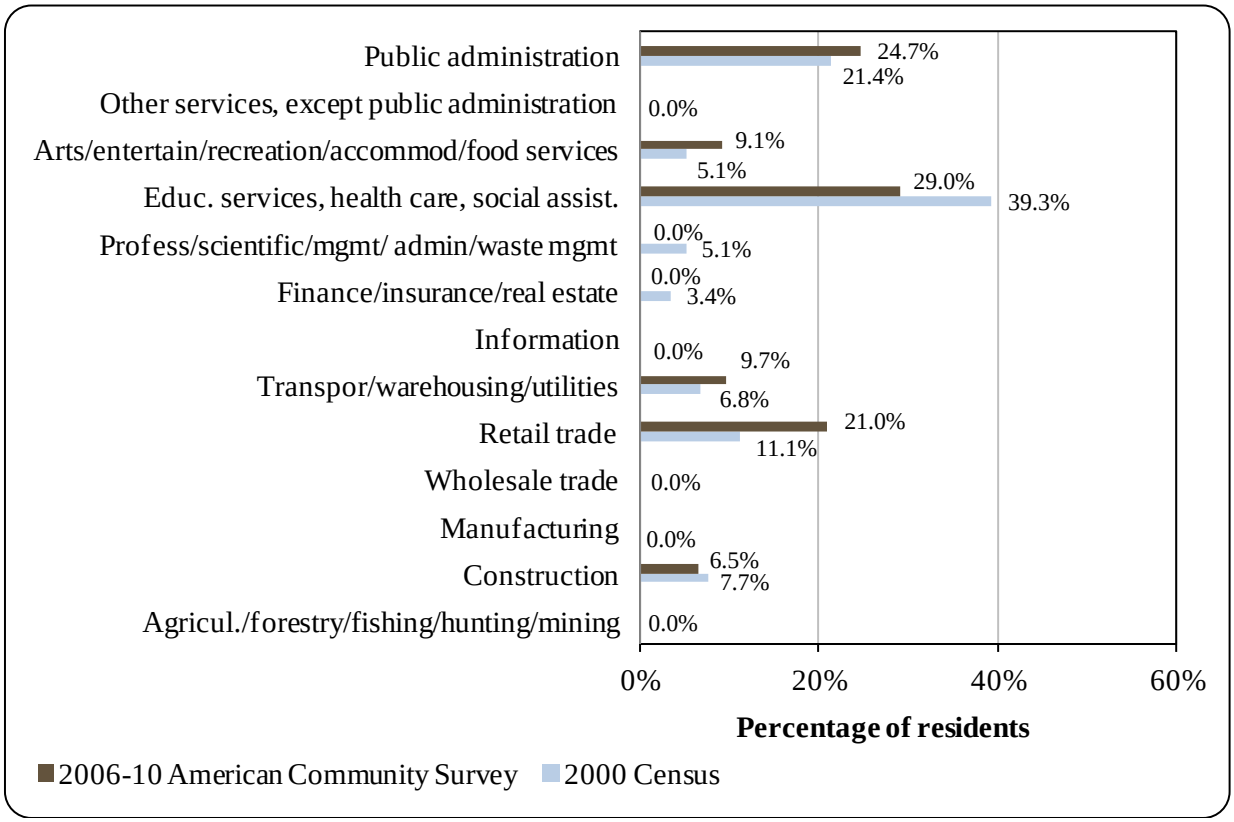
[107] Unless otherwise noted, all monetary data are reported in nominal values.
[108] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[109] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 1990 and 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.
[110] 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).
[111] 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.
[112] 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/.
[113] See footnote 109.
[114] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

Based on the 2006-2010 ACS, in 2010, a much smaller percentage of Kaktovik's population (47.6%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 13.3% of Kaktovik residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Kaktovik was estimated to be 15.5%, more than twice the state 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 9.7%, compared to a statewide unemployment rate estimate of 11.5%.[115]

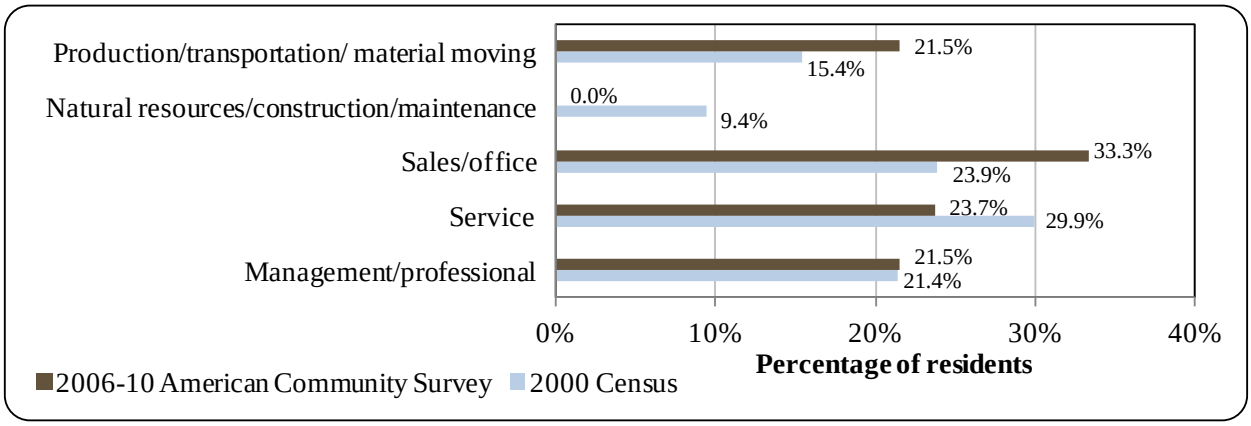
Also based on the 2006-2010 ACS, a majority of Kaktovik's workforce was estimated to be employed in the public sector (72.6%), along with 27.4% in the private sector. Of the 224 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in educational services, health care, and social assistance (29%), public administration (24.7 %), and retail trade (21%). The largest differences between 2000 and the latter part of the decade manifested as elimination of employment in the finance/insurance/real estate and professional/scientific/management industries. In addition, a comparable decrease was seen in the educational/health care/social assistance sector when compared to the increase in employment in the retail trade industry. This 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, Kaktovik (U.S. Census).



[115] See footnote 112.

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



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 142 employed residents in Kaktovik in 2010, of which 67.6% were employed in local government, 15.5% in financial activities, 9,2% in professional and business services, 2.8% in trade, transportation, and utilities, 2.8% in leisure and hospitality, 0.7% in construction, 0.7% in natural resources and mining, and 0.7% in education and health services.[116] 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

Kaktovik was incorporated in 1971 as a 2nd Class City and is located in the North Slope Borough. The City has a "Strong Mayor" form of government, with a seven-person city council including the Mayor, a seven-person school board, and several municipal employees. The City does not administer any taxes, although an 18.5 mills property tax is collected by the Borough.[117] Annual municipal revenue reported for Kaktovik stayed relatively stable from 2000 to 2010, varying from a low of $802,154 in 2008 to a high of $1,073,460 in 2010.

According to a 2006 Economic Review, up to 2005, the two largest sources of local revenue had been bingo operations and other local revenues including revenue from interest earnings, sale of assets, capital equipment and donations.[118] No sales tax revenues were reported during the period, given that Kaktovik does not collect a sales tax. Locally-generated revenue sources in Kaktovik during the 2000-2010 period included building rentals, land leases, concessions and recreation sale items, gaming revenues including bingo and pull tab receipts, and revenues from local enterprises such as cable TV connection. Outside revenue sources included state grants and shared funds. from The community receive between $31,000 and $40,000 per year in State Revenue Sharing contributions from 2000 to 2003, as well as approximately $110,000 per year in Community Revenue Sharing contributions in 2009 and

[116] Ibid.
[117] 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.
[118] Northern Economics Inc. April 2006. *North Slope Economy, 1965 to 2005, Final Draft*. Prepared for the Minerals Management Service, OCS Study MMS 2006-020. Retrieved February 29, 2012 from http://www.alaska.boemre.gov/reports/2006rpts/2006_020.pdf.

2010. In addition, Kaktovik received several fisheries-related grants between 2000 and 2010. The U.S. Army Corps of Engineers awarded the community $250,000 in 2000 for harbor and breakwater construction, and the State of Alaska provided $10,000 to $20,000 per year from 2000 to 2008 for work on the Kaktovik boat dock. For more information on selected municipal, state, and federal revenue streams see Table 2.

Kaktovik 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 Kaktovik Village. The Native village corporation is the Kaktovik Iñupiat Corporation, which manages 92,160 acres of land. All of the Village corporation's land is within the boundaries of ANWR. The regional Native corporation to which Kaktovik belongs is the Artic Slope Regional Corporation.[119]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kaktovik 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)[1,5]
2000	$932,037	n/a	$32,900	$260,000
2001	$792,674	n/a	$31,322	$10,000
2002	$878,050	n/a	$31,537	$20,000
2003	$779,785	n/a	$40,000	$20,000
2004	$751,934	n/a	n/a	$20,000
2005	$613,529	n/a	n/a	$20,000
2006	$727,703	n/a	n/a	$10,000
2007	$828,711	n/a	n/a	$10,000
2008	$701,531 [6]	n/a	n/a	n/a
2009	$1,041,876	n/a	$110,790	n/a
2010	$720,534 [6]	n/a	$109,875	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.
[6]This number is drawn from the year's budget rather than the certified financial statement.

Kaktovik is also a member of the Arctic Slope Native Association (ASNA), a tribal 501(c)(3) non-profit organization headquartered in Barrow. The ASNA is one of the 12 regional Alaska Native 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

[119] See footnote 117.

regions.[120] The ASNA works alongside the federal Indian Health Service to provide health and community services to Native communities in the region. In 1986, ASNA took over operation of the regional hospital in Barrow. In 2009, ASNA announced plans for a new hospital in Barrow with an expanded space and range of services, to be completed by 2013.[121,122]

The closest office of the Alaska Department of Fish and Game (ADF&G) is located in Barrow. The closest office of the Alaska Department of Commerce, Community, and Economic Development is located in Kotzebue, and the closest office of the Alaska Department of Natural Resources and U.S. Bureau of Citizenship and Immigration Services are located in Fairbanks, although the Anchorage offices of these agencies may be equally accessible by air to people of this region. The closest office of the National Marine Fisheries Service (NMFS) is located in Anchorage.

Infrastructure

Connectivity and Transportation

Air travel provides the only year-round access to Kaktovik. In addition to serving as a crucial link for passengers and cargo, aviation is also the primary means by which Kaktovik residents receive mail. The Barter Island Airport is owned by the Air Force and operated by the North Slope Borough.[123] The price of a roundtrip ticket by plane from Barter Island to Anchorage in early June of 2012 was $706.[124] The existing airport is affected by severe erosion problems. According to the 2005 Barter Island Airport Master Plan, plans were under consideration to relocate the airport to a higher site near the community landfill.[125]

Kaktovik is currently isolated from regional road networks. As of 2005, 9.9 miles of gravel roadways were recorded in and around Kaktovik. At that time, the community Kaktovik requested several small road extensions and improvement projects, as well as a bridge that could provide year-round access to the mainland and provide a future possible link to the regional road network. Although there had been some discussion regarding the possibility of a road connection from Kaktovik to Prudhoe Bay or the Dalton Highway (approximately 110 miles), support for

[120] 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.
[121] Samuel Simmonds Memorial Hospital website. (n.d.). *Home page.* Retrieved February 29, 2012 from http://www.arcticslope.org/hospital.html.
[122] Guedel, G.. December 17, 2009. "Arctic Slope Native Association Launches Major Native Hospital Construction Project." *Native American Legal Update*. Retrieved February 29, 2012 from http://www.nativelegalupdate.com/2009/12/articles/arctic-slope-native-association-launches-major-native-hospital-construction-project/.
[123] ASGC Incorporated. August 2005. *North Slope Borough Comprehensive Transportation Plan*. Prepared for the North Slope Borough. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/information/comp_plan/TransportationPlan_Final.pdf.
[124] Airfare was calculated for early June 2012 using lowest fare from http://www.travelocity.com on November 22, 2011.
[125] HDL Engineering Consultants. February 2005. *Barter Island Airport Master Plan*. Prepared for the Federal Aviation Administration on behalf of the North Slope Borough. Retrieved August 22, 2012 from http://owa.hdlalaska.com/_current_projects/Barter%20Island/Website%20Content/G2G%20Response%20to%20NVK%20(Text)%2011Feb05%20.pdf.

the road was mixed and the cost of construction was considered to be well beyond the North Slope Borough's ability to finance.[126]

In addition to air and overland transportation, marine transportation provides seasonal access to Kaktovik. Barges deliver cargo to the community during the summer. Barges are beached in front of the community, and materials are unloaded there to be hauled to the village. As of 2005, no boat ramp was present in the community, and boats were stored on the beach of Kaktovik Lagoon. The community would like a boat ramp to allow safer ocean launching of boats, and also report that the current launching area is too shallow and should be relocated.[127]

Facilities

The North Slope Borough provides all utilities in Kaktovik.[128,129] Water in Kaktovik is derived from a surface source and is treated and stored in a 680,000-gallon water tank. Water is delivered by truck to holding tanks, and all homes have running water in the kitchen. A central watering point is available, and a washeteria is operated by the Borough. For the most part, homes still use water and sewage haul services. Some homes have septic tanks. Sewage is treated in the borough-managed sewage lagoon. Electricity is provided to Kaktovik by a diesel powerhouse operated by the Borough.[130] The nearest state trooper post is located in Barrow.[131] The Borough provides refuse collection services and operates a landfill. Police services are provided by the Borough Department of Public Safety, and fire and rescue services are offered by the Kaktovik Volunteer Fire Department. Additional community facilities include a community hall, school gymnasium, and a library. The City of Kaktovik provides cable services, and telephone and internet service is also available locally.[132]

Medical Services

The Kaktovik Clinic provides residents with basic medical services. The Clinic is a Community Health Aid Program site. Emergency Services have coastal and air access. Emergency service is provided by 911 Telephone Service volunteers and a health aide.[133] In addition to local health services, a regional hospital with a wider range of services is available in Barrow. A hospital renovation is expected to be completed by 2013, expanding space and services for people of the North Slope region.[134]

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[126] See footnote 123.
[127] Ibid.
[128] Northern Economics Inc. April 2006. *North Slope Economy, 1965 to 2005, Final Draft*. Prepared for the Minerals Management Service, OCS Study MMS 2006-020. Retrieved February 29, 2012 from http://www.alaska.boemre.gov/reports/2006rpts/2006_020.pdf.
[129] 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.
[130] Ibid.
[131] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[132] See footnote 129.
[133] Ibid.
[134] Samuel Simmonds Memorial Hospital. (n.d.). *Home page.* Retrieved February 29, 2012 from http://www.arcticslope.org/hospital.html.

Educational Opportunities

There is one school in Kaktovik that offers preschool through 12th grade education. As of 2011, the Harold Kaveolook School had 59 students and 9 teachers.[135]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence hunting and fishing have defined the economy and culture of Inupiaq people for thousands of years, and it remains essential today.[136] Kaktovik lies on Barter Island, situated between the Okpilak and Jago Rivers along the coast of the Beaufort Sea. The Beaufort Sea is encompassed by the Arctic Management Area. Commercial fishing for all species is currently prohibited in federally regulated waters of the Arctic Management Area, "until sufficient information is available to support the sustainable management of a commercial fishery."[137] From August to October, state waters near Kaktovik (from Anderson Point in Camden Bay to Humphrey Point, and north to the coastal zone boundary) are designated for subsistence use of bowhead whales.[138]

Whaling has had a particularly strong presence and history in the North Slope region. Whales were historically and are currently a primary subsistence resource for the Inupiaq people. The commercial whaling industry entered area waters in the 1850s, and continued through the early decades of the 1900s, when the combination of overharvest and declining markets for baleen and whale oil brought the industry to an end.[139] In 1977, a NMFS study found that stocks of bowhead whale were in decline, and the International Whaling Commission (IWC) issued a ban on the Native subsistence whale hunt. However, Native whaling captains and elders reported that their estimates of population size were several times higher than the NMFS estimates. Follow-up study confirmed that the bowhead whale population was healthy and growing.[140]

A system of co-management was established with the creation of the Alaska Eskimo Whaling Commission (AEWC) in 1977. The AEWC represents whalers from Kaktovik, Nuiqsut, Barrow, Wainwright, Point Hope, Kivalina, Little Diomede, Wales, Savoonga, and Gambell. Other examples of co-management efforts in the North Slope region are the Eskimo Walrus Commission (formed in 1978), the Beluga Whale Committee (formed in 1988), and the Nanuuq Commission (formed in 1994 for polar bear management). In 1994, Section 119 of the reauthorization for the Marine Mammal Protection Act provided a legislative basis for these cooperative agreements with Alaska Native organizations.[141]

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[135] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[136] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[137] North Pacific Fishery Management Council. August 2009. *Arctic Fishery Management Plan.* Retrieved February 29, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[138] See footnote 136.
[139] Iñupiat History and Culture website. (n.d.). *Historical Overview of the North Slope Iñupiat: Commercial Whaling and Trading*. Retrieved March 1, 2012 from http://nsb-ihlc.com/.
[140] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[141] See footnote 136.

Kaktovik is located in the Arctic Management Area and thus is not located with a Federal Statistical and Reporting Area, a Pacific Halibut Fishery Regulatory Area, or a Sablefish Regulatory Area. Kaktovik is not eligible to participate in the Community Development Quota program or the Community Quota Entity program.

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, no information was reported regarding fisheries-related revenue in Kaktovik (Table 3).

Commercial Fishing

Between 2000 and 2010, almost no Kaktovik residents were involved in commercial fishing activity. During two years of this period (2005 and 2010), one resident per year held a commercial crew license, but no Kaktovik residents were the primary owner of a fishing vessel, no fish buyers or shore-side processors were present, and no vessels were homeported in the community (Table 5). In addition, no residents of Kaktovik held permits in state or federal commercial fisheries (Table 4) or held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8), and no landings or ex-vessel revenue were generated in the community or by Kaktovik vessel owners (Tables 9 and 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kaktovik: 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]	*$932,037*	*$792,674*	*$878,050*	*$779,785*	*$751,934*	*$613,529*	*$727,703*	*$828,711*	*$701,531*[6]	*$1,041,876*	*$720,534*[6]

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.

[6] This number is drawn from the year's budget rather than the certified financial statement.

Table 4. Permits and Permit Holders by Species, Kaktovik: 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, Kaktovik: 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	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
Total CFEC Permits[2]	*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	-	-	-	-	-	-	-	-	-	-	-
	Permit holders	*0*	*0*	*0*	*0*	*0*	*0*	*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 Kaktovik: 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 Kaktovik[2]	Total Net Pounds Landed in Kaktovik[2,5]	Total Ex-Vessel Value of Landings in Kaktovik[2,5]
2000	0	0	0	0	0	0	0	$0
2001	0	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	1	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	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	1	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 Kaktovik: 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. Sablefish Catch Share Program Participation by Residents of Kaktovik: 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, Kaktovik: 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 Kaktovik: 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 Kaktovik 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	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.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses were located in Kaktovik, and no licensed sport fish guides resided there. Also during this period, no sportfishing licenses were sold in the community. However, a number of Kaktovik residents participated in sportfishing activities, although the number of Kaktovik residents that purchased sportfishing licenses (irrespective of point of sale) has been declining from a high of 36 in 2000 to a 14 by 2010. For more information on sportfishing trends for the community of Kaktovik between 2000 and 2010, see Table 11.

The Alaska Statewide Harvest Survey,[142] conducted by ADF&G between 2000 and 2010, noted sport harvest of coho salmon and Dolly Varden by private anglers in Kaktovik. The survey also noted sport harvest of sockeye salmon in Prudhoe Bay to the west. Given the lack of charter activity in Kaktovik, no kept/release log book data were reported for fishing charters out of Kaktovik between 2000 and 2010.[143]

Kaktovik is located within Alaska Sport Fishing Survey Area Z – North Slope-Brooks Range, which includes all Alaskan waters, including drainages flowing into the Beaufort and Chukchi seas, north of the Brooks Range and east of Point Hope. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,065 fresh water days and 228 saltwater days, while non-Alaska resident anglers fished on average 1,001 freshwater and 17 saltwater days. This information about the sportfishing sector in and near Kaktovik is also displayed in Table 11.

Table 11. Sport Fishing Trends, Kaktovik: 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 Kaktovik[2]
2000	0	0	36	0
2001	0	0	19	0
2002	0	0	24	0
2003	0	0	21	0
2004	0	0	14	0
2005	0	0	16	0
2006	0	0	15	0
2007	0	0	13	0
2008	0	0	19	0
2009	0	0	14	0
2010	0	0	14	0

[142] 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).

[143] 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, Kaktovik: 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	0	743	523	3,473
2001	0	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	0	96	1,131	2,084
2005	0	0	2,183	2,169
2006	18	341	495	2,609
2007	0	83	733	3,338
2008	140	0	990	4,469
2009	0	0	1,505	2,400
2010	0	0	1,319	3,065

[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 activities were historically the basis of life in the Kaktovik area, and continue to be fundamental to the economy and way of life today. It is important to emphasize that subsistence is much more than just a 'way of life':

> "To many people on the North Slope, subsistence *is* their life. Subsistence defines the essence of who they are, and it provides a connection between their history, culture and spirit. An essential component of Iñupiaq values is the sharing of subsistence resources among, families, friends, elders, and those in need."[144]

Today, Kaktovik's primary subsistence resources are caribou, Dall sheep, bowhead whale, fish and waterfowl, bearded and ringed seal, polar bear, walrus and furbearers. Trading relationships exist between communities, and Kaktovik is recognized for its contribution of Dall sheep.[145]

The community of Kaktovik is located within the boundaries of ANWR. Residents use lands within ANWR, as well as the adjacent waters of the Beaufort Sea, for subsistence and other

[144] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[145] Ibid.

traditional uses.[146] Residents of Kaktovik have traditionally used an area covering a minimum of 11,406 square miles, from the U.S.-Canadian border in the east to within 20 miles of the Colville River to the west, and from 25 miles out into the Beaufort Sea to about 85 miles inland to the continental divide of the Brooks Range.[147] Kaktovik residents hunt bowhead whales near the village each fall mainly during September and October. The Hula Hula River is a major spawning and over-wintering area for Arctic char, and a smaller over-wintering area is located about 19 miles inland from the river mouth. This smaller drainage is heavily used by residents of Kaktovik. Findings from a 1994 to 1995 subsistence survey, reported by the North Slope Borough in 2000, found that the majority of edible pounds harvested by Kaktovik residents were marine mammals (61%), followed by terrestrial mammals (26%), fish (11%), and birds (2%). A 2003 survey by the North Slope Borough found that almost three quarters of Iñupiat families in Kaktovik received more than 50% of their food from subsistence resources, and a majority of households shared subsistence resources.[148]

Between 2000 and 2010, ADF&G did not report any information about the percentage of Kaktovik households participating in marine resource subsistence or regarding per capita subsistence harvest (Table 12). An earlier ADF&G subsistence survey provides species-level household participation information regarding marine mammals and non-salmon fish in 1992. That year, 28% of Kaktovik households reported harvesting bearded seal, 26% reported harvesting ringed seal, 6% reported harvest of bowhead whale, and 4% reported harvest of spotted seal. Species of non-salmon fish harvested by the greatest percentage of Kaktovik households in 1992 included Arctic char (79% of households reported involvement in harvesting), Bering cisco (62%), cod (32%), lake trout (17%), Arctic grayling (15%), and least cisco (9%). Many of these resources were shared with households that did not participate in harvest activities. A particularly important example of subsistence resource sharing is the bowhead whale. While only 6% of households in Kaktovik reported involvement in the harvest of bowhead whale in 1993, 87% of households reported using the resource that year.[149]

Some information was reported during the 2000-2010 period regarding subsistence salmon permits. From 2000 to 2008, for those years in which data are available, the number of subsistence salmon permits issued to Kaktovik households varied between one and three per year. A majority of the permits issued were reported as returned. Sockeye salmon made up most of the catch reported, along with several Chinook salmon in some years. This information is presented in Table 13. No information was reported regarding subsistence harvest of marine invertebrates or non-salmon fish (Table 13), and no information was reported regarding subsistence halibut harvest by Kaktovik residents between 2003 and 2010 (Table 14).

Between 2000 and 2010, some information was reported regarding marine mammal harvest in Kaktovik. According to data reported by the U.S. Fish and Wildlife Service (FWS), polar bears were harvested in seven years during the 2000-2010 period, with a maximum of five harvested per year in 2002, 2003, and 2004. Harvest of one walrus was also reported by the FWS in 2001. In addition, NMFS reported a small number of beluga whales harvested in Kaktovik in 5

[146] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[147] Pederson, S., M. Coffing, and J. Thompson. 1985. *Subsistence Land Use and Place Name Maps for Kaktovik, Alaska*. Retrieved August 23, 2012 from http://www.arlis.org/docs/vol1/A/15143691.pdf.
[148] See footnotes 144 and 146.
[149] 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).

years during the period. No information was reported by management agencies regarding sea otters,[150] harbor seal, spotted seal, or Steller sea lion. This information is presented in Table 15.

Additional Information[151]

According to Jenness (1914), Barter Island received its name from non-Native whaling captains who landed there to trade with the local Inupiat, although the site was never a rendezvous for the local population. The Native name for Kaktovik (Qaqtorvik) means "the place where the sein (qaqto) is used". This name relates to a story told about a boy belonging to one of the two families who lived on the island. The boy turned up missing, and after searching in vain for his son, the boy's father discovered the arm of his son in his fish net as he pulled it from a crack in the ice to check it. He knew that his son had been killed and his body thrown into the sea through a hole in the ice.

Table 12. Subsistence Participation by Household and Species, Kaktovik: 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	57%	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).

[150] The range of the northern sea otter does not extend into the Arctic region. Source: ADF&G *Wildlife Notebook Series*. "Sea Otter Fact Sheet." Retrieved March 1, 2012 from http://www.adfg.alaska.gov/static/education/wns/sea_otter.pdf.
[151] See footnote 147.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kaktovik: 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	3	1	n/a	n/a	n/a	6	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	1	n/a	n/a	n/a	24	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	2	1	n/a	n/a	n/a	n/a	28	n/a	n/a
2005	1	1	n/a	n/a	n/a	n/a	40	n/a	n/a
2006	1	1	1	n/a	n/a	n/a	39	n/a	n/a
2007	2	2	2	n/a	n/a	n/a	37	n/a	n/a
2008	1	1	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, Kaktovik: 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, Kaktovik: 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	1	1	n/a	n/a	n/a
2002	n/a	n/a	n/a	5	n/a	n/a	n/a
2003	3	n/a	n/a	5	n/a	n/a	n/a
2004	1	n/a	n/a	5	n/a	n/a	n/a
2005	n/a	n/a	n/a	1	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	1	n/a	n/a	3	n/a	n/a	n/a
2009	n/a	n/a	n/a	3	n/a	n/a	n/a
2010	5	n/a	n/a	n/a	n/a	n/a	n/a

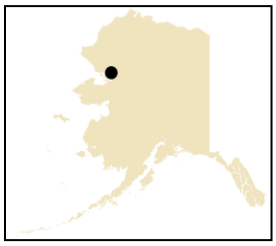
Note: n/a indicates that no data were reported for that year.

[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.

Kiana (*kai-ANN-uh*)



People and Place

Location

Kiana is located on a high bluff overlooking the confluence of the Kobuk and Squirrel Rivers. The community is 57 air miles east of Kotzebue, and 500 miles northwest of Anchorage. Kiana is located in the Northwest Arctic Borough and the Kotzebue Recording District. The area encompasses 0.2 square miles of land and zero square miles of water.[152,153]

Demographic Profile [154]

In 2010, there were 361 residents in Kiana, making it the 146th largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population of Kiana remained relatively stable, falling from 385 to 361 (a decrease of 6.2%). According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased to just over 400 in the early part of the decade, before falling to just under the 1990 population level starting in 1998 (Table 1).

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Kiana's population has a yearly peak during the spring, and that population fluctuations are not at all driven by employment in fishing sectors. Community leaders estimated the seasonal workforce and transient population to be roughly 30 people.

In 2010, the majority of Kiana residents identified themselves as American Indian and Alaska Native (90.3%), along with 6.6% that identified as White and 2.8% identifying with two or more races (Figure 1). Less than 1% of the population identified as Black or African American or as Hispanic or Latino. None of Kiana's residents identified as Native Hawaiian and Other Pacific Islander, Asian, or as some other race in 2010. Between 2000 and 2010, the percentage of the population identifying as American Indian and Alaska Native decreased slightly, and the percentage of the population identifying with two or more races increased by a similar margin.

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[152] 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.

[153] Magdanz, J., D. Koster, L. Naves, and P. Fox. 2011. *Subsistence Harvests in Northwest Alaska Buckland and Kiana 2003 and 2006*. Alaska Dept. of Fish and Game, Technical Paper No. 363. Retrieved September 13, 2012 from http://www.adfg.alaska.gov/techpap/TP%20363.pdf.

[154] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 1990 and 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.

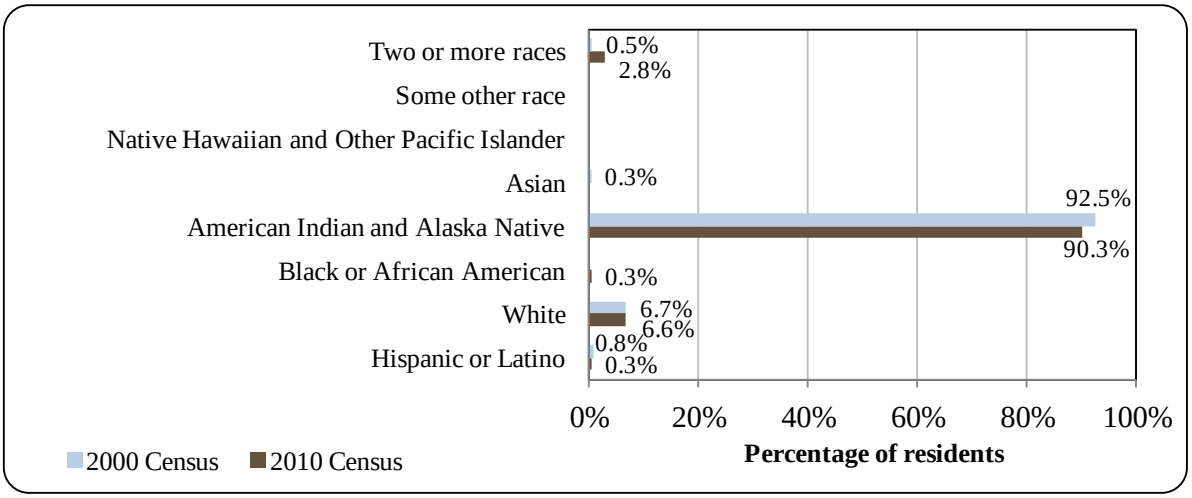
Table 1. Population in Kiana from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	385	-
2000	388	-
2001	-	404
2002	-	400
2003	-	408
2004	-	396
2005	-	381
2006	-	399
2007	-	390
2008	-	383
2009	-	374
2010	361	-

[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, Kiana: 2000-2010 (U.S. Census).

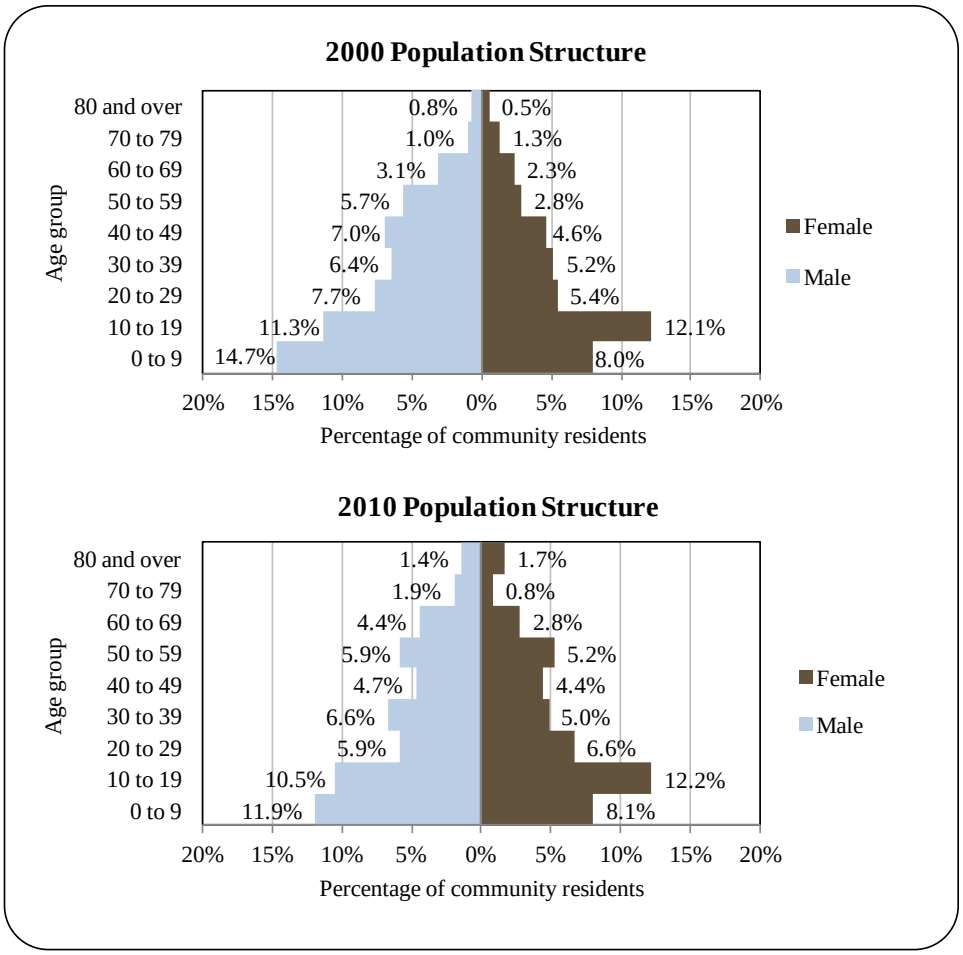


The average household size in Kiana decreased over time, from 4.2 persons per household in 1990 to 4 in 2000, and 3.57 persons per household in 2010. The decreasing number of individuals per household may be linked to an increase in the total number of occupied households over the same period, rising from 91 occupied housing units in 1990 to 97 in 2000, and 101 by 2010. The 2006 Kiana Community Comprehensive Development Plan reported that significant population increases in Kiana since the 1970s resulted in inadequate housing. The Northwest Inupiaq Housing Authority is the primary organization that has worked to construct

additional housing.[155] Of the 142 housing units surveyed for the 2010 Decennial Census, 39.2% were owner-occupied, 31.5% were renter-occupied, and 29.4% were vacant. Between 1990 and 2010, no Kiana residents were reported to be living in group quarters.

In 2010, the gender makeup of Kiana's population was 53.2% male and 46.8% female, slightly more weighted toward males than the gender distribution statewide (52% male, 48% female). That year, the median age in Kiana was estimated to be 26.9 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska of 33.8 years. Compared with 2000, the population structure in 2010 was slightly more evenly dispersed among age groups. For example, in 2000, 46.1% of residents were under the age of 20, compared to 42.7% in 2010, and 9% were over the age of 59 in 2000, compared to 13% in 2000. Age distribution by gender cohort was also slightly more even in 2010 than in 2000. In 2010, the greatest absolute gender difference occurred within the 0 to 9 age range (11.9% male, 8.1% female), followed by the 10 to 19 (10.5% male, 12.2% female) and 30 to 39 (6.6% male, 5.0% female) ranges. The overall population structure of Kiana in 2000 and 2010 is shown in Figure 2.

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



[155] Northwest Arctic Borough Planning Department. 2006. *Kiana Community Comprehensive Development Plan 2006-2016*. Retrieved September 13, 2012 from http://www.nwabor.org/forms/kianaplan.pdf.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[156] estimated that 79.4% of Kiana residents aged 25 and over held a high school diploma or higher degree in 2010, significantly less than the estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 12.4% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 8.2% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 19.4% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 1.8% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and 4.1% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Kiana is a traditional Inupiat Eskimo village practicing a subsistence lifestyle. The name Kiana means "a place where three rivers meet."[157] The Kobuk River was one of the last areas of Alaska explored by Westerners, with the earliest expeditions in the 1880s. In the 1800s, the traditional Inupiat society in the Kiana area was the Akunigmiut, meaning "the people in between two other things". The 'other things' were the nearby Inupiat societies of Kuuŋmiut of the Kobuk delta and the Kuuvaum Kaŋianiigmiut of the upper Kobuk River. Traditional Akugigmiut winter villages were all located upstream of the modern village of Kiana near productive subsistence areas by the Salmon and Hunt Rivers. Archaeological evidence from the eastern boundary of Akugigmiut territory suggests that the area has been inhabited for 8,500 years, with continuous Eskimo inhabitation for the past 4,000 years.[158] The people of the Kobuk River are also known as Kowagmiut, or 'big river people'. Since the late 1800s, Kiana has been a central village of the Kowagmiut people.[159,160]

With the Nome gold rush of 1898, hundreds of prospectors entered the Kobuk River. No gold was found during this first rush, and most of the prospectors left the following year. However, a small number of miners stayed and a gold deposit was later discovered in 1909 near Kiana at Klery Creek. A boom in development took place in Kiana following this discovery, including construction of a post office, hotel, saloon, jail, and restaurant. During this period, Inupiat from surrounding villages began to abandon old winter settlements and consolidate in Kiana.[161] At its height, the Klery Creek gold mine supported as many as 200 miners, and by 1931, more than $600,000 in gold had been removed from Klery Creek and five other creeks in

[156] 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.
[157] 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.
[158] Magdanz, James, David Koster, Liliana Naves, and Patricia Fox. 2011. *Subsistence Harvests in Northwest Alaska Buckland and Kiana 2003 and 2006*. Alaska Dept. of Fish and Game, Technical Paper No. 363. Retrieved September 13, 2012 from http://www.adfg.alaska.gov/techpap/TP%20363.pdf.
[159] Hodge, P. W., (ed.). 1907. *Handbook of American Indians North of Mexico, Part I*. Smithsonian Institution, Bureau of American Ethnology, Bulletin 30. Washington Government Printing Office.
[160] See footnote 157.
[161] See footnote 158.

the area.[162] A post office was established in 1915, and the City was incorporated in 1964. Prior to the formation of the Northwest Arctic Borough in 1976, a Bureau of Indian Affairs (BIA) high school provided education for students from surrounding villages, including Noatak, Shungnak, and Ambler, who traveled to Kiana and boarded with local residents.[163]

Today, the way of life in Kiana continues to revolve around subsistence. Sale of alcohol in Kiana is limited the city-owned store.[164]

Natural Resources and Environment

Kiana is located in a transitional climate zone, influenced by both maritime and Arctic climates. Temperatures average -10 to 15 °F during winter and 40 to 60 °F during summer, and temperature extremes have been recorded from -54 to 87 °F. Snowfall averages 60 inches per year, along with 16 inches of total precipitation. The Kobuk River is ice-free from the end of May to early October.[165] The Kobuk River is located at the northern boundary of the boreal forest, and much of the landscape is characterized by open woodlands and thick tundra.[166]

In 1980, much of the traditional area of the Iñupiaq was protected as national parks, preserves, monuments, and wildlife areas under the Alaska National Interest Lands Conservation Act (ANILCA).[167] One of the goals of the legislation was to protect the viability of subsistence resources.[168] Kiana is located in close proximity to several of these areas, including Kobuk Valley National Park and Wilderness, Noatak National Preserve, and the Selawik National Wildlife Refuge (NWR).

Kobuk Valley National Park is 1.7 million acres stretching from the Baird Mountains in the north to the Kobuk Sand Dunes of the Kobuk River in the south.[169] The Noatak National Preserve is made up of 6.5 million acres. The National Preserve is surrounded by the Baird and DeLong Mountains of the Brooks Range.[170] The 2.15 million acre Selawik NWR, managed by the U.S. Fish and Wildlife Service, is situated east of Kotzebue Sound. Refuge lands include 240,000 acres of designated Wilderness Area. The approximately 21,000 lakes on NWR lowlands create a very large Arctic tundra lake complex that is comparable in scale and ecological significance to any found on Alaska's other NWR lands, providing important habitat for migratory waterfowl .[171]

[162] Reed, I. 1932. *Report on the Placer Deposits of the Squirrel River Gold Field*. Territory of Alaska, Department of Mines.
[163] See footnote 157.
[164] Ibid.
[165] Ibid.
[166] National Park Service. 2012. *Kobuk Valley National Park.* Retrieved September 13, 2012 from http://www.nps.gov/kova/.
[167] Alaska National Interest Lands Conservation Act (ANILCA). December 2, 1980. Public Law 96-487, 96th Congress. Retrieved February 6, 2012 from http://alaska.fws.gov/asm/anilca/toc.html.
[168] See footnote 166.
[169] Ibid.
[170] National Park Service. 2011. *Noatak National Preserve*. Retrieved February 6, 2012 from http://www.nps.gov/noat/.
[171] U.S. Fish and Wildlife Service website. *Selawik National Wildlife Refuge*. Retrieved February 15, 2012 from http://selawik.fws.gov/.

Also under ANILCA, 330 miles of the Noatak River, 70 miles of the Salmon River, and 160 miles of the Selawik River were designated as a National Wild and Scenic Rivers.[172,173] Historically, these rivers served as important travel corridors for local residents to access subsistence harvest areas, and they remain important travel routes for both humans wildlife today.[174] The Western Arctic Caribou herd – the largest caribou herd in Alaska at about 490,000 individuals – migrates between the coastal plain and the tundra of these protected areas on its way to and from calving grounds. A large variety of animals and plants are found in the region. Mammals include brown bear, black bear, wolves, lynx, Dall's sheep, moose, red fox, wolverine, and numerous other furbearers.[175]

Gold mining began in the Kiana area in the early 1900s, and limited gold development interest is still present in the region.[176] Today, mining in Northwest Alaska is dominated by Red Dog Mine, the largest producer of zinc in Alaska. In 2010, the mine accounted for almost half of Alaska's mineral production value, making up 49% of the total value of mining operations in Alaska that year. The mine is 100% owned by Teck Resources Ltd., a Canadian mining company, under a 1982 agreement signed with the regional Native corporation, Northwest Alaska Native Association (NANA) Regional Corporation, Inc., which owns the land.[177] The agreement specifies that the mine must 1) protect subsistence and the Inupiaq way of life, 2) create lasting jobs for NANA shareholders, 3) provide opportunities for NANA's youth, and 4) act as a catalyst for regional economic benefits.[178] In addition, jade is mined at the Jade Mountain Mine in the Kiana mining district.[179,180]

With regard to natural hazards, Kiana is particularly susceptible to risks of erosion, flooding, wildfire, and severe weather, including cold temperatures and high winds.[181] Warming temperatures due to climate change have exacerbated some of these risks, leading to increased erosion rates of riverbanks and thawing permafrost along rivers, under lakes, and across the tundra. Climate changes have also led to shifts in species distributions, affecting harvest of some traditional subsistence resources such as caribou.[182]

[172] National Wild and Scenic Rivers System. (n.d.) *Alaska Rivers*. Retrieved September 13, 2012 from http://www.rivers.gov/rivers/alaska.php.
[173] See footnote 167.
[174] Ibid.
[175] See footnotes 166 and 170.
[176] Magdanz, James, David Koster, Liliana Naves, and Patricia Fox. 2011. *Subsistence Harvests in Northwest Alaska Buckland and Kiana 2003 and 2006*. Alaska Dept. of Fish and Game, Technical Paper No. 363. Retrieved September 13, 2012 from http://www.adfg.alaska.gov/techpap/TP%20363.pdf.
[177] Szumigala, D.J., L.A. Harbo, and J.N. Adleman. *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[178] NANA Regional Corporation. 2010. *Red Dog Mine*. Retrieved February 6, 2012 from http://www.nana.com/regional/resources/red-dog-mine/.
[179] Mindat.org. 2011. *Jade Mountain Mine*. Retrieved September 13, 2012 from http://www.mindat.org/loc-198197.html.
[180] 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.
[181] Rural Alaska Mitigation Planning.2009. *Northwest Arctic Borough Multi-Jurisdictional All-Hazards Mitigation Plan*. Retrieved September 13, 2012 from http://www.nwabor.org/forms/FinalPlan.pdf.
[182] ANTHC Center for Climate and Health. 2011. *Climate Change in Kiana, Alaska: Strategies for Community Health*. Retrieved September 14, 2012 from http://www.tribesandclimatechange.org/docs/tribes_412.pdf.

According to the Alaska Department of Environmental Conservation, no active environmental cleanup sites were located near Kiana as of August 2012.[183]

Current Economy[184]

In the 2011 AFSC survey, community leaders indicated that the Kiana economy depends heavily on subsistence fishing and sport hunting and fishing. Some of the most important subsistence resources include chum salmon, freshwater fish, moose, caribou, waterfowl, and berries. In addition to subsistence harvest activities, local residents supplement their income with cash employment. Some of the top year-round employers in Kiana include the school, City, the three local general stores, and the regional Native association, the Maniilaq Association. Seasonal employment is also available on river barges, firefighting for the Bureau of Land Management.[185] Some mining also provides employment in the area, including jade produced from Jade Mountain Mine in the Kiana mining district,[186] and zinc produced at Red Dog Mine.[187] Between 2000 and 2010, a small number of Kiana residents were also involved in the Kotzebue salmon gillnet fishery, although no permits were actively fished during this period (see *Commercial Fishing* section). In addition, there is local interest in development of a freshwater fish processing facility, and the City is interested in developing an ecotourism industry focused on guided river trips to the Great Kobuk Sand Dunes.[188]

Based on household surveys conducted for the 2006-2010 ACS,[189] in 2010, the per capita income in Kiana was estimated to be $15,682 and the median household income was estimated to be $43,438. This represents an increase from the per capita and median household incomes reported in the year 2000 ($11,534 and $39,688, respectively). However, if inflation is taken into account by converting the 2000 values to 2010 dollars,[190] per capita income appears to have remained relatively stable, increasing only slightly from a real per capita income of $15,167, and real median household income appears to have declined, from a $52,189 in 2000. In 2010, Kiana ranked 197th of 305 Alaskan communities with per capita income data that year, and 171st in median household income, out of 299 Alaskan communities with household income data.

Kiana's small population size may have prevented the ACS from accurately portraying economic conditions.[191] An alternative estimate of per capita income is provided by economic

[183] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved August 24, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[184] Unless otherwise noted, all monetary data are reported in nominal values.
[185] See footnote 180.
[186] See footnote 179.
[187] See footnote 177.
[188] Northwest Arctic Borough Planning Department. 2006. *Kiana Community Comprehensive Development Plan 2006-2016*. Retrieved September 13, 2012 from http://www.nwabor.org/forms/kianaplan.pdf.
[189] U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 1990 and 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.
[190] 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).
[191] 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.

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 Noatak in 2010 is $9,391,[192,193] slightly lower than the per capita income reported for the year 2000. This suggests that caution is warranted when citing per capita income stability in Kiana between 2000 and 2010. Low per capita income levels are supported by the fact that the community was recognized as "distressed" by the Denali Commission in 2011,[194] 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 Kiana's population (60.7%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 30.2% of Kiana residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Kiana was estimated to be 16.4%, more than twice 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 21.6%, almost double the statewide unemployment rate estimate of 11.5%.[195]

Also based on the 2006-2010 ACS, approximately half of Kiana's workforce was estimated to be employed in the public sector (51.6%), and the other half in the private sector (48.4%). Of the 95 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 industries (22.1%), public administration (18.9%), services other than public administration (15.8%), retail trade (12.6%), and transportation, warehousing, and utilities (11.6%). Occupations in which the greatest percentages of the civilian labor force were estimates to be employed included management, business, science and arts (44.2%), production, transportation, and material moving occupations (29.5%), and service occupations (15.8%). 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 182 employed residents in Kiana in 2010, of which 64.8% were employed in local government occupations, 9.9% in educational and health services, 9.3% in natural resources and mining, 4.9% in professional and business services, 1.6% in information, 1.6% in leisure and hospitality, 1.1% in financial activities, 1.1% in state government, 0.5% in construction, and 1.1% in other industries.[196] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[192] 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/.
[193] See footnote 189.
[194] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[195] See footnote 192.
[196] Ibid.

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

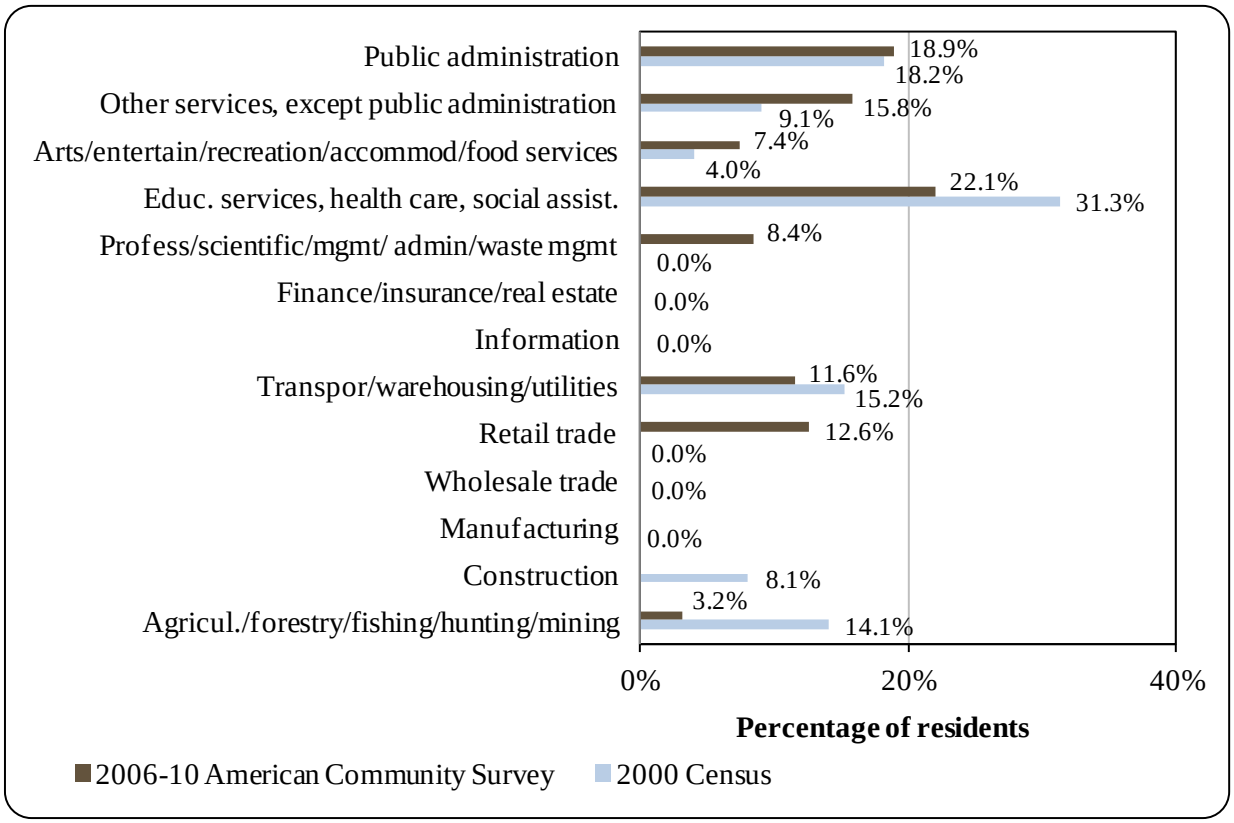
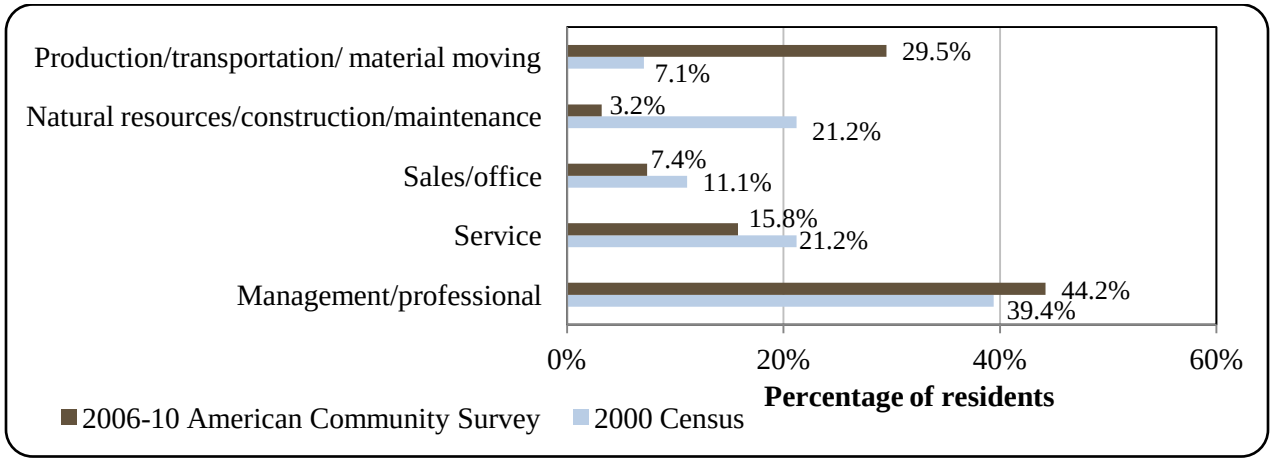


Figure 4. Local Employment by Occupation in 2000-2010, Kiana (U.S. Census).



Governance

Kiana is a 2nd Class City located in the Northwest Arctic Borough. It was incorporated in 1964, and has a "Strong Mayor" form of government, with a 6-person city council including the Mayor, an 11-person school board, 7-person planning commission, and a number of municipal employees. The City administers a 3% sales tax.[197] In addition to sales tax revenue, other locally-generated revenue sources in Kiana between 2000 and 2010 included leases and rentals of buildings, enterprise revenues including fees for water and sewer, cable TV, and fuel sales, property sale, and equipment rentals. Outside revenue sources included shared funds from a variety of programs and grants in some years. Shared funds came from the State of Alaska through the State Revenue Sharing program from 2000-2003 (approximately $30,000 per year) and the Community Revenue Sharing program in 20009 and 2010 (approximately $115,000 each year). Kiana also received state shared funds through a telephone / electric co-op tax refund and the SAFE Communities program (public safety, utilities, infrastructure, etc.). State grants provided funds toward building renovations, water and sewer line improvements, landfill cleanup, and purchase of bulk fuel. This information about selected municipal revenue streams in Kiana is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kiana 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	$615,356	$25,407	$30,841	n/a
2001	$740,943	$24,797	$30,841	n/a
2002	$791,339	$34,614	$29,803	n/a
2003	$646,463	$24,438	$29,679	n/a
2004	$852,255[6]	$35,000[6]	n/a	n/a
2005	$732,140	$22,810	n/a	n/a
2006	$789,597	$26,078	n/a	n/a
2007	$641,159	$48,852	n/a	n/a
2008	$746,236	$30,905	n/a	n/a
2009	$483,157	$28,279	$116,150	n/a
2010	$905,011	$58,813	$115,538	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.
[6] This number reflects the year's budget estimate rather than actual figures reported in a certified financial statement.

[197] 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.

Kiana 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 Native Village of Kiana. The regional Native corporation to which Kiana belongs is the NANA Regional Corporation. In 1972, most village corporations in the region merged with NANA Regional Corporation, with the exception of the village corporation for Kotzebue, known as Kikiktagruk Inupiat Corporation. NANA Regional Corporation now has title to 2,082,052 surface acres, including 115,200 that were originally titled to Kiana's Native village corporation.[198,199]

Kiana is a member village of the Maniilaq Association, a tribal non-profit corporation that provides health and social services to residents of Northwest Alaska. The Maniilaq Association 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. Originally called NANA, it was renamed Maniilaq when the NANA Regional Corporation was formed to avoid confusion between the names.[200] Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[201] The Maniilaq Association coordinates tribal and traditional assistance programs, and environmental and subsistence protection services in the region.[202]

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development are located in Kotzebue. The closest offices of the Alaska Department of Natural Resources and U.S. Bureau of Citizenship and Immigration Services are located in Fairbanks, although the Anchorage offices of these agencies may be more accessible by air to people of this region. The closest office of the National Marine Fisheries Service (NMFS) is located in Anchorage.

Infrastructure

Connectivity and Transportation

Kiana is primarily accessible by air, as well as small boat and snowmobile. The state-owned Bob Baker Memorial Airport has a 3,400 feet long by 100 feet wide lighted gravel runway. Daily scheduled flights and charter flights are provided by Bering Air, ERA Alaska, and Ryan Air Service.[203] An air taxi service operates in Kiana. As of June 2012, roundtrip airfare from Anchorage to Kiana was $700.[204]

Crowley Marine Services barges fuel and supplies to Kiana each summer and local store owners have large boats to bring supplies upriver. Local transportation takes place using boats, ATVs, snowmachines, and some trucks owned locally. A road connects Kiana to Kobuk camp,

[198] Ibid.
[199] NANA Regional Corporation. 2003. "Introduction." *NANA Lands website*. Retrieved February 2, 2012 from http://www.nanalands.com/introduction.htm.
[200] Maniilaq Association website. 2003. *Company Information*. Retrieved February 2, 2012 from http://www.maniilaq.org/companyInfo.html.
[201] 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.
[202] See footnote 200.
[203] See footnote 197.
[204] Airfare was calculated using lowest fare. http://www.travelocity.com (retrieved November 22, 2011).

and a network of old trading trails is still in use.[205] Community leaders reported in the 2011 AFSC survey that there are plans to expand the road system within the next 10 years.

Facilities

In 2004, provision of city services shifted from the City of Kiana to the Village Council.[206] The Village Council operates a piped water and sewer system which serves the clinic, school, community hall, and 73 homes. Water is sourced from two wells near the Kobuk River. A 200,000 is intermittently filled, and water is chlorinated prior to distribution. Sewage is collected via a 6-inch buried gravity sewer system, which is piped to a sewage lagoon northeast of the village for treatment. Nineteen households that are not connected to the pipe system haul water and use honeybuckets or septic tanks. Some outhouses are also in use in Kiana.[207] In the 2011 AFSC survey, community leaders indicated that improvements to water and sewer pipelines are expected within the next 10 years. The Village Council does not provide refuse collection services, and individuals are responsible delivering their own refuse to a landfill operated by UIC Construction, Inc. The landfill is located west of the sewage disposal lagoon.[208] Community leaders reported in the 2011 AFSC survey the relocation of the landfill should be completed within the next 10 years.

Electricity in Kiana is provided by a diesel plant operated by the Alaska Village Electric Cooperative. Safety services are provided by state troopers posted in Kotzebue as well as a Village Police Officer stationed in Kiana. The City has a public safety building that includes holding cells. Fire and rescue services are provided by the City Fire Hall, the City Volunteer Fire Department, and Project Code Red. The City also maintains its own volunteer fire department with equipment provided by Project Code Red. Additional community facilities include the City Office, the Council Building, a bingo hall, a Boys and Girls Club, a school gymnasium, a school library, and post office. Visitor accommodations are provided by Kiana Lodge. Local telephone services are provided by OTZ Telephone Co-op Inc, and long distance service is provided by four different private companies.[209] In the 2011 AFSC survey, community leaders reported that Kiana plans to install broadband internet access within the next ten years. Community leaders also indicated that improvements are currently underway on the local fire department and emergency response system, as well as the local library. In addition, community leaders reported the presence of job placement services, publicly subsidized housing, and a food distribution program in Kiana.

Additional development priorities identified in the 2006 Kiana Community Comprehensive Plan included access to a gravel source, construction of a multi-purpose building to be used by the Village Council and post office, a bigger office complex with improved facilities, a Native Store, home construction, weatherization, renovation, and additions for tribal members, development of a new valley subdivision, and a community park for outdoor recreation.[210]

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[205] 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.
[206] Northwest Arctic Borough Planning Department. 2006. *Kiana Community Comprehensive Development Plan 2006-2016*. Retrieved September 13, 2012 from http://www.nwabor.org/forms/kianaplan.pdf.
[207] See footnote 205.
[208] Ibid.
[209] Ibid.
[210] See footnote 206.

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that the community is planning to build a new barge landing area in 2013, and that the construction of new dock space and improvement of existing docks is currently in progress. Currently they reported there is not public dock space for permanent and transient vessels moorage. Community leaders indicated that mechanical boat repair services are available in Kiana. In addition, they noted the presence of sport fish lodges in the community.

Medical Services

The Kiana Health Clinic, operated by the Maniilaq Association, provides residents with basic medical services. The Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by volunteers and the health aide.[211] The nearest hospital is located in Kotzebue.

Educational Opportunities

There is one school in Kiana. As of 2011, the school had 112 students and 13 teachers. Kiana is located in the Northwest Arctic Borough School District.[212]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence harvest historically formed the basis of life for Native people living along the Kobuk River. According to one elder interviewed for an oral history project, "Before Kiana was established, there were Inupiat living along the river and fishing and hunting all through the area. For their settlements, people selected sites which were ideal for fishing and hunting."[213] Historically, in summer Akunigmiut women historically operated fish camps along the main river and focused on harvest and preservation of whitefish and salmon. Akunigmiut men walked north to hunt for caribou and sheep in the Baird Mountains during the summer season. In winter, families returned to winter villages and continued subsistence harvest using fish traps, snared caribou and small game, and made preparations for the summer harvest season.[214]

Subsistence remains fundamental to the economy and way of life in Kiana today.[215] According to a survey of subsistence harvest conducted by ADF&G in 2007, the most important aquatic subsistence species in Kiana, in terms of harvest volume, are chum salmon, whitefish, and sheefish. Burbot, northern pike, coho salmon, bearded seal, and other resources are also harvested in Kiana.[216] In the 2011 AFSC survey, community leaders reported that subsistence

[211] See footnote 205.
[212] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[213] Piquk Lee, L., R. Tatqaviñ Sampson, and E. Tennant, Eds. 1992. *Lore of the Inupiat: The Elders Speak, Volume 3*. Northwest Arctic Borough School District.
[214] Magdanz, James, David Koster, Liliana Naves, and Patricia Fox. 2011. *Subsistence Harvests in Northwest Alaska Buckland and Kiana 2003 and 2006*. Alaska Dept. of Fish and Game, Technical Paper No. 363. Retrieved September 13, 2012 from http://www.adfg.alaska.gov/techpap/TP%20363.pdf.
[215] See footnote 205.
[216] See footnote 214.

harvest is the primary fishing activity in Kiana, and indicated that there are no local commercial fisheries. However, it is important to note that several Kiana residents did participate in commercial fisheries between 2000 and 2010 as permit holders, crew license holders, or vessel owners (see *Commercial Fishing* section), and some sportfishing activity was also reported in Kiana and the Northwest Arctic region (see *Recreational Fishing* section).

Kiana is located in the Arctic Management Area. A Fishery Management Plan (FMP) for the Arctic Management Area was approved by the Secretary of Commerce in August 2009. Initially, the FMP prohibits commercial fishing in the federal waters of the Beaufort and Chukchi seas until more information is available to support sustainable fisheries management.[217] In state regulated waters of the Arctic Management Area, several small fisheries occur, including a small fishery for chum salmon in the Kotzebue Sound region.[218] The Kotzebue Sound salmon fishery is the northernmost commercial salmon fishery in Alaska. Over 99% of the salmon harvested in this fishery are chum salmon returning to the Kobuk and Noatak Rivers. Commercial harvest of salmon first occurred in the Kotzebue area in 1909 when Native fishermen sold salmon to gold miners. Starting in 1914, salmon were canned and sold to miners in the upper Kobuk drainage. This small industry ceased after 1918. The modern commercial fishery began in 1962, and catch peaked in 1981 with 680,000 chum commercially harvested. Since 1995, poor market conditions and variable processing capacity and interest have caused harvests to fall short of their potential. Due to limited opportunities to sell their catch, the number of active permits in the Kotzebue salmon fishery had declined over the last 30 years. Very few of the 173 total set gillnet permits have been used in recent years.[219] Fish caught in the Kotzebue salmon fishery are primarily sold to local markets, although some are shipped to markets outside the Arctic region.[220]

In the 2011 AFSC survey, community leaders reported that Kiana actively participates in fisheries management processes in Alaska. This participation includes sending a representative to sit on regional fishery advisory and/or working groups run by ADF&G and a representative to participate in the Federal Subsistence Board or Federal Regional Advisory Council process. Kiana is not eligible to participate in the Community Development Quota or Community Quota Entity programs.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Kiana does not have a registered processing plant. However, between one and five fish buyers were active in the nearby City of Kotzebue between 2000 and 2010, as well as one shore-side processor in 2004 and 2005 (see the Community Profile for Kotzebue). In addition, there is local interest in Kiana to develop a freshwater fish processing facility.[221]

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[217] NOAA National Marine Fisheries Service, Alaska Regional Office. (n.d.). *Arctic Fisheries*. Retrieved February 6, 2012 from http://www.fakr.noaa.gov/sustainablefisheries/arctic/.
[218] North Pacific Fishery Management Council. August 2009. *Arctic Fishery Management Plan.* Retrieved February 29, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[219] 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.
[220] See footnote 218.
[221] Northwest Arctic Borough Planning Department. 2006. *Kiana Community Comprehensive Development Plan 2006-2016*. Retrieved September 13, 2012 from http://www.nwabor.org/forms/kianaplan.pdf.

Fisheries-Related Revenue

Between 2000 and 2010, no information was reported regarding fisheries-related revenue was received by the community of Kiana (Table 3).[222] Although no information was available regarding these revenue sources, community leaders reported in the 2011 AFSC survey that a number of public services in Kiana are at least partially supported or funded by fisheries-related revenue. These services include the Kiana Health Clinic, road maintenance, the water and sewer system, police enforcement, fire protection, educational scholarships, and other social services.

Commercial Fishing

Between 2000 and 2010, Kiana residents held a small number of Commercial Fisheries Entry Commission (CFEC) permits in all years, and in some years during the period were also engaged in fisheries as crew license holders and vessel owners. The number of Kiana residents holding state CFEC permits fluctuated between two and three per year. All of these permits were held in the Kotzebue salmon gillnet fishery, and none were actively fished in any year during the 2000-2010 period. No other permits were held by Kiana residents in state or federal fisheries between 2000 and 2010, and no residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab. Permit information is presented in Table 4, and federal catch share information is presented in Tables 6 through 8.

From 2000 to 2002, two fishing vessels were primarily owned by Kiana residents, and two vessels were homeported in the community, while no vessels were owned or homeported locally from 2003 to 2010 (Table 5). Given the lack of fish buyers or processing facilities in Kiana, no vessels were recorded as delivering landings locally, and no ex-vessel revenue was generated in the community. This information about the commercial fishing sector in Kiana is presented in Table 5, and Kiana landings and revenue information is also presented in Table 9. Information about landings and ex-vessel revenue generated by Kiana vessel owners, including all delivery locations, is considered confidential from 2000 to 2002 due to the small number of participants, and given the lack of vessel owners from 2003 to 2010, no landings by Kiana vessel owners are reported in those years (Table 10).

[222] 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.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kiana: 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]	*$615,356*	*$740,943*	*$791,339*	*$646,463*	*$852,255*[6]	*$732,140*	*$789,597*	*$641,159*	*$746,236*	*$483,157*	*$905,011*

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.

[6] This number reflects the year's budget estimate rather than actual figures reported in a certified financial statement.

Table 4. Permits and Permit Holders by Species, Kiana: 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, Kiana: 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	2	2	2	2	3	3	3	2	2
	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	2	2	2	2	2	2	3	3	3	2	2
Total CFEC Permits[2]	*Permits*	*2*	*2*	*2*	*2*	*2*	*2*	*3*	*3*	*3*	*2*	*2*
	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%*
	Permit holders	*2*	*2*	*2*	*2*	*2*	*2*	*3*	*3*	*3*	*2*	*2*

[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 Kiana: 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 Kiana[2]	Total Net Pounds Landed in Kiana[2,5]	Total Ex-Vessel Value of Landings in Kiana[2,5]
2000	0	0	0	2	2	0	0	$0
2001	1	0	0	2	2	0	0	$0
2002	0	0	0	2	2	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	2	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	2	0	0	0	0	0	0	$0
2010	1	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 Kiana: 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. Sablefish Catch Share Program Participation by Residents of Kiana: 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. Bering Sea and Aleutian Islands Crab Catch Share Program Participation by Residents of Kiana: 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 Kiana: 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 Kiana 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

Sportfishing activity was minimal in Kiana between 2000 and 2010. In some years during the period, one licensed sport fish guide was present in the community, while no active sport fish guide businesses were present in any year. The number of sportfishing licenses purchased each year by residents of Kiana (irrespective of point of sale) varied between 18 and 42 per year. From 2002 to 2010, the number of sportfishing licenses sold in the community fluctuated between 14 and 50 per year. In most years, the number of sportfishing licenses sold in Kiana was slightly greater than the number sold to Kiana residents, indicating that sportfishing activities may attract a small number of visitors to the community.

According to the 2011 AFSC survey, community leaders reported that most sportfishing in Kiana takes place from private boats owned by local residents. They also indicated that chum and coho salmon are the primary species targeted by sport fishermen near Kiana. The Alaska Statewide Harvest Survey,[223] conducted by ADF&G between 2000 and 2010, noted sportfishing activity in freshwater only, and noted the following species as targeted by private anglers in Kiana: chum salmon, Arctic grayling, northern pike, and sheefish. No kept/release log book data were reported for sportfishing charters out of Kiana between 2000 and 2010.[224]

Kiana is located within Alaska Sport Fishing Survey Area X – Northwest Alaska. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,251 fresh water days and 582 saltwater days, while non-Alaska resident anglers fished on average 1,690 freshwater and 64 saltwater days. This information about the sportfishing sector in and near Kiana is also displayed in Table 11.

[223] 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).

[224] 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, Kiana: 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 Kiana[2]
2000	0	1	24	0
2001	0	1	23	0
2002	0	1	31	21
2003	0	1	22	34
2004	0	0	21	38
2005	0	0	23	14
2006	0	0	18	24
2007	0	0	42	50
2008	0	1	36	42
2009	0	1	21	28
2010	0	1	31	45

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	14	1,875	1,779	3,388
2001	296	114	2,986	2,508
2002	0	132	1,297	4,988
2003	15	1,698	1,807	2,601
2004	17	332	1,892	3,463
2005	19	35	1,309	1,755
2006	0	452	1,764	4,570
2007	65	62	1,146	3,754
2008	0	407	2,421	1,593
2009	138	815	1,160	5,318
2010	137	478	1,027	1,828

[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 the 2011 AFSC survey, community leaders reported that subsistence harvest is the primary fishing activity in Kiana, and that close to 60% of local residents participate in subsistence fishing activities. Further, an ADF&G survey of 2006 subsistence harvest activity in Kiana found only one household that did not use some type of subsistence foods.[225] According to ADF&G's Community Subsistence Information System (CSIS), in 2006, 63% of households participated in salmon subsistence, 14% in marine mammals subsistence, 4% in marine invertebrate subsistence, and 51% in non-salmon fish subsistence (other than halibut). No information was reported regarding the percentage of households participating in halibut subsistence. CSIS data suggest that Kiana residents harvested 348 pounds of marine and land-based resources per capita that year. This information about household participation and per capita subsistence harvest is presented in Table 12.

Results of the 2006 ADF&G subsistence survey included species-level information about household harvest and use of marine invertebrates, non-salmon fish, and marine mammals. Kiana households reported harvesting two species of marine invertebrates: king crab and clams. Non-salmon fish species harvested by Kiana households included sheefish, whitefish, burbot, Dolly Varden char, northern pike, smelt, herring, least cisco, and saffron cod.[226] According to data reported in the CSIS, a total of 1,346 lbs of marine invertebrates and 38,274 lbs of non-salmon fish were harvested by Kiana residents in 2006 (Table 13). In addition, Kiana households reported using a variety of marine mammal resources. A small percentage of Kiana households (5%) were reported to be involved in the harvest of one marine mammal species – bearded seal, while a higher percentage (14%) was reported to use bearded seal for subsistence. A number of other marine mammal species were also reported used by Kiana households, although no households were reported to participate in their harvest. These species included ringed seal, spotted seal, and bowhead whale. The fact that a significant percentage of households had access to marine mammal resources without participating directly in harvest can be explained by strong subsistence support ties between households in Kiana and the coastal communities of Kotzebue and Barrow.[227]

Information about subsistence salmon permits was available from ADF&G for four years of the 2000-2010 period. During these four years, Kiana households were issued an average of 90 subsistence salmon permits, and an average of 71 permits was returned. Chum were the most targeted salmon species, with an average of 3,791 chum harvested per year. A smaller number of coho, pink, sockeye, and Chinook salmon were also harvested by Kiana residents in each of the four years. Information about subsistence salmon harvest is presented in Table 13.

Between 2000 and 2010, no additional data were reported by management agencies regarding subsistence harvest of Pacific halibut (Table 14) or marine mammals (Table 15).

[225] Magdanz, J., D. Koster, L. Naves, and P. Fox. 2011. Subsistence Harvests in Northwest Alaska Buckland and Kiana 2003 and 2006. Alaska Dept. of Fish and Game, Technical Paper No. 363. Retrieved September 13, 2012 from http://www.adfg.alaska.gov/techpap/TP%20363.pdf.
[226] Ibid.
[227] Ibid.

Table 12. Subsistence Participation by Household and Species, Kiana: 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	63%	n/a	14%	4%	51%	348
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, Kiana: 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	88	51	n/a	2,876	107	n/a	74	n/a	n/a
2001	88	67	n/a	5,379	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	95	90	15	3,010	68	80	n/a	n/a	n/a
2004	87	77	3	3,897	61	45	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,346	38,274
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, Kiana: 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, Kiana: 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

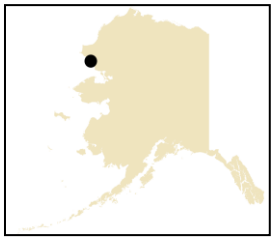
Note: n/a indicates that no data were reported for that year.

[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.

Kivalina (*kiv-uh-LEE-nuh*)



People and Place

Location [228]

Kivalina is at the tip of an 8-mile barrier reef located between the Chukchi Sea and Kivalina River. It lies 80 miles northwest of Kotzebue, and 620 miles northwest of Anchorage. The area encompasses 1.9 square miles of land and 2.0 square miles of water. Kivalina was incorporated as a Second-class city in 1969 and is under the jurisdiction of the Northwest Arctic Borough.

Demographic Profile [229]

In 2010, there were 374 residents in Kivalina, ranking it 144th largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 18.0%. Between 2000 and 2009, the population increased by 8.8% with an average annual growth rate of 0.77%, which was very similar to the statewide average of 0.75% and indicative of slow growth. Information regarding population trends can be found in Table 1.

Kivalina is a traditional Inupiat Eskimo village. In 2010, 96.3% of residents identified themselves as American Indian or Alaska Native, compared to 96.6% in 2000; 2.1% identified themselves as White, compared to 3.4% in 2000; and 1.6% identified themselves as two or more races, compared to 0.0% in 2000. Information regarding racial and ethnic trends can be found in Figure 1.

The average household size in 2010 was 4.40 individuals, compared to 4.70 in 1990 and 4.83 in 2000. In that year, there were 99 housing units, compared to 71 in 1990 and 80 in 2000. Of the households surveyed in 2010, 65% were owner-occupied, compared to 78% in 2000; 21% were renter-occupied, compared to 20% in 2000; 10% were vacant, compared to 3% in 2000; and 4% were occupied seasonally, compared to 0% in 2000. No residents lived in group quarters between 1990 and 2010.

The gender distribution in 2010 was somewhat biased towards females with 52.4% females and 47.6% male. This was in contrast to both the statewide distribution that year (52.0% male, 48.0% female), and distribution in 2000 (51.5% male, 48.5% female). The median age in 2010 was 21.3 years, which was significantly younger than the statewide median of 33.8 years, and similar to the 2000 median of 20.8 years.

The population structure was expansive in both 2000 and 2010. In 2010, 46.6% of residents were under the age of 20, compared to 48.0% in 2000; 8.8% were over the age of 59,

[228] 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.

[229] 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 8.5% in 2000; 27.2% were between the ages of 30 and 59, compared to 28.4% in 2000; and 17.4% were between the ages of 20 and 29, compared to 15.1% in 2000.

Gender distribution by age cohort was more equal in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 50 to 59 rage (5.1% female, 2.4% male), followed by the 10 to 19 (10.7% female, 9.1% male) and 30 to 39 (5.1% female, 3.7% male) rages. Of those three, the greatest relative gender difference occurred within the 50 to 59 range. Information regarding trends in Kivalina's population structure can be found in Figure 2.

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

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	317	-
2000	377	-
2001	-	385
2002	-	383
2003	-	388
2004	-	390
2005	-	385
2006	-	392
2007	-	397
2008	-	406
2009	-	410
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, Kivalina: 2000-2010 (U.S. Census).

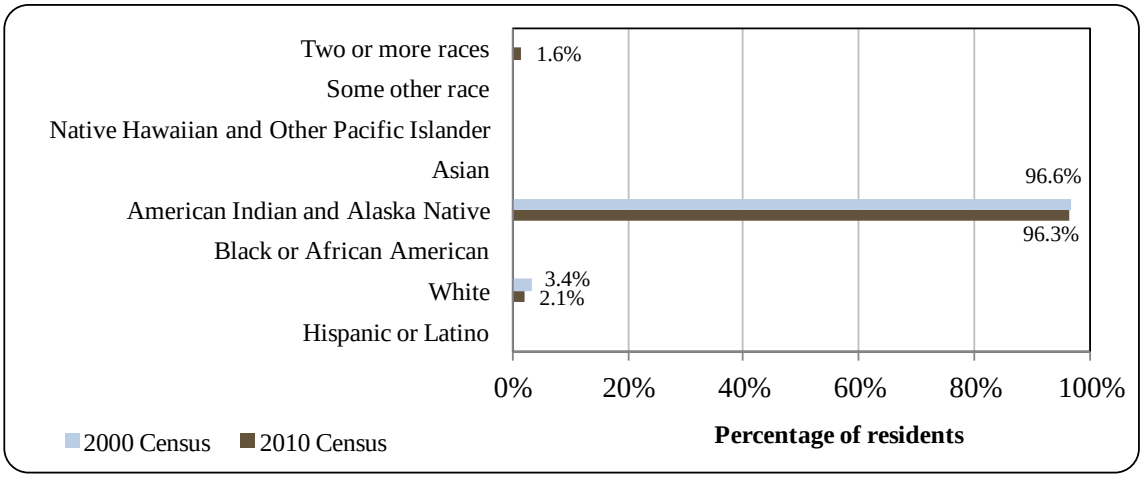
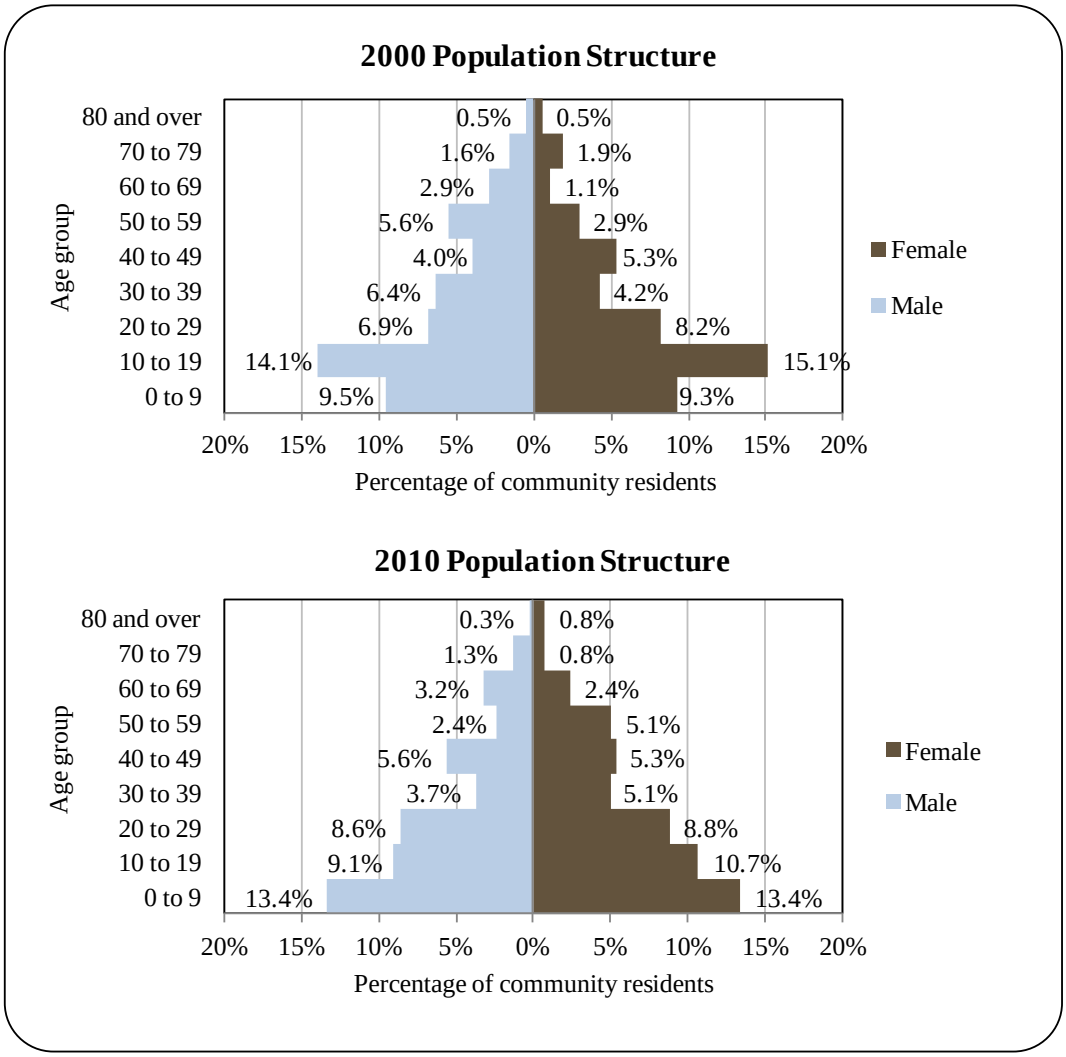


Figure 2. Population Age Structure in Kivalina Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[230] estimated that 64.1% 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 14.9% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 21% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 15.5% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 2.8% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents

[230] 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.

overall; and an estimated 1.1% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Human occupation of the barrier island where Kivalina is located extends back 1,500 years, when the area was first populated as a stopping-off place for people travelling between Arctic coastal areas and the Kotzebue Sound region. According to oral history, the original permanent settlement known as Kivalina was located on the coast of the mainland, somewhat north of the Kivalliik Channel. Originally, the people of Kivalina utilized the barrier island only as a seasonal hunting ground, making camp during summer months. Kivalina's existence was recorded in 1847 by a Russian Naval officer who mistook a seasonal subsistence camp north of the present day village as a permanent settlement. This settlement was logged as "Kivualinagmut."[231] A severe famine hit the area in the early 1880s, which killed or drove out most inhabitants of the Kivalina area.

From 1896 to 1902, reindeer were transported to the Kivalina area by the federal government, and locals were actively trained as herders. In 1905, Kivalina was relocated to its current location when the U.S. Bureau of Indian Affairs (BIA) repeated the error of the Russian naval officer by mistaking a seasonal camp on the barrier reef for a permanent village. Soon, the BIA established a school on the southern tip of the island and threatened any residents who did not enroll their children with imprisonment. This led to the vacating of the original Kivalina as well as surrounding communities.[232]

A post office was established in 1940, and an airstrip in 1960. During the 1970s, a new school, power system, and new houses were built. The sale and importation of alcohol is prohibited within the community.[233]

Natural Resources and Environment

Kivalina lies in the transitional climate zone, which is characterized by long, cold winters and cool summers. The average low temperature during January is -15 °F; the average high during July is 57 °F. Temperature extremes have been measured from -54 to 85 °F. Annual snowfall averages 57 inches, with 8.6 inches of precipitation per year. The Chukchi Sea is ice-free and open to boat traffic from mid-June to the first of November.

The village lies on a 5-mile long, 700-foot wide barrier reef island. Local soils are characterized by sand and gravel, which are largely unconsolidated and subject to erosion. The mainland to the east of Kivalina consists of a large coastal plain dotted with lakes, meandering streams, sloughs, and gently rolling limestone hills. In most areas, continuous permafrost underlies a tundra-covered bed of glacier till and alluvium. Lowland topography is characterized by thermokarst features which include thaw lakes, ice wedge polygons, frost mounds, and solifluction lobes. Moist and wet tundra are primary vegetation communities in lowland areas. The landscape is dominated by sedge-grasses and dwarf shrubs. Tall shrubs are present around

[231] NANA Corporation. (n.d.). *Kivalina.* Retrieved September 18, 2012 from: http://www.nana.com/regional/about-us/overview-of-region/kivalina/.
[232] Ibid.
[233] 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.

many drainages. Freshwater species found in drainages include four species of whitefish, northern pike, Arctic char, Dolly Varden, and Arctic grayling. Terrestrial mammals include brown bear, snowshoe hare, moose, muskoxen, fox, wolves, weasels, and wolverine. There is also habitat for a wide range of seabirds.[234] Marine species within the Chukchi and East Bering seas include urchins, sea cucumbers, Snow crab, Arctic cod, sculpins, Saffron cod, shrimp, flounder, eelpouts, herring, walleye pollock, smelt, Pacific cod, king crab, sole, capelin, turbot, greenling, and a range of bivalves. All five species of Pacific salmon are found in the Kotzebue Sound region.[235] Marine mammals found within the Chukchi Sea include spotted seal, bearded seal, ringed seal, ribbon seal, beluga whale, killer whale, harbor porpoise, gray whale, minke whale, bowhead whale, polar bear, and Pacific walrus.[236]

Mineral resources in the region include a major zinc-leader development operated by NANA Corporation and Tech Alaska Incorporated. The Red Dog mine has been in operation since 1989 and one of the world's largest producers of zinc concentrate.[237]

Environmental hazards manifest almost exclusively in the form of flood and erosion events caused by storm surges. Storm flooding historically occurred in early fall, before the formation of sea ice along the shore. However, Kivalina can experience storm events at any time of the year. Southwesterly storms bring 70 knot winds in the summer and early fall, while winter storms typically come from the northeast. Local observations have found that shorefast ice has formed later in recent years, increasing the effects of fall storm flooding. For two decades, steady erosion of the Kivalina shoreline has led to increased sea encroachment, and the City has decided that relocation to an inland site is necessary. Relocation inland would alleviate shoreline flooding concerns; however, the U.S. Army Corps of Engineers (USACE) estimates relocation to be 15 to 20 years away, putting the community in a difficult situation if current erosion trends continue. In addition to sediment removal, bank failure, and habitat destruction; flood and erosion hazards can damage infrastructure, leading to the potential release of toxic contaminates into the local environment. Outhouses, the school sewer, septic bunkers, and dog yards are all potential sources of contaminants which could impact community health. A significant concern of flood victims would be the lack of a reliable, clean water source. Mitigation measures in place include a large rock revetment, proposed evacuation route, public awareness programs, and structure elevation and relocation plans.[238]

In 2003, the Government Accountability Office reported that Kivalina faced an imminent threat from flooding and erosion, and the USACE was utilized in assessing threats and possible mitigative actions, including relocation. Storms in 2004 and 2005 caused significant damage to Kivalina's shore, and it was estimated that 70 to 80 feet of coastline was lost. The city was subsequently declared a federal disaster area by the Federal Emergency Management

[234] National Park Service. (n.d.). *Final Environmental Impact Statement: Cape Krusenstern National Monument, Alaska.* Retrieved September 19, 2012 from: http://wilderness.nps.gov/document/III-3.pdf.
[235] North Pacific Fishery Management Council. (2009). *Fishery Management Plan for Fish Resources of the Arctic Management Area.* Retrieved September 19, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[236] Angliss, R. P. and K. L. Lodge. 2004. Alaska marine mammal stock assessments, 2003. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-144. Retrieved September 20, 2012 from http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2003.pdf.
[237] See footnote 231.
[238] City of Kivalina; ASCG Inc. of Alaska; and Bechtol Planning and Development. (2007). *City of Kivalina, Alaska Local Hazards Mitigation Plan.* Retrieved September 20, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Kivalina_HMP.pdf.

Administration (FEMA), qualifying it for relief funding. A seawall was soon constructed; however, it failed a day before its inauguration. A storm in 2007 forced an evacuation of the community, and a large rock revetment project was planned soon after. Kivalina had selected the relocation site of *Kiniktuuraq*, which was located a mile southeast on a portion of the Chukchi Sea coast that had been used by residents as a subsistence camp. However, the site was determined as vulnerable to erosion by federal contractors, and would require riprap and armor rock to stabilize the shoreline. This determination frustrated Kivalina residents, as it conflicted with local and traditional ecological knowledge of area characteristics. However, the USACE requires that floodplain delineation and long-term shoreline stabilization plans are submitted before relocation efforts can be funded by FEMA and to qualify for federal disaster insurance. These requirements raised the cost of relocation significantly.[239]

In 2008, costs associated with relocation prompted the City of Kivalina and the Native Village of Kivalina to file a public nuisance suit against Exxon-Mobil Corporation and 23 other fossil fuel companies for contributing to the effects of global warming though excessive emissions of greenhouse gases. The claim stated that harm to the community was caused by anthropogenic climate changes, which was caused in part by carbon dioxide emitted by the defendants. However, a California District Court dismissed the case on grounds that the plaintiffs' claim lacked standing. It was the court's opinion that under the political question doctrine, it was inappropriate for the court system to weigh in on an issue that had not been given clear legislative or political definitions. In addition, the plaintiffs' claim that harm was linked to the defendants' emissions lacked sufficient evidence. The case was later filed in appellate court in 2010, and oral argument was held in November 2011.[240] Ultimately, the original ruling was upheld.

According to the Alaska Department of Environmental Conservation, there are no significant environmental remediation sites active within Kivalina as of 2010. However, the nearby Red Dog Mine site consistently monitored for potential impacts to populated and subsistence use areas from fugitive dust and lead sulfide and zinc sulfide contaminates. Potential risks include respiratory problems associated with dust, and impacts to subsistence food sources from dissolved or bioaccumulated contaminates. Dust deposition from the mine site poses risks to the local environment surrounding open pits. A study conducted in 2001 found that it was safe to continue eating subsistence foods, and mitigation techniques have been put in place to control fugitive dust particles.[241]

Current Economy[242]

Kivalina's economy is heavily dependent upon subsistence hunting and fishing. Wage employment opportunities are limited, and many jobs are either part-time or seasonal. Major employers include the City, Village Council, school, Maniilaq Association, NANA Regional

[239] Shearer, C. 2012. The political ecology of climate adaptation assistance: Alaska Natives, displacement, and relocation. J. Political Ecol. 19, 174-183.
[240] Abate, R. S. (2010). Public Nuisance Suits for the Climate Justice Movement: the Right Thing and the Right Time. (2010). *Washington Law Review, 85*, 197-252.
[241] Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program: Red Dog Mine.* Retrieved September 20, 2012 from: http://dec.alaska.gov/spar/csp/sites/reddog.htm.
[242] Unless otherwise noted, all monetary data are reported in nominal values.

Corp., local stores, and the Red Dog Mine. Commercial fishing is another source of seasonal employment. The Native art industry is also expanding, and locals specialize in ivory carving.[243]

In 2010,[244] the estimated per capita income was $13,425 and the estimated median household income was $59,375, compared to $8,360 and $30,833 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[245] the real per capita income ($10,993) and real median household income ($40,545) indicate that both individual and household earnings declined. In 2010, Kivalina ranked 220th of 305 communities from which per capita income was estimated, and 79th of 299 communities from which median household income was estimated.

However, Kivalina's small population size may have prevented the ACS from accurately portraying economic conditions.[246] 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 $2.96 million in total wages in 2010.[247] When matched with the 2010 Decennial Census population, the per capita income equals $7,919, which is significantly less than the 2010 ACS estimate and suggests that cautions should be used when comparing 2010 ACS and 2000 Census figures.[248] This is supported by the fact that Kivalina 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. [249] 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.

According to 2006-2010 ACS estimates,[250] 66.8% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 17.1%, compared to an estimated 5.9% statewide; and an estimated 22.0% of residents lived below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. Again, it should be noted that the ACS may not have accurately captured economic conditions in Kivalina due to its small population size. According to 2010 ALARI estimates, the unemployment rate was 25.8% based on unemployment insurance claimants.[251] Of those employed in 2010, the ACS estimated that 40.3% worked in the private sector and 59.7% worked in the public sector.

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[243] NANA Regional Corporation. (n.d.). *Kivalina.* Retrieved September 20, 2012 from: http://www.nana.com/regional/about-us/overview-of-region/kivalina/.

[244] 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.

[245] 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).

[246] 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.

[247] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

[248] 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/.

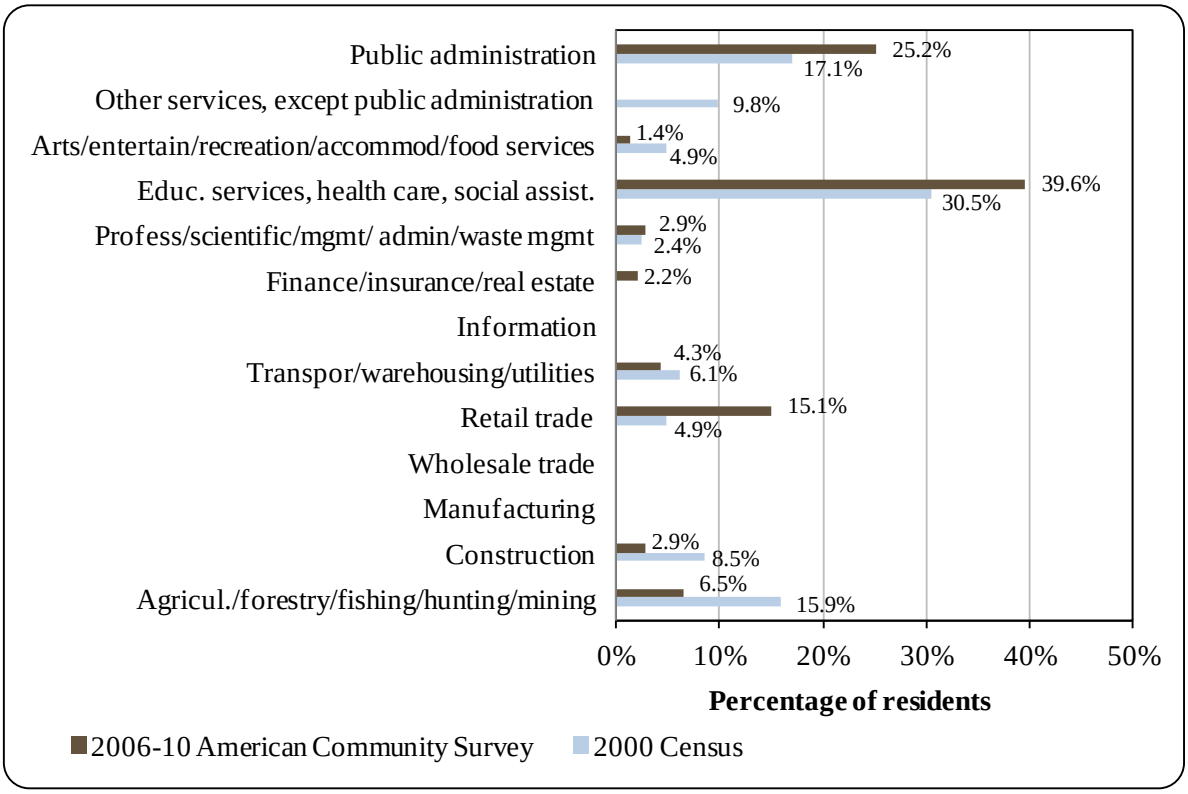
[249] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.

[250] See footnote 246.

[251] See footnote 248.

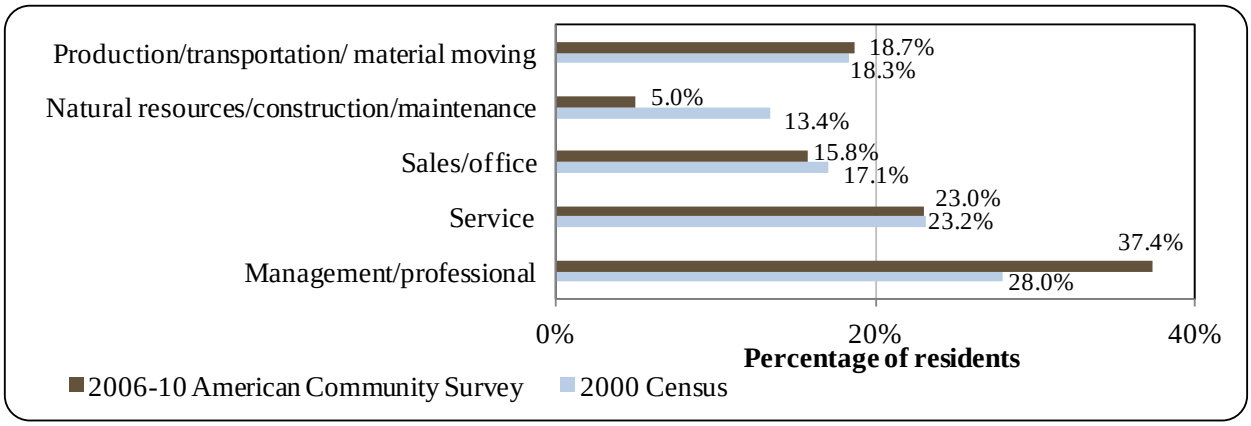
By industry, most (39.6%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration (25.2%); retail trade (15.1%); and agriculture, forestry, fishing, hunting, and mining (6.5%) sectors.[252] According to 2010 ALARI estimates, most (66.5%) employed residents worked in local government sectors; followed by educational and health service (11.2%) and natural resources and mining (7.1%) sectors.[253] Between 2000 and 2010, there was significant variation in employment by industry sector. Significant proportional increases occurred in public administration sectors; education services, health care, and social assistance sectors; and retail trade sectors. Conversely, significant proportional declines occurred in other service sectors; construction sectors; and agriculture, forestry, fishing, hunting, and mining sectors (Figure 3).

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



[252] 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.
[253] Ibid.

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



By occupation type, most (37.4%) employed residents were estimated to hold management or professional positions; followed by service (23.0%); production, transportation, or material moving (18.7%); sales or office (15.8%); and natural resources, construction, or maintenance (5.0%) positions (Figure 4).[254] According to 2010 ALARI estimates, most employed residents held construction laborer occupations; followed by stock clerks or other fillers; office or administrative support workers; and gaming service workers. ALARI listed 11 occupational categories in 2010.[255] Between 2000 and 2010, there were significant variations in employment by occupation type. Significant proportional increases occurred in management or professional occupations. Conversely, significant proportional declines occurred in natural resources, construction, and maintenance positions.

Governance

Kivalina is a Second-class city with a mayoral form of government. There is a six-member city council, eleven-member school board, and five municipal employees. In addition, there is a U.S. Bureau of Indian recognized tribal government.

The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Kivalina is the NANA Regional Corporation, which also serves as the ANCSA-chartered village corporation. The local ANCSA chartered non-profit is the Maniilaq Association.

The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 620 miles southeast. The closest Alaska Department of Fish and Game (ADF&G) office is located in Kotzebue, 80 miles southeast. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Nome, 490 miles south.

Municipal revenues were taken from Certified Financial Statements. When adjusted for inflation,[256] total municipal revenues declined by 2.4% between 2000 and 2010 from $836,087, to $1.06 million. Total municipal revenues peaked in 2009 at $1.68 million, and were at their lowest in 2005 at $241,479. In 2010, most (79.5%) municipal revenues were collected locally. In

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

that year most locally generated revenues were collected from gaming revenues, followed by donations, utility rents, and debt interests. Outside revenues were collected from state allocated Community Revenue Sharing and other outside grants. Sales tax revenues accounted for 2.5% of total municipal revenues in 2010, compared to less than one-percent in 2000. In addition, Community Revenue Sharing accounted for 11.1% of total municipal revenues that year, compared to 3.8% in 2000 from State Revenue Sharing. Information regarding municipal revenue can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kivalina 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	$836,087	$6,017	$31,947	n/a
2001	$1,257,173	$29,411	$32,017	n/a
2002	$949,436	$2,200	$30,054	n/a
2003	$769,776	$3,002	$30,054	n/a
2004	$510,492	$7,466	-	n/a
2005	$241,479	$4,066	-	n/a
2006	$667,988	$14,444	-	n/a
2007	$956,968	$21,121	-	n/a
2008	$1,232,015	$24,088	-	n/a
2009	$1,683,112	$30,731	$116,510	n/a
2010	$1,055,540	$26,037	$116,711	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[257,258]

Kivalina is not connected to any road systems, and basic modes of transportation to and from Kivalina are plane, small boat, and snowmobile. The state owns a 3,000-foot long by 60-foot wide gravel airstrip. There is daily service from Kotzebue and twice weekly service from Point Hope provided by Bering Air and Era Aviation. In total, roundtrip airfare between Anchorage and Kivalina in June 2012 was $718.[259] Air freight services between Kivalina and Kotzebue are provided by Ryan Air, Bering Air, and Era Aviation. Two main hunting trails follow the Kivalina and Wulik Rivers. Northland Services barges fuel, automobiles, groceries, household goods, and general supplies to Kivalina in July and August. Cargo is shipped in from either Anchorage or Seattle.

Facilities[260,261]

Water is sourced from the Wulik River and pumped via a 3-mile surface line to a pair of storage tanks holding 1.17 million gallons. Water is chlorinated and fluoridated as it is pumped. Kivalina operates on a "fill-and-draw" system meaning that water is pumped and stored during July and August for use during the winter. During warm-weather months, residents haul and treat their own water individually, while during the winter water is hauled from the central tanks. A few residents have plumbing, and the school and health clinic are fully plumbed with individual water and sewer lines. Residential sewage is hauled in honeybuckets to four disposal bunkers located throughout the community. A washeteria is operated by the city within the community and offers three showers. When the water tank is down to 12 feet, the washeteria is closed to the public.

The Alaska Village Electric Co-op provides electricity via diesel generators with a peak capacity of 1,040 kilowatts. Telephone service is provided by Kotzebue-based OTZ Telephone Cooperative. Landline and cellular phone service capabilities are available. OTZ also provides DSL high speed internet services. Cable television service is provided by the City.

A community hall and Boys & Girls Club are available in the community. There is no Village Public Safety Office, and services are provided by state troopers based in Kotzebue. The City also maintains its own volunteer fire department and search and rescue group. Visitor accommodations are not available in Kivalina. Other public facilities include the City Office, Tribal Office, Kivalina Native Store, two churches, bingo hall, and three small privately owned dry goods shops.

[257] NANA Regional Corporation. (n.d.). *Kivalina.* Retrieved September 24,2012 from: http://www.nana.com/regional/about-us/overview-of-region/kivalina/.
[258] 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.
[259] Airfare was calculated using lowest fare from www.travelocity.com (Retrieved November 22, 2011).
[260] See footnote 258.
[261] See footnote 257.

Medical Services[262]

The Kivalina Clinic operated by the Maniilaq Association provides residents with basic medical services. Two health aides provide services 6 days per week and are on call 24 hours. The small clinic has a waiting room, two exam rooms, an office, a communications room, and a bathroom. Acute, long-term, specialized, and emergency medical services are provided in Kotzebue.

Educational Opportunities

McQueen School provides preschool through 12th grade instruction. As of 2011, there were 139 students enrolled and 13 teachers employed.[263] Opportunities for post-secondary education are available through online classes provided by Chukchi Campus, a rural division of the University of Alaska.[264] Bachelor's degrees are offered in child development and family studies, rural development, social work, and education. Master's degrees are offered in education and rural development.[265]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Historically, the area's inhabitants used Kivalina as a seasonal subsistence camp. Important subsistence fish include Arctic char, chum salmon, sheefish, whitefish, tomcod, and smelt. Important subsistence marine mammals include bearded seals, ringed seals, spotted seals, beluga whale, and bowhead whale, and walrus. Subsistence harvests are conducted throughout the year, depending on species. Bowhead and beluga whale hunting is primarily conducted in the spring, from April through June. Walrus hunting peaks during May and June. Seal hunting peaks from April through June, and again from late January through the end of February. Fishing is done throughout the year, along coastal areas and within the Kivalina and Wulik River drainages. Arctic char and chum salmon are especially important species.[266]

With the exception of Pacific halibut, commercial fishing within the federally managed Arctic Management Area (AMA) is prohibited under the current Arctic Fishery Management Plan (FMP). Pacific salmon fisheries are managed by the State of Alaska and directed fishing is allowed in State waters within the Kotzebue Sound region. Halibut is management under the International Pacific Halibut Commission (IPHC). Halibut harvests may occur within federal waters under the management of the IPHC; however, no commercial harvests have been attempted. Experimental fishing for halibut has occurred within the AMA in the past. Directed

[262] Ibid.
[263] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[264] Ibid.
[265] University of Alaska Fairbanks. (n.d.). *Chukchi Campus.* Retrieved September 24, 2012 from: http://www.uaf.edu/chukchi/.
[266] U.S. Environmental Protection Agency, U.S. Dept. of the Interior, U.S. Dept. of the Army Corps of Engineers, and Ott Water Engineers, Inc. (1984). *Final Environmental Impact Statement Red Dog Mine Project.* Retrieved September 24, 2012 from: http://nepis.epa.gov/EPA/.

fishing for crab in the Chukchi Sea is limited to small subsistence or personal use fisheries. The commercial harvest of crab within the AMA is prohibited under the current Arctic FMP.[267]

In terms of state water fisheries, a small crab fishery occurs in the Norton Sound area; adjacent to the AMA. While authorized under the federal crab FMP, management is largely deferred to the State. Some crab subsistence and personal use occurs within the southeastern Chukchi Sea. A commercial salmon fishery is managed by the state within the Kotzebue Sound region. Again, commercial salmon harvests are prohibited within the AMA. While prohibited within the AMA, herring harvests occur in some adjacent State waters. Dolly Varden are at times caught incidentally during salmon harvests within the Kotzebue Sound region.[268]

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, there was no known fisheries-related revenue reported by the community of Kivalina (Table 3).

Commercial Fishing

Overall, commercial fishing in Kivalina is somewhat limited. In both 2000 and 2010, five residents, or 1.3% of the population, held five commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Between those years, no more than five residents held CFEC permits. Salmon was the only species harvested by residents of Kivalina between 2000 and 2010. No residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits in those years, nor did any residents hold halibut, sablefish, or crab quota share. In 2010, 20% of permits held were actively fished, compared to 40% in 2000; which was also the year that local permit activity peaked.

Residents held three commercial crew licenses in 2010, compared to two in 2000. In addition, residents held majority ownership of only one commercial fishing vessel that year, compared to none in 2000. Kotzebue gillnet salmon was the only fishery prosecuted by residents of Kivalina in 2010.

No landings were reported in Kivalina between 2000 and 2010. Landings reported by residents of Kivalina during that time are considered confidential. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[267] North Pacific Fishery Management Council. (2009). *Fishery Management Plan for Fish Resources of the Arctic Management Area.* Retrieved September 25, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[268] Ibid.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kivalina: 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]	*$836,087*	*$1.56 M*	*$949,436*	*$769,776*	*$510,492*	*$241,479*	*$667,988*	*$956,968*	*$1.23 M*	*$1.68 M*	*$1.06 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, Kivalina: 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, Kivalina: 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	4	4	5	5	5	5	5	5	5
	Fished permits	2	1	0	0	1	1	1	1	1	1	1
	% of permits fished	40%	25%	0%	0%	20%	20%	20%	20%	20%	20%	20%
	Total permit holders	5	4	4	4	5	5	5	5	5	5	5
Total CFEC Permits[2]	*Permits*	*5*	*4*	*4*	*4*	*5*	*5*	*5*	*5*	*5*	*5*	*5*
	Fished permits	*2*	*1*	*0*	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
	% of permits fished	*40%*	*25%*	*0%*	*0%*	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Permit holders	*5*	*4*	*4*	*4*	*5*	*5*	*5*	*5*	*5*	*5*	*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 Kivalina: 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 Kivalina[2]	Total Net Pounds Landed in Kivalina[2,5]	Total Ex-Vessel Value of Landings in Kivalina[2,5]
2000	2	0	0	0	0	0	0	$0
2001	2	0	0	1	1	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	1	1	0	0	$0
2004	3	0	0	1	1	0	0	$0
2005	4	0	0	0	0	0	0	$0
2006	2	0	0	0	0	0	0	$0
2007	3	0	0	1	1	0	0	$0
2008	2	0	0	1	1	0	0	$0
2009	2	0	0	1	1	0	0	$0
2010	3	0	0	1	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 Kivalina: 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 Kivalina: 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 Kivalina: 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 Kivalina: 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 Kivalina 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*	--	--	--	--
	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*	--	--	--	--

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 in remote areas of Northwest Alaska is extremely limited due to travel costs and a lack of visitor infrastructure. There are few recreational fisheries in the AMA and no catch and release fishery management programs. Personal use fisheries exist, although they are more closely related to subsistence fisheries. Most recreational fishing occurs near Kotzebue and within state waters.[269]

Between 2000 and 2010, there were no sport fish guide businesses registered within the community, no sport fish guide licenses issued to residents, and no sportfishing licenses sold within the community. In 2010, residents held 25 sportfishing licenses, compared to 5 in 2000. No information on species targeted by resident private anglers is available (Table 11).

Kivalina is located within the Northwest Alaska ADF&G Harvest Survey Area which includes the Selawik, Kobuk, Noatak, Wulik, and Kivalina river drainages; and all saltwater in the northern half of Kotzebue Sound. There are no saltwater angler days fished data available for 2010. In 2009, there was a total of 251 angler days fished, compared to 215 in 2000. In that year, non-Alaskan residents accounted for 100% of total angler days fished, compared to 6.5% in 2000. In 2010, there was a total of 1,088 freshwater angler days fished, compared to 1,404 in 2000. In that year, non-Alaskan residents accounted for 32.7% of total angler days fished, compared to 31.2% in 2000. Further information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Kivalina: 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 Kivalina[2]
2000	0	0	5	0
2001	0	0	5	0
2002	0	0	4	0
2003	0	0	5	0
2004	0	0	6	0
2005	0	0	6	0
2006	0	0	27	0
2007	0	0	22	0
2008	0	0	19	0
2009	0	0	6	0
2010	0	0	25	0

[269] North Pacific Fishery Management Council. (2009). *Fishery Management Plan for Fish Resources of the Arctic Management Area.* Retrieved September 25, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.

Table 11 cont'd. Sport Fishing Trends, Kivalina: 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	14	201	438	966
2001	44	86	509	801
2002	27	15	275	973
2003	298	17	934	939
2004	115	19	450	709
2005	35	308	408	510
2006	36	35	394	875
2007	79	27	237	763
2008	352	68	512	639
2009	251	n/a	347	913
2010	n/a	n/a	356	732

[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 essential to Kivalina's residents, sustaining them economically, nutritionally, and culturally. Popular subsistence fishing areas include the Kivalina River and Wulik River watersheds, as well as coastal areas of the Chukchi Sea. According to ADF&G household surveys conducted in 2008, 34% of households reported participating in salmon subsistence activities in 2007, 67% reported participating in marine mammal subsistence activities, 7% reported participating in marine invertebrate subsistence activities, and 79% reported participating in non-salmon fish subsistence activities (Table 12). In terms of subsistence resource use, 98% of households reported using fish and 93% reported using marine mammals in 2007.[270]

Broken down by species, most (45%) households surveyed in 2008 reported using chum salmon in 2007, followed by pink (19%), coho (10%), and Chinook (7%) salmon. Also in that year, an estimated 2,406 pounds of chum salmon were harvested, followed by an estimated 502 pounds of Chinook, 251 pounds of pink, and 33 pounds of coho salmon. Data regarding

[270] Magdanz, J.S., N. S. Braem,, B. C. Robbins,, and D. S. Koster. 2010. Subsistence Harvests in Northwest Alaska, Kivalina and Noatak, 2007. Alaska Dept. of Fish and Game Technical Paper No. 354. Retrieved September 25, 2012 from: http://www.subsistence.adfg.state.ak.us/techpap/TP354.pdf.

subsistence salmon permits issued by ADF&G are largely unavailable, with only limited data reported in 2008. In terms of non-salmon fish, 93% of households surveyed in 2008 reported using Dolly Varden in 2007, followed by saffron cod (81%), whitefish (40%), sheefish (36%), Arctic grayling (33%), Arctic cod (31%), northern pike (17%), and burbot (14%). Overall, an estimated 75,332 to 78,780 lbs of non-salmon fish were harvested in 2007.[271,272] Between 2003 and 2010, no residents were issued Subsistence Halibut Registration Certificates (SHARC) by NMFS (Table 14).

Marine mammals accounted for the largest part of Kivalina's subsistence harvest in 2007. In that year, 126,002 lbs of marine mammals were harvested, accounting for 49% of the total community subsistence harvest reported for that year. In that year, most (88%) households reported using beluga whale, followed by bearded seal (83%), bowhead whale (64%), ringed seal (48%), walrus (45%), spotted seal (5%), and ribbon seal (2%).[273] For species listed in Table 15, an estimated total of 78 beluga whales, 6 walrus, and 2 polar bears were harvested between 2000 and 2010. Most beluga whale harvests occurred in 2000 (44) and 2007 (22).

Overall, 10 species accounted for 95% of the edible weight harvested by subsistence resources (most of which were aquatic species). This included an estimated 229 bearded seals, 20,527 Dolly Varden, 268 caribou, 22 beluga whale, 25,824 saffron cod, 71 ringed seals, 490 gallons of cloudberries (salmonberries), 401 chum salmon, 357 gallons of crowberries, and 4 moose.[274]

In terms of availability of aquatic resources, 26% of households reported not "getting enough" marine mammals, specifically bearded seals, walruses, bowhead whales, and beluga whales. According to ADF&G subsistence harvest records (Tables 15), an estimated 50 beluga whales and 6 walruses were harvested between 2000 and 2010; however, these estimates were not consistent with the 2008 ADF&G household survey.

[271] Ibid.
[272] 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).
[273] Ibid.
[274] Ibid.

Table 12. Subsistence Participation by Household and Species, Kivalina: 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	34%	n/a	67%	7%	79%	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, Kivalina: 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	n/a	n/a	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	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	n/a	n/a	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	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	87	75,332
2008	1	1	1	n/a	n/a	n/a	22	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, Kivalina: 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

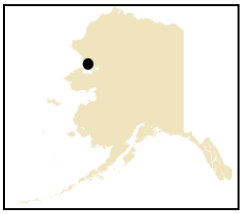
Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information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

Table 15. Subsistence Harvests of Marine Mammal Resources, Kivalina: 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	44	n/a	1	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	3	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	1	n/a	n/a	n/a	n/a	n/a	n/a
2005	2	n/a	2	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	22	n/a	n/a	2	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	2	n/a	n/a	n/a	n/a
2010	5	n/a	1	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.

Kotzebue (*KAWT-zuh-byoo*)



People and Place

Location [275]

Kotzebue is on the Baldwin Peninsula in Kotzebue Sound, on a 3-mile long spit, which ranges in width from 1,100 to 3,600 ft. It is located near the discharges of the Kobuk, Noatak, and Selawik Rivers, 549 air miles northwest of Anchorage and 26 miles above the Arctic Circle. Kotzebue is located in the Kotzebue Recording District. The area encompasses 27.0 square miles of land and 1.7 square miles of water. Kotzebue was incorporated in 1958 and is under the jurisdiction of the Northwest Arctic Borough.

Demographic Profile [276]

In 2010, there were 3,201 residents in Kotzebue, ranking it 34th largest of 352 total Alaskan communities with recorded populations that year (Table 1). Overall between 1990 and 2010, the population increased by 16.4%. Between 2000 and 2009, there was an average annual growth rate of 0.21%, which was slightly under the statewide average of 0.75% and indicative of slight growth over those years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that the permanent population of Kotzebue in 2010 was 3,270. In that year, the estimated seasonal or transient population was 400. Community leaders reported that one average, seasonal residents live in Kotzebue between April and October, with the population peaking June through September. However, seasonal population peaks do not appear to be driven by employment in fisheries sectors.

Kotzebue is traditionally an Inupiat Eskimo community. In 2010, 73.6% of residents identified themselves as American Indian or Alaska Native, compared to 71.2% in 2000; 16.0% identified themselves as White, compared to 19.5% in 2000; 1.2% identified themselves as Asian, compared to 1.8% in 2000; 0.9% identified themselves as Black or African American, compared to 0.3% in 2000; 0.3% identified themselves as Native Hawaiian or Other Pacific Islander, compared to 0.1% in 2000; 7.6% identified themselves as two or more races, compared to 6.4% in 2000; and 0.4% identified themselves as some other races, compared to 0.8% in 2000. In addition, 1.3% of residents identified themselves as Hispanic or Latino in 2010, compared to 1.2% in 2000. Further information regarding racial and ethnic trends can be found in Figure 1.

[275] 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.

[276] 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.

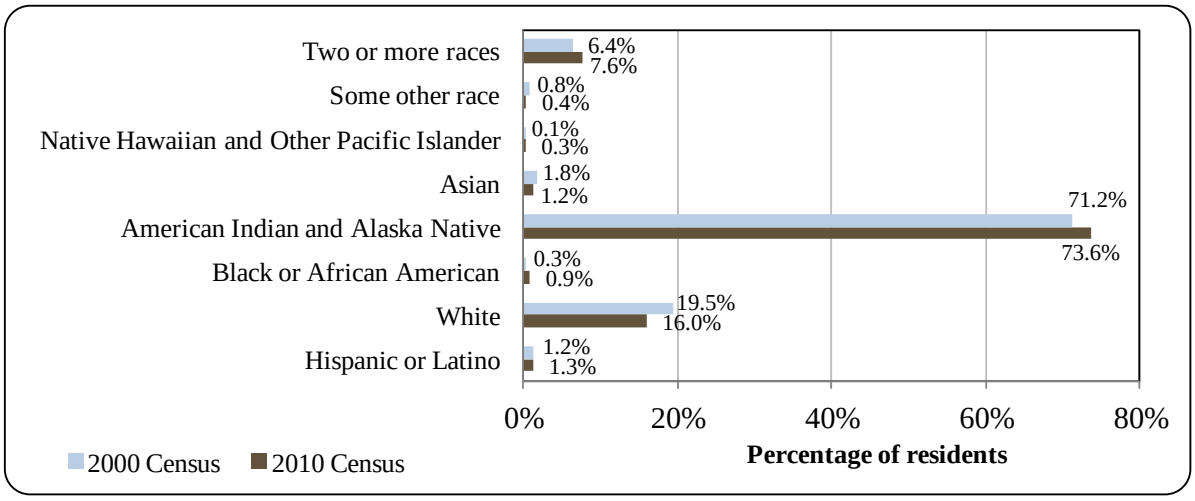
Table 1. Population in Kotzebue from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	2,751	-
2000	3,082	-
2001	-	3,059
2002	-	3,075
2003	-	3,068
2004	-	3,142
2005	-	3,123
2006	-	3,105
2007	-	3,121
2008	-	3,124
2009	-	3,154
2010	3,201	-

[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, Kotzebue: 2000-2010 (U.S. Census).

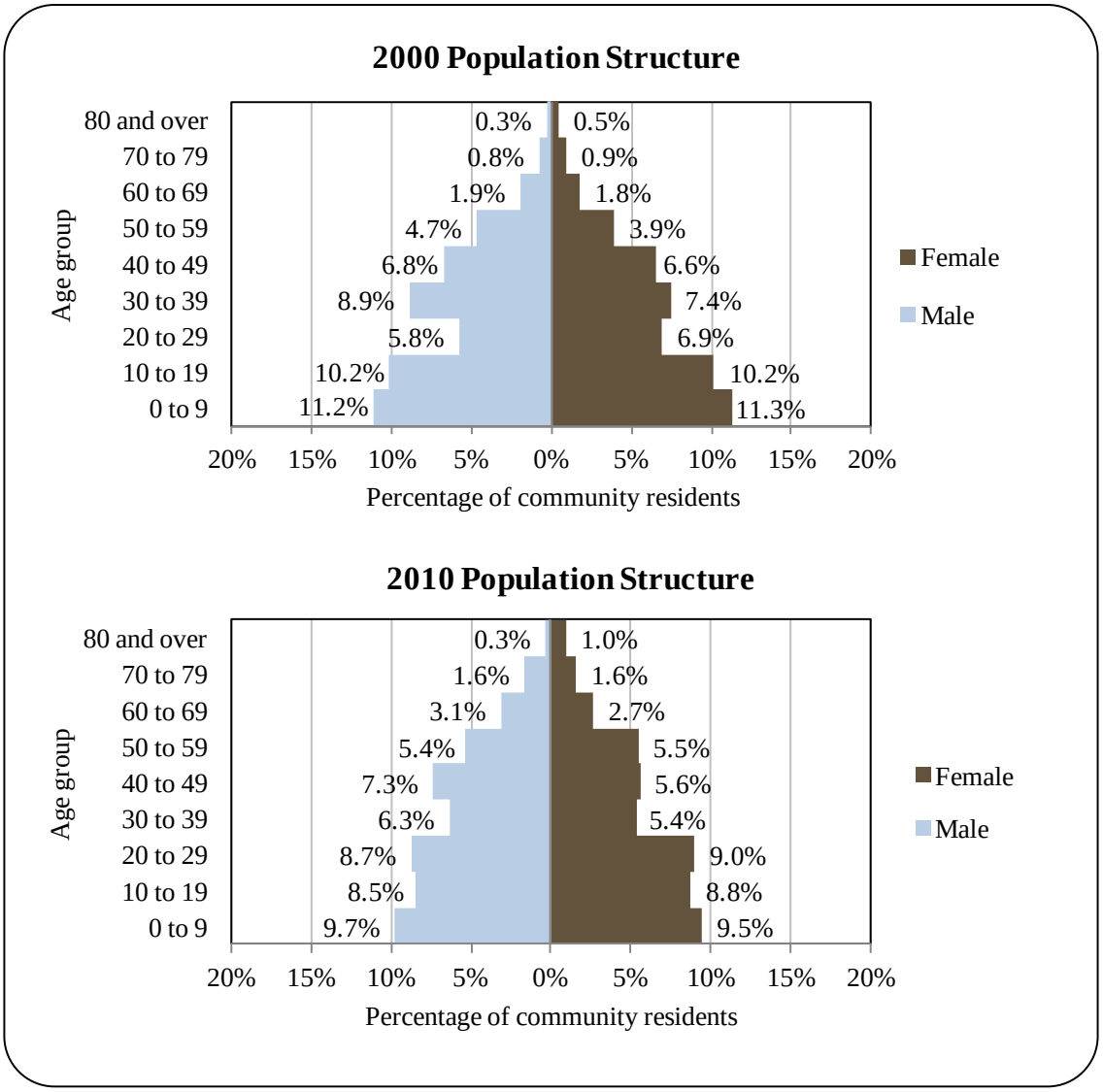


In 2010, the average household size in Kotzebue was 3.31, compared to 3.50 in 1990 and 3.40 in 2000. In that year, there were a total of 1,160 housing units, compared to 911 in 1990 and 1,007 in 2000. Of the households surveyed in 2010, 38% were owner-occupied, compared to 39% in 2000; 47% were renter-occupied, compared to 50% in 2000; 9% were vacant, compared to 7% in 2000; and 8% were occupied seasonally, compared to 5% in 2000. In addition, 47 residents were living in group quarters in 2010, compared to 62 in 2000.

In 2010, the gender distribution of Kotzebue was 51.0% male and 49.0% female. This was similar to both the gender distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (50.5% male, 49.5% female). The median age that year was 27.2 years, which was lower than the statewide median of 33.8 years, but higher than the 2000 median of 25.9 years.

Compared with 2000, the population structure in 2010 was somewhat more constricted. In that year, 36.5% of residents were under the age of 20, compared to 42.9% in 2000; 10.3% were over the age of 59, compared to 6.2% in 2000; 35.5% were between the ages of 30 and 59, compared to 38.3% in 2000; and 17.7% were between the ages of 20 and 29, compared to 12.7% in 2000. The increase in older age brackets with a subsequent decrease in younger age brackets reflects an aging population.

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



Gender distribution by age cohort continued to be relatively even between 2000 and 2010. In that year, the greatest absolute gender difference occurred within the 40 to 49 age range (7.3% male, 5.6% female), followed by the 30 to 39 (6.3% male, 5.4% female) and 80 and over (0.3% male, 1.0% female) age ranges. Of those three, the greatest relative gender difference occurred within the 80 and older range.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[277] estimated that 83.2% 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 6.7% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 10.1% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 24.2% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 9% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 8.6% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Archaeological findings in northwest Alaska indicate that people have continuously occupied the Kotzebue Sound area for the past 4,000 years. Evidence from the oldest sites show that humans were in the area 6,000 years ago, and perhaps as early as 8,000 to 10,000 years ago. Two cultures can be linked with continuous occupation of the Kotzebue Sound area: the Arctic Small Tool tradition (4,200 to 1,000 years ago) and Northern Maritime tradition (1,400 years ago to present). The area near present day Kotzebue has been occupied as a village for the past 600 years. The oldest excavated Kotzebue site is dated at 1400 C.E.[278]

The permanent settlement of *Kikitaruk* was unusual for its time, in that most settlements were semi-permanent as most people of the area followed migratory caribou herds. But the coastal resources of the area allowed for permanent settlement, and Kikitaruk established itself as a regional trading hub. Centuries before European contact, Kikitaruk was a busy center of trading activities and a stopping point for trade routes throughout the Arctic linking Siberian Chukchi and northern MacKenzie Eskimos and Canadian Athabascans.[279]

In the first half of the 19th century, the Kotzebue territory of *Qikiqtagrumiut* was a group of regional winter settlements, focused around a larger settlement located south of present-day Kotzebue. The estimated population of the Qikiqtagrumiut was 375 as of 1840. *Sisualik*, located on a spit 10 miles northwest of Kotzebue, was the site of the largest Eskimo fair in the World; attracting 2,000 or more people from throughout northwest Alaska and the Asiatic mainland. The fair, peaking in July, included feasts, dancing, games, and trade. Interior peoples traded furs, jade, salmon skin clothing, and birchbark baskets for muktuk, seal oil, ivory, and walrus hides

[277] 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.

[278] Georgette, S., and H. Loon. 1993. Subsistence Use of Fish and Wildlife in Kotzebue, a Northwest Alaska Regional Center. Technical Paper No. 167. Alaska Dept. of Fish and Game. Retrieved August 22, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp167.pdf.

[279] Alaska State Housing Authority. (1971). *Kotzebue, Alaska Comprehensive Development Plan.* Retrieved August 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kotzebue-CP-1971.pdf.

from coastal peoples. Tobacco, metal implements, and firearms reached Sisualik through trade routes from Russian before Europeans arrived in the region. The Great Famine of 1882-84 decimated the Qikiqtagrumiut. Other factors, including introduced diseases, loss of autonomy, and Euro-American influences also contributed towards deteriorating traditional societies.[280]

The first explorer to the Kotzebue Sound was Otto von Kotzebue in 1816. Europeans continued to periodically visit the Kotzebue Sound area during the first half of the 19th century, although there was little interaction with the Qikiqtagrumiut. After 1850, foreign traffic increased in the area as commercial interests in whales, ivory, and fur intensified. The period between 1880 and 1900 was a time of significant change in the region, as famine and disease severely eroded traditional life. In 1897, the Religious Society of Friends missionaries arrived, establishing living quarters, schools, and churches in what would be present-day Kotzebue. In 1898, the discovery of hold along the Kobuk River brought thousands of prospectors to Kotzebue. Inupiaq residents earned cash from miners by building boats and dog sleds, provided meat and dried fish, hauled mail and freight, and manufactured clothing. By 1900, most of the miners had left, most without realizing their sought after fortune.[281]

In 1909, the resident population of Kotzebue was 193. The community's population has grown since 1900, with rapid growth occurring immediately after World War II during the construction of the Air Base White Alice and Distant Early Warning system sites. The population went from 372 in 1939, to 623 in 1950, and 1,290 in 1960.[282]

The passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971 greatly transformed Kotzebue. The Kikiktagruk Inupiat Corporation received title to much of the Baldwin Peninsula, as did the NANA Regional Corporation. In the late 1980s, Kotzebue continued to grow as a regional transportation and commercial hub. Nearly all goods and services in the region are supplied from the community.[283]

Within the core of Kotzebue, a historic district is mentioned. Official designation on the National Register of Historic Places (NRHP) has not been submitted.[284] The Cape Krusenstern Archeological District National Monument, located in the vicinity of Kotzebue, is listed on the NRHP.[285]

Natural Resources and Environment

Kotzebue is located in the transitional climate zone, which is characterized by long, cold winters and cool summers. The average low temperature during January is -12 °F (-24 °C); the average high during July is 58 °F (14 °C). Temperature extremes have been measured from -52 to 85 °F (-47 to 29 °C). Annual snowfall averages 40 inches, with total precipitation of 9 inches per year. Kotzebue Sound is ice-free from early July until early October.

Kotzebue is surrounded by Cape Krusenstern National Monument, Noatak National Preserve, Kobuk Valley National Park, and Selawik National Wildlife Refuge. Kotzebue is

[280] See footnote 278.
[281] Ibid.
[282] The City of Kotzebue, Donahue, J., McClintock, B., and Kotzebue IRA Council. (2000). *City of Kotzebue Comprehensive Plan.* Retrieved August 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kotzebue-CP-2000.pdf.
[283] See footnote 278.
[284] See footnote 282.
[285] National Park Service. (n.d.). *National Register of Historic Places.* Retrieved August 17, 2012 from: http://nrhp.focus.nps.gov/natregsearchresult.do?fullresult=true&recordid=1.

located on the northern end of the Baldwin Peninsula. The Baldwin Peninsula is composed primarily of unconsolidated Quaternary sediments. These sediments are mostly eolian, glacial, and marine in origin. Illinoian glaciers deposited till and outwash over marine sediments. Loess was deposited over the glacier sediments during glacial retreat. Sea level rose, and in some areas, marine sediments were deposited over the eolian silts. Late Wisconsin and Holocene sediments are primarily silts, clays, and fine sands; with the oldest sediments exposed on coastal bluffs. An exploratory petroleum well drill 10 miles east of Cape Blossom hit bedrock at a depth of 900 feet. The nearest bedrock outcrops at sea level are on the Choris Peninsula to the southeast, at Ekichuk Lake on Hotham Inlet to the northeast, and at Cape Krusenstern Lagoon northwest of the project site. The Baldwin Peninsula is located within a zone of continuous permafrost. The depth of the bottom of permafrost is probably between 200 and 300 feet. During the summer, the active permafrost layer extends 2 to 4 inches beneath the surface.[286]

The prominent vegetation type on the Baldwin Peninsula is moist coastal tundra. Continuous, uniformly developed cotton grass tussocks with sparse groups of other sedges and dwarf shrubs dominate. Few trees grow in the area, particularly near Kotzebue. However, some stands can be found in the Noatak and Kobuk River drainages, and driftwood is scattered along the coast. Kotzebue residents collected various edible plants including greens, berries (cranberries, salmon berries, blue berries, and black berries), and roots. Cotton grass, wild rhubarb, and wild onion, wild peas, willow leaves, and sprouts are also traditionally gathered.[287]

Terrestrial mammals in the area include moose, caribou, bear, wolves, fox, lynx, mink, marten, wolverine, land otter, beaver, and muskrat. Marine mammals include bearded seal, ringed seal, walrus, beluga whale, and other whales. There is a historic area for taking seal located near the entrance to Hotham Inlet from Kotzebue. Polar bears rarely venture as far south as Kotzebue, but they have been spotted in the area. The region is home to more than 50 species of fish, including Arctic char, whitefish, Dolly Varden, sheefish, Northern pike, grayling, herring, cod, and all five species of Pacific salmon. Birds are present in the area between May and September. Most birds are migratory because of Kotzebue's proximity to Asian and North American flyways.[288]

The primary mineral development project on the Baldwin Peninsula is the Red Dog Mine, which is the world's largest zinc and lead mine. Mineral deposits are located in the DeLong Mountains, which are part of the Brooks Range. The Kobuk River Valley contains many placer gold deposits. On Jade Creek, gold and jade deposits can be found. The Ambler Mining District, east of Kotzebue, has vast deposits of jade, copper, and other minerals. The Noatak District, north of Kotzebue, contains gold deposits at Lucky Six Creek. The Selawik District, southeast of Kotzebue, has one reported gold operation on Shovel Creek, which was mined until shortly after World War II. Finally, the Shungnak District, east of Kotzebue, contains many placer gold deposits throughout several drainages.[289]

Environmental hazards present in the community include flooding, erosion, severe weather, and earthquakes. In general, most hazards are area wide. Primary flooding and erosion hazards come from storm surge flooding, wave and slough erosion, sea ice, and permafrost melt. Kotzebue is located on the coast, and is therefore susceptible to significant storm surge flooding.

[286] See footnote 282.
[287] Ibid.
[288] Ibid.
[289] Stoops, L. (2004). *Northwest Arctic Borough Comprehensive Economic Development Strategy.* Retrieved August 20, 2012 from: http://www.commerce.state.ak.us/dca/plans/NorthwestArcticBorough-EDP-2004.pdf.

Permafrost and erosion place strains on transportation and utility infrastructure, as well as constraints on community expansion. Potential effects of climate change include increased flood events, sea level rise, offshore ice retreat, and more severe coastal erosion. Sea-ice poses unique hazards to submerged infrastructure. Phenomenon such as strudel scour and ice gouging can potentially damage underwater utilities. In addition, offshore drilling platforms and shoreside facilities can become susceptible to ice overrides and pressure ridging.

Climate change is expected to alter seal levels, charge wind and deep-ocean circulation patterns, marine resource productivity, species distribution, and outbreaks of disease and harmful algal blooms. Permafrost melt is expected to result in land subsidence, which may impact local infrastructure; especially in poorly drained areas. Storm systems produce high winds that generate large waves and currents. Storm surges can temporarily raise water levels by as much as 23 feet, increasing the vulnerability of shorelines and floodplains to sediment and nutrient migrations. The retreat of sea ice facilities storm damage to the shorelines of the Baldwin Peninsula to the extent that communities may be forced to relocate. Deposition, resulting from storm surges, can alter drainage hydrography and reduce channel capacity; increasing flooding and bank erosion. Floodwaters pose environmental health hazards through the dispersal of harmful materials or the contamination of water sources. In addition to storms, extreme weather can also include extreme cold temperatures and heavy snow accumulations. Winter storms can produce temperatures of -40 to -60 °F. Heavy snow and ice storms impact transportation and supply networks. While the risk is present, the Kotzebue area has a relatively low risk of earthquakes. There is no historical precedence of earthquakes impacting the community. In addition, the probability of secondary impacts from earthquakes is also low.[290]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Kotzebue as of 2010. However, Kotzebue is a regional center, transportation hub, and former military site. As such, there are many smaller, ongoing cleanup projects active in the community.[291]

Current Economy[292]

Kotzebue is a service and transportation center for many villages in the Northwest Arctic Borough. Due to its location at the confluence of three river drainages, Kotzebue is the transfer point between ocean and inland water shipping and also the air transport center for the region. Activities related to oil and mineral exploration and development have contributed to the economy. The majority of income is directly or indirectly related to government employment, including the School District, Maniilaq Association, NANA Corporation, and City and Borough governments. In a survey conducted by the AFSC in 2011, community leaders reported that Kotzebue's resource-based economy is reliant on mining, fishing, and sport hunting/fishing.

In 2010,[293] the estimated per capita income was $23,067and the estimated median household income was $66,908, compared to $18,289 and $57,163 in 2000, respectively.

[290] City of Kotzebue; WHPacific, Inc.; and Bechtol Planning and Development. (2008). *City of Kotzebue, Alaska Local Hazards Mitigation Plan.* Retrieved August 21, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Kotzebue_LHMP.pdf.
[291] Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved August 21, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.
[292] Unless otherwise noted, all monetary data are reported in nominal values.

However, after adjusting for inflation by converting 2000 values into 2010 dollars,[294] the real per capita income ($24,050), and real median household income ($75,169) indicate that while individual earnings remained unchanged, household earnings declined..In 2010, Kotzebue ranked 124th of 305 communities from which per capita income was estimated, and 55th of 299 communities from which median household income was estimated.

However, Kotzebue's small population size may have prevented the ACS from accurately portraying economic conditions.[295] 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 $58.4 million in total wages in 2010.[296, 297] When matched with the 2010 decennial population, the per capita income equals $18,245, which is slightly less than the 2010 ACS estimate.

According to 2006-2010 ACS estimates, 70.8% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 14.7%, compared to an estimated 5.9% statewide; and an estimated 15.3% of residents lived below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. In addition, an estimated 59.3% worked in the private sector, an estimated 36.5% worked in the public sector, an estimated 3.8% were self-employed, and an estimated 0.4% was unpaid family workers. Based on unemployment insurance claimants, the DOLWD estimated that the local unemployment rate was 11.3% in 2010.

By industry, the 2006-2010 ACS estimated that most (40.7%) employed residents worked in education services, health care, and social assistance sectors in 2010; followed by retail trade sectors (11.2%); transportation, warehousing, and utilities sectors (11.2%); and public administration sectors (11.1%). Also in that year, an estimated 4.6% of employed residents worked in sectors which included fisheries. Between 2000 and 2010, significant proportion gains were seen in public administration, education services, health care and social assistance sectors. Conversely, significant proportional declines were seen in professional, scientific, management, administrative, and waste management sectors (Figure 3).

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[293] 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.

[294] 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).

[295] 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.

[296] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

[297] 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, Kotzebue (U.S. Census).

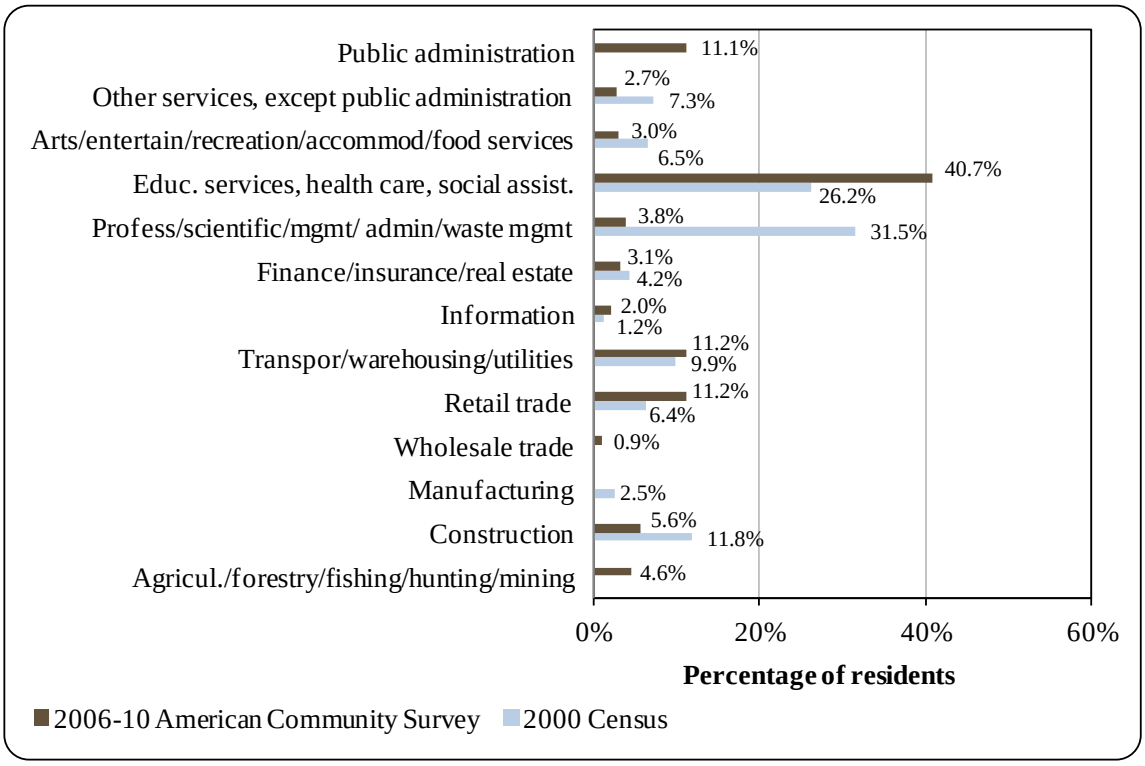
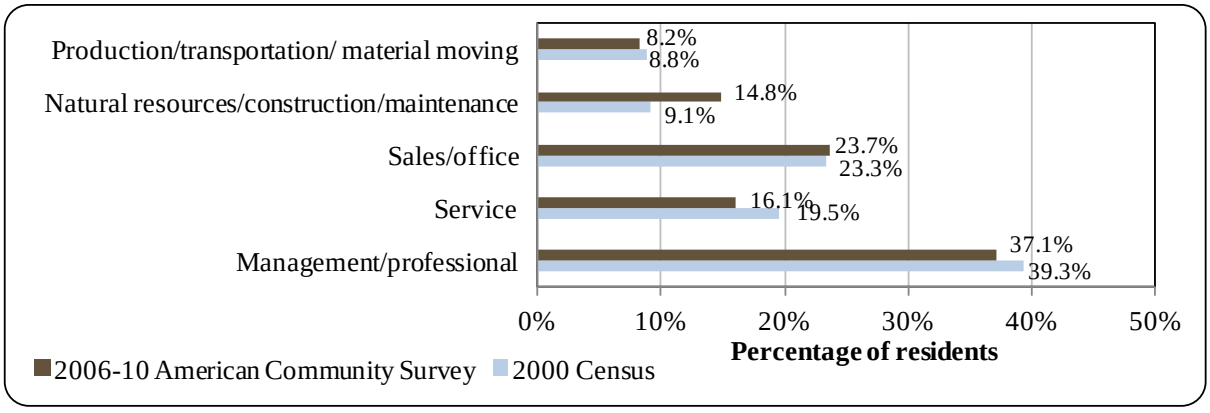


Figure 4. Local Employment by Occupation in 2000-2010, Kotzebue (U.S. Census).



By occupation type, the 2006-2010 ACS estimated that most (37.1%) employed residents held management or professional positions; followed by sales or office positions (23.7%); service positions (16.1%); natural resources, construction, or maintenance positions (14.8%); and production, transportation, or material moving positions (8.2%). For the most part, no significant proportional changes occurred between 2000 and 2010, although there was a modest proportional increase in the number of natural resources, construction, and maintenance positions. However, the proportion attributed to fisheries positions cannot be determined. Another source of occupation data is the ALARI database. According 2010 ALARI estimates,

most (26.9%) residents worked in educational and health service sectors; followed by local government sectors (23.0%); and trade, transportation, and utilities sectors (16.8%) (Figure 4).[298]

Governance

Kotzebue is a second-class city located in the Northwest Arctic Borough. Incorporated in 1958, the city has a manager, or "Strong Mayor" form of government. There is a 7-member city council, 11-member school board, 7-member planning commission, and 6 municipal employees. There is also a U.S. Bureau of Indian Affairs recognized tribal government. The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Kotzebue is the NANA Regional Corporation, and the local ANCSA-chartered non-profit is the Maniilaq Association. The ANCSA-chartered village corporation is the Kikiktagruk Inupiat Corporation.

There is an Alaska Department of Fish and Game (ADF&G) office located in Kotzebue. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage 549 miles southeast. The closest U.S. Bureau of Citizenship and Immigration Services is located in Nome, 181 miles southwest.

The City collects a 6% sales tax, 6% accommodations tax, 6% alcohol tax, and 6% gaming tax. In 2010, the total municipal budget was $10.77 million, compared to $7.63 million in 2000; an increase of 9.2% after adjusting for inflation.[299] Municipal budgets steadily increased between 2000 and 2010, peaking in 2010. Also in that year, sales tax revenues accounted for 29.9% of the municipal budget, compared to 32.3% in 2000. In addition, state allocated Community Revenue Sharing accounted for 2.4% of the municipal budget in 2010, compared to 1.3% from State Revenue Sharing in 2000. State and federal fisheries-related grants awarded to Kotzebue between 2000 and 2010 included $56,099 for Swan Lake Harbor improvements, $462,000 for Kotzebue Sound chum salmon enhancement projects, $45.2 million for DeLong Mountain Harbor construction, and $27,000 for a fish processor business plan. Information regarding municipal finances can be found in Table 2.

Infrastructure

Connectivity and Transportation[300]

Air is the primary, year-round means of transportation for residents of Kotzebue. The state-owned Ralph Wien Memorial Airport supports daily jet service to Anchorage and several air taxis to the region's villages provided by Alaska Airlines, Bering Air, ERA Alaska, and Ryan Air Service. The airport has a 5,900-ft-long by 150-ft-wide main paved runway and 3,876-ft-long by 90-ft-wide crosswind gravel runway. A seaplane base is also operated by the state in Kotzebue. As of June 2012, roundtrip airfare from Anchorage to Kotzebue costs $462.[301]

[298] Ibid.
[299] Inflation calculated using 2010 Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.
[300] 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.
[301] Airfare calculated using lowest fare. Retrieved November 22, 2011 from www.travelocity.com.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kotzebue 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	$7,630,055	$2,462,302	$101,700	$27,000
2001	$8,245,475	$2,438,736	$115,000	$12,700,000
2002	$8,349,876	$2,379,449	$126,000	$32,500,000
2003	$7,111,582	$2,405,615	$127,000	$462,000
2004	$8,291,588	$2,423,193	-	n/a
2005	$7,712,663	$2,616,005	-	n/a
2006	$9,419,213	$2,727,047	-	n/a
2007	$9,429,107	$2,790,336	-	n/a
2008	$10,131,509	$2,589,153	-	n/a
2009	$10,446,645	$2,930,225	$257,562	n/a
2010	$10,770,514	$3,255,000[6]	$255,470	$56,099

[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.
[6] 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.

The shipping season lasts 100 days, from early July to early October, when the sound is ice-free. Due to river sediments deposited by the Noatak River 4 miles above Kotzebue, its harbor is shallow. Deep draft vessels must anchor 15 miles out, and cargo is lightered to shore and warehoused. Crowley Marine Services operates shallow draft barges to deliver cargo to area communities. Water taxi services are not available. There are 26 miles of local gravel road used by cars, trucks, and motorcycles during the summer. Snowmobiles are preferred in winter for local transportation.

Facilities[302]

Electricity in Kotzebue is provided by a diesel plant owned by the Kotzebue Electric Association. Kotzebue also uses ten 50-kilowatt wind turbines for supplemental electrical generation. The City operates water and sewage systems. Water is supplied by the 150-million-gallon Vortac Reservoir, located one and a half miles from the city. Water is then treated and stored in a 1.5-million-gallon tank. Before circulation in the water mains, the water is heated with a waste heat recovery system at the electric plant. A washeteria is privately operated within the community. Piped sewage is treated in a 32-acre zero discharge facultative lagoon west of the airport. Around 80% of homes are fully plumbed, and 521 homes are served by the City's water

[302] See footnote 300.

system. A transfer station and Class 2 permitted landfill with balefill is available. Recycling and hazardous waste disposal are also provided.

A public library, recreational and entertainment center, food bank, and Boys & Girls Club are also available in the community. Safety services are provided by the city police department and the state trooper post in Kotzebue itself. The City also maintains its own volunteer fire department with additional fire and rescue services provided by the Maniilaq Air Ambulance and NANA Search and Rescue. Visitor accommodations are provided by Bibber's Bed and Breakfast, Bison's Bed and Breakfast, and the Nullagvik Hotel. The community is also home to the NANA Museum.

With regard to fisheries-related infrastructure, Alaska's Department of Community and Rural Affairs (DCRA) community profile of Kotzebue states that the harbor is shallow and cargo from deep raft vessels must be lightered to shore. DCRA also reports that no public dock space exists for permanent and transient vessels to moor at. However, in the 2011 AFSC survey, community leaders reported that a barge landing area exists in the community and there are plans to construct new dock space for permanent, transient or public moorage in the next 10 years. The current dock infrastructure is serviced by electricity and water although no fuel tanks exist at the dock. Within the next 10 years, Kotzebue hopes to make improvements to its existing dock structure and construct both dry dock space and haul out facilities, although haul out facilities for small boats (less than 60 tons) already exist in the community. Community leaders indicate that limited boat repair and fisheries-related businesses are available in Kotzebue, and that residents typically travel to nearby cities of Nome, Anchorage, and Fairbanks to access fisheries-related businesses and services.

Medical Services[303]

The Maniilaq Medical Health Center provides residents with basic medical services. The hospital is a qualified Acute Care facility. Long-term care is provided at the Kotzebue Senior Center, and specialized care is provided at the Maniilaq Alcohol Program's Maniilaq Camp and the Lake Street House, both operated by the Maniilaq Association. Emergency Services have limited highway coastal and airport access, and are provided by 911 Telephone Service and volunteers.

Educational Opportunities[304]

As of 2011, there were two schools in Kotzebue. The June Nelson Elementary School had 388 students enrolled and 23 teachers. The Kotzebue Middle/High School had 298 students enrolled and 24 teachers.

[303] Ibid.
[304] 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

Kotzebue residents have been fishing in the regions for at least 600 years. Marine mammals such as seal and beluga are of primary importance, and their capture is always a cause for celebration. Salmon, whitefish, sheefish, and Arctic char are major fish species sought for subsistence. They are all used commercially by the Kotzebue Sound Area Fisheries Cooperative.[305] The Cooperative owns and operates a local processing plant and acts as a catalyst for organizing local fishermen to work together in commercial fishing. In a survey conducted by the AFSC in 2011, community leaders reported that the commercial gillnet salmon season typically runs from July 12 to August 15. In addition, community leaders reported an increase in the number of vessels shorter than 35 ft, compared to 2005.

The summer chum season runs from July through August, and is focused on Noatak and Kobuk River chum. Small numbers of sockeye, Chinook, coho, and pink salmon also occur, but their contribution to commercial harvests is negligible. Dolly Varden are at times, incidentally caught in the last weeks of the commercial salmon season.[306]

From 1914 to 1918, the Midnight Sun Packing Company operated a small cannery in the Kotzebue district and processed slightly over 100,000 fish. However, between 1918 and 1961, no commercial fishing took place. The present commercial fishery began in 1962, primarily for chum salmon. Most fishing takes place along and within a 10-mile-side channel between the Baldwin Peninsula and Sheshalik Spit. Fishing is closely regulated during the early season when most of the fish are passing through the district, bound for the Kobuk River. The commercial season is set later to harvest the large run of chum salmon to the Noatak River.[307]

Commercial catches vary from year to year due to changes in migration patterns of chum salmon. Fishing usually begins in mid-July when fishermen in small outboard skiffs fish set gillnets. Kotzebue chum salmon are of high quality and are in high demand. Fish are dressed with heads on, iced, and transported to offshore Japanese freezer ships or shipped to Anchorage or Seattle markets. Commercial fisheries for Arctic char and inconnu (whitefish) also occur. Arctic char run later than salmon, and are fished following the salmon season. Funding for the State-owned Sikusuliaq Springs Fish Hatchery on the Noatak River was discontinued in 1983. The State had invested close to $20 million in capital improvement and operating costs of the hatchery.[308] The hatchery closed in 1996; however, runs continued until 2000.[309]

A commercial fishery for sheefish has operated in the Kotzebue Sound since the 1960s, but it is historically small and does not contribute significantly to the local economy. In most years, sheefish quota was not met, and the fishery remained open throughout the winter.

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[305] Alaska State Housing Authority. (1971). *Kotzebue, Alaska Comprehensive Development Plan*. Retrieved August 17, 2012 from: http://www.commerce.state.ak.us/dca/plans/Kotzebue-CP-1971.pdf.
[306] Georgette, S. and Loon, H. (1993). *Subsistence Use of Fish and Wildlife in Kotzebue, a Northwest Alaska Regional Center.* Technical Paper No. 167. Alaska Dept. of Fish and Game. Retrieved August 22, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp167.pdf.
[307] Stoops, L. (2004). *Northwest Arctic Borough Comprehensive Economic Development Strategy.* Retrieved August 20, 2012 from: http://www.commerce.state.ak.us/dca/plans/NorthwestArcticBorough-EDP-2004.pdf.
[308] Ibid.
[309] Eggers, D. M.; and Clark, J. H. (2006). *Assessment of Historical Runs and Escapement Goals for Kotzebue Area Chum Salmon.* Fishery Manuscript No. 06-01. Retrieved August 22, 2012 from: http://www.sf.adfg.state.ak.us/FedAidpdfs/fms06-01.pdf.

Fishermen use gill setnets under ice, and most commercial catch is sold to local residents or kept for personal use.[310] No sheefish have been fished commercially since 2005.

Kotzebue is located in the Arctic Management Area and thus is not located within a Federal Statistical and Reporting Area, a Pacific Halibut Fishery Regulatory Area, or a Sablefish Regulatory Area. Kotzebue is not eligible to participate in either the Community Development Quota program or the Community Quota Entity program.

Processing Plants

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

Attracting commercial seafood processors to Kotzebue has been difficult because of the small size and unpredictability of local fisheries, as well as depressed market conditions. Chum harvests historically have been dictated largely by market conditions; which have fluctuated greatly, resulting in low harvests numbers in many years. Commercial chum salmon harvests between 1982 and 2001 ranged from 55,907 to 521,406 with a 20 year average of 220,720 fish. Between 1997 and 2001; however, chum salmon harvests decreased significantly. While many residents held commercial salmon permits, most permits remained inactive during recent years. Permit activity was likely market-driven and in 2002, the last significant local fish buyer decided to not purchase fish in Kotzebue. In 2002 and 2003, one salmon permit holder became a licensed agent for a buyer outside of Kotzebue, and worked with other permit holders to provide product for the market. In 2004, one buyer provided a limited local market for permit holders.[311] In that year, there was a fish processor operated under a combined effort by the Bering Sea Fishermen's Association and NANA Regional Corp.[312]

Fisheries-Related Revenue

Between 2000 and 2010, there was no known fisheries-related revenue received by the community of Kotzebue, with the exception of $475 in Shared Fisheries Business Taxes in 2006 (Table 3).

Commercial Fishing

Commercial fishing effort in Kotzebue is predominately focused on Noatak River chum salmon.[313] Local fish are caught in Sub-district 1 of the Kotzebue Sound District. Historical chum harvests between 1962 and 2004 averaged 201,250 fish.[314] In 2000, 144 residents held 147 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). The number of CFEC permits held by residents peaked in 2005 at 157. In 2010, 155 residents, or 4.8% of the population, held 148 CFEC permits. Of the CFEC permits held in 2010, 97% were for salmon, compared to 96% in 2000; 1% were for crab, compared to 1% in 2000; 1% were for

[310] See footnote 306.
[311] See footnote 309.
[312] See footnote 307.
[313] Alaska Dept. of Fish and Game. (n.d.). *Northwest Drainages Management Area.* Retrieved August 22, 2012 from: http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorNorthwest.moreoverview.
[314] See footnote 309.

herring, compared to 0% in 2000; and 1% were for "other" finfish, compared to 3% in 2000. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, no residents participated in federal catch share fisheries for halibut, crab, or sablefish between 2000 and 2010. Fisheries prosecuted by Kotzebue residents in 2010 included: Kotzebue gillnet salmon, Norton Sound gillnet salmon, and statewide power troll salmon.[315]

Residents held 98 commercial crew licenses in 2010, compared to 87 in 2000; marking a decadal peak for number of crew licenses held in the community. In addition, residents held majority ownership of four vessels that year, compared to six in 2000. Fisheries participation varied significantly between 2000 and 2010. In 2010, 40% of CFEC permits held were actively fished, compared to 38% in 2000. Permit activity was at its lowest 2001 and 2002 at 2% of permits fished. Permit activity varied by fishery in 2010, from 41% of salmon permits fished, to 0% of crab, herring, and "other" finfish permits. "Other" finfish permits were activity fished between 2001 and 2005, while crab permits were only actively fished in 2005. No herring permits were actively fished between 2000 and 2010.

No landings were reported in Kotzebue between 2000 and 2010, although there were between one and four fish buyers registered there. Landings were reported in the community in 2001, 2004, 2005, 2006, and 2007. Total landings for those years are considered confidential, with the exception of 2005. In that year, 626,418 pounds of seafood were landed, valued at $129,304 ex-vessel. Landings by species in Kotzebue are considered confidential. Landings reported by residents between 2000 and 2010 are also considered confidential. Further information regarding commercial fishing trends can be found in Tables 4 through 10.

[315] 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 Kotzebue: 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	$475	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	*$475*	n/a	n/a	n/a	n/a
Total municipal revenue[5]	*$7.63 M*	*$8.25 M*	*$8.35 M*	*$7.11 M*	*$8.29 M*	*$7.71 M*	*$9.42 M*	*$9.43 M*	*$10.13 M*	*$10.45 M*	*$10.77 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 in its annual municipal budgets. 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, Kotzebue: 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	1	0	3	2	2	4	3	3	2	1	2
	Fished permits	0	0	0	0	0	1	0	0	0	0	0
	% of permits fished	0%	n/a	0%	0%	0%	25%	0%	0%	0%	0%	0%
	Total permit holders	1	0	3	2	2	4	3	3	2	1	2
Other shellfish (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
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	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
Herring (CFEC) [2]	Total permits	0	0	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	1	1	1	1	1	1	1	1	1

Table 4 cont'd. Permits and Permit Holders by Species, Kotzebue: 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	4	5	5	6	5	6	2	3	1	1	1
	Fished permits	0	1	1	1	1	2	0	0	0	0	0
	% of permits fished	0%	20%	20%	17%	20%	33%	0%	0%	0%	0%	0%
	Total permit holders	4	5	5	6	5	5	2	3	1	1	1
Salmon (CFEC) [2]	Total permits	141	142	142	143	144	146	149	147	145	149	144
	Fished permits	56	58	2	2	37	39	42	46	47	60	59
	% of permits fished	40%	41%	1%	1%	26%	27%	28%	31%	32%	40%	41%
	Total permit holders	141	148	141	143	146	145	151	150	148	152	154
Total CFEC Permits[2]	*Permits*	*147*	*147*	*151*	*152*	*152*	*157*	*155*	*154*	*149*	*152*	*148*
	Fished permits	*56*	*59*	*3*	*3*	*38*	*42*	*42*	*46*	*47*	*60*	*59*
	% of permits fished	*38%*	*40%*	*2%*	*2%*	*25%*	*27%*	*27%*	*30%*	*32%*	*39%*	*40%*
	Permit holders	*144*	*151*	*144*	*145*	*148*	*149*	*153*	*152*	*149*	*152*	*155*

[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 Kotzebue: 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 Kotzebue[2]	Total Net Pounds Landed in Kotzebue[2,5]	Total Ex-Vessel Value of Landings in Kotzebue[2,5]
2000	87	1	0	6	6	0	--	--
2001	87	3	0	5	4	7	--	--
2002	2	3	0	5	5	0	--	--
2003	3	2	0	4	3	0	--	--
2004	55	4	1	2	2	1	--	--
2005	51	5	1	8	8	4	626,418	$129,304
2006	57	2	0	5	4	2	--	--
2007	51	2	0	5	3	1	--	--
2008	51	2	0	3	1	0	--	--
2009	91	2	0	3	1	0	--	--
2010	98	4	0	4	3	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 Kotzebue: 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 Kotzebue: 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 Kotzebue: 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 Kotzebue: 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.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Kotzebue 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

Tourism is a rapidly growing industry in Kotzebue, driven in large part to sport hunting and fishing. Tourism infrastructure has been expanding. NANA Regional Corp. opened a new 78 room hotel in Kotzebue in 2011.[316] Golden Eagle Outfitters provides guided sportfishing excursions, targeting Dolly Varden, northern pike, sheefish, Arctic graying, and chum salmon.[317] Sheefish are a popular target for private anglers on the Kobuk River, as the river supports one of the largest sheefish populations in the world. Typically, private anglers based in Kotzebue will fly to remote locations on the Upper Kobuk to target this species. The communities of Ambler

[316] Associated Press. (2011, August 31). NANA development opens new Kotzebue hotel. *Anchorage Daily News*. Retrieved August 22, 2012 from: http://www.adn.com/2011/08/31/2041468/nana-development-opens-new-kotzebue.html.
[317] Golden Eagle Outfitters. (n.d.). *Kotzebue*. Retrieved August 22, 2012 from: http://www.alaskawildernessexpeditions.com/kotzebue.html.

and Kobuk are seasonally inundated with recreational fishermen, many of whom originate in Kotzebue or Bettles. Float excursions are a popular activity, and many large parties will spend days floating the Kobuk as far downriver as Kiana. Most sheefish sportfishing is conducted in August and September. By mid-September, most recreational fishermen on the Kobuk River fish for sheefish only as a secondary attraction, with most their efforts focused on hunting moose and caribou.[318] Dolly Varden, northern pike, Arctic grayling, burbot, lake trout, and Arctic char are also popular targets within the Kobuk River watershed.[319]

No sport fish guide businesses actively operated in Kotzebue between 2000 and 2010 despite several being registered between those years. However, one sport fish guide license was issued in 2010. Also in that year, 438 sportfishing licenses were sold in the community, compared to 101 in 2000. The number of sportfishing licenses sold in the community peaked in 2010. In addition, Kotzebue residents held 389 sportfishing licenses in 2010, compared to 329 in 2000. The number of sportfishing licenses held by residents peaked in 2007 at 514. According to ADF&G Harvest Survey records, private anglers from Kotzebue have targeted all five species of Pacific salmon, rainbow trout, Dolly Varden, whitefish, burbot, Arctic grayling, northern pike, sheefish, Pacific halibut, smelt, and razor clams. In a survey conducted by the AFSC in 2011, community leaders reported that local anglers generally target pink and chum salmon, crab, shrimp, and clams. Species-specific harvest information from charter logbook records is not available for Kotzebue.

Kotzebue is located within Alaska Sport Fishing Survey Area X – Northwest Alaska, which include the drainages of Selawik, Kobuk, Noatak, Wulik, and Kivalina rivers and all saltwater in the northern half of Kotzebue Sound to and including Point Hope. Information on saltwater angler days fished for 2010 is unavailable. Otherwise, angler days fished on marine waters was insignificant between 2000 and 2009. Total saltwater angler days fished peaked in 2008 at 420 with non-Alaskan residents accounting for the majority of recreational fishing effort. In 2010, freshwater angler days fished totaled 1,088, compared to 1,401 in 2000. Total freshwater angler days fished peaked in 2003 at 1,873. Non-Alaskan residents accounted for 35.3% of freshwater angler days fished in 2010, compared to 31.3% in 2000. Overall, Alaskan residents comprise a larger portion of freshwater angler days fished than non-Alaskan residents. Information regarding recreational fishing trends can be found in Table 11.

[318] Georgette, S.; and Loon, H. (1990). *Subsistence and Sport Fishing of Sheefish on the Upper Kobuk River, Alaska.* Technical Paper No. 175. Retrieved August 22, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp175.pdf.

[319] Alaska Dept. of Fish and Game. (n.d.). *Northwest Drainages Management Area.* Retrieved August 22, 2012 from: http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorNorthwest.moreoverview.

Table 11. Sport Fishing Trends, Kotzebue: 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 Kotzebue[2]
2000	0	1	329	101
2001	0	0	355	136
2002	0	0	356	83
2003	0	0	349	83
2004	0	0	345	260
2005	0	0	307	186
2006	0	1	432	329
2007	0	1	514	265
2008	0	4	419	290
2009	0	2	389	264
2010	0	1	421	438

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	14	201	438	966
2001	44	86	509	801
2002	27	15	275	973
2003	298	17	934	939
2004	115	19	450	709
2005	35	308	408	510
2006	36	35	394	875
2007	79	27	237	763
2008	352	68	512	639
2009	251	n/a	347	913
2010	n/a	n/a	356	732

[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 activities are extremely important to Kotzebue residents, and for many residents, participation in subsistence activities supplement or replace wage employment. In many cases, unemployment statics are often misleading since many residents are working, although not in "occupations" captured by traditional labor statistics.

The subsistence season begins each year at spring ice breakup, usually in May. During breakup, travel becomes increasingly difficult, and many residents move to seasonal subsistence camps on the coast northwest of Kotzebue before travelling on ice becomes unsafe. When the water becomes open enough to permit boat travel, local hunters go out in search of marine mammals, particularly bearded seal, but also ringed seal and walrus. Migrating waterfowl are also hunted, and their eggs are gathered when available. Near Kotzebue, residents continue to jig for sheefish on the last remnants of shoreside ice. As the ice clears, residents fish for herring, whitefish, and Dolly Varden. Beluga whale hunting also begins at this time. From a subsistence perspective, May through July is the busiest time of year for harvesting. With cool, dry weather, oil and "black meat" (half-dried bearded seal) is produced from harvested seal.[320]

Summer arrives in late June or July. At this time many residents turn their efforts towards salmon fishing for both subsistence and commercial purposes. Berry picking begins around this time, and many residents gather salmonberries, blueberries, blackberries, and cranberries. Incidental Dolly Varden harvesting begins in early August. Salmon fishing concludes around the end of August, while berry picking continues through September. Migrating caribou herds make their way through the area around the beginning of fall in late August. Both caribou and moose are hunted during this time. As sea ice begins to form in October, Kotzebue hunters pursue young bearded seals and spotted seals. Saffron cod (tomcod) are jigged on ice forming near shorelines. During the winter, caribou, moose, ptarmigan, and hare are hunted. Wolf, wolverine, and fox are also hunted or trapped for furs. In early winter, nets are set under the ice in the Hotham Inlet to fish for sheefish. In late winter, sheep hunting takes place in the Baird Mountains, and moose, caribou, seal, and fur bearer hunting continues.[321]

Seasonal subsistence patterns are particularly susceptible to variations in weather, temperature, travel conditions, and species availability. Long term changes also can occur as a result of diminishing wildlife populations, climate change, and habitat regime shifts.[322]

In a 1993 survey of Kotzebue households, an estimated 23.1% harvested marine mammals (principally bearded seals), an estimated 51.3% harvested salmon, an estimated 44.8% harvested sheefish, and an estimated 38.3% harvested Dolly Varden. Overall, an estimated 75.1% of households harvested fish that year.[323]

ADF&G subsistence data are limited for 2000 through 2010. Information regarding subsistence participation by household is unavailable. Significant data on salmon harvests are only available for 2000 and 2001. In 2001, residents reported harvesting 17,713 chum salmon, compared to 36,896 in 2000. The significant decline in salmon harvests could possibly be attributed to cyclical variations in annual chum runs. Between 2000 and 2008, Chinook, pink, coho, and pink salmon were also harvested, but to a lesser degree. Subsistence Halibut Registration Certificates were held by residents in 2007 through 2009, however there were no

[320] See footnote 318.
[321] Ibid.
[322] Ibid.
[323] Ibid.

reports of halibut harvests. Between 2000 and 2010, an estimated 89 beluga whales, 10 sea otters, 8 walruses, and 6 polar bears were harvested. Beluga whale harvests significantly peaked in 2007 at 69 animals. No information is available regarding Steller sea lion, spotted seal, and harbor seal harvests.

According to ADF&G *Community Subsistence Information System* records, "other" species Kotzebue residents use or harvest include king crab, mussels, pinkneck calms, razor clams, shrimp, Tanner crab, bearded seal, bowhead whale, gray whale, minke whale, ribbon seal, ringed seal, spotted seal, Bering cisco, blackfish, broad whitefish, burbot, Dolly Varden, Arctic grayling, herring, humpback whitefish, least cisco, northern pike, saffron cod, sheefish, and sucker. 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 expressed concern over a lack of funds available to develop local fisheries. Leaders expressed that the community was being adversely affected by not being able to participate in the CFQ program. They also contend that outside CDQ groups are attempting to expand their effort into Kotzebue area fisheries, and local fishermen lacks the funds to compete. Finally, the Magnuson Stevens Act prevents Kotzebue from directly negotiating with Japan and requires the community to sell product through intermediaries.

Table 12. Subsistence Participation by Household and Species, Kotzebue: 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, Kotzebue: 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	780	186	205	36,896	636	n/a	n/a	n/a	n/a
2001	793	156	7	17,713	n/a	25	35	n/a	n/a
2002	3	3	1	n/a	n/a	n/a	44	n/a	n/a
2003	1	1	1	n/a	n/a	n/a	29	n/a	n/a
2004	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	1	1	n/a	n/a	n/a	n/a	15	n/a	n/a
2006	2	2	1	n/a	n/a	n/a	8	n/a	n/a
2007	1	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	7	4	2	n/a	n/a	n/a	76	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, Kotzebue: 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	1	n/a	n/a
2008	2	n/a	n/a
2009	2	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, Kotzebue: 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	9	n/a	1	2	n/a	n/a	n/a
2002	4	n/a	1	n/a	n/a	n/a	n/a
2003	n/a	n/a	1	1	n/a	n/a	n/a
2004	1	n/a	2	n/a	n/a	n/a	n/a
2005	1	n/a	n/a	n/a	n/a	n/a	n/a
2006	2	n/a	1	n/a	n/a	n/a	n/a
2007	69	7	2	1	n/a	n/a	n/a
2008	1	n/a	n/a	1	n/a	n/a	n/a
2009	2	n/a	n/a	1	n/a	n/a	n/a
2010	n/a	3	n/a	n/a	n/a	n/a	n/a

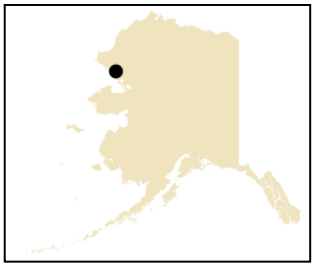
Note: n/a indicates that no data were reported for that year.

[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.

Noatak (*NO-uh-tack*)



People and Place

Location [324]

Noatak is located on the west bank of the Noatak River, 55 miles north of Kotzebue and 70 miles north of the Arctic Circle, just west of the 66-million acre Noatak National Preserve. This community is the only settlement on the 396 mile-long Noatak River. Noatak is in the Kotzebue Recording District and the Northwest Arctic Borough Census Area.

Demographic Profile [325]

In 2010, there were 514 residents in Noatak, ranking it as the 115th largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Noatak increased by 54.4%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 21.3%. The average annual growth rate during this period was 0.68%, reflecting an overall positive population trend with small decreases in population in some years.

In 2010, the majority of the population of Noatak identified themselves as American Indian or Alaska Native (94.7%), while 2.5% identified as White, 1.1% as Asian, 0.4% as Black or African American, and 2.3% identified with two or more races. No residents of Noatak identified themselves as Hispanic in 2010. The percentage of the population identifying as White decreased over time, from 3.3% in 1990 and 3.7% in 2000, to 2.5% in 2010. The percentage of the population identifying as American Indians and Alaska Natives decreased between 1990 and 2000, from 96.7% to 93.7%, then increased again to 94.7% 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.

Based on household surveys conducted for the U.S. Census, the average household size in Noatak was fairly consistent between 1990 and 2010, with 4.5 persons per household in 1990, 4.23 in 2000, and 4.51 in 2010. The number of households in Noatak increased over time, from 74 households in 1990 to 100 in 2000, and 114 in 2010. All 114 of the total available housing units in Noatak were occupied in 2010. Of these, 69.3% were owner-occupied and 30.7% were rented. Between 1990 and 2010, no residents of Noatak were reported to be living in group quarters.

[324] 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.

[325] 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.

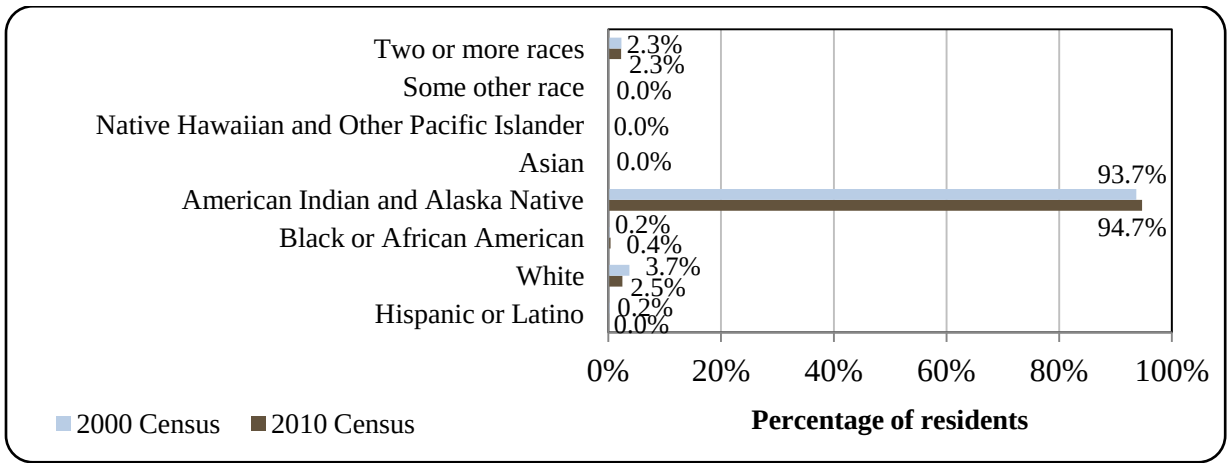
Table 1. Population in Noatak from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	333	-
2000	428	-
2001	-	438
2002	-	455
2003	-	468
2004	-	450
2005	-	474
2006	-	470
2007	-	488
2008	-	512
2009	-	486
2010	514	-

[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.

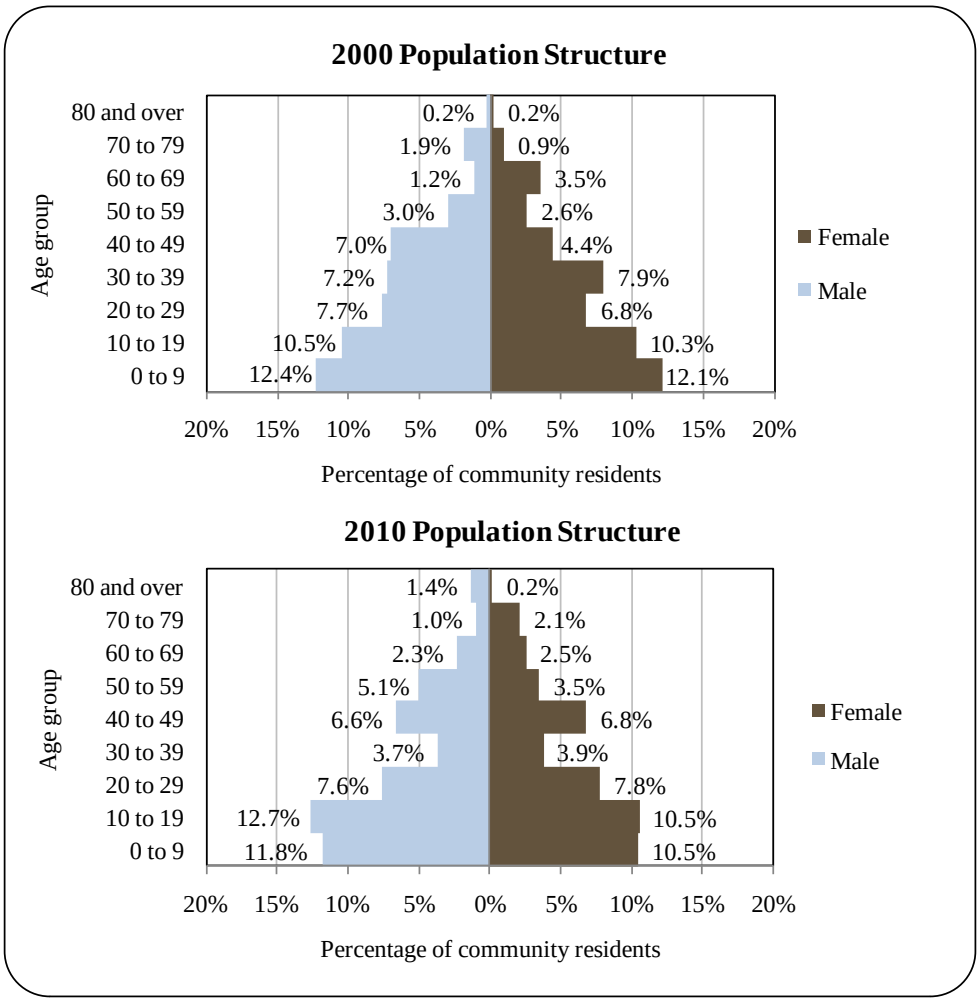
Figure 1. Racial and Ethnic Composition, Noatak: 2000-2010 (U.S. Census).



In 2010, the gender makeup of Noatak's population (52.1% male and 47.9% female) was very close to the balance of the state population as a whole, which was 52% male and 48% female. The median age of Noatak residents was 21.3 years in 2010, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 9.8% of Noatak's population was 60 or older. The overall population structure of Noatak in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[326] 78.5% of Noatak 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, 13% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 8.5% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 4.9% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 3.1% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 3.1% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0.9% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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



[326] 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 surveys conducted by the National Park Service have identified evidence of human habitation in the Noatak area dating back at least 11,000 years.[327] Noatak is located in the traditional territory of the Napaaqtugmiut, meaning "tree people," who inhabited the lower Noatak River area. The name Noatak means "inland river people,"[328] and is derived from the name of the traditional inhabitants of the upper Noatak River, the Nuataagmiut.[329] The present Village of Noatak is home to descendants of both of these Iñupiaq societies**,** along with the Nunamuit, or "treeless land people."[330]

In the early 1800s, there were an estimated 10 Napaaqtugmiut villages and 22 Nuataagmiut villages scatted along the Noatak River. The Napaaqtugmiut suffered from famine in the early 1800s, and many fled north or to the Kobuk River area. Many Nuataagmiut also relocated to the north in the 1880s due to the decline of the Western Arctic Caribou herd.[331] In the 1890s, missionaries asked families living in sod houses in different settlements along the river to select a permanent village site where they would construct a school and place of worship. Elders selected Noatak, previously a fishing and hunting camp, for the site of the settlement, due to the plentiful resources of the area and strategic location for access to other camp sites.[332] Construction of a mission and school was completed by 1908.[333]

The Native Village of Noatak was established in 1939 under the Indian Reorganization Act (IRA). A post office was established in 1940. In 1994, a 50-year flood event created a large shoal on the Noatak River downstream from the Village of Noatak, preventing barge access to the Village. Since then, all fuel, groceries, and other supplies must be flown in to the community.[334] Today, subsistence activities remain the central focus of the culture in Noatak. Families travel to coastal seasonal subsistence camps of Nuvguruk and Sisualik, as well as inland camps.[335] Noatak is a dry village; the sale and importation of alcohol is banned.[336]

Natural Resources and Environment

Noatak is located in the transitional climate zone. Winter temperatures average between -21 and 15 °F, and average summer temperate vary between 40 and 60 °F. Temperature extremes have been recorded from -59 to 75 °F. Annual snowfall averages 48 inches, with 10 to 13 inches

[327] National Park Service (2011). *Noatak National Preserve*. Retrieved February 6, 2012 from http://www.nps.gov/noat/.
[328] Alaska Native Tribal Health Consortium (ANTHC) (2011). *Climate Change in Noatak, Alaska: Strategies for Community Health* (2011. Retrieved February 2, 2012 from http://www.anthc.org/chs/ces/climate/upload/Climate_Change_in_Noatak_Strategies_for_Community_Health.pdf.
[329] Magdanz, James S., Nicole S. Braem, Brad C. Robbins, and David S. Koster (2007). *Subsistence Harvests in Northwest Alaska, Kivalina and Noatak, 2007*. Alaska Department of Fish and Game, Technical Paper No. 354. Retrieved February 3, 2012 from http://www.subsistence.adfg.state.ak.us/techpap/TP354.pdf.
[330] NANA Regional Corporation, Inc (2010). *Noatak Village Profile*. Retrieved February 2, 2012 from http://www.nana.com/regional/about-us/overview-of-region/noatak/.
[331] See footnote 329.
[332] See footnote 330.
[333] See footnote 329.
[334] Ibid.
[335] See footnote 328.
[336] 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.

of total precipitation. The Noatak River is navigable by shallow-draft boats from early June to early October.[337]

In 1980, much of the traditional area of the Iñupiaq was protected as national parks, preserves, monuments, and wildlife areas under the Alaska National Interest Lands Conservation Act (ANILCA).[338] One of the goals of the legislation was to protect subsistence uses of both Native and non-Native rural residents.[339] Noatak is located in close proximity to several of these protected areas. The closest are Cape Krusenstern National Monument, less than 10 miles west, and Noatak National Preserve, approximately 5 miles east of the Village. Also under ANILCA, 330 miles of the Noatak River were designated as a National Wild and Scenic River, from the River's source in Gates of the Arctic National Park to the Kelly River in Noatak National Preserve.[340,341]

The Noatak National Preserve is made up of 6.5 million acres. The National Preserve is surrounded by the Baird and DeLong Mountains of the Brooks Range. Within the area of the National Preserve, the boreal forest transitions into treeless tundra.[342] Cape Krusenstern National Monument stretches for 70 miles along the coast of the Chukchi Sea. The area is a coastal plain, characterized by sizeable lagoons along the coast and rolling tundra moving inland. Migratory birds use the system of wetlands. Many important archaeological sites are found within the National Monument, including a series of beach ridges that provide evidence of an estimated 9,000 years of human settlement. The outer beaches of the National Monument are an important location for subsistence hunting of marine mammals by local rural residents.[343]

The Western Arctic Caribou, numbering almost 500,000, migrates between the coastal plain of Cape Krusenstern National Monument and the tundra of Noatak National Preserve on its way to and from calving grounds. Many other animals, including hare, moose, fox, wolves, brown bear, and various birds and fish species are found in the Noatak area.[344,345] Bearded seals, an important subsistence resource, are present along the coast for a short period in June.[346] In addition, muskoxen were reintroduced to the area in 1970 as part of an Alaska-wide recovery effort. In 1934, 34 muskoxen were captured in East Greenland and transported to Nunivak Island. By 1968, the Nunivak Island herd numbered 750, and was used as a seed population to reintroduce muskoxen to areas around northern Alaska. By 2000, there were at least 450 muskoxen in northwestern Alaska.[347,348]

Many Arctic communities, including Noatak, are experiencing significant changes and increased risk as a result of climate change. Key among these changes are subsidence due to

[337] Ibid.
[338] Alaska National Interest Lands Conservation Act (ANILCA). December 2, 1980. Public Law 96-487, 96th Congress. Retrieved February 6, 2012 from http://alaska.fws.gov/asm/anilca/toc.html.
[339] See footnote 327.
[340] National Wild and Scenic Rivers (n.d.) *Noatak River, Alaska*. Retrieved February 6, 2012 from http://www.rivers.gov/wsr-noatak.html.
[341] See footnote 338.
[342] See footnote 327.
[343] National Park Service (2011). *Cape Krusenstern National Monument*. Retrieved February 6, 2012 from http://www.nps.gov/cakr/.
[344] Ibid.
[345] See footnote 327.
[346] See footnote 343.
[347] Ibid.
[348] Alaska Dept. of Fish and Game (2008). *Muskox – Wildlife Notebook Series*. Retrieved December 15, 2011 from http://www.adfg.alaska.gov/static/education/wns/muskox.pdf.

thawing permafrost, erosion of river banks, changing water level in the river, increasing frequency and intensity of storm events, and warming temperatures. Infrastructure in Noatak, including building foundations and the water distribution system, is damaged or threatened by subsidence and erosion. Low water levels in the river reduce access to the community and increase the cost of living. Coastal subsistence camps are at increased risk of flooding due to increased storm activity along a shoreline made increasingly vulnerable due to reduced ice cover during fall storms. Higher temperatures bring increasing wildfires and impacted air quality, as well as instances of heat-related illness. Food security is also an increasing concern, as climate change affects both distribution of wildlife and access to resources. Changing water level in the Noatak River, as well as increased sediment discharge into Kotzebue Sound, has led to increasing boat groundings on the way to and from subsistence camps. Poor sea ice conditions have increased the risk of injury for subsistence hunters.[349]

Mining in Northwest Alaska is dominated by Red Dog Mine, the largest producer of zinc in Alaska. In 2010, the mine accounted for almost half of Alaska's mineral production value, making up 49% of the total value of mining operations in Alaska that year. The mine is 100% owned by Teck Resources Ltd., a Canadian mining company, under a 1982 agreement signed with the regional Native corporation, NANA[350] Regional Corporation, Inc., which owns the land.[351] The agreement specifies that the mine must 1) protect subsistence and the Inupiaq way of life, 2) create lasting jobs for NANA shareholders, 3) provide opportunities for NANA's youth, and 4) act as a catalyst for regional economic benefits.[352]

Compared to the Beaufort Sea, very little oil and gas exploration has taken place in the Chukchi Sea Outer Continental Shelf (OSC) area to date. Some exploration took place in the late 1980s, and several lease sales in the early 1990s allowed for follow-up exploration. In 2008, 488 tracts totaling 2,758,408 acres were leased during Lease Sale 193, primarily by Shell and ConocoPhillips, as well as international companies including StatoilHydro USA, Repsol, and Ente Nazionale Idrocarburi (ENI).[353] Following the Deepwater Horizon event in the Gulf of Mexico, Lease Sale 193 was remanded to the Department of the Interior for further National Environmental Protection Act (NEPA) analysis regarding the potential for a very large oil spill (VLOS) and its potential consequences for the Chukchi Sea ecosystem, local economy, and subsistence harvest patterns. In late 2011, Secretary of the Interior Ken Salazar affirmed the original Lease Sale 193.[354,355] This sale is expected to initiate a large-scale exploration effort in

[349] Alaska Native Tribal Health Consortium (ANTHC) (2011). *Climate Change in Noatak, Alaska: Strategies for Community Health* (2011. Retrieved February 2, 2012 from http://www.anthc.org/chs/ces/climate/upload/Climate_Change_in_Noatak_Strategies_for_Community_Health.pdf.
[350] The name of the regional Native corporation for the Northwest Arctic was originally derived from a pre-existing non-profit organization known as the Northwest Alaska Native Association (NANA). To avoid confusion, the non-profit was renamed Mauneluk, and later the Manillaq Association, and the corporation is known as NANA Regional Corporation. Source: Maniilaq Association website (2003. *Company Information*. Retrieved February 2, 2012 from http://www.maniilaq.org/companyInfo.html.
[351] Szumigala, D.J., L.A. Harbo, and J.N. Adleman (2011). *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[352] NANA Regional Corporation (2010). *Red Dog Mine*. Retrieved February 6, 2012 from http://www.nana.com/regional/resources/red-dog-mine/.
[353] U.S. Dept. of Energy (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[354] Minerals Management Service (2010). *Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/RP.pdf.

the Chukchi Sea.[356] Given the controversy surrounding Lease Sale 193, Secretary Salazar removed Chukchi Sea Sales 212 and 221 from the 2007-2012 program.[357] The Proposed 2012-2017 program schedules one sale in the Chukchi Sea, deliberately set late in the program (2016) to allow time for further study and infrastructure development.[358]

According to the Alaska Department of Environmental Conservation (DEC), no active environmental cleanup sites were located near Noatak as of August 2012.[359]

Current Economy[360]

The economy of Noatak is heavily tied to subsistence activities, with a focus on chum salmon, whitefish, caribou, moose, and waterfowl.[361] Cash employment is also available with the school district, local government, local and regional Native corporations and non-profit organizations, the health clinic, mining and oil industries, Noatak Search and Rescue, the local Lion's Club, and retail stores.[362,363] Some residents work as commercial fishermen. Many travel to fish camps at Sheshalik during the summer, and some find seasonal work in Kotzebue or working as firefighters.[364]

Based on household surveys conducted for the 2006-2010 ACS,[365] in 2010, the per capita income in Noatak was estimated to be $15,803 and the median household income was estimated to be $68,000. This represents a large increase from the per capita and median household incomes reported in the year 2000 ($9,659 and $30,833, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,[366] this income increase remains large, from a real median household income of $40,545 and real per capita income of $12,701 in 2000. In 2010, Noatak ranked 191st of 305 Alaskan communities with per capita income data that year, and 51st in median household income, out of 299 Alaskan communities with household income data.

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[355] Bureau of Ocean Energy Management (2011). *Chukchi Sea OCS Oil & Gas Lease Sale 193: Record of Decision*. Retrieved February 28, 2012 from http://www.boemre.gov/pdfs/sale193rodwofinal.pdf.
[356] See footnote 353.
[357] See footnote 354.
[358] Minerals Management Service (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.
[359] Alaska Dept. of Environmental Conservation (2012). *List of Contaminated Site Summaries By Region*. Retrieved August 24, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[360] Unless otherwise noted, all monetary data are reported in nominal values.
[361] 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.
[362] Ibid.
[363] 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/.
[364] See footnote 361.
[365] 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
[366] 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).

Noatak's small population size may have prevented the ACS from accurately portraying economic conditions.[367] 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 Noatak in 2010 is $9,796,[368] similar to the per capita income reported for the year 2000. This suggests that caution is warranted when citing an increase in per capita income in Noatak between 2000 and 2010, but provides additional evidence for income stability in the community during this period. Despite stable per capita income levels, the community was recognized as "distressed" by the Denali Commission in 2011,[369] 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 slightly smaller percentage of Noatak's population (65.3%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 3.7% of Noatak residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Noatak was estimated to be 25.7%, 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 23.3%, compared to a statewide unemployment rate estimate of 11.5%.[370]

Also based on the 2006-2010 ACS, the majority of Noatak's workforce was estimated to be employed in the private sector (67.2%), along with 28.1% in the public sector and 4.7% estimated to be self-employed. Of the 36 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: agriculture, forestry, fishing and hunting, and mining (26.6%), educational services, health care, and social assistance (14.8%), and public administration (13.3%). Occupations in which the greatest percentages of the workforce were employed were natural resources/construction/maintenance (28.1%) and sales and office occupations (27.3%). It is important to note that, although the percentages of the workforce involved in natural resource-related industries and occupations are relatively high in Noatak, they do not reflect employment in the fishing industry. A breakdown of the natural resource/construction/maintenance occupation category reveals that 0% of the workforce is employed in farming, fishing, and forestry occupations. 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 51 employed residents in Noatak in 2010, of which 36.6% were employed in local government, 15.2% in leisure and hospitality, 11.1% in natural resources and mining, 9.5% in professional and business services, 9.5% in education and

[367] 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.
[368] See footnotes 363 and 365.
[369] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[370] See footnote 363.

health services, 4.9% in trade, transportation, and utilities, 3.3% in construction, 1.2% in financial activities, 0.8% in information, and 7.8% in other industries.[371] 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, Noatak (U.S. Census).

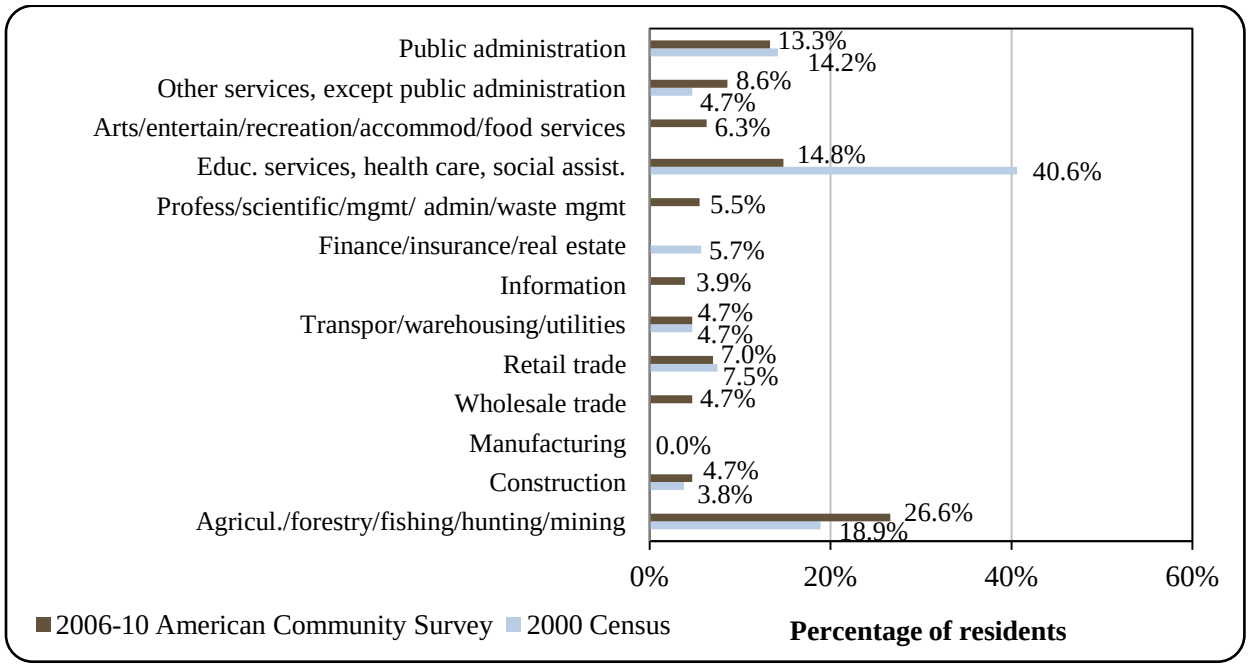
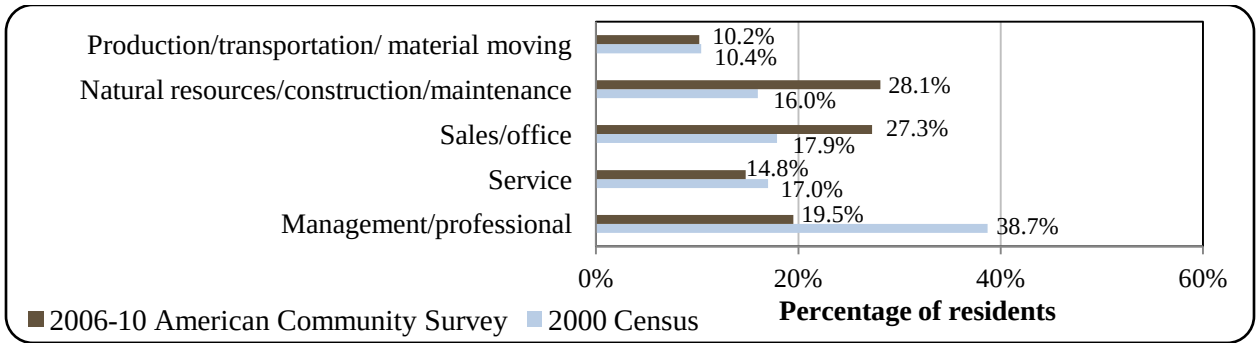


Figure 4. Local Employment by Occupation in 2000-2010, Noatak (U.S. Census).



[371] Ibid.

Governance

Noatak is an unincorporated community in the Northwest Arctic Borough. Neither the community nor the Borough administers any local taxes.[372] Given that Noatak is not incorporated, there was no municipal revenue or municipal sales tax revenue between 2000 and 2010. No information was reported regarding State or Community Revenue Sharing contributions received by the community between 2000 and 2010. However, one fisheries-related grant was received by Noatak in 2002. The $750,000 grant was awarded for design and construction of a harbor in Noatak, along with an initial feasibility study.[373] This information about selected aspects of revenue sources in Noatak are presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Noatak 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	$750,000
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

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

Noatak 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 Noatak. The regional Native corporation to which Noatak belongs is the NANA Regional Corporation. In 1972, most village corporations in the region merged with NANA Regional Corporation, with the exception of the village

[372] Alaska Dept. of Comm. And Rural Affairs (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm.
[373] 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.

corporation for Kotzebue, known as Kikiktagruk Inupiat Corporation (KIC). NANA Regional Corporation now has title to 2,082,052 surface acres, including 115,200 that were originally titled to the Noatak Village Corporation.[374,375]

Noatak is a member village of the Maniilaq Association, a tribal non-profit corporation that provides health and social services to residents of Northwest Alaska. The Maniilaq Association 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. It was originally called the Northwest Alaska Native Association (NANA), but was renamed Maniilaq when the NANA Regional Corporation was formed to avoid confusion between the names.[376] Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[377] The Maniilaq Association coordinates tribal and traditional assistance programs, and environmental and subsistence protection services in the region.[378]

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development (DCCED) are located in Kotzebue. The closest offices of the Alaska Department of Natural Resources (DNR) and U.S. Bureau of Citizenship and Immigration Services are located in Fairbanks, although the Anchorage offices of these agencies may be more accessible by air to people of this region. The closest office of the National Marine Fisheries Service (NMFS) is located in Anchorage.

Infrastructure

Connectivity and Transportation

Noatak's primary means of connection to the outside world is by air. A state-owned, lighted, 4,000 ft by 60 ft, gravel runway is located in the Village. Commercially scheduled passenger flights serve Noatak, and the air strip is also used for delivery of cargo and mail. Currently, no barge service is able to access Noatak. Local residents use small boats, ATVs, and snowmachines for travel locally and to nearby villages. Historic trails are still used for inter-village travel and subsistence activities.[379]

Facilities

Water in Noatak is derived from three shallow wells in the Noatak River, two of which provide drinking water. At the village water treatment plant, water is filtered to remove solids, and chlorine is used for disinfection. Treated water is stored in a 97,000-gallon tank which provides approximately three days of water supply for Noatak. The water level in the river has

[374] NANA Regional Corporation (2003). Introduction. *NANA Lands website*. Retrieved February 2, 2012 from http://www.nanalands.com/introduction.htm.
[375] 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.
[376] Maniilaq Association (2003). *Company Information*. Retrieved February 2, 2012 from http://www.maniilaq.org/companyInfo.html.
[377] 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.
[378] See footnote 376.
[379] See footnote 375.

been decreasing in recent year, and the primary community well occasionally runs dry. All three wells are threatened by erosion.[380] The Village Council operates a piped water and sewer system that serves 77 of 100 homes, the school, and businesses in Noatak. The remaining residences use honeybuckets, and the Village Council offers honeybucket haul service. Sewage is treated in Noatak using a sewage lagoon. The Village Council also operates a landfill, but refuse collection is left to individual residents. A diesel powerhouse, operated by the Alaska Village Energy Cooperative (AVEC), provides electricity in Noatak.[381]

Other community facilities in Noatak include a fire hall that houses the Volunteer Fire Department, a school gymnasium, and school library.[382] Safety services are provided by Village Public Safety Officer stationed in Noatak.[383] The nearest state trooper post is located in Kotzebue.[384] Telephone, internet, and cable are available in the Village.[385]

With regard to fishing-related facilities, no docking facilities are available in Noatak. Small boats are used for river travel to subsistence camps, and pull-up areas are located along the riverbank by the Village.[386]

Medical Services

Medical services in Noatak are provided at the Esther Berger Memorial Health Clinic, owned by the Village Council and operated by the Maniilaq Association. Noatak is a Community Health Aid Program site. Emergency services have river and air access, and are provided by volunteers and a health aide.[387] The nearest hospital is located in Kotzebue.

Educational Opportunities

One school is present in Noatak. The Napaaqtugmiut School serves preschool through 12th grade. As of 2011, the school had 159 students and 12 teachers.[388]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Noatak area has been used by the Inupiat people for at least 1,000 years. Today, subsistence harvest of marine resources remains a primary economic activity for Noatak residents, continuing historic resource use patterns. Noatak residents travel to seasonal

[380] Alaska Native Tribal Health Consortium (ANTHC) (2011). *Climate Change in Noatak, Alaska: Strategies for Community Health* (2011. Retrieved February 2, 2012 from http://www.anthc.org/chs/ces/climate/upload/Climate_Change_in_Noatak_Strategies_for_Community_Health.pdf.
[381] See footnote 375.
[382] Ibid.
[383] Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from http://www.dps.alaska.gov/.
[384] Alaska Dept. of Public Safety (2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[385] See footnote 375.
[386] See footnote 380.
[387] See footnote 385.
[388] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

subsistence camps along the coast each summer.[389] Today, some Noatak residents are also involved in the commercial salmon harvest, and a number of residents purchase sport fish licenses each year (see *Commercial Fishing* and *Recreational Fishing* sections below).

The Kotzebue Sound salmon fishery is the northernmost commercial salmon fishery in Alaska. Over 99% of the salmon harvested in this fishery are chum salmon returning to the Kobuk and Noatak Rivers. Commercial harvest of salmon first occurred in the Kotzebue area in 1909 when Native fishermen sold salmon to gold miners. Starting in 1914, salmon were canned and sold to miners in the upper Kobuk drainage. This small industry ceased after 1918. The modern commercial salmon fishery began in 1962, and catch peaked in 1981 with 680,000 chum commercially harvested. Since 1995, poor market conditions and variable processing capacity and interest have caused harvests to fall short of their potential. Due to limited opportunities to sell their catch, the number of active permits in the Kotzebue salmon fishery has declined over the last 30 years. Very few of the 173 total set gillnet permits have been actively fished in recent years.[390]

A chum salmon hatchery was built in 1981 at Sikasuilaq Springs, a tributary of the Noatak River. The hatchery operated until 1995. The peak of hatchery production was approximately 90,000 chum salmon per year.[391]

Noatak is located in the Arctic Management Area. A Fishery Management Plan (FMP) for the Arctic Management Area was approved by the Secretary of Commerce in August 2009. Initially, the FMP prohibits commercial fishing in the Beaufort and Chukchi seas until more information is available to support sustainable fisheries management.[392] Noatak is not eligible to participate in either the Community Quota Entity (CQE) or the Community Development Quota (CDQ) programs.

Processing Plants

ADF&G's 2010 Intent to Operate list did not list a registered processing plant in Noatak. However, between one and five fish buyers were active in the nearby City of Kotzebue between 2000 and 2010, as well as one shore-side processor in 2004 and 2005 (see the Community Profile for Kotzebue).

Fisheries-Related Revenue

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Noatak (Table 3).

[389] See footnote 380.
[390] 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.
[391] Ibid.
[392] NOAA National Marine Fisheries Service, Alaska Regional Office (n.d.). *Arctic Fisheries*. Retrieved February 6, 2012 from http://www.fakr.noaa.gov/sustainablefisheries/arctic/.

Commercial Fishing

In 2010, 14 Noatak residents held a total of 13 Commercial Fisheries Entry Commission (CFEC) permits, of which 5 were actively fished that year. All of these permits were held in the Kotzebue set gillnet salmon fishery. According to data reported by ADF&G, the percentage of permits actively fished that year (38%) was the highest of any year between 2000 and 2010.[393] The number of salmon permits actively fished in the Kotzebue commercial salmon fishery has declined steadily over the past 30 years, and in some years between 2000 and 2010 only 3 or 4 permits out of a total of 173 Kotzebue gillnet permits were active.[394] Also in 2010, no residents of Noatak held Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP). In addition, no residents held quota share accounts or quota shares in federal catch share fisheries for halibut, sablefish, or crab. Information about permits held by Noatak residents is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

Between 2000 and 2010, no fishing vessels were primarily owned by Noatak residents, and no fishing vessels were homeported in the Village. During this period, the number of Noatak residents holding commercial crew licenses varied between zero and five. No fish buyers or shore-side processors were reported to be present in Noatak between 2000 and 2010. Given that no fish buyers were present in Noatak, and no residents of Noatak were the primary owner of a fishing vessel, no landings or ex-vessel revenue were generated in the community or by Noatak vessel owners. Information about the commercial fishing sector in Noatak is presented in Table 5, and information about landings and ex-vessel revenue is presented in Tables 9 and 10.

[393] 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.]
[394] See footnote 390.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Noatak: 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, Noatak: 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, Noatak: 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	12	13	13	13	12	11	11	12	13	14	13
	Fished permits	2	2	0	0	2	0	0	1	1	4	5
	% of permits fished	17%	15%	-	-	17%	-	-	8%	8%	29%	38%
	Total permit holders	12	13	14	13	12	11	11	12	13	15	14
Total CFEC Permits[2]	*Permits*	*12*	*13*	*13*	*13*	*12*	*11*	*11*	*12*	*13*	*14*	*13*
	Fished permits	*2*	*2*	*0*	*0*	*2*	*0*	*0*	*1*	*1*	*4*	*5*
	% of permits fished	*17%*	*15%*	*-*	*-*	*17%*	*-*	*-*	*8%*	*8%*	*29%*	*38%*
	Permit holders	*12*	*13*	*14*	*13*	*12*	*11*	*11*	*12*	*13*	*15*	*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 Noatak: 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 Noatak[2]	Total Net Pounds Landed In Noatak[2,5]	Total Ex-Vessel Value Of Landings In Noatak[2,5]
2000	5	0	0	0	0	0	0	$0
2001	4	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	1	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	1	0	0	0	0	0	0	$0
2010	5	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 Noatak: 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 Noatak: 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 Noatak: 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 Noatak: 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 Noatak 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	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.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses or licensed sport fish guides were reported to be present in Noatak. However, the number of sportfishing licenses purchased each year by residents of Noatak (irrespective of point of sale) varied between 35 and 92 during this period. Prior to 2008, no sportfishing licenses were sold in the Village of Noatak. Between 2008 and 2010, a small number of licenses were purchased in the community, but a majority of residents continued to purchase their licenses elsewhere, indicating that Noatak residents travel to other communities for sportfishing.

The Alaska Statewide Harvest Survey,[395] conducted by ADF&G between 2000 and 2010, noted sportfishing activity in freshwater only. The following species were listed as targeted by private anglers in Noatak: Chinook, coho, sockeye, pink, and chum salmon, Dolly Varden, whitefish, and northern pike. No kept/release log book data were reported for fishing charters out of Noatak between 2000 and 2010.[396]

Noatak is located within Alaska Sport Fishing Survey Area X – Northwest Alaska. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,251 fresh water days and 582 saltwater days, while non-Alaska resident anglers fished on average 1,690 freshwater and 64 saltwater days. This information about the sportfishing sector in and near Noatak is also displayed in Table 11.

Table 11. Sport Fishing Trends, Noatak: 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 Noatak[2]
2000	0	0	83	0
2001	0	0	57	0
2002	0	0	53	0
2003	0	0	58	0
2004	0	0	40	0
2005	0	0	35	0
2006	0	0	52	0
2007	0	0	92	0
2008	0	0	78	17
2009	0	0	47	15
2010	0	0	39	11

[395] 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).

[396] 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, Noatak: 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	14	1,875	1,779	3,388
2001	296	114	2,986	2,508
2002	0	132	1,297	4,988
2003	15	1,698	1,807	2,601
2004	17	332	1,892	3,463
2005	19	35	1,309	1,755
2006	0	452	1,764	4,570
2007	65	62	1,146	3,754
2008	0	407	2,421	1,593
2009	138	815	1,160	5,318
2010	137	478	1,027	1,828

[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 fishing and hunting are the primary economic activities in Noatak, in combination with employment in other local industries.[397] Subsistence activities take place up-river at Noatak, and residents also travel to seasonal subsistence camps on the coast, the most important being Nuvguruk and Sisualik.[398] According to a subsistence survey conducted in Noatak by ADF&G Division of Subsistence, the most important aquatic subsistence species for residents of Noatak in 2007, by harvest weight, included Dolly Varden, chum salmon, bearded seal, and whitefish. That year, two times as much non-salmon fish was harvested in Noatak as salmon.[399]

[397] 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.

[398] Alaska Native Tribal Health Consortium (ANTHC) (2011). *Climate Change in Noatak, Alaska: Strategies for Community Health* (2011. Retrieved February 2, 2012 from http://www.anthc.org/chs/ces/climate/upload/Climate_Change_in_Noatak_Strategies_for_Community_Health.pdf.

[399] Magdanz, J.S., N.S. Braem, B.C. Robbins, and D.S. Koster (2007). *Subsistence Harvests in Northwest Alaska, Kivalina and Noatak, 2007*. Alaska Department of Fish and Game, Technical Paper No. 354. Retrieved February 3, 2012 from http://www.subsistence.adfg.state.ak.us/techpap/TP354.pdf.

According to ADF&G's Community Subsistence Information System (CSIS), in 2007, 86% of households participated in salmon subsistence, 69% in marine mammals subsistence, and 74% in non-salmon fish subsistence (other than halibut). No information was reported regarding the percentage of households participating in halibut or marine invertebrate subsistence, or per capita harvest of marine and land-based resources that year. Information about household participation and per capita subsistence harvest is presented in Table 12.

The ADF&G survey of 2007 subsistence harvest includes species-level information about household use of non-salmon fish and marine mammals. Noatak households reported harvesting sheefish, Arctic grayling, northern pike, lake trout, Arctic char, burbot, tomcod, herring, smelt, Dolly Varden, and whitefish. In addition, Noatak households reported harvesting bearded seal, ringed seal, spotted seal, walrus, and beluga whale. In the case of most of the species listed above, a greater percentage of households reported using the species than reported harvesting them, suggesting the presence of sharing networks in Noatak. In addition, although bowhead whale was not harvested by any Noatak households in 2007, 1% of households reported using this resource, suggesting that trading also takes place between communities. It is also important to note that, although no harvest of marine invertebrates was reported by Noatak households in 2007, 1% of households did report using king crab.[400]

Information was also reported by ADF&G regarding subsistence salmon permits during the 2000-2010 period. Between 2000 and 2004, an average of 102 subsistence salmon permits were issued to Noatak households. In 2005, the reported number of permits issued fell to one, no information was reported for 2006, and in 2007 one permit was again issued. For those years in which data were reported, chum salmon were the most heavily harvested salmon species, with an average of 3,746 chum harvested per year. On average, several hundred coho and pink salmon were also harvested, along with a small number of sockeye per year. This information about subsistence harvest of salmon in Noatak is presented in Table 13. Also reported in Table 13, 51,476 total pounds of non-salmon fish (not including halibut; see species listed in previous paragraph) were harvested by Noatak residents in 2007.

No information was reported by management agencies regarding halibut or marine mammal subsistence harvest by Noatak residents during the 2000-2010 period (Tables 14 and 15). However, as noted earlier in this section, some Noatak households reported harvesting and using bearded seal, ringed seal, spotted seal, walrus, and beluga whale.

[400] Ibid.

Table 12. Subsistence Participation by Household and Species, Noatak: 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	86%	n/a	69%	n/a	74%	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, Noatak: 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	102	61	n/a	7,293	87	3	2	n/a	n/a
2001	96	68	n/a	2,326	116	n/a	n/a	n/a	n/a
2002	101	90	n/a	2,937	11	n/a	n/a	n/a	n/a
2003	104	103	1	2,177	28	17	10	n/a	n/a
2004	105	103	10	3,997	518	756	12	n/a	n/a
2005	1	1	1	n/a	n/a	n/a	29	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	1	1	1	n/a	n/a	n/a	22	n/a	51,476
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, Noatak: 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

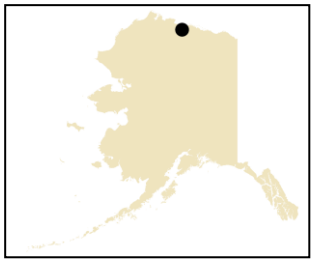
Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information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

Table 15. Subsistence Harvests of Marine Mammal Resources, Noatak: 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.

Nuiqsut *(new-WICK-sit; var. Nooiksut)*



People and Place

Location [401]

Nuiqsut is located on the west bank of the Nechelik Channel of the Colville River Delta, about 35 miles from the Beaufort Sea coast. Nuiqsut is located in the Barrow Recording District and the North Slope Borough Census Area. The City encompasses 9.2 square miles of land and 0 square miles of water.

Demographic Profile [402]

In 2010, there were 402 residents in Nuiqsut, ranking it as the 138th largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Nuiqsut increased by 13.6%. Most of this growth occurred between 1990 and the year 2000, when 433 residents were recorded as residing in Nuiqsut. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 7.2%, with an average annual growth rate of -0.48%.

In 2010, a majority of the Nuiqsut residents identified themselves as American Indian or Alaska Native (87.1%), while 10% identified themselves as White, 0.2% as Black or African American, and 2.7% identified with two or more races. No Nuiqsut residents identified themselves as Hispanic in 2010. It is important to note that both Asians and Hispanics appear to have been present in 2000, and are no longer represented in 2010 Decennial Census statistics. The percentage of the population identifying as White increased over time, from 7.3% in 1990, to approximately 10% in 2000 and 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.

Based on household surveys conducted for the U.S. Decennial Census, the average household size in Nuiqsut was fairly consistent between 1990 and 2010, with 3.8 persons per household in 1990, 3.93 in 2000, and decreased slightly in 2010 to 3.47. The number of households in Nuiqsut has increased over time, from 91 households in 1990 and 110 in 2000, to 114 in 2010. Of the 136 total housing units surveyed for the 2010 U.S. Decennial Census, 44.9% were owner-occupied, 39% were rented, and 16.2% were vacant or used only seasonally. In 2010, six Nuiqsut residents were reported to be living in group quarters.

In 2000, the gender makeup of Nuiqsut's population (59.6% male and 40.4% female) was much more skewed toward males than the population of Alaska as a whole, which was made up of 51.7% males and 48.3% females. The gender imbalance evened out considerably by 2010,

[401] 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.

[402] 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.

when 51.7% of Nuiqsut's population was male and 48.3% was female, very close to the balance of the State population as a whole that year (52% male and 48% female). In 2010, the median age of Nuiqsut residents was 25.2 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. It is of note that very few Nuiqsut residents were between the ages of 30 and 39 in 2010. That year, 9.1% of Nuiqsut's population was 60 or older. The overall population structure of Nuiqsut in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[403] 76.4% of Nuiqsut 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, 9,8% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 13.8% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 10.5% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 1.1% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 3.6% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 14.2% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	354	-
2000	433	-
2001	-	426
2002	-	443
2003	-	416
2004	-	432
2005	-	411
2006	-	417
2007	-	402
2008	-	383
2009	-	402
2010	402	-

[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.

[403] 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, Nuiqsut: 2000-2010 (U.S. Census).

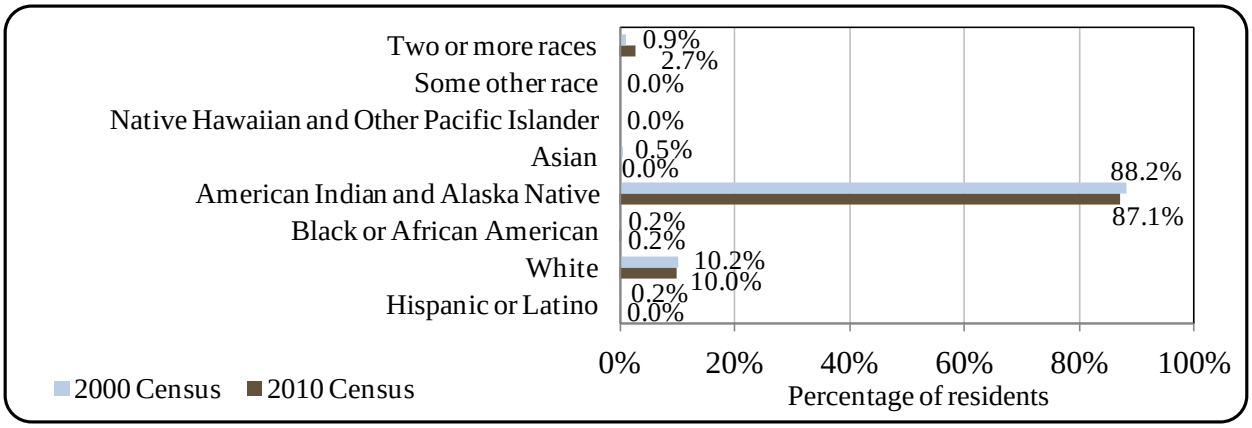
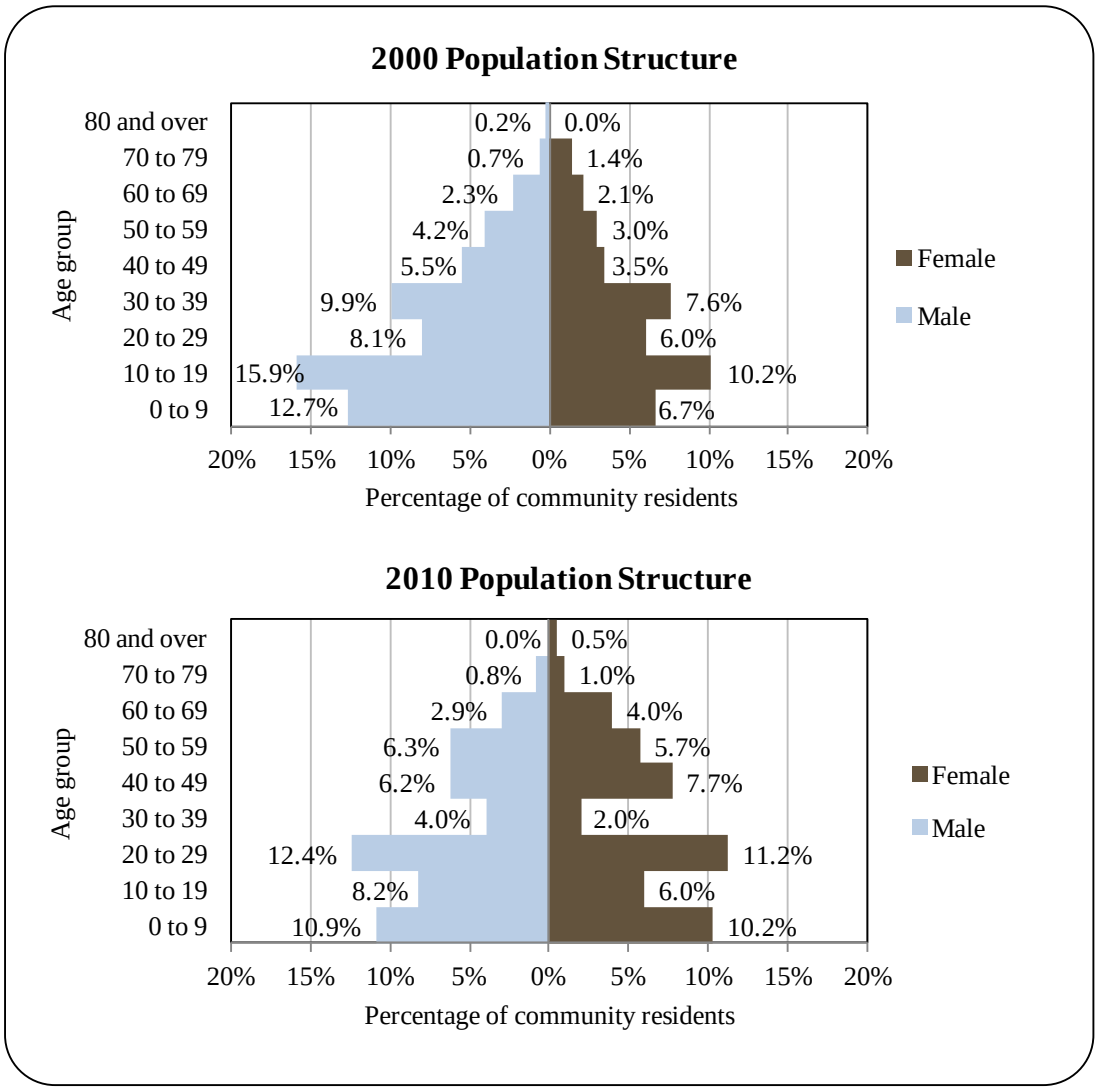


Figure 2. Population Age Structure in Nuiqsut Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture

The Nuiqsut area has been inhabited for at least 4,000 years, according to archaeological evidence. A cultural tradition known as the Arctic Small Tool tradition was the first to appear. Around 1,000 years ago, the Thule culture expanded into the North Slope region, characterized by winter ice-hunting, kayak and umiaq[404] open sea hunting, use of dogs and dog sleds, and settlement in large coastal villages.[405] Although major settlements have always occurred on the North Slope, traditionally people lived in small groups and travelled throughout the region to hunting and fishing areas. Today, most people live in permanent villages, "yet the animals still roam widely, and seasonal locations for fishing and trapping are scattered over a vast territory."[406] The use of snowmachines and motor boats allows residents to extend the range of their subsistence use while still living in a permanent community.[407]

Downstream from Nuiqsut, the Colville Delta has traditionally been a gathering and trading place for the Inupiat and has always offered good hunting and fishing. The Colville River was the traditional homeland of the Kukpikmut, the "people of the lower Colville River." The old village of Nuiqsut (Itqilippaa) was abandoned in the late 1940s, when the Bureau of Indian Affairs (BIA) required families to relocate so that children could attend school in Barrow. Because some families had continued to use the lower Colville area for hunting, fishing, trapping, and trading after the 1940s, Nuiqsut qualified as a village under the Alaska Native Claims Settlement Act (ANCSA) of 1971.[408] In 1973, the Village was resettled by 27 families from Barrow.[409] Federal agencies, along with the Arctic Slope Regional Corporation, the regional Native corporation created under ANCSA, offered to help with the construction of a school, homes, and facilities in the summers of 1973 and 1974.[410,411] Goods were hauled from Barrow by tractor and snowmachines. The City of Nuiqsut was incorporated in 1975.[412]

Today, a majority of the Nuiqsut population is Inupiat Eskimo, and most residents practice a traditional subsistence lifestyle.[413] Cultural practices revolve around traditional whaling and other subsistence hunting, fishing, trapping, and gathering activities.[414] A subsistence exchange network exists between Nuiqsut and other villages in the region. Nuiqsut is known for its whitefish and pelts, and often receives bowhead and beluga whale, sheep, and smelt

[404] An umiaq is a large open Inuit or Eskimo boat made of skins stretched on a wooden frame, usually propelled by paddles. (Source: http://www.thefreedictionary.com. Retrieved June 21, 2012.)
[405] National Park Service (n.d.) *Archaeology of the Tundra and Arctic Alaska*. Retrieved December 8, 2011 from http://www.nps.gov/akso/akarc/arctic.htm.
[406] North Slope Borough Planning Commission and Commission on History and Culture (1979). *Nuiqsut Heritage: A Cultural Plan*. Retrieved February 29, 2012 from http://www.alaska.boemre.gov/native/Nuiqsut_Guide.pdf.
[407] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[408] See footnote 406.
[409] 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.
[410] Ibid.
[411] See footnote 406.
[412] See footnote 409.
[413] Ibid.
[414] URS Corporation (2005). *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.

from other villages.[415] The sale, importation, and possession of alcohol are banned in the village.[416]

Natural Resources and Environment

The climate of Nuiqsut is arctic, with temperatures ranging from -56 to 78 °F. On average, the daily minimum temperature is below freezing 297 days each year. Annual precipitation is light, averaging 5 inches, along with 20 inches of snowfall per year.[417] Nuiqsut is located on the arctic coastal plain, a rolling landscape with small hills and many ponds and lakes trapped on the surface by an underlying permafrost layer. The Colville River has three major channels, of which Nuisqut is situated on the westernmost, and the Colville Delta is crossed by a maze of waterways. The Brooks Range rises up in the distance to the south.[418,419]

Nuiqsut is located within the National Petroleum Reserve – Alaska (NPRA). The Prudhoe Bay oil field was discovered in 1968, and all oil exploration and production to date has taken place in the Colville-Canning area. The zone immediately west of Nuiqsut has one of the highest concentrations of leases. Future development is planned to expand west and south within the NPRA, south in the Colville-Canning region, and into offshore state and federal waters. The NPRA area contains an estimated 10.6 billion barrels of oil in a total area of 24.2 million acres (440 barrels per acre).[420]

Offshore, initial oil and gas exploration in the outer continental shelf (OCS) of the Beaufort Sea began in 1981, and a total of 20 wells were drilled by 1989. The Bureau of Ocean Energy Management (formerly Minerals Management Service) held six sales in the Beaufort OCS between 1991 and 2007, resulting in the leasing of 1,742,987 acres. After reevaluation of their Beaufort Sea exploration plan due to a 2007 lawsuit, and numerous appeals by Native communities and environmental groups during the permitting process,[421] Shell began drilling exploratory wells in non-petroleum zones on October 3rd, 2012. Before Shell could receive final authorization to drill in petroleum zones, its spill response barge was required to be in place. The barge was damaged in September, but was expected to be in place in time for the 2013 drilling season.[422] The proposed 2012-2017 OCS oil and gas leasing program also schedules one additional lease sale in the Beaufort Sea planning area.[423]

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[415] See footnote 407.
[416] See footnote 409.
[417] Ibid.
[418] See footnote 406.
[419] See footnote 407.
[420] U.S. Dept. of Energy (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[421] Bailey, A. October 2011. "One More Step for Shell: EPA Issues Shell's air permit for the Kulluk to drill in Beaufort Sea in 2012." *Petroleum News* 16(44). Retrieved March 1, 2012 from http://www.petroleumnews.com/pntruncate/183741151.shtml.
[422] Associated Press. October 3, 2012. "Shell Begins Beaufort Sea Drilling Off Alaska's North Coast." *Huffington Post*. Retrieved October 19, 2012 from http://www.huffingtonpost.com/2012/10/04/shell-beaufort-sea-drilling_n_1937715.html.
[423] U.S. Dept. of the Interior, Minerals Management Service (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.

The impact of oil and gas development activities on local subsistence resources has been the focus of considerable research. There is evidence that off-shore activities are disrupting migratory patterns of bowhead whales, causing difficulty for whalers from Nuiqsut and other villages in the area that depend on harvest of these animals.[424] A 3-year study confirmed the reports of local elder and whaling captains that migrating bowhead whales deflect around seismic noise at a minimum distance of 20 kilometers (12 miles).[425]

Local communities are also concerned about pollution from military and oil and gas exploration and production activities. Several contaminated sites are present in the North Slope Borough as a result of old military installations, including Camp Lonely Landfill and the Point Lonely short range radar station. The U.S. Air Force operated the Camp Lonely Landfill between 1976 and 1989. As of 2005, human health and environmental concerns at the site included exposed sharp materials such as drums, glass, and scrap metal, as well as oil seeps leaching into the soil near the coastal lagoon, which could be toxic to aquatic organisms. Batteries and petroleum products had been disposed of at the site. Beginning in 2006, responsible parties were expected to start cleaning up the site. At the Point Lonley radar station, the U.S. Air Force is managing cleanup of an old dump site that received waste between 1955 and 1976. Cleanup efforts include removal of soil contaminated with petroleum products and polychlorinated biphenals (PCBs), a probable human carcinogen. PCBs are not prone to leaching from the soil, and the primary routes of exposure are through ingestion or skin contact (eating or touching). During the cleanup process, steps are being taken to keep the contaminated soil capped to prevent these exposure routes to humans and wildlife.[426] Nuiqsut has a restoration advisory board to work with the local community during cleanup of contaminated sites.[427]

In addition, local are concerned about air quality. In the winter and spring, visibility can be reduced from more than 50 miles to less than 5 miles, a phenomenon known as "arctic haze". Scientists believe that the haze is a result of long-range transport of pollution from industrialized Europe. Nuiqsut resident have testified that they see a yellow haze that originates directly from local oil fields. A local health worker believes that rates of respiratory illness in Nuiqsut have increased dramatically since she began working in the community in 1985.[428]

Nuiqsut is located near several protected and special management areas. The Teshekpuk Lake Surface Protection Area is located just west of Nuiqsut, also within the area of the NPRA. The lake is in an area of high potential for economically recoverable oil and gas resources, and is also recognized for its unique environmental value.[429] Teshekpuk Lake is one of the most important wetland complexes in the circumpolar Arctic, providing habitat for millions of migratory birds from around the world, as well as calving grounds for the Teshekpuk Lake caribou herd, and important herd for subsistence for hunters from Nuiqsut and surrounding

[424] See footnote 414.
[425] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[426] Alaska Dept. of Environmental Conservation (2012). Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[427] See footnote 425.
[428] Ibid.
[429] Bascle, R. (1993). *Teshekpuk Lake Special Management Area, Oil and Gas Resource Assessment, National Petroleum Reserve – Alaska*. U.S. Dept. of the Interior, Bureau of Land Management. Retrieved March 1, 2012 from http://www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/ofr.Par.13949.File.dat/OFR_46.PDF.

villages. Oil development within this area is directed to minimize impact on these surface environmental values.[430]

The northern boundary of the Gates of the Arctic National Park and Preserve is located approximately 140 miles south of Nuiqsut, in the Central Brooks Range. The Central Arctic Caribou Herd migrates each year between the boreal forest of the Park and Preserve and calving areas on the coastal plain.[431] The western boundary of the Arctic National Wildlife Refuge (NWR) is located approximately 250 miles to the east of Nuiqsut, which contains calving grounds of both the Central Arctic and Porcupine Caribou Herds.[432] These areas host a diversity of ecosystems and animals and plant life. Polar bears around found in the Arctic NWR, and grizzly and black bears and found in both protected areas, along with wolves, lynx, wolverine, red fox, moose, muskoxen, Dall sheep, beaver, and other small mammals. The boreal forest hosts a diversity of migratory birds.[433] The Arctic NWR is currently closed to oil and gas drilling activities under Section 1003 of the Alaska National Interest Lands Conservation Act (ANILCA).[434] Estimates of recoverable oil in the NWR range between 4.2 and 11.8 billion barrels.[435]

Natural hazards in and near Nuiqsut include river erosion, river flooding (mainly due to ice jams, as precipitation is low), and permafrost melting. Coastal areas near Nuiqsut are also subject to erosion and ice hazards, such as ice ridging, shear zones, ice break-off, strudel scour, ice gouging, ice override, and ice pileup. Earthquakes and volcanoes are not identified as a concern in the North Slope Borough. Climate change appears to be leading to increased risk from coastal storms, flooding, erosion, and permafrost melting.[436,437]

According to the Alaska Department of Environmental Conservation, one active environmental cleanup site is located in Nuiqsut as of August 2013. The U.S. Air Force operated a landfill near Nuiqsut from the mid 1970s through the late 1980s. The "Camp Lonely Landfill" was used to dispose of sharp objects including glass, and scrap metal, as well as oil drums and other toxics including batteries. On-going soil erosion in the area leads to exposure of sharp materials and exacerbates the rate at which oil contamination enters nearby water bodies. As of summer 2006, the responsible parties were expected to begin cleaning up the landfill [438]

[430] Audubon Alaska (2003). *Wildlife and Oil Development at Teshekpuk Lake*. Retrieved March 2, 2012 from http://policy.audubon.org/sites/default/files/documents/Teshekpuk_low.pdf.
[431] National Park Service. 2011.*Gates of the Arctic*. Retrieved March 3, 2012 from http://www.nps.gov/gaar/.
[432] U.S. Fish and Wildlife Service. 2011. *Arctic National Wildlife Refuge*. Retrieved March 2, 2012 from http://arctic.fws.gov/.
[433] See footnotes 431 and 432.
[434] U.S. Fish and Wildlife Service (2011). *Arctic National Wildlife Refuge Draft Revised Comprehensive Conservation Plan*. Retrieved December 30, 2011 from http://arctic.fws.gov/ccp.htm.
[435] U.S. Dept. of Energy (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[436] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[437] URS Corporation (2005). *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[438] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[439]

Unemployment is high in Nuiqsut. In 2010, top employers of local residents included the Borough, City, and Village offices, the local village Native Corporation, the school, the local store, and several private construction and energy companies.[440] Trapping and craft-making also provide some income, and subsistence harvest is a foundational aspect of the local economy. Caribou, bowhead and beluga whale, seal, moose, and fish are staples of the diet. Polar bears are also hunted.[441]

Based on household surveys conducted for the 2006-2010 ACS,[442] in 2010, the per capita income in Nuiqsut was estimated to be $22,981 and the median household income was estimated to be $86,458. This represents a sizeable increase in the per capita and median household incomes reported in the year 2000 ($14,876 and $48,036, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,[443] the income increase remains large, from a real per capita income of $19,562 and a real median household income of $63,167 in 2000. In 2010, Nuiqsut ranked 126th of 305 Alaskan communities with per capita income data that year, and 21st in median household income, out of 299 Alaskan communities with household income data.

However, Nuiqsut's small population size may have prevented the ACS from accurately portraying economic conditions.[444] 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 Nuiqsut in 2010 is $14,214.[445] 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 Nuiqsut between 2000 and 2010. Nuiqsut was not recognized as a "distressed" community by the Denali Commission in 2011.[446] 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.

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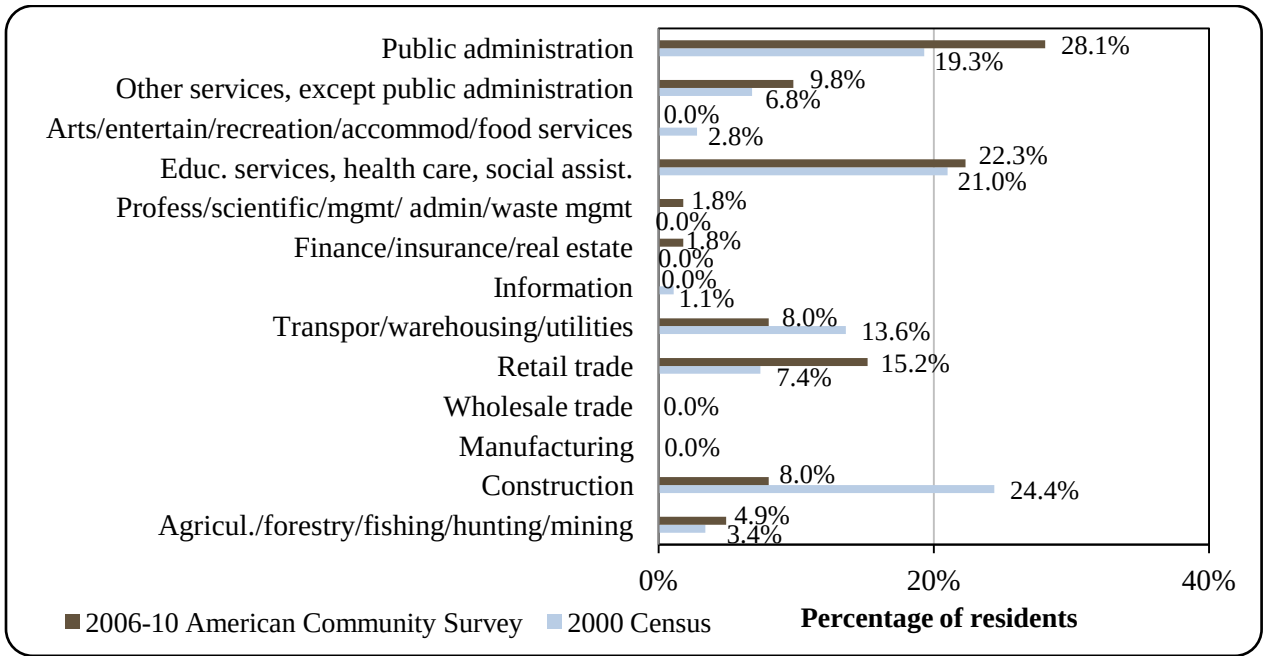
[439] Unless otherwise noted, all monetary data are reported in nominal values.
[440] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.
[441] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[442] 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.
[443] 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).
[444] 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.
[445] See footnotes 440 and 442.
[446] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

Based on the 2006-2010 ACS, in 2010, a smaller percentage of Nuiqsut's population (61.7%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 0.6% of Nuiqsut residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Nuiqsut was estimated to be 20.1%, 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 16.1%, compared to a statewide unemployment rate estimate of 11.5%.[447]

Also based on the 2006-2010 ACS, a majority of Nuiqsut's workforce was estimated to be employed in the public sector (60.3%), along with 39.7% in the private sector. Of the 224 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 public administration (28.1 %), educational services, health care, and social assistance (22.3%), and retail trade (15.2%). This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

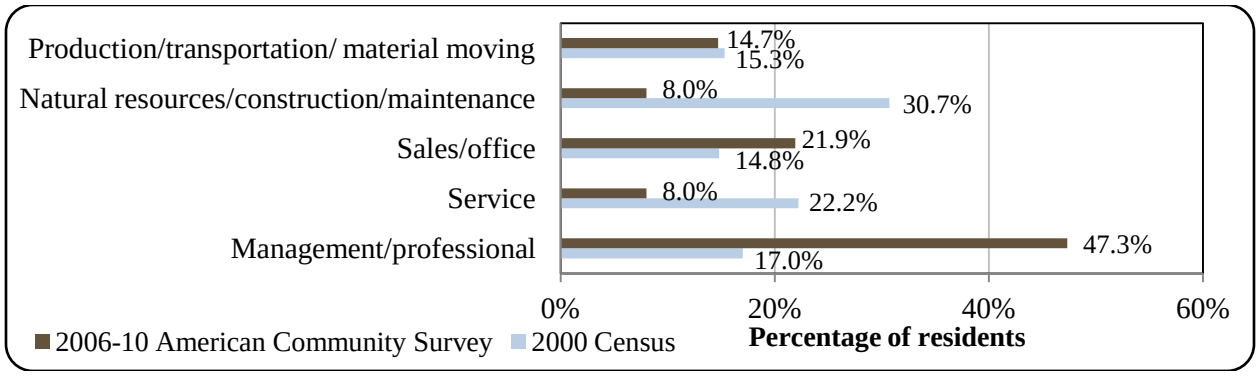
An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 218 employed residents in Nuiqsut in 2010, of which 55.5% were employed in local government, 16.5% in financial activities, 9.6% in construction, 5.5% in natural resources and mining, 5% in trade, transportation, and utilities, 4.1% in professional and business services, 1.8% in education and health services, 0.9% in leisure and hospitality, and 0.9% in other industries.[448] 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, Nuiqsut (U.S. Census).



[447] See footnote 440.
[448] Ibid.

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



Governance

Nuiqsut is a 2nd Class City in the North Slope Borough. The City has a Strong Mayor form of government, with a seven-person city council that includes the Mayor, a seven-person advisory school board, and several municipal employees. The Borough administers an 18.5 mills property tax, and the City does not administer any additional taxes.[449] The North Slope Borough also receives significant tax revenue from oil and gas development activities which supports services provided in Nuiqsut.[450]

Total municipal revenue varied substantially each year between 2000 and 2010, with a low of $205,741 in 2004 and a high of $1,181,332 in 2009. Nuiqsut received State Revenue Sharing contributions each year between 2000 and 2004, and Community Revenue Sharing contributions between 2008 and 2010 of over $100,000 per year. No information was reported regarding state and federal fisheries-related grants received by Nuiqsut between 2000 and 2010. However, a donation of $23,000 was reported in 2008 to help carry out a survey of subsistence harvest activities in Nuiqsut. Information about selected aspects of Nuiqsut's municipal revenue is presented in Table 2.

Nuiqsut was included under ANCSA, and is federally recognized as a Native village. The authorized traditional entity, recognized by the BIA, is the Native Village of Nuiqsut. The Native village corporation is the Kuukpik Corporation, which manages 137,881 acres of land. The regional Native corporation to which Nuiqsut belongs is the Arctic Slope Regional Corporation.[451]

Nuiqsut is also a member of the Arctic Slope Native Association (ASNA), a tribal 501(c)(3) non-profit organization headquartered in Barrow. The ASNA is one of the 12 regional Alaska Native 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

[449] 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.
[450] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[451] Alaska Dept. of Comm. And Rural Affairs (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm.

regions.[452] The ASNA works alongside the federal Indian Health Service to provide health and community services to Native communities in the region. In 1986, ASNA took over operation of the regional hospital in Barrow. In 2009, ASNA announced plans for construction of a new hospital in Barrow with an expanded space and range of services. The project is expected to be completed by 2013.[453,454]

The closest office of the Alaska Department of Fish and Game (ADF&G) is located in Barrow. The closest office of the Alaska Department of Commerce, Community, and Economic Development (DCCED) is located in Kotzebue, and the closest office of the Alaska Department of Natural Resources (DNR) and U.S. Bureau of Citizenship and Immigration Services are located in Fairbanks, although the Anchorage offices of these agencies may be equally accessible by air to people of this region. The closest office of the National Marine Fisheries Service (NMFS) is located in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nuiqsut 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]	Other Fisheries-Related Funding[1]
2000	$715,402	n/a	$58,179	n/a	n/a
2001	$448,538	n/a	$25,000	n/a	n/a
2002	$452,174	n/a	$26,503	n/a	n/a
2003	$440,645	n/a	$26,710	n/a	n/a
2004	$180,035	n/a	n/a	n/a	n/a
2005	$605,747	n/a	n/a	n/a	n/a
2006	$701,118	n/a	n/a	n/a	n/a
2007	$893,244	n/a	n/a	n/a	n/a
2008	$1,047,630	n/a	$187,640	n/a	$23,000
2009	$1,074,633	n/a	$196,287	n/a	n/a
2010	$1,104,884	n/a	$203,079	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.

[452] 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.
[453] Arcticslope.org (n.d.). *Samuel Simmonds Memorial Hospital*. Retrieved February 29, 2012 from http://www.arcticslope.org/hospital.html.
[454] Guedel, Greg. December 17, 2009. "Arctic Slope Native Association Launches Major Native Hospital Construction Project." *Native American Legal Update*. Retrieved February 29, 2012 from http://www.nativelegalupdate.com/2009/12/articles/arctic-slope-native-association-launches-major-native-hospital-construction-project/.

Infrastructure

Connectivity and Transportation

Air travel provides the only year-round access. The 4,343-ft-long by 90-ft-wide gravel airstrip is owned and operated by the North Slope Borough.[455] Barrow is a primary air hub for surrounding villages. Mail is shipped to Nuiqsut along the Dalton Highway and then flown from Deadhorse.[456] The price of a roundtrip ticket by plane from Nuiqsut to Anchorage in early June of 2012 was $977.[457] Coastal access for barged fuel and supply deliveries is possible during the ice-free season, which takes place for only a few weeks during the middle of summer. A 60-mile ice road reaches Nuiqsut approximately 5 to 7 months per year from Deadhorse and Prudhoe Bay, which are connected to the Alaska road system via the Dalton Highway. Additional trails connect Nuiqsut to Anaktuvak Pass (140 miles) and Atqasuk (150 miles). Snowmobiles and ATVs are commonly used for local transportation.[458] Proposed development of the Colville River Road would provide year-round access to eastern portions of the National Petroleum Reserve Area, and would include a spur road to Nuiqsut.[459]

Facilities

Water in Nuiqsut is derived from a lake, and is chlorinated and filtered before entering the Borough-operated piped water system. A majority of homes have running water in the kitchen. A central hauling point is available, and some homes have individual water tanks with water delivery services. The Borough also operates a piped sewer system, and a sewage lagoon is used for sewage treatment.[460] The community and individuals also use septic tanks, and some use honeybucket pits. A landfill is located in the area, and the Borough offers refuse collection services. A diesel powerhouse provides electricity in Nuiqsut, and is owned and operated by the North Slope Borough.[461] According to a 2005 Borough Comprehensive Plan, Nuiqsut was in the process of converting from diesel to a natural gas system.[462] Police services in Nuiqsut are provided by the North Slope Borough Police Department.[463] The nearest state trooper post is located in Barrow.[464] Fire and rescue services are provided by the Nuiqsut Volunteer Fire Department. Additional community facilities include City Hall, the Kisik Community Center, a school/community library, and a school gymnasium.[465] Nuiqsut has a digital telephone system, local dialup internet, a community teleconference center, cable television, public radio broadcast,

[455] See footnote 451.
[456] See footnote 450.
[457] This price was calculated on November 21, 2011 using kayak.com.
[458] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[459] URS Corporation (2005). *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[460] 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.
[461] Ibid.
[462] See footnote 458.
[463] See footnote 460.
[464] Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[465] See footnote 460.

an interactive video distance education system, wide area data network, and several two-way radio technologies.[466]

Medical Services

Local health services are available at the Nuiqsut Clinic, which is owned by the City and operated by the North Slope Borough. The Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by 911 Telephone Service volunteers and a health aide. Alternate health care is provided by the Nuiqsut Volunteer Fire Department.[467] In addition to local health services, a regional hospital with a wider range of services is available in Barrow. A hospital renovation is expected to be completed by 2013, expanding space and services for people of the North Slope region.[468]

Educational Opportunities

One school is present in Nuiqsut. The Nuiqsut Trapper School serves preschool through 12th grade. As of 2011, the school had 91 students and 12 teachers.[469]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence hunting and fishing have defined the economy and culture of Inupiaq people for thousands of years, and remains essential today.[470] Nuiqsut is located on the Colville River, which empties into the Beaufort Sea, an area encompassed by the Arctic Management Area. Commercial fishing for all species is currently prohibited in federally regulated waters of the Arctic Management Area, "until sufficient information is available to support the sustainable management of a commercial fishery." In state-regulated waters near Nuiqsut, a small commercial fishery takes place for whitefish (Arctic and least cisco) in the Colville River Delta. Catch from this fishery is primarily sold to local markets, although some fish are shipped to markets outside the Arctic region.[471] However, the waters near Nuiqsut are primarily managed for subsistence. Currently, the marine areas north and east of the Colville River are designated for subsistence use of bowhead whales between August and October each year.[472]

Whaling has had a particularly strong presence and history in the North Slope region. Whales were historically and are currently a primary subsistence resource for the Inupiaq people. The commercial whaling industry entered area waters in the 1850s, and continued through the early decades of the 1900s, when the combination of overharvest and declining markets for

[466] See footnote 458.
[467] See footnote 460.
[468] See footnote 453.
[469] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[470] North Slope Borough Planning Commission and Commission on History and Culture (1979). *Nuiqsut Heritage: A Cultural Plan*. Retrieved February 29, 2012 from http://www.alaska.boemre.gov/native/Nuiqsut_Guide.pdf.
[471] North Pacific Fishery Management Council (2009). *Arctic Fishery Management Plan.* Retrieved February 29, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[472] See footnote 458.

baleen and whale oil brought the industry to an end.[473] In 1977, a NMFS study found that stocks of bowhead whale were in decline, and the International Whaling Commission (IWC) issued a ban on the Native subsistence whale hunt. However, Native whaling captains and elders reported that their estimates of population size were several times higher than the NMFS estimates. Follow-up study confirmed that the bowhead whale population was healthy and growing.[474]

A system of co-management was established with the creation of the Alaska Eskimo Whaling Commission (AEWC) in 1977. The AEWC represents whalers from Kaktovik, Nuiqsut, Barrow, Wainwright, Point Hope, Kivalina, Little Diomede, Wales, Savoonga, and Gambell. Other examples of co-management efforts in the North Slope region are the Eskimo Walrus Commission (formed in 1978), the Beluga Whale Committee (formed in 1988), and the Nanuuq Commission (formed in 1994 for polar bear management). In 1994, Section 119 of the reauthorization for the Marine Mammal Protection Act provided a legislative basis for these cooperative agreements with Alaska Native organizations.[475]

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, no information was reported regarding fisheries-related revenue in Nuiqsut (Table 3).

Commercial Fishing

A combined subsistence-commercial fishery for Arctic cisco (*Coregonus autumnalis*) operates out of Nuiqsut on the Colville River delta during the fall. The commercial fishery is small and run by a prominent local family, the Helmericks. Fishery participants use gillnets strung under the ice. In total, the subsistence and commercial harvest can reach 80,000 fish each year.[476] Arctic cisco feed on invertebrates and other fish and are distributed between Arctic Canada and Siberia. Arctic cisco from the Colville River can live up to 10 years, reaching a maximum of 14 inches in length and 1.5 pounds in weight. They are similar in appearance to Bering cisco (found in Bering Sea drainages), but are more easily distinguished from least cisco (found in Bristol Bay drainages), which is more slender and often confused with herring. Arctic cisco may sometimes be sold under the name "white trout".[477] Fish caught in the Colville River fishery are primarily sold locally, although some are exported to markets in Barrow and

[473] Iñupiat History and Culture website. (n.d.). *Historical Overview of the North Slope Iñupiat: Commercial Whaling and Trading*. Retrieved March 1, 2012 from http://nsb-ihlc.com/.
[474] See footnote 459.
[475] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[476] Fechhelm, Robert, Bill Streever, and Benny Gallaway (2007). "The Arctic Cisco (*Coregonus autumnalis*) Subsistence and Commercial Fisheries, Colville River, Alaska: A Conceptual Model." *Arctic* 60(4):421-429.
[477] Alaska Dept. of Fish and Game. 1994. "Whitefish Species." *Wildlife Notebook Series*. Retrieved February 29, 2012 from http://www.adfg.alaska.gov/static/education/wns/whitefish_species.pdf.

Fairbanks. No other commercial fisheries are currently permitted in state or federal waters in the Nuiqsut area.[478]

Between 2000 and 2010, no residents of Nuiqsut held permits in state or federal commercial fisheries (Table 4). In addition, no Nuiqsut residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8). There were also no commercial crew license holders in Nuiqsut during the 2000 to 2010 period, no Nuiqsut residents were the primary owner of a fishing vessel, and no commercial fishing vessels were homeported in the community. In addition, no fish buyers or shore-side processing facilities were located in Nuiqsut. These characteristics of the commercial fishing sector are presented in Table 5. Given the lack of commercial fishing activity and fish buyers in Nuiqsut, no landings or ex-vessel revenue were generated in the community or by Nuiqsut vessel owners (Tables 9 and 10).

[478] See footnote 471.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Nuiqsut: 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]	*$715,402*	*$448,538*	*$452,174*	*$440,645*	*$180,035*	*$605,747*	*$701,118*	*$893,244*	*$1,047,630*	*$1,074,633*	*$1,104,884*

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, Nuiqsut: 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, Nuiqsut: 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	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
Total CFEC Permits[2]	*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	-	-	-	-	-	-	-	-	-	-	-
	Permit holders	*0*	*0*	*0*	*0*	*0*	*0*	*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 Nuiqsut: 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 Nuiqsut[2]	Total Net Pounds Landed in Nuiqsut[2,5]	Total Ex-Vessel Value of Landings in Nuiqsut[2,5]
2000	0	0	0	0	0	0	0	$0
2001	0	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	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 by Residents of Nuiqsut: 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 Nuiqsut: 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 Nuiqsut: 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 Nuiqsut: 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 Nuiqsut 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	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.

Recreational Fishing

Between 2000 and 2010, no sport fish guide businesses or licensed sport fish guides were reported to be present in Nuiqsut. The number of sportfishing licenses purchased each year by residents of Nuiqsut (irrespective of point of sale) varied between 18 and 52 during this period. The number of licenses purchased in the City of Nuiqsut was much smaller, varying between 0 and 19 per year between 2008 and 2010, indicating that a Nuiqsut residents travel to other communities to prepare for sportfishing activity.

The Alaska Statewide Harvest Survey,[479] conducted by ADF&G between 2000 and 2010, noted sport harvest of Pacific halibut by private anglers in Nuiqsut. The survey also noted sport harvest of sockeye salmon in nearby Prudhoe Bay, and a wider range of species targeted in Barrow, including all five species of Pacific salmon, rainbow trout, Dolly Varden, whitefish, burbot, arctic grayling, Pacific halibut, rockfish, and razor clams. No kept/release log book data were reported for sportfishing charters out of Nuiqsut between 2000 and 2010.[480]

Nuiqsut is located within Alaska Sport Fishing Survey Area Z – North Slope-Brooks Range, which includes all Alaskan waters, including drainages flowing into the Beaufort and Chukchi seas, north of the Brooks Range and east of Point Hope. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,065 fresh water days and 228 saltwater days, while non-Alaska resident anglers fished on average 1,001 freshwater and 17 saltwater days. This information about the sportfishing sector in and near Nuiqsut is also displayed in Table 11.

[479] 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).

[480] 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, Nuiqsut: 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 Nuiqsut [2]
2000	0	0	53	0
2001	0	0	27	1
2002	0	0	29	19
2003	0	0	33	12
2004	0	0	21	1
2005	0	0	35	1
2006	0	0	52	10
2007	0	0	42	4
2008	0	0	27	2
2009	0	0	12	1
2010	0	0	18	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	0	743	523	3,473
2001	0	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	0	96	1,131	2,084
2005	0	0	2,183	2,169
2006	18	341	495	2,609
2007	0	83	733	3,338
2008	140	0	990	4,469
2009	0	0	1,505	2,400
2010	0	0	1,319	3,065

[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 aspect of the culture and economy of Nuiqsut. The Inupiaq people depend on subsistence harvest of marine mammals and fish, as well as land-based resources. Historically, residents of the North Slope lived in small groups and traveled throughout the region following seasonal availability of fish and wildlife. Today, most live in permanent villages, and use snowmachines and motor boats to extend the range of subsistence harvest opportunities. Nuiqsut hunters travel as far east as Sagavanirktok, as far south as middle Colville, west to Teshekpuk Lake, and along the coast as far west as Pitt Point and east beyond Prudhoe Bay to the mouth of the Canning River.[481]

Land-based resources are a primary focus of Nuiqsut subsistence harvesting, including caribou, moose, wolf, wolverine, fox, and freshwater fishes. Marine resources, including marine mammals, waterfowl, and polar bears are also important. Commonly utilized fish species include Arctic cisco, whitefish, least cisco, grayling, humpback whitefish, burbot, northern pike, pink salmon, and Arctic char.[482] Hunters from Nuiqsut harvest species of marine mammals including bowhead whale, bearded seal, ringed seal, Pacific walrus, and polar bear.[483] Some trading of resources takes place between villages in the region. Nuiqsut is known for its whitefish and pelts, and often receives bowhead and beluga whale, sheep, and smelt from other villages.[484]

A survey conducted by the North Slope Borough in 2003 found that 85% of Nuiqsut households use subsistence foods, and approximately 74% of households receive over half of their food from subsistence activities.[485] Between 2000 and 2010, ADF&G did not report any information about the percentage of Nuiqsut households participating in marine resource subsistence or regarding per capita subsistence harvest (Table 12).

A 1993 subsistence survey conducted by ADF&G provides species-level household participation information regarding marine mammals and non-salmon fish. That year, 31% of Nuiqsut households reported harvesting ringed seal, 7% reported harvesting bearded seal, 5% reported harvest of bowhead whale, and 2% reported harvest of spotted seal. Species of non-salmon fish harvested by the greatest percentage of Nuiqsut households in 1993 included Arctic cisco (68% of households reported involvement in harvesting), broad whitefish (66%), grayling (65%), burbot (57%), least cisco (47%), Arctic char (31%), and humpback whitefish (24%). Many of these resources were shared with households that did not participate in harvest activities. A particularly important example of subsistence resource sharing is the bowhead whale. While only 5% of households in Nuiqsut reported involvement in the harvest of bowhead whale in 1993, 97% of households reported using the resource that year.[486]

Some information was reported during the 2000-2010 period regarding subsistence salmon permits. In 2003 and 2004, one subsistence salmon permit was issued per year to a Nuiqsut household, and two were issued in 2008. No information was reported regarding the number of permits fished in these years or the number or species of salmon harvested. Likewise,

[481] Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[482] Ibid.
[483] URS Corporation (2005). *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[484] See footnote 481.
[485] Ibid.
[486] 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).

no information was reported regarding subsistence harvest of marine invertebrates or non-salmon fish. This information is presented in Table 13. In addition, no information was reported regarding subsistence halibut harvest by Nuiqsut residents between 2003 and 2010 (Table 14).

Between 2000 and 2010, some information was reported regarding marine mammal subsistence harvest in Nuiqsut. According to data reported by the U.S. Fish and Wildlife Service, polar bears were harvested in several years during the period, including four harvested in 2000, two per year harvested in 2002 and 2004, and one harvested in 2009. No information was reported by management agencies regarding harvest of beluga whale, sea otters,[487] walrus, harbor seal, spotted seal, or Steller sea lion. This information is presented in Table 15.

Table 12. Subsistence Participation by Household and Species, Nuiqsut: 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).

[487] The range of the northern sea otter does not extend into the Arctic region. Source: ADF&G *Wildlife Notebook Series*. "Sea Otter Fact Sheet." Retrieved March 1, 2012 from http://www.adfg.alaska.gov/static/education/wns/sea_otter.pdf.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Nuiqsut: 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	n/a	n/a	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	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	1	1	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	n/a	n/a	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	n/a	n/a
2008	2	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, Nuiqsut: 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, Nuiqsut: 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	4	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	2	n/a	n/a	n/a
2003	n/a	n/a	n/a	2	n/a	n/a	n/a
2004	n/a	n/a	n/a	2	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	1	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

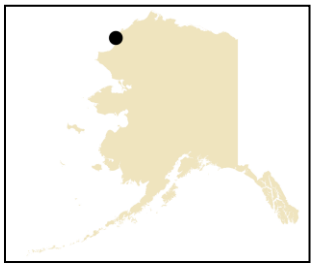
Note: n/a indicates that no data were reported for that year.

[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.

Point Lay (*A.K.A. Kali*)



People and Place

Location

Point Lay is located on the Chukchi Sea coast, south of the Kokolik River mouth. The community is protected from the open ocean by the Kasugaluk Lagoon. The Eskimo name for the site is Kali, which means 'mound', referring to the elevated ground on which the Village is located. Point Lay is located about 180 miles southwest of Barrow, and 700 miles northwest of Anchorage. Point Lay is located in the Barrow Recording District and the North Slope Borough Census Area.[488,489]

Demographic Profile[490]

In 2010, there were 189 residents in Point Lay, ranking it as the 203rd largest of 352 communities in Alaska with populations recorded that year. Point Lay was first included in U.S. Decennial Census statistics in 1880, when 30 individual were recorded as permanent residents. No permanent residents were recorded during many decades of the 20th century, but a consistent population has been recorded since 1980, after some residents of Barrow and Wainwright relocated there. The population of Point Lay rose substantially between 1990 and 2000, increasing by approximately 78%. By 2010, the population declined again to 189 individuals, but was still 36% higher than the population in 1990. According to Alaska Department of Labor estimates, between 2000 and 2009 the population of permanent residents decreased by 5.3%, with an average annual growth rate of -0.76%.

According to a survey conducted by the AFSC in 2011, community leaders estimated that an additional 10 individuals are present in Point Lay as seasonal workers or transients each year, and are primarily Borough employees. They indicated that the community's population peaks during June and August each year. They also noted that population fluctuations are not at all driven by employment in fishing sectors.

In 2010, a majority of the population of Point Lay identified themselves as American Indian or Alaska Native (88.4%), while 10.6% identified as White, 0.5% identified as Native Hawaiian or Other Pacific Islander, and 0.5% identified with two or more races. In addition, 0.5% of Point Lay residents identified themselves as Hispanic in 2010. It is important to note that Asians appear to have been present in 2000, and are no longer represented in 2010 Decennial Census statistics. The percentage of the population identifying as American Indian or Alaska Natives increased over time, from 81.3% in 1990 and 82.6% in 2000, to 88.4% by 2010. The

[488] 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.
[489] North Slope Borough website. 2012. *Point Lay*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/villages/ptlay/.
[490] 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.

percentage of the population identifying as all other racial and ethnic groups declined over the same period. 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. Decennial Census, the average household size in Point Lay increased from 2.9 persons per household in 1990 to 3.93 in 2000, and then declined to 3.15 by 2010. The number of households in Point Lay increased from 44 occupied housing units in 1990 to 61 in 2000 and 60 in 2010. Of the 70 total housing units surveyed for the 2010 U.S. Decennial Census, 32.9% were owner-occupied, 52.9% were rented, and 14.3% were vacant or used only seasonally. Nine Point Lay residents were reported to be living in group quarters in 1990, and six in 2000. In 2010, no Point Lay residents were reported to be living in group quarters.

Table 1. Population in Point Lay from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	139	-
2000	247	-
2001	-	256
2002	-	256
2003	-	264
2004	-	252
2005	-	242
2006	-	235
2007	-	249
2008	-	256
2009	-	234
2010	189	-

[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, Point Lay: 2000-2010 (U.S. Census).

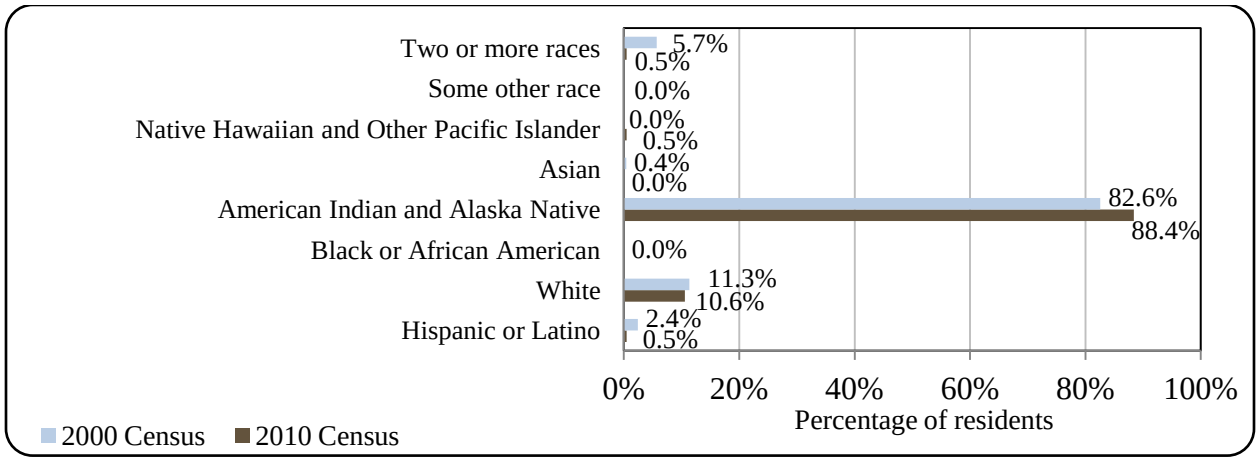
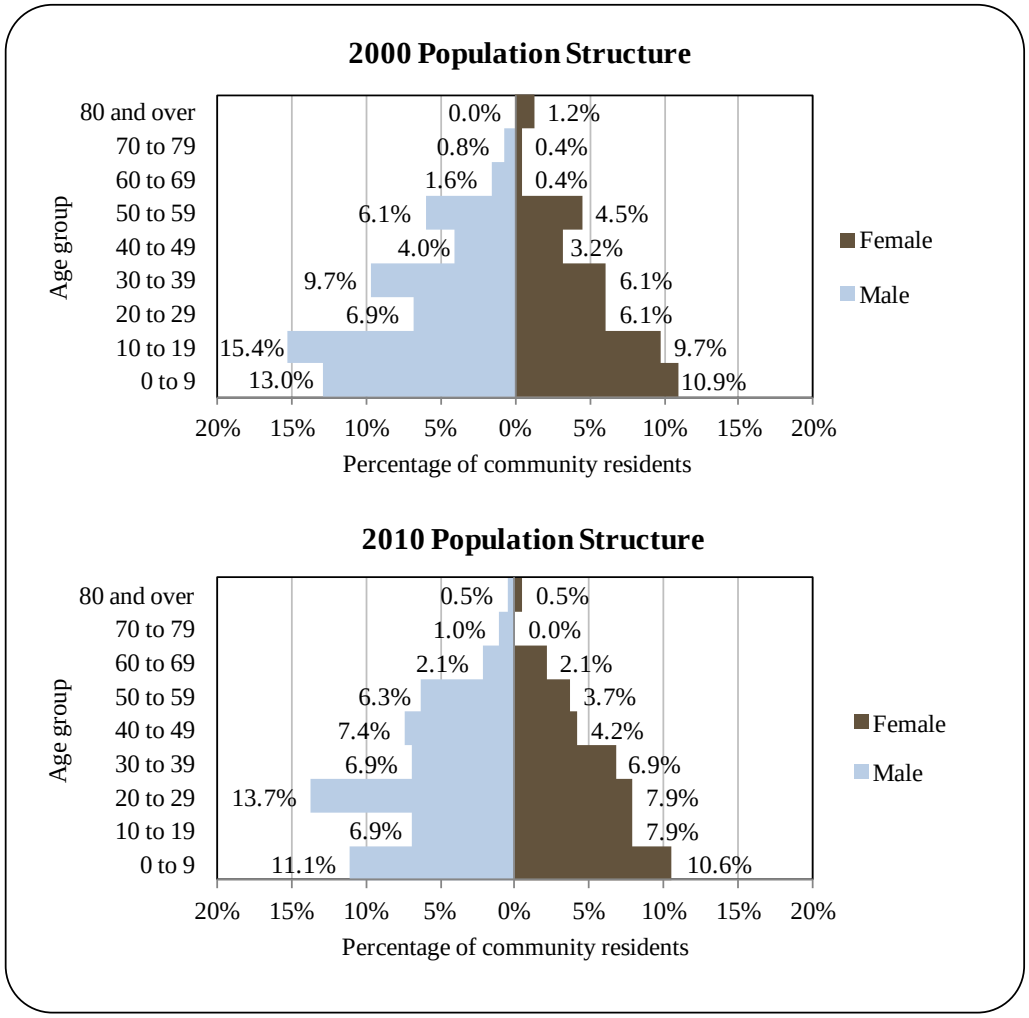


Figure 2. Population Age Structure in Point Lay Based on the 2000 and 2010 U.S. Decennial Census.



In 2010, the gender makeup of Point Lay's population (56.1% male and 43.9% female) was more heavily weighted toward males than the population of the Alaska as a whole, which had 52% males and 48% females. The median age of Point Lay residents was 25.1 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 6.4% of Point Lay's population was 60 or older. The overall population structure of Point Lay in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[491] 65.9% of Point Lay 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, 6.9% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 27.2% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 16.2% 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 2.9% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Point Lay is probably the last remaining village of the Kuukpaagruk people. The deeply indented shoreline prevented effective bowhead whaling, and the Village never fully participated in the whaling culture common in villages further north. The Village's traditional hunt of the beluga whales is similar to the bowhead whaling culture in other North Slope villages.[492] Today, subsistence remains essential to the economy and culture of Point Lay, and the Village is particularly active in beluga whaling.[493] In addition, the first bowhead whale since 1937 was landed in Point Lay in 2009.[494]

The Village of Point Lay was historically occupied year-round by a small group of one or two families. They were joined in 1929-30 by several more families from Point Hope. In 1974, the Village moved from the old site on a gravel barrier island just offshore. The old village site is now used as a summer hunting camp. Some residents of Barrow and Wainwright relocated to the Village in the mid-1970s during the Alaska Native Claims Settlement Act (ANCSA) process. In the late 1970s, due to seasonal flooding from the Kokolik River, the Village relocated again to a site near the Air Force Distance Early Warning station to the south. Homes were relocated to the new townsite. Point Lay bans the sale, possession, and importation of alcoholic beverages.[495]

[491] 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.
[492] North Slope Borough website. 2012. *Point Lay*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/villages/ptlay/.
[493] 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.
[494] Alaska Newspapers Staff (2009). "Whaling crew lands Point Lay's second whale after decades-long shutout." *The Arctic Sounder*. Retrieved April 17, 2012 from http://www.thearcticsounder.com/article/1119whaling_crew_lands_point_lays_second_whale.
[495] See footnote 493.

Natural Resources and Environment

The climate in Point Lay is arctic. Temperatures range from -55 to 78 °F during the course of the year. Precipitation is light, averaging 7 inches annually, with 21 inches of snow. The Chukchi Sea is ice-free from late June until September.[496] The Village is located on the mainland shore of the Kasegaluk Lagoon, a coastal lagoon protected from the Chukchi Sea by a series of thin barrier islands. Five rivers or inlets empty into the lagoon, including the Koklik, which enters the lagoon just north of Point Lay. The tundra along the mainland coast near Point Lay is dotted by ponds, lakes, streams, marshes and river/river delta.[497] The Point Lay area is underlain by a continuous permafrost layer.[498]

In 1980, much of the traditional area of the Iñupiaq people was protected as national parks, preserves, monuments, and wildlife areas under the Alaska National Interest Lands Conservation Act (ANILCA).[499] One of the goals of the legislation was to protect subsistence uses of both Native and non-Native rural residents. Point Lay is located close to the Chukchi Sea unit of the Alaska Maritime National Wildlife Refuge (NWR). The NWR extends along the Aleutian Island chain and incorporates the Pribilof Islands, a unit in Bristol Bay, a unit in Kodiak, areas of the Southeast Alaska panhandle, and some in the Arctic. The Chukchi Sea unit includes coastal lagoons and headlands between Icy Cape and Cape Thompson.[500]

The Kasegaluk Lagoon is included in the Alaska Maritime NWR. The lagoon provides important habitat for marine mammals and seabirds. It is the largest coastal lagoon system in Arctic Alaska. It is particularly important for summer concentrations of beluga whale, spotted seal, and black brant.[501] In recent years, large concentrations of walruses (8,000-20,000) have also hauled out on the barrier island near Point Lay in late summer. Villagers from Point Lay have been actively involved in protection of the colony. Point Lay was awarded an "Outstanding Partner" award by the U.S. Fish and Wildlife Service in 2010 in recognition of these local efforts.[502] The Point Lay area also provides important habitat for the spectacled eider and Steller's eider, both of which are listed as threatened under the U.S. Endangered Species Act.[503]

Point Lay is located approximately 30 miles from the western boundary of the National Petroleum Reserve – Alaska (NPRA). To date, a majority of oil development has taken place in the Colville-Canning area, further east near Prudhoe Bay and Nuiqsut. Future development is

[496] Ibid.
[497] Johnson, Stephen R. 1993. An Important Early-Autumn Staging Area for Pacific Flyway Brant: Kasegaluk Lagoon, Chukchi Sea, Alaska. *Journal of Field Ornithology*, 64(4):539-548. Retrieved April 17, 2012 from http://elibrary.unm.edu/sora/JFO/v064n04/p0539-p0548.pdf.
[498] ASCG Incorporated. 2005. *North Slope Borough Comprehensive Transportation Plan*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/information/comp_plan/TransportationPlan_Final.pdf.
[499] Alaska National Interest Lands Conservation Act (ANILCA). December 2, 1980. Public Law 96-487, 96th Congress. Retrieved February 6, 2012 from http://alaska.fws.gov/asm/anilca/toc.html.
[500] U.S. Fish and Wildlife Service. 2011. *Land Protection Plan for Alaska Maritime National Wildlife Refuge*. Retrieved April 17, 2012 from http://alaska.fws.gov/nwr/planning/pdf/akmar/AM_LCP_complete.pdf.
[501] Alaska Northern Environmental Center. 2009. *Kasegaluk Lagoon*. Retrieved April 17, 2012 from http://northern.org/programs/clean-water-mines/clean-water-mining-program-map-page/habitats/kasegaluk-lagoon-1/kasegaluk-lagoon.
[502] McCracken, J., and J. Garlich Miller. 2011. Point Lay Walrus Protection and Research. U.S. Fish and Wildlife Service Marine Mammal Bulletin. Vol. 10, No. 1. Retrieved April 17, 2012 from http://alaska.fws.gov/fisheries/mmm/mtrp/pdf/bulletin_fall_2011.pdf.
[503] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.

planned to expand west and south within the NPRA, south in the Colville-Canning region, as well as into offshore state and federal waters in the Beaufort Sea. The NPRA area contains an estimated 10.6 billion barrels of oil in a total area of 24.2 million acres (440 barrels per acre).[504]

Compared to the Beaufort Sea, very little oil and gas exploration has taken place in the Chukchi Sea Outer Continental Shelf area to date. Some exploration took place in the late 1980s, and several lease sales in the early 1990s allowed for follow-up exploration. In 2008, 488 tracts totaling 2,758,408 acres were leased during Lease Sale 193, primarily by Shell and ConocoPhillips, as well as international companies including StatoilHydro USA, Repsol, and ENI.[505] Following the Deepwater Horizon event in the Gulf of Mexico, Lease Sale 193 was remanded to the Department of the Interior for further National Environmental Protection Act analysis regarding the potential for a very large oil spill and its potential consequences for the Chukchi Sea ecosystem, local economy, and subsistence harvest patterns. In late 2011, Secretary of the Interior Ken Salazar affirmed the original Lease Sale 193.[506,507] This sale is expected to initiate a large-scale exploration effort in the Chukchi Sea.[508] Given the controversy surrounding Lease Sale 193, Secretary Salazar removed Chukchi Sea Sales 212 and 221 from the 2007-2012 program.[509] The Proposed 2012-2017 program schedules one sale in the Chukchi Sea, deliberately set late in the program (2016) to allow time for further study and infrastructure development.[510]

Point Lay is at risk of severe weather events. Ice override events on barrier islands in the Point Lay area have been documented as moving 98 to 846 feet onshore and were up to 6.6 feet high.[511] In addition, communities in the North Slope Borough were rated at risk of flooding, wildfire, earthquake, and volcanic activity, tsunami/seiche, landslides, erosion, and drought.[512] Arctic communities are also experiencing significant changes and increased risk as a result of climate change. In interviews in the late 1990s, Point Lay residents reported late arrival of snow and decreased ocean ice formation.[513] Land settlement resulting from permafrost melting has negatively impacted sewer lines, leading to frequent need for repairs. Land settlement must be

[504] U.S. Dept. of Energy. (2009). *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?* Retrieved December 30, 2011 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[505] Ibid.
[506] U.S. Dept. of the Interior, Minerals Management Service. December 2010. *Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from http://www.boemre.gov/5-year/PDFs/RP.pdf.
[507] Bureau of Ocean Energy Management. October 2011. *Chukchi Sea OCS Oil & Gas Lease Sale 193: Record of Decision*. Retrieved February 28, 2012 from http://www.boemre.gov/pdfs/sale193rodwofinal.pdf.
[508] See footnote 504.
[509] See footnote 506.
[510] 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.
[511] Ibid.
[512] State of Alaska. 2002. *Hazard Mitigation Plan.* Retrieved February 8, 2012 from http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf.
[513] Gibson, M-A., and S. B. Schullinger. 1998. A*nswers from the Ice Edge: The Consequences of Climate Change on Life in the Bering and Chukchi Seas*. Retrieved April 17, 2012 from http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/klima/answersfrom_icedge.pdf.

considered during both design and location of utilities, facilities, and housing in Point Lay and other North Slope communities.[514]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Point Lay as of July 2012.[515]

Current Economy

The Point Lay economy is primarily based on subsistence hunting, fishing and whaling. Seal, walrus, beluga, caribou and fish are staples of the diet.[516,517] According to a survey conducted by the AFSC in 2011, that the community primarily depends on subsistence harvesting, and there were no local commercial fisheries. Between 2000 and 2010, no Point Lay residents owned commercial fishing vessels, held commercial fishing permits or crew licenses (see *Commercial Fishing* section of this profile). Most year-round employment opportunities in Point Lay are with the North Slope Borough and school district, local Village government and the village Native corporation, local retailers, and private construction and engineering companies.[518,519]

Based on household surveys conducted for the 2006-2010 ACS,[520] in 2010, the per capita income in Point Lay was estimated to be $15,802 and the median household income was estimated to be $47,500. This represents a decrease from the year 2000, when per capita income in Point Lay was $18,003 and median household income was $68,750. If inflation is taken into account by converting the 2000 values to 2010 dollars,[521] the decrease in income is shown to be even larger; real per capita income in 2000, in 2010 dollars, was $23,674, and real median household income was $90,405. In 2010, Point Lay ranked 192nd of 305 Alaskan communities with per capita income data that year, and 145th in median household income, out of 299 Alaskan communities with household income data.

Although Point Lay's small population size may have prevented the ACS from accurately portraying economic conditions,[522] additional evidence for a decrease in per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI)

[514] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[515] 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.
[516] 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.
[517] North Slope Borough website. 2012. *Point Lay*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/villages/ptlay/.
[518] See footnote 516 and 517.
[519] 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/.
[520] 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.
[521] 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).
[522] 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.

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 Point Lay in 2010 is $13,898.[523] Despite evidence for a decline in per capita income in Point Lay, the community did not meet the Denali Commission's criteria as a "distressed" community in 2011.[524] 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 Point Lay's population (57.8%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 15.1% of Point Lay residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Point Lay was estimated to be 9.4%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 16%, compared to a statewide unemployment rate estimate of 11.5%.[525]

Also based on the 2006-2010 ACS, a majority of Point Lay's workforce was estimated to be employed in the public sector (65.3%), along with 29.8% in the private sector, and 4.8% estimated to be self-employed. Of the 124 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers was estimated to be employed in educational services, health care, and social assistance sector (35.5%), arts, entertainment, recreation, accommodation, and food services (19.4%), construction (16.9%), and transportation and warehousing (16.1%). 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 108 employed residents in 2010, of which 82.4% were employed in local government, 6.5% in construction, 5.6% in trade, transportation, and utilities, 2.8% in professional and businesses services, 0.9% in natural resources and mining, 0.9% in financial activities, and 0.9% in education and health services.[526] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

[523] See footnotes 519 and 520.
[524] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[525] See footnote 519.
[526] Ibid.

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

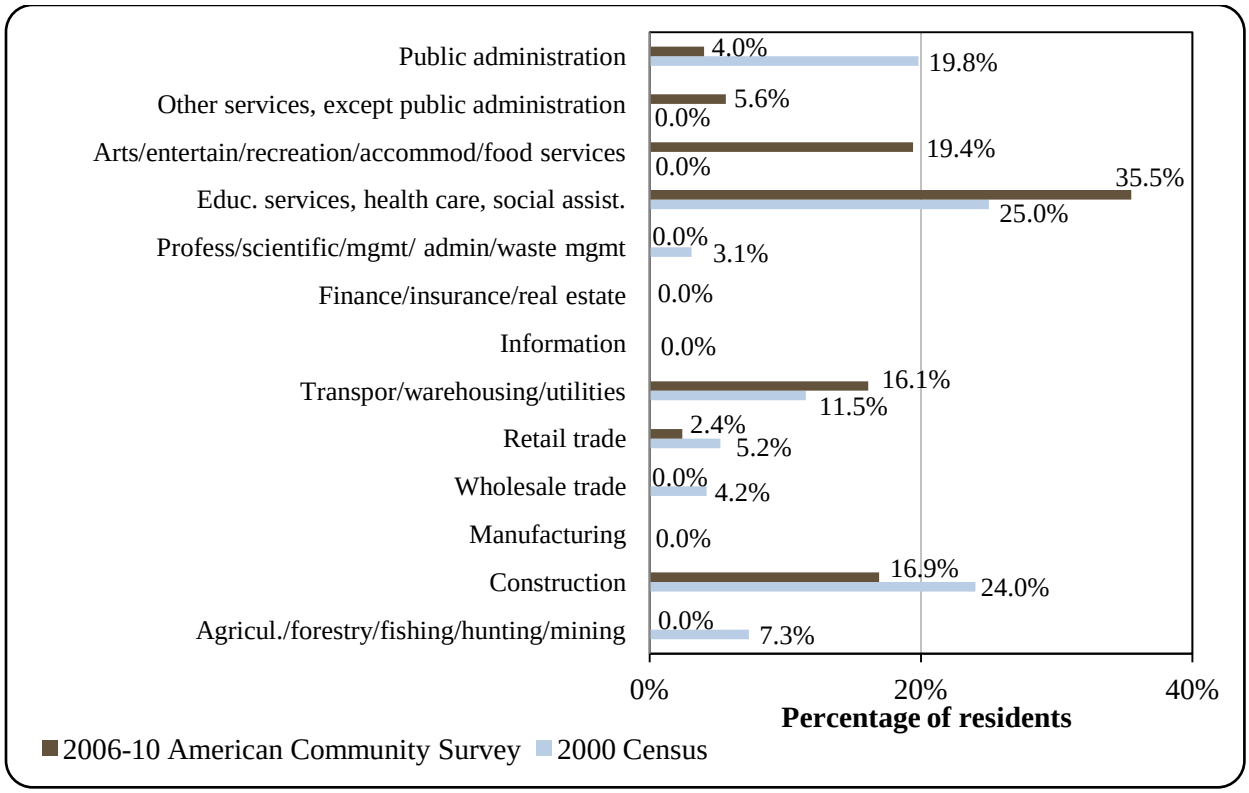
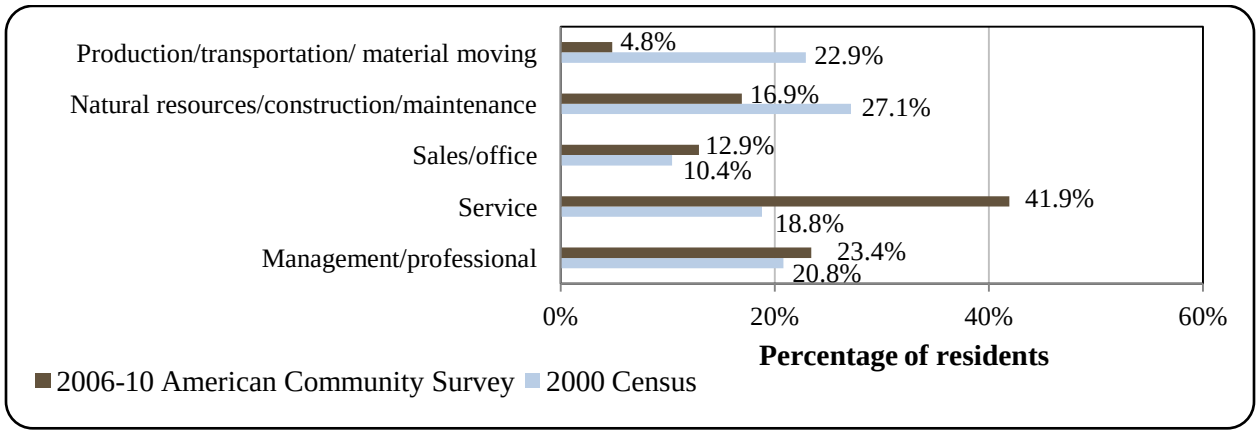


Figure 4. Local Employment by Occupation in 2000-2010, Point Lay (U.S. Census).



Governance

Point Lay is an unincorporated community located in the North Slope Borough. The Borough administers an 18.5 mills property tax.[527] The North Slope Borough also receives significant tax revenue from oil and gas development activities which supports services provided in Point Lay.[528] No taxes are collected in Point Lay, and no municipal revenue was reported between 2000 and 2010. Point Lay did not receive State or Community Revenue Sharing contributions or fisheries-related grants between 2000 and 2010. This information about selected revenue sources in Point Lay is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Point Lay 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.

Point Lay 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 Point Lay. The Native village corporation is Cully Corporation, Inc., which manages 90,009 acres of land. The regional Native corporation to which Point Lay belongs is the Arctic Slope Regional Corporation (ASRC).[529]

[527] 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.
[528] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[529] See footnote 527.

Point Lay is also a member of the Arctic Slope Native Association (ASNA), a tribal 501(c)(3) non-profit organization headquartered in Barrow. The ASNA is one of the 12 regional Alaska Native 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.[530]

The closest offices of the Alaska Department of Fish and Game (ADF&G) are located in Barrow and Kotzebue, the closest office of the Alaska Department of Commerce, Community, and Economic Development is located in Kotzebue, and the closest office of the Alaska Department of Natural Resources is located in Fairbanks. These agencies also have offices located in Anchorage. The closest offices of the National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services are also located in Anchorage.

Infrastructure

Connectivity and Transportation

Point Lay is accessible year-round by air. Coastal and overland access are seasonal. The U.S. Air Force owns the public 4,500 ft long by 100 ft wide gravel airstrip in Point Lay.[531] ERA Alaska provides direct flights between Point Lay and Barrow five days per week, and between Point Lay and Point Hope two days per week.[532] The price of a roundtrip ticket by plane from Point Lay to Anchorage in early June of 2012 was $1,132.[533] Freight is delivered by air throughout the year and seasonally by barge.[534] Barges typically leave the Seattle area by July 1 and arrive in Barrow by August 1, delivering goods to North Slope Borough communities along the way. Landing craft with a 5-foot draft are used to unload goods on beaches near the communities. In the case of Point Lay, the landing craft unloads goods onto the outer spit of Kasegaluk Lagoon. They are transferred across the spit to a 50-ft watercraft that transports the goods across the Lagoon to Point Lay.[535]

Approximately eight miles of gravel roads are present in Point Lay. During the winter, an extensive network of trails is available for travel between communities and to subsistence sites. The trails are impassible in summer due to the presence of wetlands and many small lakes. Point Lay is connected to Point Hope, Wainwright, and Barrow via a coastal trail. The trail network also connects Wainwright to Deadhorse, Nuiqsut, and Atqasuk, and Nuiqsut south to Anaktuvuk Pass. Snowmobiles are used for winter travel between communities and to subsistence camps.[536]

[530] 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.
[531] See footnote 527.
[532] Flight information retrieved April 16, 2012 from http://www.trvlink.com/download/7h/ERAschedules.pdf.
[533] This price was calculated on November 21, 2011 using kayak.com.
[534] North Slope Borough website. 2012. *Point Lay*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/villages/ptlay/.
[535] ASCG Incorporated. 2005. *North Slope Borough Comprehensive Transportation Plan*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/information/comp_plan/TransportationPlan_Final.pdf.
[536] Ibid.

Facilities

Water in Point Lay is obtained from a lake near the community and is filtered and stored in a tank. A community well source and individual wells are also in use. There is no piped water system. Water trucks deliver water to homes, providing running water for kitchens. A central watering point is also available. No piped sewer system is present, either. The Borough operates a sewage lagoon for sewage treatment.[537] Problems associated with melting permafrost have caused problems for existing sewer lines, and system repairs have been frequent in recent years.[538] The Borough also operates a landfill and provides refuse collection services in Point Lay. Electricity is provided by a diesel powerhouse operated by the Borough.[539] According to a survey conducted by the AFSC in 2011, community leaders indicated that a new diesel powerhouse is expected to be completed by 2013. Wind power generation was briefly tried in Point Lay in the past, but was discontinued. The Borough is interested in revisiting the possibility of wind power in Point Lay.[540] Police services are provided by the North Slope Borough Police Department.[541] The nearest state trooper posts are located in Barrow and Kotzebue.[542] Fire and rescue services are provided by the Point Lay Volunteer Fire Department.[543] The fire station is equipped with a fire engine and an ambulance.[544]

Additional community facilities and services include a local store, operated by the Native Village of Point Lay, which sells groceries and clothing. Propane, diesel, and regular gasoline are sold in town.[545] A community center is also present.[546] According to the 2011 AFSC survey, a food bank and public library are present, and job placement services are offered. Telephone, internet, and cable services are available in Point Lay.[547]

In the 2011 AFSC survey, community leaders indicated that no fisheries-related infrastructure is present in Point Lay. They reported that no dock space is available in the community and no fishing support businesses are present. They also indicated that the only vessels present in Point Lay are small boats, ranging from 16 to 20 feet in length. Skiffs are a primary mode of transportation for Point Lay residents traveling to subsistence sites during summer months.[548]

Medical Services

Local health services are available at the Point Lay Clinic, which is owned and operated by the North Slope Borough. The Clinic is a Community Health Aide Program site. Emergency

[537] 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.
[538] URS Corporation. October 2005. *North Slope Borough Comprehensive Plan*. Retrieved February 29, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[539] See footnote 537.
[540] See footnote 538.
[541] See footnote 537.
[542] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[543] See footnote 537.
[544] See footnote 534.
[545] Ibid.
[546] See footnote 537.
[547] Ibid.
[548] See footnote 535.

Services have coastal and air access. Emergency service is provided by 911 Telephone Service volunteers and a health aide. Alternate health care is provided by the Point Lay Volunteer Fire Department.[549] The fire station is equipped with an ambulance.[550] The nearest hospitals are located in Barrow and Kotzebue.

Educational Opportunities

One school is present in Point Lay. The Kali School provides preschool through 12th grade education. As of 2011, the school had 87 students and 11 teachers.[551] The school also provides adult basic education.[552]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence hunting and fishing have defined the economy and culture of Inupiaq people for thousands of years, and remain essential today. Point Lay is located just south of the mouth of the Kokolik River, on the inland shore of Kasegaluk Lagoon. Beyond the Lagoon lies the Chukchi Sea, an area encompassed by the Arctic Management Area. Commercial fishing for all species is currently prohibited in federally regulated waters of the Arctic Management Area, "until sufficient information is available to support the sustainable management of a commercial fishery." The focus of harvest in communities within the Arctic Management Area remains subsistence.[553] In addition, no state regulated commercial fisheries currently take place in the vicinity of Point Lay.

Subsistence harvest in the North Slope region is managed by both federal government agencies and local Native communities through various co-management efforts that facilitate communication between these entities. Examples of co-management institutions include the Alaska Eskimo Whaling Commission (AEWC - established in 1977), the Eskimo Walrus Commission (formed in 1978), the Beluga Whale Committee (formed in 1988), and the Nanuuq Commission (formed in 1994 for polar bear management). The Marine Mammal Protection Act (MMPA) includes specific text providing a legislative basis for these cooperative agreements. Specifically, in 1994, Section 119 of the reauthorization for the MMPA provided a legislative basis for cooperative agreements with Alaska Native organizations.[554]

In recent decades, the community of Point Lay has been particularly engaged in subsistence harvest of beluga whales. Point Lay hunters typically harvest between 30 and 50

[549] See footnote 537.
[550] North Slope Borough website. 2012. *Point Lay*. Retrieved April 16, 2012 from http://www.co.north-slope.ak.us/villages/ptlay/.
[551] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[552] See footnote 550.
[553] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.
[554] Ibid.

belugas per year.[555] Recently, Point Lay has renewed historical bowhead whale harvest, as well. Since its formation in 1977, the AEWC has represented the whaling communities of Kaktovik, Nuiqsut, Barrow, Wainwright, Point Hope, Kivalina, Little Diomede, Wales, Savoonga, and Gambell.[556] No bowhead whales had been harvested in Point Lay since whaling ended there in 1937, and Point Lay was not initially included as a member community in the AEWC. In recent years, the community of Point Lay has sought to reactivate their bowhead whaling traditions, customs, and practices. A 'needs study' was conducted by the North Slope Borough, and in 2008, Point Lay received quota from the AEWC to harvest one whale. The first bowhead whale since 1937 was landed in Point Lay in 2009, and a second was landed in 2011.[557,558] Point Lay is also a member community of the Eskimo Walrus Commission and Nanuuq Commission.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Point Lay does not have a registered processing plant. The closest seafood processing facility is located in Nome.

Fisheries-Related Revenue

Between 2000 and 2010, no information was reported regarding fisheries-related revenue in Point Lay (Table 3).

Commercial Fishing

From 2001 and 2007, one state Commercial Fisheries Entry Commission (CFEC) permit was held by a Point Lay resident in the Kotzebue salmon gillnet fishery. The permit was not actively fished in any of these years, and no other state or federal commercial fishing permits were held by Point Lay residents between 2000 and 2010 (Table 4). In addition, no residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8). There were also no commercial crew license holders in Point Lay during the 2000-2010 period, no Point Lay residents were the primary owner of a fishing vessel, and no commercial fishing vessels were homeported in the community. In addition, no fish buyers or shore-side processing facilities were located in Point Lay. These characteristics of the commercial fishing sector are presented in Table 5. Given the lack of commercial fishing activity and fish buyers in Point Lay, no landings or ex-vessel revenue were generated in the community or by Point Lay residents (Tables 9 and 10).

[555] Alaska Beluga Whaling Committee. May 5, 2007. *Comments on Draft Programmatic EIS for Seismic Surveys in the Beaufort and Chukchi Seas*. Letter to the Office of Protected Resources, NOAA NMFS. Retrieved April 17, 2012 from http://www.alaska.boemre.gov/ref/eis%20ea/draft_arctic_peis/comments/ABWC%20DPEIS.pdf.
[556] See footnote 553.
[557] Alaska Newspapers Staff. May 13, 2011. "Whaling crew lands Point Lay's second whale after decades-long shutout." *The Arctic Sounder*. Retrieved April 17, 2012 from http://www.thearcticsounder.com/article/1119whaling_crew_lands_point_lays_second_whale.
[558] NOAA National Marine Fisheries Service. 2008. *Record of Decision. Final EIS for Issuing Annual Quotas to the Alaska Eskimo Whaling Commission for a Subsistence Hunt on Bowhead Whales for the Years 2008 through 2012*. Retrieved April 17, 2012 from http://www.fakr.noaa.gov/protectedresources/whales/bowhead/eis0108/rod0308.pdf.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Point Lay: 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, Point Lay: 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, Point Lay: 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	0	1	1	1	1	1	1	1	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%	-	-	-
	Total permit holders	0	1	1	1	1	1	1	1	0	0	0
Total CFEC Permits[2]	*Permits*	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*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%*	-	-	-
	Permit holders	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*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 Point Lay: 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 CatchiIn Point Lay[2,5]	Total Net Pounds Landed in Point Lay[2,5]	Total Ex-Vessel Value of Landings in Point Lay [2,5]
2000	0	0	0	0	0	0	0	$0
2001	0	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	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

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 Point Lay: 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 Point Lay: 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 Point Lay: 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 Point Lay: 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 Point Lay 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	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.

Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders reported that no recreational fishing activity takes place in Point Lay. This is reflected in the fact that, between 2000 and 2010, no active sport fish guide businesses or licensed sport fish guides were reported to be present in Point Lay, and no sportfishing licenses were sold in the community. Several Point Lay residents were reported as having purchased sportfishing licenses (irrespective of point of sale), ranging from a total of 3 to 14 per year. The Alaska Statewide Harvest Survey,[559] conducted by ADF&G between 2000 and 2010, did not report information regarding species targeted by recreational fishers in Point Lay, and given the lack of local sport fish businesses, no kept/release log book data were reported for sportfishing charters out of Point Lay between 2000 and 2010.[560]

Point Lay is located within Alaska Sport Fishing Survey Area Z – North Slope-Brooks Range, which includes all Alaskan waters, including drainages flowing into the Beaufort and Chukchi seas, north of the Brooks Range and east of Point Hope. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,065 fresh water days and 228 saltwater days, while non-Alaska resident anglers fished on average 1,001 freshwater and 17 saltwater days. This information about the sportfishing sector in and near Point Lay is also displayed in Table 11.

Table 11. Sport Fishing Trends, Point Lay: 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 Point Lay[2]
2000	0	0	4	0
2001	0	0	8	0
2002	0	0	13	0
2003	0	0	14	0
2004	0	0	12	0
2005	0	0	9	0
2006	0	0	6	0
2007	0	0	7	0
2008	0	0	9	0
2009	0	0	3	0
2010	0	0	5	0

[559] 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).

[560] 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, Point Lay: 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	0	743	523	3,473
2001	0	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	0	96	1,131	2,084
2005	0	0	2,183	2,169
2006	18	341	495	2,609
2007	0	83	733	3,338
2008	140	0	990	4,469
2009	0	0	1,505	2,400
2010	0	0	1,319	3,065

[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, Point Lay community leaders indicated that subsistence is the primary economic activity in the community. They reported that some of the most important marine subsistence resources are beluga whale, bowhead whale, ugruk (bearded seal), walrus, salmon, and spotted seal. They also indicated that the most important fishing seasons include harvest of grayling during the month of October, smelt harvest from mid-December to mid-February, and salmon harvest from June through August.

According to the North Slope Borough Coastal Management Plan, caribou, fish, and beluga whale comprise the most significant portion of the subsistence harvest in Point Lay, while the use of seals and walrus have declined due to reduced use of dog teams and the present adequate supply of caribou meat. In addition, polar bears are not as actively hunted as in former years.[561] Until recently, bowhead whales were not harvested in Point Lay, although residents traveled to other communities to participate in bowhead whale hunts. However, in 2008, Point

[561] Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf.

Lay received quota from the AEWC. In 2009, the community harvested its first bowhead whale since 1937, and a second bowhead was landed in 2011.[562] [563]

Residents of Point Lay utilize a large area of the North Slope for subsistence harvest, from Icy Cape to Cape Beaufort, and inland along the Kukpowruk River into the De Long Mountains. Many residents of Point Lay have lived in Wainwright, and subsistence use areas between the two communities overlap. Icy Cape is a site for harvest of waterfowl and eggs, the annual walrus hunt, and communal beluga hunts. Kasegaluk Lagoon is the site of gillnet fisheries for salmon, whitefish, flounder, smelt, herring, bullhead, and occasionally char. Hunting and trapping activities take place inland, in the Amatusuk Hills, Kiklupiklak Hills, and western Brooks range. Caribou is also hunted near Icy Cape during summer months, when the Western Caribou Herd migrates to the coast near Point Lay. Subsistence foods are exchanged between villages. Point Lay is a major supplier of beluga whale, and most often receives bowhead whale from Point Hope and Barrow.[564]

A survey conducted by the North Slope Borough in 2003 found that 77.4% of Point Lay households use subsistence foods, and approximately 13.6% of households receive over half of their food from subsistence activities.[565] Between 2000 and 2010, ADF&G did not report any information about the percentage of Point Lay households utilizing various marine resources for subsistence purposes (Table 12). However, a 1987 subsistence survey conducted by ADF&G provides household participation information regarding marine mammals and non-salmon fish (not including halibut). That year, 29% of Point Lay households reported harvesting spotted seal, 27% reported harvesting bearded seal, 27% reported harvest of ringed seal, and 21% reported harvest of bowhead whale. Species of non-salmon fish harvested by the greatest percentage of Point Lay households in 1987 included grayling (37% of households reported harvesting), Arctic char (23%), and flounder (10%). Many of these resources were shared with households that did not participate in harvest activities.

Some information was reported for the 2000-2010 period regarding annual subsistence harvest of salmon. In 2001 and 2002, ADF&G issued one subsistence salmon permit per year to a Point Lay household. In 2001, 30 sockeye salmon were reported as harvested, and in 2002, harvest of 1 Chinook and 9 sockeye was reported (Table 13).

No information was reported regarding total subsistence harvest of marine invertebrates or non-salmon fish (not including halibut) between 2000 and 2010 (Table 13). Likewise, no information was reported regarding annual subsistence harvest of halibut (Table 14). The Chukchi Sea is noted as the northern extent of the range of Pacific halibut.[566]

Between 2000 and 2010, information was reported by the U.S. Fish and Wildlife Service and the AFSC regarding subsistence harvest of beluga whales, walrus, and polar bears by residents of Point Lay. For years in which data were reported, an average of 40 beluga whales, 3 walrus, and 2 polar bears were harvested per year. It is important to note that no information was

[562] Alaska Newspapers Staff. May 13, 2011. "Whaling crew lands Point Lay's second whale after decades-long shutout." *The Arctic Sounder*. Retrieved April 17, 2012 from http://www.thearcticsounder.com/article/1119whaling_crew_lands_point_lays_second_whale.
[563] NOAA National Marine Fisheries Service. 2008. *Record of Decision. Final EIS for Issuing Annual Quotas to the Alaska Eskimo Whaling Commission for a Subsistence Hunt on Bowhead Whales for the Years 2008 through 2012*. Retrieved April 17, 2012 from http://www.fakr.noaa.gov/protectedresources/whales/bowhead/eis0108/rod0308.pdf.
[564] See footnote 561.
[565] Ibid.
[566] Alaska Dept. of Fish and Game. 2012. *Pacific Halibut: Species Profile*. Retrieved April 17, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=halibut.main.

reported by the AFSC regarding harvest of sea otters[567] or by ADF&G regarding harbor seal, spotted seal, or Steller sea lion harvest in Point Lay during the period. This information is presented in Table 15.

Table 12. Subsistence Participation by Household and Species, Point Lay: 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).

[567] The range of the northern sea otter does not extend into the Arctic region. Source: ADF&G *Wildlife Notebook Series*. "Sea Otter Fact Sheet." Retrieved March 1, 2012 from http://www.adfg.alaska.gov/static/education/wns/sea_otter.pdf.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Point Lay: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	1	1	n/a	n/a	n/a	n/a	30	n/a	n/a
2002	1	1	1	n/a	n/a	n/a	9	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	n/a	n/a	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	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, Point Lay: 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, Point Lay: 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	4	1	n/a	n/a	n/a
2001	34	n/a	2	n/a	n/a	n/a	n/a
2002	47	n/a	4	1	n/a	n/a	n/a
2003	36	n/a	1	2	n/a	n/a	n/a
2004	53	n/a	n/a	2	n/a	n/a	n/a
2005	41	n/a	2	4	n/a	n/a	n/a
2006	29	n/a	1	1	n/a	n/a	n/a
2007	63	n/a	4	n/a	n/a	n/a	n/a
2008	48	n/a	n/a	n/a	n/a	n/a	n/a
2009	28	n/a	2	n/a	n/a	n/a	n/a
2010	23	n/a	4	n/a	n/a	n/a	n/a

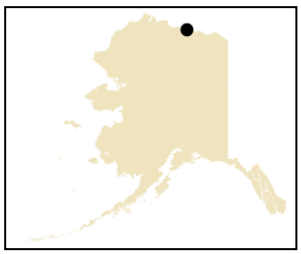
Note: n/a indicates that no data were reported for that year.

[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.

Prudhoe Bay *(PROO-doh Bay)*



People and Place

Location[568]

Prudhoe Bay is adjacent to the Beaufort Sea, east of Nuiqsut. Prudhoe Bay is located in the Barrow Recording District and the North Slope Census Area and is part of the North Slope Borough. Prudhoe Bay is unincorporated and figures for Prudhoe Bay include nearby Deadhorse.

Demographic Profile [569]

In 2010, there were 2,174 residents in Prudhoe Bay, making it the 43rd largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 460%. Between 2001 and 2009, the Alaska Department of Labor (DOL) estimates show that the population fell by 40%, though the U.S. Census shows that the population increased substantially between 2000 and 2010. This is likely due to differences in how each source calculates population estimates, as DOL only counts the number of permanent residents that are eligible to collect the Permanent Fund Dividend and the U.S. Census counts all people living in a community, irrespective of whether they are temporary or permanent residents. In the case of Prudhoe Bay, the majority of those counted in the U.S. Census could be classified as temporary workers in the oil and gas industry and thus not eligible to collect the Permanent Fund Dividend. The Prudhoe Bay average annual growth rate between 2000 and 2009 was -1.71%, indicating a slow rate of population decline of permanent residents. The change in population from 1990 to 2010 is provided in Table 1.

The majority of residents in 2010 identified themselves as White (85.2%), with the remaining racial composition as follows: American Indian or Alaska Native (7.8%), Hispanic (4.0%), two or more races (1.9%), Black or African American (1.9%), Asian (1.6%), other (1.4%), and Native Hawaiian and Other Pacific Islander (0.1%). The percentage of the population composed of residents identifying themselves as White increased by 65.2% between 2000 and 2010, with corresponding decreases in the percentage of residents identifying themselves as two or more races and as Native American or Alaska Native. The changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

Estimates of household size, number of households, and number of housing units in 2010 were not available for Prudhoe Bay, potentially due to the nature of this community as a work camp for employees involved with the oil industry. These individuals live in employer-provided housing when in residence in Prudhoe Bay.

[568] 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.

[569] 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 Prudhoe Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	47	-
2000	5	-
2001	-	5
2002	-	7
2003	-	4
2004	-	3
2005	-	2
2006	-	2
2007	-	3
2008	-	4
2009	-	3
2010	2,174	-

[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, Prudhoe Bay: 2000-2010 (U.S. Census).

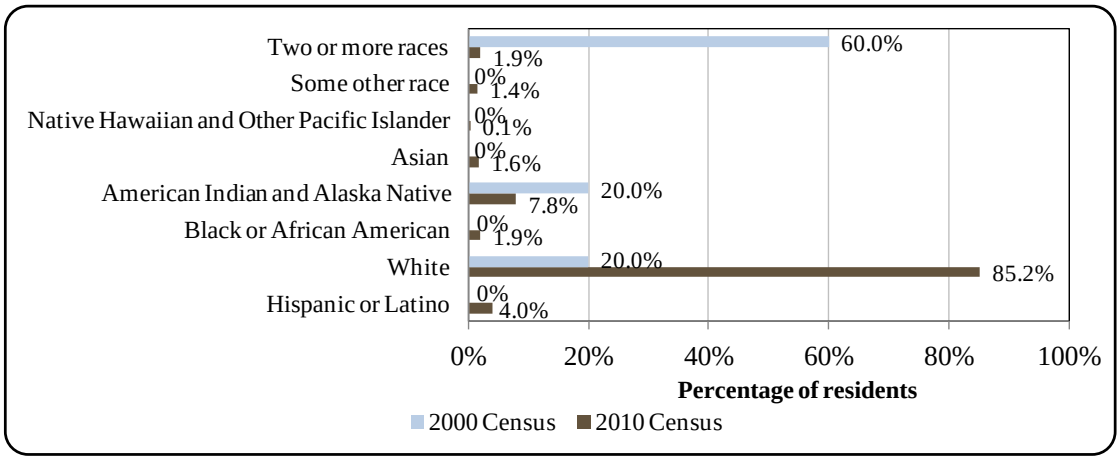
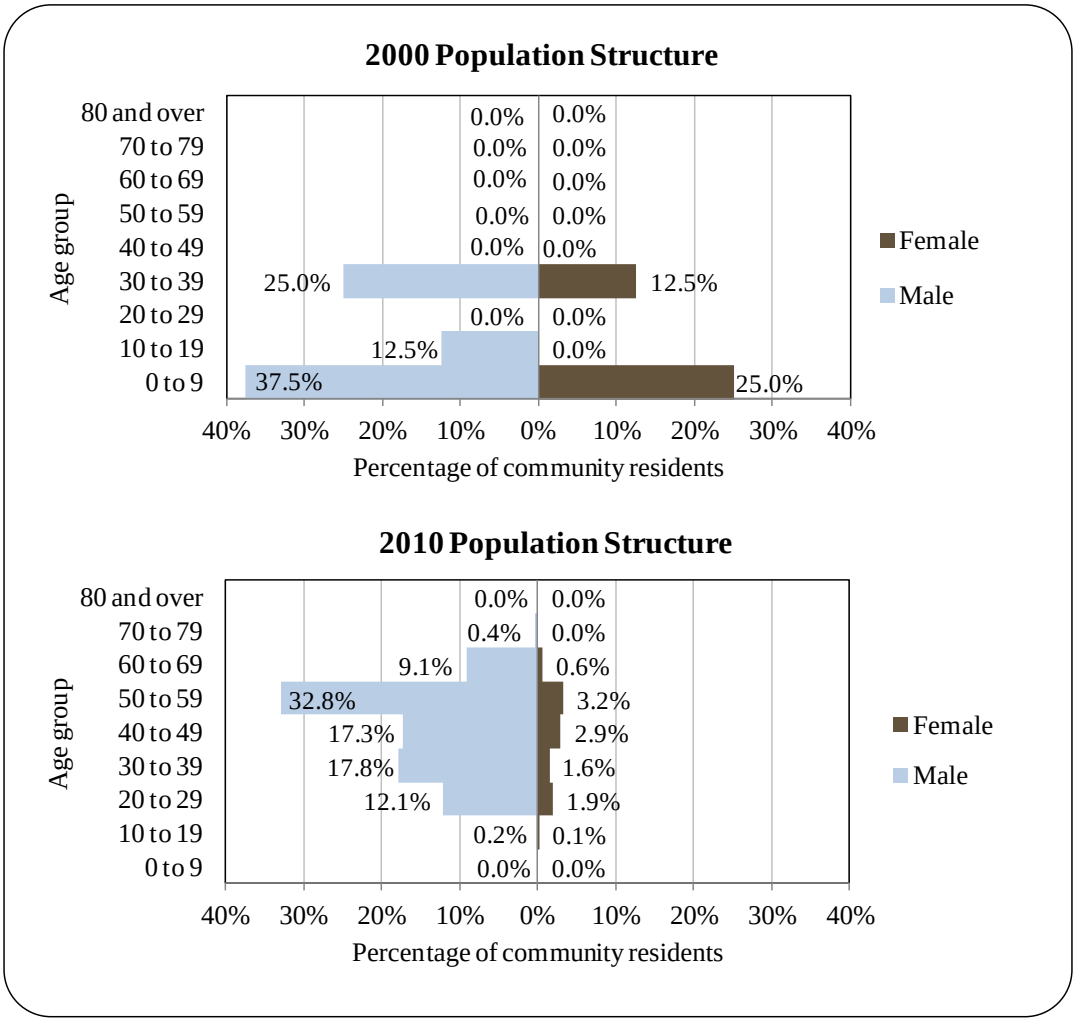


Figure 2. Population Age Structure in Prudhoe Bay Based on the 2000 and 2010 U.S. Decennial Census.



In 2010, the gender makeup was heavily skewed, at 90% male and 10% female, quite different from the state as a whole (52% male, 48% female). The median age in Prudhoe Bay was estimated to be 49.1 years, higher than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the greatest percentage of residents fell within the age category 50-59 years old, with the next largest percentages falling within the age categories 40-49 years old and 30-39 years old. Relatively few people were 19 years old or younger and 60 years old or older. No data were reported by the 2000-2010 American Community Survey (ACS) regarding the educational attainment of Prudhoe Bay residents.[570]

[570] 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[571]

The bay itself was named in 1828. The site was extensively developed for oil drilling operations in the 1970s. An 800-mile pipeline was constructed to transport crude oil from Prudhoe Bay to Valdez, where it is shipped in marine tankers to terminals throughout the country. The pipeline has 12 pump stations and a maximum capacity of 2 million barrels of crude oil per day. Prudhoe Bay is a large work camp for the oil industry. All residents are employees of oil-drilling or oil-production and support companies and work long consecutive shifts. Living quarters and food are provided to the workforce, and there are a number of recreational facilities.

Natural Resources and Environment[572]

Prudhoe Bay is located on the North Slope of Alaska, which experiences an arctic climate. Temperatures range from -56 to 78 °F (-48.9 to 25.6 °C). Precipitation is light, averaging 5 inches per year, with 20 inches of snow per year.

The presence of oil drives the economy and population of Prudhoe Bay, which is entirely composed of employees of oil-drilling or oil-production and support companies.

In October 2010, a former U.S. Navy facility at the Deadhorse Airport in Prudhoe Bay was added to the list of facilities needing a Preliminary Assessment (PA) to determine whether the site should be listed under the Superfund program.[573] The PA had not yet been completed as of November 2011.

The Prudhoe Bay oil fields provide some 2-3% of the nation's domestic oil supply and employ over 5,000 individuals in drilling, pipeline operations, cargo transportation, and a variety of support positions. Most oil field workers travel home to Anchorage or the lower 48 when off duty. Pre-arranged tours are available through various tour companies.[574]

Prudhoe Bay is located near the Gates of the Arctic National Park and Preserve (Park), an area that is managed by the National Park Service.[575] This vast landscape does not contain any roads or trails. Visitors discover intact ecosystems where people have lived with the land for thousands of years. The Park remains virtually unchanged except by the forces of climate, weather, geology, plant life, and animal activities. Situated above the Arctic Circle in the Central Brooks Range, summers here are short, but continuous daylight during the summer means very high productivity during this period. Animals present in the Park include insects, migratory birds such as arctic terns, non-migratory birds such as ptarmigan, and mammals such as beavers, caribou, moose, grizzly and black bears, arctic ground squirrels, lemmings, and voles. Fish species in the park include whitefish, northern pike, and grayling.

[571] 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.
[572] Ibid.
[573] U.S. Environmental Protection Agency (EPA) *Superfund Site Search*. Retrieved November 29, 2011. http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=1002945
[574] See footnote 571.
[575] National Park Service (n.d.). *Gates of the Arctic National Park and Preserve*, Alaska. Retrieved from http://www.nps.gov/gaar/naturescience/index.htm on May 1, 2012.

Current Economy[576]

The oil companies involved in doing work in Prudhoe Bay are British Petroleum (BP), ConocoPhillips, ExxonMobil, and Chevron.[577] Because the majority of employees working in Prudhoe Bay return to homes elsewhere in Alaska or in the lower 48 U.S. States when not working, employment and other information for these individuals is reflected in the information for their home communities.

Information regarding estimates for per capita and household income for Prudhoe Bay in 2010 was not available from the 2006-2010 ACS; however, in 2000 the U.S. Census reported that the mean per capita income for Prudhoe Bay was $19,880 and the median household income was $90,957. After accounting for inflation by converting the 2000 values to 2010 dollars,[578] the per capita income for Prudhoe Bay was $26,142 and the median household income was $119,607. Prudhoe Bay's nature as a community of temporary residents and the overall small population size may have prevented the ACS from accurately portraying economic conditions.[579] 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 Prudhoe Bay in 2010 was $315, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.[580]

While employment data for Prudhoe Bay were not reported in the 2006-2010 ACS, an estimate based on the ALARI database indicates the unemployment rate in 2010 was 21.4%. Data from the 2000 U.S. Census show that 50% of Prudhoe Bay residents were employed in the professional, scientific, management, administration, and waste management industries, while the other 50% were employed in construction in 2000. This information is shown in Figures 3 and 4, which break down local employment by industry and occupation.

[576] Unless otherwise noted, all monetary data are reported in nominal values.
[577] British Petroleum (n.d.). *Prudhoe Bay Fact Sheet*. Retrieved November 29, 2011 from http://www.bp.com/liveassets/bp_internet/globalbp/STAGING/global_assets/downloads/A/abp_wwd_alaska_prudhoe_bay_fact_sheet.pdf
[578] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 form the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).
[579] See footnote 570.
[580] 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, Prudhoe Bay (U.S Census).

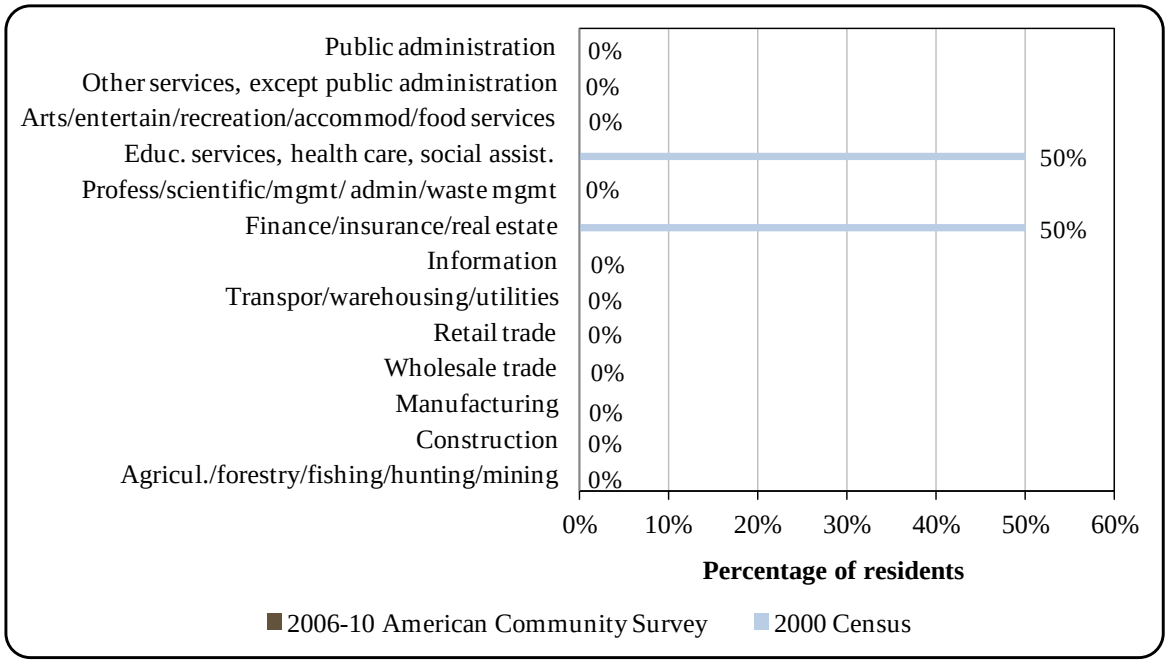
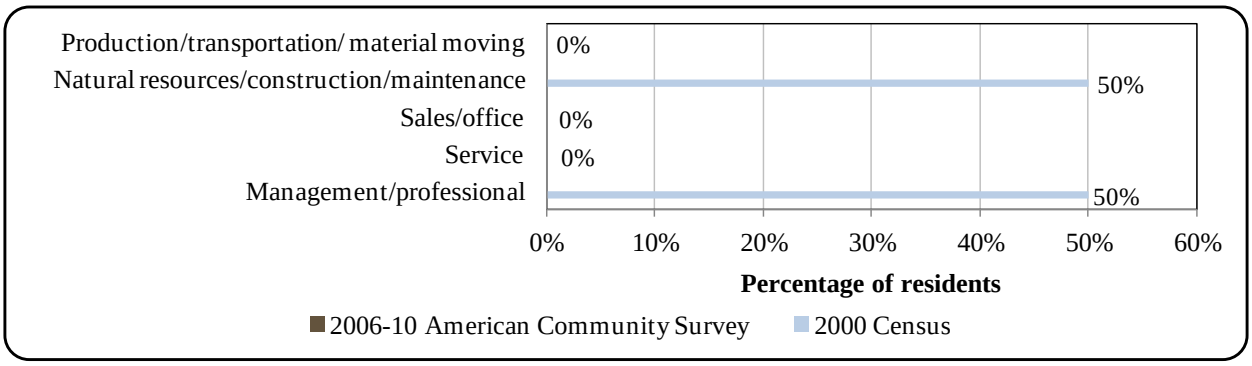


Figure 4. Local Employment by Occupation in 2000-2010, Prudhoe Bay (U.S. Census).



Governance

Prudhoe Bay is unincorporated and is located within the North Slope Borough. The nearest Alaska Department of Fish and Game (ADF&G) office is located in Barrow. The nearest offices of the Alaska Department of Natural Resources and the Alaska Department of Commerce, Community, and Economic Development are located in Fairbanks. The nearest offices of the National Marine Fisheries Service (NMFS), the U.S. Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement are located in Anchorage.

Since it is unincorporated, Prudhoe Bay does not maintain a municipal budget with community revenue and expenditures, nor does Prudhoe Bay administer its own sales tax. Data are not available for community revenues from 2000 to 2010 (Table 2).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Prudhoe Bay Municipal Government 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 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] 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.

Infrastructure

Connectivity and Transportation[581]

The airport at nearby Deadhorse is the primary means of public transportation to the North Slope. The state-owned asphalt and gravel airstrip at Deadhorse is 6,500 feet long by 150 feet wide. A 5,000-foot by 100-foot wide private gravel airstrip is owned and maintained by Conoco Phillips Alaska, Inc. A state-owned heliport is located at Prudhoe Bay. The Dalton Highway is used year-round by trucks to haul cargo to the North Slope from Fairbanks. There are no services beyond this point, and the highway is hazardous during winter months. Roundtrip airfare to Anchorage was $792.[582]

Facilities

Electricity is provided to the community by a diesel powerhouse operated by the local utility, TDX North Slope. Modern sanitation facilities are available at the group quarters facilities. The North Slope Borough offers refuse collection services and operates a Class 1

[581] 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.
[582] 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 November 29, 2011.

landfill 6 miles northwest of Deadhorse, on Oxbow Road. The Borough also operates the local waters and sewer systems. There are also numerous other oilfield facilities. Fire and rescue services are provided by the Greater Prudhoe Bay Fire Department.[583] The nearest state trooper post is located in Barrow.[584]

Medical Services[585]

Medical care is provided by private, oil company medical staff. Alternate health care is provided by the Greater Prudhoe Bay Fire Department. Emergency Services have limited highway, coastal, and airport access. Emergency service is provided by a paid EMS Service. Alternative health care is provided by oil company medical staff as well as the Greater Prudhoe Bay Fire Department. The nearest hospital is located in Barrow.

Educational Opportunities[586]

As of 2011, there were no schools located in Prudhoe Bay.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Prudhoe Bay is located on the coast of the Arctic Management Area, and residents have had limited participation in North Pacific fisheries. Commercial fishing for all species is currently prohibited in federally regulated waters of the Arctic Management Area, "until sufficient information is available to support the sustainable management of a commercial fishery."[587] Between 2000 and 2010, one permit was held per year from 2000 to 2007 in a statewide freshwater fish set gillnet fishery ('other finfish'). Commercial freshwater fish fisheries may target species such as Arctic char, pike, rainbow trout, Dolly Varden, and sheefish.[588] No other commercial fisheries permits were held by Prudhoe Bay residents between 2000 and 2010. Prudhoe Bay is not eligible to participate in the Community Development Quota Program or the Community Quota Entity Program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Prudhoe Bay does not have a registered processing plant.

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[583] See footnote 581.
[584] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[585] Ibid.
[586] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[587] North Pacific Fishery Management Council. 2009. *Arctic Fishery Management Plan.* Retrieved February 29, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[588] Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview.

Fisheries-Related Revenue

Given that Prudhoe Bay has no taxing authority and does not manage a community budget, no data were available regarding revenue received by Prudhoe Bay from fisheries-related taxes and fees between 2000 and 2010 (Table 3).

Commercial Fishing

Between 2000 and 2010, there were no vessels reported as being owned by Prudhoe Bay residents, no vessels were homeported in Prudhoe Bay, and no vessels landed catch in Prudhoe Bay (Table 5). From 2000-2007, one resident held an Alaska Commercial Fisheries Entry Commission (CFEC) permit to harvest 'other finfish,' though the permit was not fished in 2007. This 'other finfish' permit was held in the statewide freshwater fish set gillnet fishery. No federal commercial fishing permits were held by Prudhoe Bay residents between 2000 and 2010. Information about state and federal commercial fishing permits is presented in Table 4. No residents of Prudhoe Bay are documented to have held quota share accounts in any of Alaska's catch share programs during the 2000-2010 period (Table 6, Table 7, Table 8). Because no fish buyers or shore-side processing facilities were present in Prudhoe Bay, and because no residents were the primarily owners of fishing vessels (Table 5), no landings were recorded locally (Table 9) or by Prudhoe Bay vessel owners (Table 10) between 2000 and 2010.

Table 3. Known Fisheries-Related Revenue (in U.S. dollars) Received by the Community of Prudhoe 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, Prudhoe 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, Prudhoe 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	1	1	1	1	1	1	1	1	0	0	0
	Fished permits	1	1	1	1	1	1	1	0	0	0	0
	% of permits fished	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	0	0	0
Salmon (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
Total CFEC Permits[2]	*Permits*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*0*	*0*	*0*
	Fished permits	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*0*	*0*	*0*	*0*
	% of permits fished	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	-	-	-	-
	Permit holders	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*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 Prudhoe 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 Prudhoe Bay[2]	Total Net Pounds Landed In Prudhoe Bay[2,5]	Total Ex-Vessel Value Of Landings In Prudhoe Bay[2,5]
2000	0	0	0	0	0	0	0	$0
2001	1	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	1	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	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 Prudhoe Bay: 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 Prudhoe 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 Prudhoe 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 Prudhoe 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 Prudhoe 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	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.

Recreational Fishing

According to the ADF&G Statewide Harvest Survey, sockeye salmon are the only species caught by private anglers in Prudhoe Bay.[589] In 2010, a total of 13 sportfishing licenses were sold to residents of Prudhoe Bay (irrespective of the location of the point of sale). In comparison, a total of 66 sportfishing licenses were sold in Prudhoe Bay, indicating the potential that visitors and temporary residents are participating in recreational fishing activities.

Between 2000 and 2006, the ratio of non-charter anglers that were non-Alaska residents in the North Slope-Brooks Range region of Alaska varied from year to year. In 2007, all the saltwater angler days fished in this region were fished by non-Alaska residents. Between 2009 and 2010, there were no reported saltwater angler days fished in this region. For freshwater sportfishing, the number of angler days fished by non-Alaska residents increased between 2000 and 2010, while the number of angler days fished by Alaska residents remained relatively stable (Table 11).

Subsistence Fishing

For 2000-2010, the ADF&G Division of Subsistence does not provide estimates for the percent of households utilizing various marine resources for subsistence purposes or the per capita subsistence harvest (in pounds) in Prudhoe Bay (Table 12). Some limited information was reported regarding annual salmon harvest during the period: from 2005-2007, one subsistence salmon permit was issued to a Prudhoe Bay household. Suing this permit, 13-14 sockeye salmon were harvested per year in those years. Data were not available for other salmon species or other years during the 2000-2010 period. Likewise, no information was available regarding total harvest of marine invertebrates or non-salmon fish (not including halibut) during these years (Table 13). In addition, data were not available from management agencies regarding subsistence harvest of halibut (Table 14) or marine mammals (Table 15) between 2000 and 2010.

Table 11. Sport Fishing Trends, Prudhoe 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 Prudhoe Bay[2]
2000	0	1	20	0
2001	0	1	26	0
2002	0	1	22	0
2003	0	0	17	0
2004	0	0	19	0
2005	1	0	14	38
2006	1	0	8	51
2007	0	0	4	68
2008	0	0	10	89
2009	0	0	13	69
2010	0	0	13	66

[589] 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, Prudhoe 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	0	743	523	3,473
2001	0	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	0	96	1,131	2,084
2005	0	0	2,183	2,169
2006	18	341	495	2,609
2007	0	83	733	3,338
2008	140	0	990	4,469
2009	0	0	1,505	2,400
2010	0	0	1,319	3,065

[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, Prudhoe 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	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, Prudhoe 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	n/a	n/a	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	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	1	n/a	n/a	n/a	13	n/a	n/a
2006	1	1	1	n/a	n/a	n/a	14	n/a	n/a
2007	1	1	1	n/a	n/a	n/a	14	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, Prudhoe 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, Prudhoe 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.

Selawik *(SELL-uh-wick)*

People and Place

Location [590]

Selawik is located at the mouth of the Selawik River, where it empties into Selawik Lake, about 90 miles east of Kotzebue. It lies 670 miles northwest of Anchorage. The City is near the Selawik National Wildlife Refuge, a key breeding and resting spot for migratory waterfowl. Selawik is located in the Kotzebue Recording District, the Northwest Arctic Census Area, and the Northwest Arctic Borough. The city boundaries encompass 2.5 square miles of land and 0.9 square miles of water. Selawik was incorporated as a 1st Class City in 1974, but changed to a 2nd Class City government in 1977.

Demographic Profile [591]

In 2010, there were 829 residents in Selawik, making it the 76th largest of 352 total Alaskan communities with recorded populations that year. While the U.S. Census shows a dramatic increase in population between 1990 and 2010, the Alaska Department of Labor estimates of permanent residents shows a less substantial increase between 2001 and 2009. The change in population from 1990 to 2010 is presented in Table 1.

In 2010, a majority of Selawik residents identified themselves as American Indian and Alaskan Native (85.4%), with 10.5% of the population identifying themselves as two or more races, 4.0% of the population identifying themselves as White, and 0.1% of the population identifying themselves as Black or African American. Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaskan Native decreased by 9.4%, with corresponding increases in the percentage of the population identifying as two or more races and the percentage identifying as White. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Selawik was 4.46, a decrease from 4.6 persons per household in 1990 and 4.49 in 2000. The total number of households in Selawik increased during the same period, form 129 in 1990 to 172 in 2000 to 186 in 2010. Of the 201 housing units surveyed for the 2010 Decennial Census, 97 were owner-occupied, 89 were renter-occupied, and 15 were vacant. In 2010, there were no residents of Selawik reported to be living in group quarters.

[590] 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.

[591] 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.

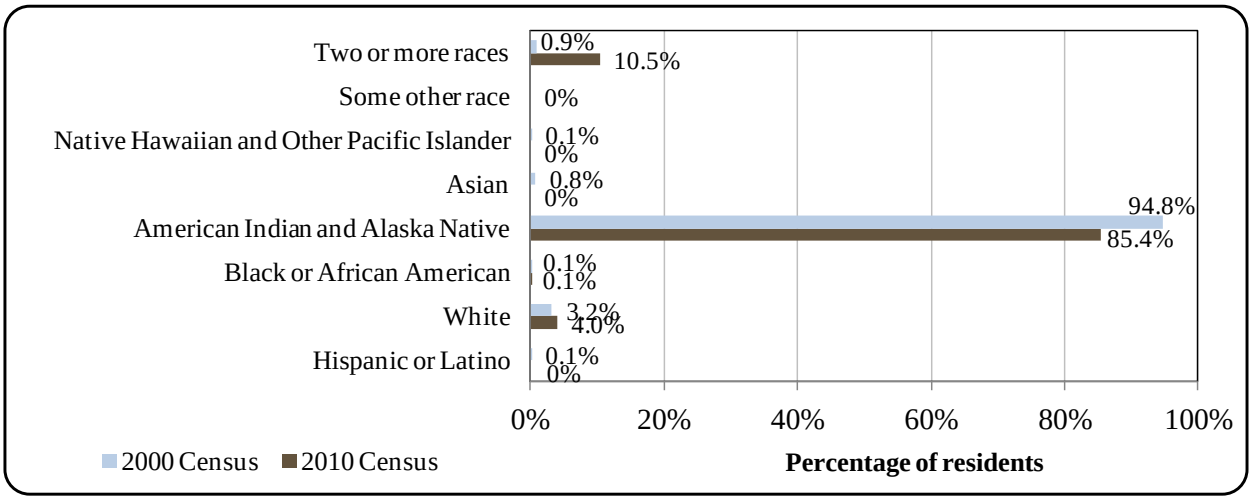
Table 1. Population in Selawik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	596	-
2000	772	-
2001	-	776
2002	-	779
2003	-	819
2004	-	833
2005	-	831
2006	-	842
2007	-	828
2008	-	846
2009	-	849
2010	829	-

[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.

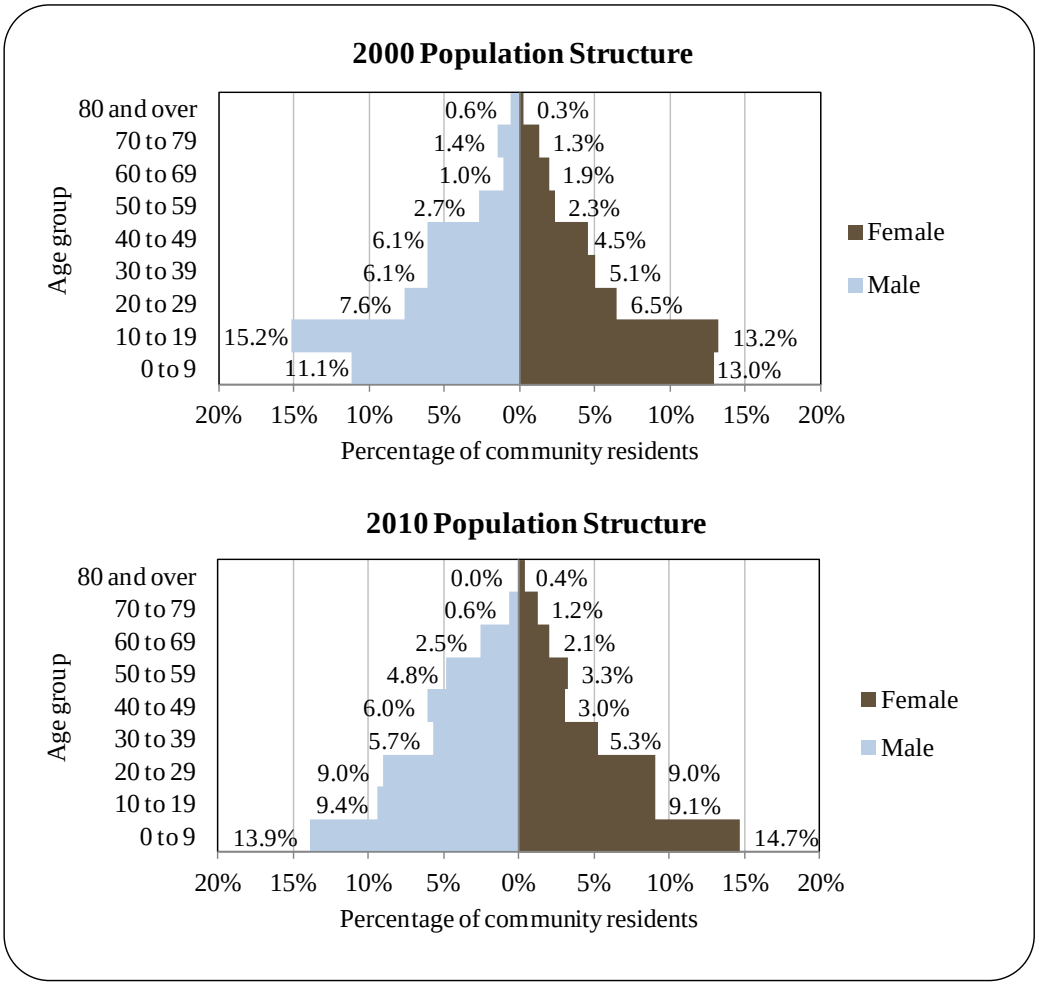
Figure 1. Racial and Ethnic Composition, Selawik: 2000-2010 (U.S. Census).



In 2010, the gender makeup in Selawik was 52% male and 48% female, the same as the gender makeup for the state as a whole. The median age was estimated to be 21.4 years, lower 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 was in the age group 0 to 19 years, with the next largest percentage for the age group 20 to 39 years old. Relatively few people were age 70 or older. The overall population structure in Selawik in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[592] 62.9% of Selawik 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, 9.9% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 27.2% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 45.5% were estimated to hold a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 10.5% were estimated to have some college, but no degree, compared to 28.3% of Alaska residents overall; 4.2% were estimated to hold a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 2.7% were estimated to hold a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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



[592] 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

Selawik is an Inupiat Eskimo community active in traditional subsistence fishing and hunting. Lieutenant L.A. Zagoskin of the Imperial Russian Navy first reported the existence of the village in the 1840s as "Chilivik." Ivan Petroff counted 100 "Selawigamute" people in his 1880 census. Around 1908, the community site had a small wooden schoolhouse and church. The village has continued to grow and has expanded across the Selawik River onto three banks, linked by bridges. Selawik was incorporated as a 1st Class City in 1974, changed to a 2nd Class City government in 1977.[593] The Selawik River takes its name from the. Inupiat Eskimo word "siilivik," which means, "place where sheefish (sii) spawn (li-vik)."[594] The sale and importation of alcohol is banned in the village.[595]

Natural Resources and Environment

Selawik is located in the transitional climate zone. Temperatures average -10 to 15 °F (-23.3 to -9.4 °C) during winter and 40 to 65 °F (4.4 to 18.3 °C) during summer. Temperature extremes have been recorded from -50 to 83 °F (-45.6 to 28.3 °C). Annual snowfall averages 35 to 40 inches, with 10 inches of precipitation. The Selawik River is navigable from early June to mid-October. [596]

Selawik is located near the Selawik National Wildlife Refuge (NWR), an area that is managed by the U.S. Fish and Wildlife Service. The 2.15-million-acre NWR is situated on the Arctic Circle to the east of Kotzebue Sound, and occupies a unique variety of landforms in northwest Alaska. Refuge lands, including the 240,000 acres of designated Wilderness Area, are some of the most remote "wildlands" in the state. Landscapes found on the refuge include alpine tundra, arctic tundra, taiga (northern forest), lake and wetland complexes, large river deltas, open grass and sedge meadows, and previously glaciated mountains and river valleys. This area is a transition zone where the northernmost boreal forests give way to open arctic tundra. The approximately 21,000 lakes on NWR lowlands create a very large arctic tundra lake complex that is comparable in scale and ecological significance to any found on Alaska's other NWR lands.[597]

Historically, the Kobuk and Selawik rivers served as important travel corridors from the coast to the more mountainous areas to the east. This is still true today. Local residents access NWR lands via these waterways by boat in the summer and by snowmobile or dog team in the winter. In most roadless areas across northwest Alaska, river corridors remain important travel routes for humans and wildlife.[598]

One of the purposes for which the Selawik NWR was established is the conservation and management of the Western Arctic Caribou Herd. With 377,000 animals, as of 2007 the herd was the largest in Alaska, migrating twice annually through the NWR on its way between

[593] 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.
[594] U.S. Fish and Wildlife Service. (2003). *Selawik National Wildlife Refuge*. Retrieved May 7, 2012 from selawik.fws.gov/pdf/selawik_brochure.pdf.
[595] See footnote 593.
[596] See footnote 594.
[597] U.S. Fish and Wildlife Service (n.d.). *Selawik National Wildlife Refuge*. Retrieved February 15, 2012 from http://selawik.fws.gov/.
[598] Ibid.

northern calving grounds and southern wintering grounds. The other wildlife found within the NWR include moose, musk oxen, black bears, grizzly bears, wolves, arctic and red fox, lynx, wolverine, beaver, marten, snowshoe hares, and small mammals such as redback voles, tundra voles, and arctic shrews. The NWR also provides important habitat for migratory waterfowl, such as white-fronted geese, tundra swans, sandhill cranes, Northern pintails, greater scaup, black scoters, Pacific loons, and Pacific golden plovers. Songbirds such as the yellow wagtail, yellow warbler, white-crowned sparrow, and Lapland longspur utilize habitats within the NWR, as do palmated and western sandpipers, red-necked phalaropes, and whimbrels. The NWR also contains large populations of resident and anadromous fish. Sheefish and other whitefish are the primary species harvested for subsistence purposes. Sheefish can be very large (approaching 60 lb). Other fish species found within the NWR include northern pike, burbot, and Arctic grayling.[599]

Most public use in the NWR is in the form of subsistence activities by local residents. Caribou hunting, subsistence fishing, furbearer trapping, and berry picking go on as they have for many hundreds of years. The residents of this area still depend on the wildlife and natural resources of the NWR for much of their food and for the perpetuation of their traditional way of life. In addition to subsistence activities, the other primary public use of the NWR occurs during fall hunting seasons. Caribou, moose, and bear hunters from other parts of Alaska and the continental United States come to the NWR to pursue hunting opportunities and to enjoy the scenery and wilderness character of the area.[600]

According to the Alaska Department of Environmental Conservation, no active environmental cleanup sites were located near Selawik as of August 2012.[601]

Current Economy[602]

Subsistence harvest is fundamental to the local economy in Selawik. Important subsistence food sources include whitefish, sheefish, caribou, moose, ducks, ptarmigan, and berries. Occasionally, bartered seal and beluga whale supplement the diet. The primary employers in the community include the school, the city, the Tribal Council, Maniilaq, and three grocery stores. Handicrafts are made and sold locally and at gift shops in larger cities. Seasonal work is also found outside of Selawik with the Red Dog Mine, Bureau of Land Management firefighting, or lighterage operations.[603]

According to the 2006-2010 ACS, [604] in 2010, the per capita income in Selawik was estimated to be $9,681, and the median household income was estimated to be $32,875, compared to $8,170 and $25,625 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,[605] the real per capita income in 2000 was $10,743

[599] Ibid.
[600] Ibid.
[601] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved August 24, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[602] Unless otherwise noted, all monetary data are reported in nominal values.
[603] See footnote 593.
[604] 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.
[605] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 form the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

and the real median household income in 2000 was $33,697, indicating that both per capita and household incomes in Selawik declined between 2000 and 2010. However, Selawik's small population size may have prevented the ACS from accurately portraying economic conditions. [606] 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).). 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 Selawik in 2010 is $7,255.[607,608] According to the ALARI database, the per capita income in Selawik in 2010 was $7,255, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.[609] 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.[610] However, 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.

In 2010, Selawik ranked 280th of 305 Alaskan communities with per capita income that year, and 229th of 299 Alaskan communities with household income data. Based on the ACS, in the same year, 47.1% of the population age 16 and older was in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 44.6%, compared to the statewide unemployment rate of 5.9%. Approximately 36.9% 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 Selawik 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 Selawik.[611] A potentially more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 24.1%.[612]

Based on household surveys conducted for the 2006-2010 ACS, the greatest percentage of workers was employed in the public sector (59.3%), along with 40.7% employed in the private sector. Out of 123 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest numbers were estimated to work in education services, health care, and social assistance (39.8%), agriculture, forestry, fishing, hunting, and mining (15.4%), and public administration (13.8%). Compared to 2000, greater percentages of the workforce were estimated to work in education, health care and social assistance as well as agriculture, forestry, fishing, hunting and mining industries in 2010, while there was a decline in the

[606] 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.
[607] See footnote 604.
[608] 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/.
[609] Ibid.
[610] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[611] See footnote 606.
[612] See footnote 608.

percentage estimated to work in transportation, warehousing and utilities. When viewing employment in terms of occupation, a majority of the workforce in 2010 was estimated to be employed in service (30.9%) and management/professional occupations (30.1%). Compared to 2000, there were declines in the percentage of the workforce employed in sales/office and production/transportation/material moving occupations, and an increase in the percentage employed in service occupations. 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, Selawik (U.S. Census).

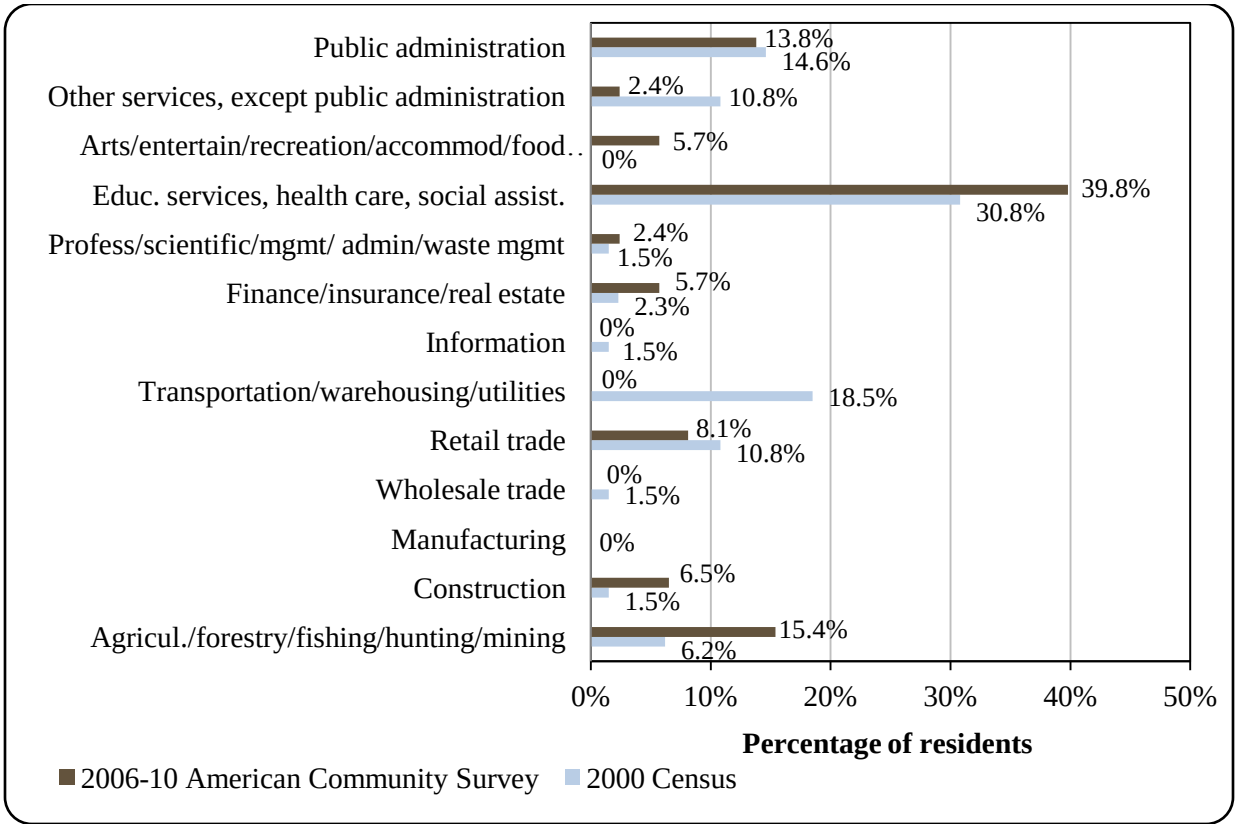
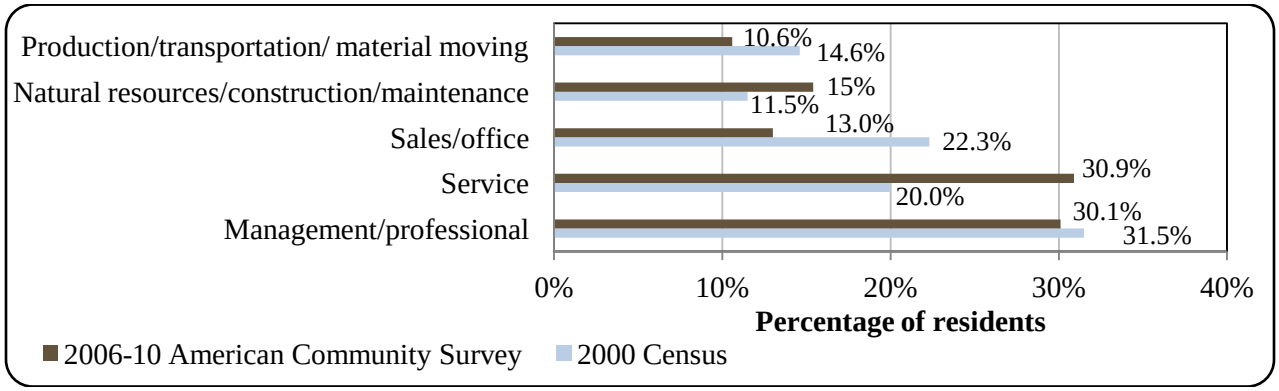


Figure 4. Local Employment by Occupation in 2000-2010, Selawik (U.S. Census).



Governance

Selawik is a 2nd Class City located in the Northwest Arctic Borough. The City has a Strong Mayor form of government, with a 7-person city council including the mayor, an 11-person school board, a 7-person planning commission, and various city employees. The City administers a 5% sales tax.[613] In addition to sales tax revenues, other locally-generated income sources in Selawik between 2000 and 2010 included enterprise revenues from water/sewer, washeteria, and cable TV fees, electric utility maintenance contract, building leases and rentals, equipment rentals, land sales, and bingo receipts. The total municipal revenue reported by the City of Selawik generally increased between 2000 and 2010, driven in part by an increase in sales tax revenues over the period. Selawik received Community Revenue Sharing contributions of just under $140,000 per year in 2009 and 2010, and also reported receiving approximately $36,000 in State Revenue Sharing contributions in 2001. No state or federal fisheries-related grants were reportedly received by Selawik between 2000 and 2010. Selected municipal, state, or federal revenue streams for Selawik are shown in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Selawik 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	$578,213 [6]	$6,000 [6]	n/a	n/a
2001	$793,966	$62,155	$36,236	n/a
2002	$630,930	$68,057	n/a	n/a
2003	$639,074	$74,991	n/a	n/a
2004	$652,361	$70,497	n/a	n/a
2005	$660,612	$114,832	n/a	n/a
2006	$723,168	$101,081	n/a	n/a
2007	$718,101	$122,422	n/a	n/a
2008	$875,683	$156,849	n/a	n/a
2009	$973,274	$157,043	$138,671	n/a
2010	$857,126	$181,892	$139,158	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.
[6] This is a budget estimate only, and does not reflect a final amount reported in a financial statement.

[613] 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.

Selawik 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 Native Village of Selawik. The regional Native corporation to which Selawik belongs is the NANA Regional Corporation. In 1972, most village corporations in the region merged with NANA Regional Corporation, with the exception of the village corporation for Kotzebue, known as Kikiktagruk Inupiat Corporation. NANA Regional Corporation now has title to 2,082,052 surface acres, including 138,240 that were originally titled to Selawik's Native village corporation. [614,615]

Selawik is a member village of the Maniilaq Association, a tribal non-profit corporation that provides health and social services to residents of Northwest Alaska. The Maniilaq Association 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. It was originally called NANA (the Northwest Alaska Native Association), but was renamed Maniilaq when the NANA Regional Corporation was formed to avoid confusion between the names.[616] Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[617] The Maniilaq Association coordinates tribal and traditional assistance programs, and environmental and subsistence protection services in the region.[618]

The nearest offices of the Alaska Department of Fish and Game (ADF&G) and Alaska Department of Commerce, Community, and Economic Development are located in Kotzebue. The nearest office of the Alaska Department of Natural Resources is located in Fairbanks. The nearest offices of the National Marine Fisheries Service (NMFS), Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement are located in Anchorage.

Infrastructure

Connectivity and Transportation

Selawik is accessible by plane and barge only. The Roland Norton Memorial Airport provides a 3,000-ft-long by 70-ft-wide gravel runway owned by the city. The state also owns a 3,000-ft-long by 60-ft-wide gravel airstrip, with a 2,659-ft-long by 60-ft-wide crosswind strip. Scheduled flights are available to Kotzebue and Nome and other area villages. Docking facilities and a barge landing area exist. Freight is shipped upriver from Kotzebue each summer by Crowley Marine Services. Boardwalks have been constructed within the village. Boats, ATVs,

[614] Ibid.
[615] NANA Regional Corporation. 2003. *Introduction*. Retrieved February 2, 2012 from http://www.nanalands.com/introduction.htm.
[616] Maniilaq Association. 2003. *Company Information*. Retrieved February 2, 2012 from http://www.maniilaq.org/companyInfo.html.
[617] 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.
[618] See footnote 616.

and snowmachines are prevalent forms of local travel.[619] The price of a round-trip ticket from Selawik to Anchorage (connecting in either Kotzebue or Nome) in June 2012 was $725.[620]

Facilities[621]

A circulating water and vacuum sewer system provides services to about 100 homes. A central treatment facility pumps water from the Selawik River, providing up to 8,000 gallons a day. Groundwater wells have been unsuccessful.

Law enforcement services are provided by VPSOs (Village Public Safety Officers), the city VPO (Village Police Officer), and state troopers stationed in Kotzebue. Fire and rescue services are provided by the Selawik Area Volunteer Emergency Rescue and the City Public Safety Office. The City is home to a Boys and Girls Club and has a community building that houses city offices and a multi-purpose facility. The school has a gym and a school/community library.

Medical Services[622]

Medical services are provided by the Selawik Health Clinic, which is owned by the Village Council and operated by the Maniilaq Association. The clinic is a Community Health Aid Program site. Alternate health care is provided by the Selawik Area Volunteer Emergency Rescue. Emergency services have lake and air access and are provided by volunteers and a health aide. The nearest hospital is located in Kotzebue.

Educational Opportunities

The Davis-Ramoth School in Selawik provides instruction for students from pre-school through 12th grade. In 2011, the school had 266 students and 18 teachers.[623] Selawik is also a Head Start site.[624]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The lands surrounding the community of Selawik have been the hunting and fishing grounds of the Iñupiaq Eskimo people for thousands of years. Historically, the Iñupiat were distributed in small, widely dispersed settlements often located on high river banks that provided good access to fishing sites. Historically, sheefish, whitefish, salmon, northern pike, caribou, hares, migratory birds, and marine mammals were major subsistence resources used by residents

[619] 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.
[620] 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.
[621] See footnote 619.
[622] Ibid.
[623] Ibid.
[624] Rural Alaska Community Action Program (2010). *2010 Annual Report*. Retrieved December 20, 2011from http://www.ruralcap.com/index.php?option=com_content&view=category&layout=blog&id=40&Itemid=91.

of the Selawik and lower Kobuk rivers. These subsistence traditions continue today, although methods of harvest and travel have changed over time.[625] Commercial fisheries are currently less important to the Selawik economy, although several residents held state commercial fishing permits in the Kotzebue salmon gill net fishery between 2000 and 2010 (see Commercial Fishing section).

Selawik is located in the Arctic Management Area. A Fishery Management Plan for the Arctic Management Area was approved by the Secretary of Commerce in August 2009. Initially, the plan prohibits commercial fishing in the federal waters of the Beaufort and Chukchi seas until more information is available to support sustainable fisheries management.[626] In state regulated waters of the Arctic Management Area, several small fisheries occur, including a small fishery for chum salmon in the Kotzebue Sound region.[627] The Kotzebue Sound salmon fishery is the northernmost commercial salmon fishery in Alaska. Over 99% of the salmon harvested in this fishery are chum salmon returning to the Kobuk and Noatak Rivers. Commercial harvest of salmon first occurred in the Kotzebue area in 1909 when Native fishermen sold salmon to gold miners. Starting in 1914, salmon were canned and sold to miners in the upper Kobuk drainage. This small industry ceased after 1918. The modern commercial fishery began in 1962, and catch peaked in 1981 with 680,000 chum commercially harvested. Since 1995, poor market conditions and variable processing capacity and interest have caused harvests to fall short of their potential. Due to limited opportunities to sell their catch, the number of active permits in the Kotzebue salmon fishery had declined over the last 30 years. Very few of the 173 total set gill net permits have been used in recent years.[628] Fish caught in the Kotzebue salmon fishery are primarily sold to local markets, although some are shipped to markets outside the Arctic region.[629]

Selawik is not eligible to participate in the CDQ (Community Development Quota) or CQE (Community Quota Entity) programs.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Selawik does not have a registered processing plant. The nearest processing plant is located in Kotzebue.

Fisheries-Related Revenue

Selawik did not receive any known fisheries-related revenue between 2000 and 2010 (Table 3).

[625] U.S. Fish and Wildlife Service (n.d.). *Selawik National Wildlife Refuge*. Retrieved February 15, 2012 from http://selawik.fws.gov/.
[626] NOAA National Marine Fisheries Service, Alaska Regional Office. (n.d.). *Arctic Fisheries*. Retrieved February 6, 2012 from http://www.fakr.noaa.gov/sustainablefisheries/arctic/.
[627] North Pacific Fishery Management Council. 2009. *Arctic Fishery Management Plan.* Retrieved February 29, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf.
[628] 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.
[629] See footnote 471.

Commercial Fishing

In 2010, four Selawik residents held Commercial Fisheries Entry Commission (CFEC) permits for the Kotzebue salmon gill net fishery, and this number remained stable between 2001 and 2010. Between 2000 and 2010, the number of salmon permits that were actively fished varied between zero to two. In 2010, none of the four permits were reported as actively fished (Table 4). In 2010, there were no crew license holders, fish buyers, shore-side processing facilities, vessels owned primarily by community residents, vessels homeported in the community, or vessels landing catch in the community of Selawik. In previous years there were crew license holders residing in Selawik, ranging from one to six between 2000 and 2009 (Table 5). Also, there were no community residents holding quota share accounts in federal catch share fisheries for halibut (Table 6) or sablefish (Table 7) between 2000 and 2010, and no residents holding quota share accounts for crab (Table 8) between 2005 and 2010. As there were no vessels landing catch in Selawik between 2000 and 2010, there was no ex-vessel value to report during the same period (Table 9). Additionally, there were no vessels owned primarily by Selawik residents landing catch between 2000 and 2010 (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Selawik: 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]	*$578,213*[6]	*$793,966*	*$630,930*	*$639,074*	*$652,361*	*$660,612*	*$723,168*	*$718,101*	*$875,126*	*$973,274*	*$857,126*

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.

[6] This is a budget estimate only, and does not reflect a final amount reported in a financial statement.

Table 4. Permits and Permit Holders by Species, Selawik: 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. Permits and Permit Holders by Species, Selawik: 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	4	4	4	4	4	4	4	4	4	4
	Fished permits	1	2	0	0	2	1	1	1	1	2	0
	% of permits fished	33%	50%	-	-	50%	25%	25%	25%	25%	50%	-
	Total permit holders	3	4	4	4	4	4	4	4	4	4	4
Total CFEC Permits[2]	*Permits*	*3*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*
	Fished permits	*1*	*2*	*0*	*0*	*2*	*1*	*1*	*1*	*1*	*2*	*0*
	% of permits fished	*33%*	*50%*	-	-	*50%*	*25%*	*25%*	*25%*	*25%*	*50%*	-
	Permit holders	*3*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*4*	*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 Selawik: 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 Selawik[2]	Total Net Pounds Landed In Selawik[2,5]	Total Ex-Vessel Value Of Landings In Selawik[2,5]
2000	5	0	0	0	0	0	0	$0
2001	6	0	0	0	0	0	0	$0
2002	1	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	4	0	0	0	1	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	3	0	0	0	0	0	0	$0
2007	3	0	0	0	0	0	0	$0
2008	2	0	0	0	0	0	0	$0
2009	5	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] 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] 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, Selawik: 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, Selawik: 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, Selawik: 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 Selawik: 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 Selawik Residents: 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.

Recreational Fishing

Between 2000 and 2010, there were no active sport fish guide businesses or licensed sport fish guides in Selawik. In 2010, 47 sportfishing licenses were sold to Selawik residents (irrespective of the point of sale). In the same year, 62 sportfishing licenses were sold in Selawik, indicating the potential that some visitors came to Selawik to pursue recreational fishing activities (Table 11).

Table 11. Sportfishing trends, Selawik: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sportfishing Licenses to residents[2]	Sport Fishing Licenses Sold in Selawik[2]
2000	0	0	42	0
2001	0	0	55	0
2002	0	0	67	0
2003	0	0	39	0
2004	0	0	66	0
2005	0	0	47	0
2006	0	0	96	87
2007	0	0	15	0
2008	0	0	64	64
2009	0	0	40	39
2010	0	0	47	62

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	14	1,875	1,779	3,388
2001	296	114	2,986	2,508
2002	0	132	1,297	4,988
2003	15	1,698	1,807	2,601
2004	17	332	1,892	3,463
2005	19	35	1,309	1,755
2006	0	452	1,764	4,570
2007	65	62	1,146	3,754
2008	0	407	2,421	1,593
2009	138	815	1,160	5,318
2010	137	478	1,027	1,828

[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).

Selawik is located within Alaska Sport Fishing Survey Area X – Northwest Alaska. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, Alaska resident anglers consistently fished a greater number of days than non-Alaska resident anglers in both freshwater and saltwater, and freshwater sportfishing activity was significantly higher than in saltwater. On average between 2000 and 2010, Alaska resident anglers fished 3,251 freshwater days and 582 saltwater days, while non-Alaska resident anglers fished on average 1,690 freshwater and 64 saltwater days (Table 11).

Subsistence Fishing

Inhabitants of Selawik subsist mainly on whitefish, sheefish, caribou, moose, ducks, ptarmigan, and berries. Occasionally, bartered seal and beluga whale supplement the diet.[630] Eschscholtz Bay is an important subsistence area for Selawik residents. Spring and summer uses include beluga whaling, seal hunting, egg gathering, smelt harvest, and berry picking. Beluga whaling involves the combined effort of residents of various area villages who set up hunting camps at Elephant Point. In addition, Kobuk and Selawik Lakes are an important subsistence use area for residents of Selawik and other nearby villages. Seal are harvested in both lakes during the spring and summer, and sheefish are harvested year-round. Selawik Lake is also an important site for waterfowl hunting in the spring and fall, and eggs are gathered during summer. Whitefish are the second most important fish resource in the area, along with some Dolly Varden char and northern pike.[631]

Limited data were available subsistence salmon permits in 2000, 2002, 2003, and 2006. In each of these years, one subsistence salmon permit was issued to a Selawik household, though the permit was only actively fished in 2000 and 2006. In these two years, Chinook salmon and sockeye salmon were the species reported as harvested for subsistence use under the permit. In addition, in 2006, 115,481 lb of non-salmon fish (not including halibut) were reported as harvested for subsistence in Selawik (Table 13). Species of non-salmon harvested in Selawik that year included northern pike, sheefish, and whitefish.[632]

Data were not available for Selawik during the 2000-2010 period regarding subsistence participation by household and species or per capita subsistence harvest (Table 12), or for subsistence halibut fishing participation (Table 14), or subsistence harvest of marine mammal resources (Table 15).

[630] 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.
[631] Northwest Arctic Borough. (n.d.). "Chapter 6: Description of Designated Areas." *Coastal Management Plan, Final Draft Plan Amendment.* Retrieved July 10, 2012 from http://www.alaskacoast.state.ak.us/District/FinalFinalPlans/NorthwestArctic/NAB_Chap_6_DesignatedAreas.pdf.
[632] 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, Selawik: 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 (lb)
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, Selawik: 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	1	1	1	n/a	n/a	n/a	16	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	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	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	n/a	n/a	30	n/a	115,481
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, Selawik: 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

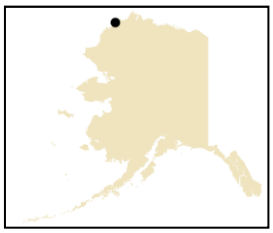
Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information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

Table 15. Subsistence Harvests of Marine Mammal Resources, Selawik: 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.

Wainwright (WANE-rite, *A.K.A. Ulguniq*)



People and Place

Location [633]

Wainwright is located on the Chukchi Sea coast, about 300 miles north of the Arctic Circle and 100 miles southwest of Point Barrow, the most northerly point in the United States. The community is situated on the base of a small peninsula separating the Kuuk Lagoon from the ocean. Barrow, the economic and transportation hub for the region, is located approximately 90 miles to the northeast; and Anchorage is located 711 miles to the southeast. The community's area encompasses 17.6 square miles of land and 24.9 square miles of water. The community is located in the North Slope Borough and the Barrow Recording District. It is located on the perimeter of the 23.5 million acre National Petroleum Reserve - Alaska (NPRA).

Demographic Profile [634]

In 2010, there were 556 residents in Wainwright, making it the 110th largest community out of 352 Alaska communities with a recorded population. Since the 1990 Census, which recorded 492 residents, the population of Wainwright has increased by 13%. Between 2000 and 2010, the recorded population fluctuated from a high of 562 in 2001 to a low of 517 in 2006, but overall increased by only ten individuals. Wainwright's annual growth rate between 2000 and 2009 was 0.28%, though population figures in Table 1 suggest that this rate is more reflective of year-to-year variation than a general upward trend. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that 50 people in the community reside there seasonally or are transients. Community leaders reported that while seasonal workers are present year-round, there is a heavier presence in the summer, with the population typically reaching its annual peak in July.

In 2010, 90.1% of the population identified themselves as American Indian and Alaska Native, a slight increase from the 2000 figure of 90.3%. White residents made up a slightly larger share of the population in 2010 (8.1%) than in 2000 (6.8%), while the percentage of the population identifying with two or more races decreased slightly from 2.7% in 2000 to 1.8% in 2010. In 2010, 0.4% of residents identified themselves as Hispanic or Latino. No residents in 2010 identified themselves as Native Hawaiian or Pacific Islander, Asian, or Black or African American. Figure 1 shows changes in the city's racial and ethnic makeup between 2000 and 2010.

[633] 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.
[634] 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.

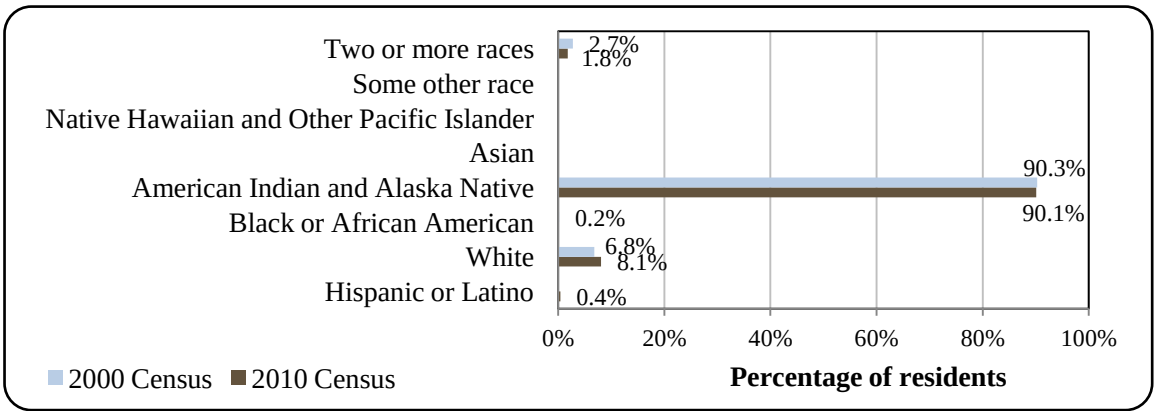
Table 1. Population in Wainwright from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimates of Permanent Residents[2]
1990	492	-
2000	546	-
2001	-	562
2002	-	536
2003	-	552
2004	-	533
2005	-	520
2006	-	517
2007	-	538
2008	-	534
2009	-	551
2010	556	-

[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, Wainwright: 2000-2010.

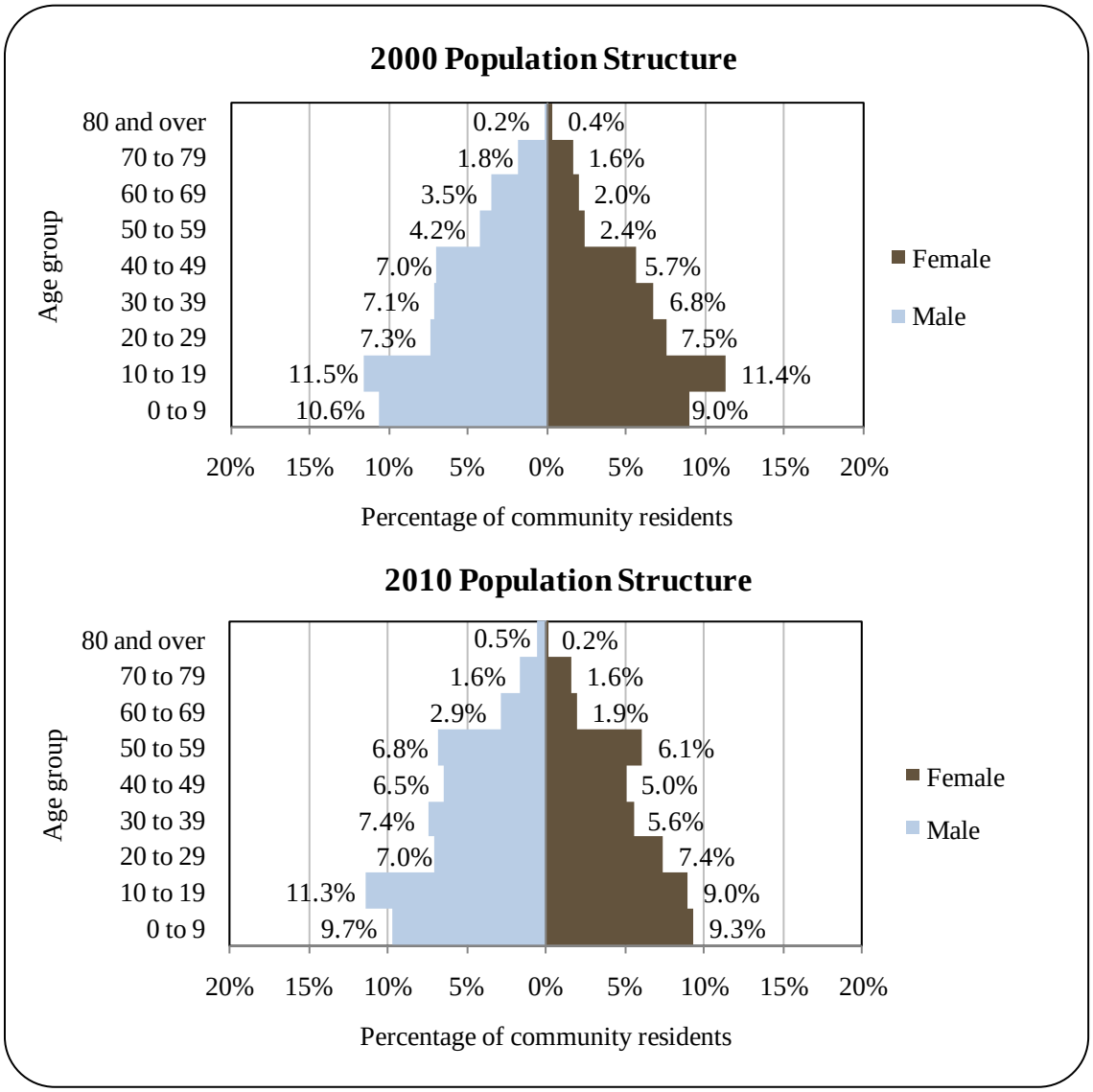


In 2010, the average household size in Wainwright was 3.65, a slight decrease from the 2000 average household size of 3.69. Also in 2010, 20 individuals (3.6% of the population) resided in non-institutionalized group quarters, compared to 0 in 2000. The community had 179 housing units in 2010, the same number recorded in the 2000 Decennial Census. From 2000 to 2010, there was only a slight change in the ratio of occupied and unoccupied housing units: 147 units in 2010 were occupied, compared to 148 in 2000. Of the 147 households in 2010, 99 (67.3%) were owner occupied, and 48 (32.7%) were renter occupied; 115 (78.2%) were family households, and 32 (21.8%) were nonfamily households. In 2010, 99 individuals (17.8% of the population) were counted as living in a household and being either a non-relative of the head of

the household (including unmarried partners) or a non-spouse or non-child relative of the head of the household.

In 2010, the gender makeup of Wainwright's population was 53.8% male and 46.2% female, less balanced than the state as a whole (52% male and 48% female). Between 2000 and 2010, the median age of Wainwright's residents was 27.6 (28.8 for males and 26.5 for females), notably lower than the statewide median of 33.8 years. In 2010, 39.4% of the population was younger than 20 years, 51.8% was between the ages of 20 and 59, and 8.7% of the population was 60 or older. The overall population structure of Wainwright in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Wainwright in 2000 and 2010.



According to the 2006-10 American Community Survey,[635] in terms of educational attainment, an estimated 61.8% of the 490 Wainwright residents aged 25 and older in 2010 held a high school diploma or higher degree, compared to 90.7% of Alaskan residents overall; and an estimated 2.9% held a bachelor's degree or higher, compared to 27.0% of Alaska residents overall. Also in 2010, 7.1% of the community's 25-and-over population was estimated to have less than a 9th grade education, compared to 3.5% of residents statewide overall; 31% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 19.4% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 1.4% 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 2.9% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Inupiat Eskimos been present on the North Slope of Alaska for hundreds of years; archaeological sites around Wainwright indicate their presence in the vicinity from as early as 1000 CE.[636] The area around Kuuk Lagoon was well-populated by the time the community site was formally established at the turn of the twentieth century: an 1853 map documented the village of "Olrona,"[637] and in 1881, at least five Inupiat settlements were located within a 25 mile radius.[638] Inhabitants of these settlements migrated seasonally between the interior and the coast.

During the 1880s, small-scale coal mines were opened nearby to provide coal for steam whaling ships, which had been active in the Arctic since the mid-century. Natives were located to the area to mine coal. They also engaged in trade with whalers and were employed as wage laborers assisting in whaling operations.[639]

The community of Wainwright was formally established in 1904, when it became the site of an Alaska Native Service schoolhouse. The site was reportedly chosen by the ship captain delivering construction materials for the school, due to favorable sea-ice conditions. The community took its name from Wainwright (Kuuk) Lagoon, named in 1826 by Captain F.W. Beechey for one of his officers.[640]

A reindeer station was also established in 1904, and Kuugmiut (from the Kuuk River area and the coasts around Wainwright) and Utuggagmiut (from areas to the east and south of Wainwright) were enlisted to manage the herd. The 1918 influenza epidemic brought additional immigrants to Wainwright from nearby smaller communities, as did the expansion of the school in the early 1920s. Booms and busts in whaling, coal mining, reindeer herding, and fur trapping also contributed to fluctuations in the population from the 1880s to the 1970s. During the late

[635] 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.
[636] National Parks Service (2012). *National register of historic places database.* Retrieved February 14, 2012 from http://www.nps.gov/nr/research/.
[637] 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.
[638] Jorgensen, J.G., and G. I. Languir. 1990. *Oil age Eskimos*. Berkley, CA: University of California Press.
[639] Ibid.
[640] See Footnote 637.

1940s and 1950s, Wainwright's population fell by a third as residents moved to Barrow to pursue new opportunities there provided by federal military projects. The passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971, the formation of the North Slope Borough and Arctic Slope Regional Corporation, and the development of North Slope oil resources resulted in investments in Wainwright's public infrastructure and helped drive population growth over the next two decades.[641] The city was incorporated as a second-class city in 1962.

The majority of current Wainwright residents are of Kuugmiut or Ituggagmiut Inuit descent. The community is also known by its Inupiaq name, "Ulguniq".

Natural Resources and Environment

Wainwright has an arctic climate. Temperatures range from a low extreme of -56°F to 80 °F. Precipitation is light, averaging 5 inches annually, with 12 inches of snow. The Chukchi Sea is ice-free from mid-July through September. The North Slope Borough has about 83 days annually of "midnight sun", when the sun stays above the horizon, and about 65 days annually when the sun stays below the horizon.[642]

The landscape of the North Slope is treeless from the coast to the foothills of the Brooks Range, located 100 miles inland from Wainwright. Permafrost is continuous across the region due to low temperatures. The tundra supports lichens, mosses, and low bushes. Tundra plants include salmonberry, wild rhubarb, cranberry, and blueberry; sedges and grasses grow around sloughs, marshes, and poorly drained lakes. Kuuk Lagoon, located behind the peninsula on which Wainwright is sited, extends for 50 miles inland before narrowing into the 80-mile long Kuuk River. Major tributaries of the Kuuk fan out over a 110 mile radius. The Kuuk river system allows travel to the interior year round—by snow machine when the river is frozen in winter and by motorboat during the remainder of the year. [643] During the winter months, the sea ice cover extends for several miles out to sea. Wainwright is vulnerable to coastal flooding and erosion.[644]

The North Slope provides habitat for many species of terrestrial and marine mammals, freshwater and marine fish, and birds. Terrestrial mammals in the region include caribou, reindeer, moose, muskox, wolverine, wolf, arctic and red foxes, grizzly bear, and small furbearers such as marmot, ermine, and Arctic ground squirrels. Marine mammals include bowhead, gray, and beluga whale; bearded, ringed, and spotted seal; and Pacific walrus. Wainwright residents fish locally for grayling, whitefish, lingcod (or burbot), salmon, cisco, sculpin, rainbow smelt, Arctic grayling, capelin, crab, and shrimp. Birds of importance to community subsistence practices include eider duck, Pacific brant, white-fronted goose, snow goose, oldsquaw and pintail duck, and ptarmigan.[645]

Extensive oil and gas resources exist on the North Slope and on the continental shelves of the Beaufort and Chukchi Seas. North Slope oil production began in 1977, and as of 2008, 15.7 billion barrels of oil had been produced, with 6.1 billion barrels of technically recoverable oil

[641] See Footnote 638.
[642] North Slope Borough (n.d.). *North Slope Borough local all hazard mitigation plan*. Retrieved February 14, 2012 from http://www.commerce.state.ak.us/dca/planning/nfip/mitigation.htm.
[643] See Footnote 638.
[644] See Footnote 642.
[645] Kassam, K.S. and Wainwright Traditional Council (2001). *Passing on the knowledge: mapping human ecology in Wainwright, Alaska*. Calgary, Alberta: University of Calgary.

remaining from then-developed fields.[646] Though production to date has been limited to the Central Arctic, between the Colville and Canning rivers, and adjacent near-shore areas in the Beaufort Sea,[647] exploratory well drilling in leased areas of the Chukchi Sea Continental Shelf (OCS) could begin as early as summer of 2012.[648] The Chukchi Sea OCS is estimated to contain 15.38 billion barrels of technically recoverable oil and 76.77 trillion cubic feet of natural gas.[649] In a 2011 survey conducted by the AFSC, community leaders cited "opening up of off-shore drilling" as the fisheries-related policy or management action of most concern to Wainwright.

The Northern Alaska Coal Province contains an estimated four trillion tons of bituminous coal deposits, or one ninth of the world's known coal reserves. These deposits have remained undeveloped due to distance from markets; though the Arctic Slope Regional Corporation (ASRC) is engaged in an aggressive program to determine the economic feasibility of their development.[650]

Climate change effects observed in the region include reductions in sea ice cover and permafrost. The extent of Arctic sea-ice has generally declined over the last half century, and total loss of summer sea ice is projected over the next century.[651] The delayed formation of sea ice may increase Wainwright's exposure to coastal flooding and erosion. Shifts in population densities and distribution may occur for species associated with ice habitats, including seals, walrus, and polar bears.[652] Additionally, warmer summers and milder winters may result in thawing of permafrost and ground subsidence.[653]

Current Economy[654]

Wainwright residents participate in a mixed economy involving both wage labor and subsistence practices. Economic opportunities in the community are influenced by its proximity to Barrow, the economic center of the North Slope Borough. The village and regional corporations, along with the North Slope Borough and the North Slope Borough School District, are the major employers in the community, and sales of arts and crafts supplement income from wage employment. Important subsistence resources include bowhead whale, bearded seal, caribou, and arctic grayling.[655] The North Slope oil and gas industry is the primary source of

[646] U.S. Dept. of Energy (2009). *Alaska North Slope oil and gas: a promising future or an area in decline?* Retrieved February 14, 2012 from: http://www.netl.doe.gov/technologies/oil-gas/publications/AEO/ANS_Potential.pdf.
[647] Ibid.
[648] Bailey, A. (2011, May 20). Shell files plan for Chukchi Sea drilling, starting next year. *Anchorage Daily News*. Retrieved February 17, 2012 from http://www.adn.com/2011/05/20/1873922/shell-files-plan-for-chukchi-sea.html.
[649] Bureau of Ocean Energy Management. (November 2011). Assessment of undiscovered technically recoverable oil and gas resources of the nation's outer continental shelf, 2011. Retrieved February 17, 2012 from http://www.boem.gov/uploadedFiles/2011_National_Assessment_Factsheet.pdf.
[650] Arctic Slope Regional Corporation (2012). *Homepage*. Retrieved February 17, 2012 from http://www.asrc.com/Pages/Home.aspx.
[651] North Slope Borough (2005). *Comprehensive Plan*. Retrieved February 17, 2012 from http://www.commerce.state.ak.us/dca/plans/NorthSlopeBorough-CP-2005.pdf.
[652] Ibid.
[653] Ibid.
[654] Unless otherwise noted, all monetary data are reported in nominal values.
[655] See Footnote 645.

revenue for Borough government services. Top employers in 2010[656] included: North Slope Borough, Olgoonik Crop., North Slope Borough School, City of Wainwright, Wainwright Cooperative Association, Olgoonik Environmental Services, Olgoonik Oilfield Services LLC, SKW/Eskimos Inc., Arctic Slope Regional Corp., and Arctic Slope Native Association Ltd.[657]

In 2010, the median household income in Wainwright was estimated to be $65,156, compared to $66,521 statewide; and per capita household income was estimated at $19,395, compared to $30,726 statewide. Wainwright ranked 61st out of 299 Alaska communities with data on median income and 156th out of 305 Alaska communities with data on per capita income. Median and per capita income in Wainwright in 2010 represented decreases from 1999 estimated levels, which were $71,959 and $21,972, respectively, in 2010 dollars.[658] From 2000 to 2010, the percentage of residents below the poverty line decreased slightly from 12.5% to 11.4%. The 2010 poverty rate in Wainwright was higher than the statewide rate of 9.5%. It should be noted that income and poverty statistics are based on wage income and other cash sources; these statistics are not reflective of the value of subsistence to the local economy.

Wainwright's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[659] 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, residents earned $7.19 million in total wages in 2010.[660] When matched with the population in 2010, the per capita income equals $12,935, 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.[661]

Based on 2006-2010 American Community Survey estimates, 69.1% of Wainwright residents aged 16 years and older were in the civilian labor force. Of the civilian labor force in 2010, 33% were unemployed. This is notably higher than the statewide rate of 5.9% and represents a notable increase from 2000 unemployment rate of 21.8%. Of the employed civilian labor force in 2010, 41.4% were in the private sector, 55.2% were in the public sector, and the remaining 3.4% were self-employed. The largest industries in terms of employment were educational services, healthcare, and social assistance (22.1% of the employed civilian labor force) and transportation, warehousing, and utilities (15.6% of the employed civilian labor force). The percentage employed in agriculture or natural resource extraction (fishing and hunting, forestry, and mining) was 6.7%. As with income and poverty statistics, it should be noted that employment statistics do not reflect residents' activity in the subsistence economy. Additional statistics on employment by industry and by occupation are shown in Figures 3 and 4.

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[656] 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/.
[657] See Footnote 651.
[658] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[659] 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.
[660] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[661] See footnote 656.

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

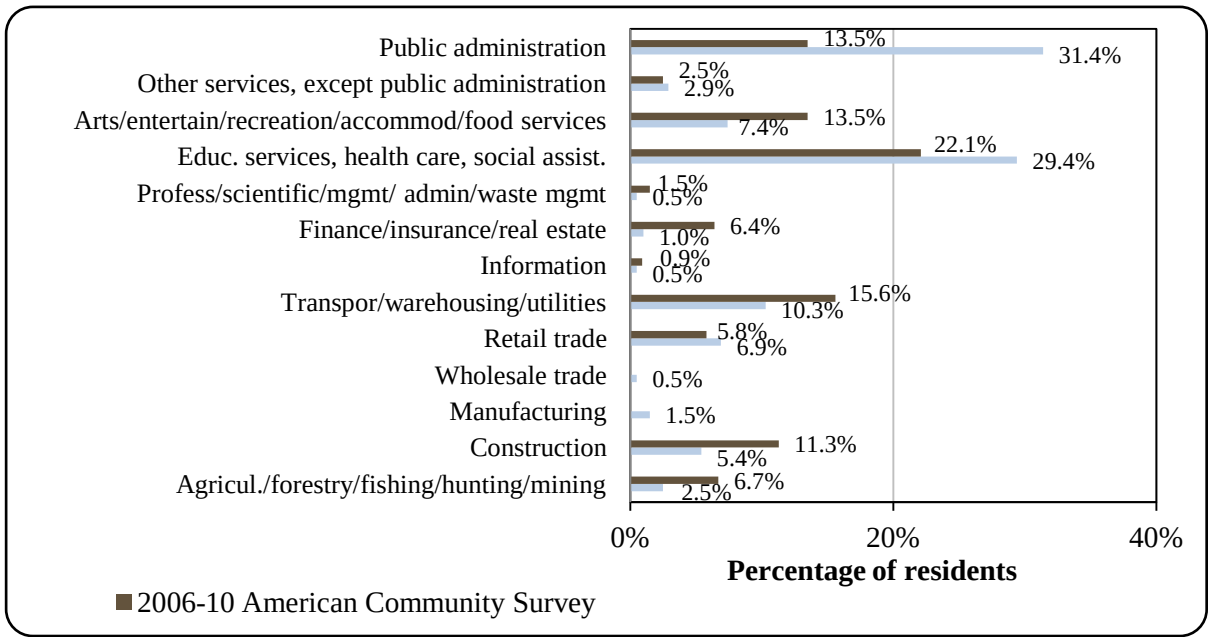
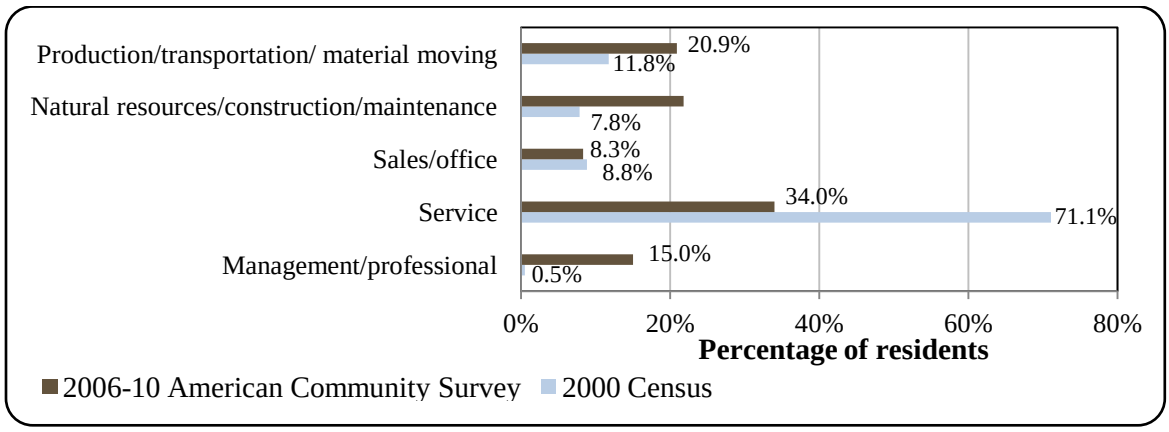


Figure 4. Local Employment by Occupation in 2000-2010, Wainwright (U.S. Census).



Governance

Wainwright is a Second-class city with a strong-mayor form of government. The mayor holds the seventh seat on the City Council. The Native Village of Wainwright is a Bureau of Indian Affairs (BIA) recognized Native village council and is a member of the Inupiat Community of the Arctic Slope (ICAS), the regional Alaska Native tribal government organized under the Indian Organization Act. Among other activities, ICAS provides vocational rehabilitation services to members and advocates for environmental and natural resource protection in the North Slope. Olgoonik Corporation and the Arctic Slope Regional Corporation

(ASRC) are the village and regional Alaska Native corporations under the Alaska Native Claims Settlement Act (ANSCA). Olgoonik Corporation holds title to over 170,000 acres of land. [662]

North Slope Borough offices, as well as the closest regional office of the Alaska Department of Fish and Game (ADF&G), are located in Barrow. The closest office of the Alaska Department of Commerce, Community and Economic Development (DCCED) is located in Kotzebue. The closest Alaska Department of National Resources (DNR) office is located in Fairbanks. Anchorage is the site of the closest National Marine Fisheries Service (NMFS) office and the closest Bureau of Citizenship and Immigration Services (BCIS) office.

In 2010, the North Slope Borough administered an 18.5 mills property tax. Municipal finance figures were taken from *Certified Financial Statements*[663] (with the exception of 2008, which was taken from financial audits). When adjusted for inflation,[664] total municipal revenues increased by 133.3% between 2000 and 2010 from $434,265 to $1.52 million. Beginning in 2006, state and federal grants began accounting for a significant portion of municipal revenues. This followed 2004, when municipal revenues were at their lowest. In that year, Borough payments in lieu of taxes accounted for half of revenues collected, while rentals, gaming receipts, and state grants accounted for the remainder. In 2010, general fund revenues accounted for 15.7% of total municipal revenues, while various grants made up the remainder. Most grant revenues were awarded by the National Petroleum Reserve of Alaska, and targeted community development, services, and youth programs. Most (34.5%) locally generated revenues were collected from rents and leases, followed by donations (31.7%) and leases for the senior center (14.2%). Outside revenues were collected from state allocated Community Revenue Sharing and North Slope Borough payments in lieu of taxes. Overall, Community Revenue Sharing accounted for 8.1% of total municipal revenues in 2010, compared to 6.2% from State Revenue Sharing in 2000.

From 2000 to 2010, Wainwright received grants totaling $2,358,212 ($2,512,394 in 2010-adjusted dollars) for improvements to existing dock structures. Information on community finances from 2000 to 2010 can be found in Table 2.

[662] 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.
[663] 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.
[664] 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 Wainwright Municipal Government 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	$434,265	n/a	$27,000	n/a
2001	$494,081	n/a	$27,562	n/a
2002	$656,799	n/a	$26,710	n/a
2003	$200,895	n/a	$27,000	$25,000
2004	$89,965	n/a	-	n/a
2005	$184,450	n/a	-	n/a
2006	$508,901	n/a	-	$525,000
2007	$881,235	n/a	-	$904,212
2008	$855,658	n/a	-	$904,000
2009	$1,380,934	n/a	$123,829	n/a
2010	$1,520,138	n/a	$123,242	n/a

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

[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] 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.

Infrastructure

Connectivity and Transportation

Air travel provides Wainwright's only method of year-round access. The North Slope Borough owns and operates a 4,494-ft long gravel airstrip; an additional 3,000 ft long gravel airstrip exists at the Wainwright Air Station. Roundtrip airfare between Wainwright and Anchorage in early June of 2012 was $982, which included connecting travel through the regional hub of Barrow. [665] Skiffs, all terrain vehicles, and snowmachines are used for local transportation. Freight arrives by cargo plane and barge.

Communications in Wainwright include local and long distance phone service, radio, Internet, and television. Wainwright is one of 235 Alaskan communities that receive television service from the state-owned Alaska Rural Communication Service.[666] In a 2011 survey conducted by the AFSC, community leaders reported that improvements to broadband internet infrastructure were made within the last 10 years.

[665] This price was calculated on November 21, 2011 using kayak.com.

[666] See Footnote 662.

Facilities

All utilities in Wainwright, including water distribution, sewage collection, landfill, and electricity, are provided the by North Slope Borough. Water is obtained from Merekruak Lake, located 3 miles northeast of the community, and then treated and stored in tanks. Water is then hauled or delivered to household tanks by truck; hauling services are provided by the borough. The majority of homes have running water for the kitchen. Diesel fuel is the primary energy source used.[667] In a 2010 survey conducted by the AFSC, community leaders reported water and sewer pipelines among community infrastructure projects completed within the last 10 years.

Community facilities in Wainwright include a USPS post office, as well a hotel, restaurant, and community store operated by the Olgoonik Corporation. The gymnasium and library at the school are available for public use.[668]

With respect to fisheries-related facilities and services, community leaders reported in a 2011 survey conducted by the AFSC that improvements to dock infrastructure were among the community projects completed within the last 10 years. Vessels up to 24 feet long can use moorage in Wainwright; however, no dock space is currently available for permanent or temporary public moorage. Fishing support services available in Wainwright include fishing gear sales, haulout facilities for small boats, and boat fuel sales.

Medical Services

The North Slope Borough owns and operates the Wainwright Health Clinic. Emergency services have coastal and air access to the community. Auxiliary medical care is provided by the Wainwright Volunteer Fire Department.[669] The nearest hospital is located in Barrow.

Educational Opportunities

The community has one school, Alak School, which is operated by North Slope Borough Schools. As of 2011, the school has 16 teachers and serves 149 students from preschool through twelfth grade.[670] Ilsagvik College, a public community located in Barrow, is the nearest postsecondary institution and offers associate degrees and certificates in a range of vocational, health services, art, and business fields.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Participation in subsistence fisheries on the Arctic coast dates back almost 2,000 years to the Birnirk and Thule traditions. Commercial whalers began operating in the Arctic during the mid-19th century, and the industry factored heavily in the growth and development of the community of Wainwright. Today, fisheries participation is limited to subsistence and

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

recreational fisheries. As of February 2012, no commercial fishing in federal waters of the Chukchi and Beaufort Seas is authorized under the Arctic Fishery Management Plan (FMP).[671] Since 1964, a small commercial finfish fishery has taken place in state waters in the Colville River delta to the east of Wainwright.[672]

Current engagement by Wainwright residents is limited to subsistence and recreational fishing. In a survey conducted by the AFSC in 2011, community leaders reported that residents fish for coho salmon during the month of August. Additionally, whale and other fish were cited in the survey as the most important subsistence marine or aquatic resources to residents.

Wainwright is located adjacent to the Arctic Management Area for federal fisheries management. The community is located in the Northern Area of the Arctic-Yukon-Kuskokwim Region for ADF&G commercial fisheries management; in the North Slope Management Area for ADF&G recreational fisheries management; and in the Northern Area for ADF&G subsistence fisheries management. Wainwright has a representative on North Slope Subsistence Regional Advisory Council of the Federal Subsistence Management Board. The community is one of ten Alaska whaling Alaska communities that participates in the Alaska Eskimo Whaling Commission, which manages bowhead whale hunting. Additionally, Wainwright is a member community of the Eskimo Walrus Commission.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Wainwright does not have any registered processing plants. The closest seafood processor is located in Nome.

Fisheries-Related Revenue

Between 2000 and 2003, Wainwright received a small amount of revenue from raw fish taxes and the Shared Fisheries Business Tax. No known fisheries-related revenue was received by the community after 2003. Information on fisheries-related revenue trends are shown in Table 3.

Commercial Fishing

Residents of Wainwright do not currently participate in commercial fisheries either as permit holders, holders of IFQ quota share, or fishing vessel owners. Between 2000 and 2010, no Commercial Fisheries Entry Commission (CFEC) permits, Federal Fisheries Permits (FFP), or License Limitation Program (LLP) permits were issued to residents. No residents have held halibut, sablefish, or crab quota share since these IFQ programs began. Between 2000 and 2010, no commercial fishery landings were made by vessels owned by Wainwright residents, irrespective of location of landing. With the exception of one commercial fishing crew license holder in 2000, no residents participated as crew members in Alaska commercial fisheries. Information on commercial fishing trends can be found Table 4 through 10.

[671] NPFMC. (2009). *Arctic Fishery Management Plan.* Retrieved January 3, 2012 from: http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf
[672] ADF&G. (2012). *Commercial Fisheries Overview – Northern Management Area.* Retrieved April 10, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=commercialbyareanorthern.main.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	$210	$210	$3,901	$3,901	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax[1]	$52	$106	$148	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]	*$262*	*$316*	*$4,049*	*$3,901*	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total municipal revenue[5]	*$434,265*	*$494,091*	*$656,799*	*$200,895*	*$89,965*	*$184,450*	*$508,901*	*$881,235*	*$855,658*	*$1.38 M*	*$1.52 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 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: 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: 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	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
Total CFEC Permits[2]	*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	--	--	--	--	--	--	--	--	--	--	--
	Permit holders	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*

Note: n/a indicates that no data were reported for that year. Cells showing – indicate that the data are considered confidential.

[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 Wainwright: 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 Wainwright[2]	Total Net Pounds Landed in Wainwright[2,5]	Total Ex-Vessel Value of Landings in Wainwright[2,5]
2000	1	0	0	0	0	0	0	$0
2001	0	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	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

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

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

Table 7. Sablefish Catch Share Program Participation in Wainwright: 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

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

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation in Wainwright: 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

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

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Wainwright: 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 Wainwright 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	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.

Recreational Fishing

The sport fish population on the North Slope is slow growing and supports minimal harvest. As shown in Table 11, no sport fish guide businesses were registered in the community between 2000 and 2010, and no residents held sport fish guide licenses during this period. Additionally, there were no reports of charter operations in the community between 2000 and 2010.

Between 2000 and 2010, the number of sportfishing licenses sold to residents, irrespective of location of sale, fluctuated between a low of 7 in 2007 to a high of 16 in 2008. No sportfishing licenses were sold in the community during this period.

Wainwright is located in the North Slope-Brooks Range (Area Z) of the Alaska Department of Fish & Game Sport Division Statewide Harvest Survey (SWHS). The area includes all Alaskan waters and drainages north of the Brooks Range and flowing into the Beaufort and Chukchi seas to the north and east of Point Hope. Major drainages in the area, which include the Colville, Sagavanirktok, Canning, and Kuparuk rivers, provide habitat for diadromous Beaufort Sea Dolly Varden. The area also includes Teshekpuk Lake, the state's third largest lake, as well as hundreds of smaller lakes, many of which contain lake trout, Arctic char, Arctic grayling, and burbot. As presented in Table 11, freshwater fishing accounts for the vast majority of recreational fishing in the area (94% of all angler days fished between 2000 and 2010), with Alaska residents doing most of the fishing (76% of angler days fished between 2000 and 2010). According to the SWHS, species caught and harvested by private anglers in the North Slope-Brooks range area include Dolly Varden char; Chinook, pink, and chum salmon; arctic grayling; burbot; lake trout; and northern pike. Community leaders also reported in a 2011 AFSC survey that Wainwright residents target silver salmon as a recreational species. Sportfishing by residents is typically done using locally-owned private vessels.

Table 11. Sport Fishing Trends, Wainwright: 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 Wainwright[2]
2000	0	0	10	0
2001	0	0	11	0
2002	0	0	13	0
2003	0	0	8	0
2004	0	0	15	0
2005	0	0	12	0
2006	0	0	12	0
2007	0	0	7	0
2008	0	0	16	0
2009	0	0	9	0
2010	0	0	14	0

Table 11 cont'd. Sport Fishing Trends, Wainwright: 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	n/a	743	523	3,473
2001	n/a	635	715	4,682
2002	11	547	819	3,393
2003	15	67	594	2,034
2004	n/a	96	1,131	2,084
2005	n/a	n/a	2,183	2,169
2006	18	341	495	2,609
2007	n/a	83	733	3,338
2008	140	n/a	990	4,469
2009	n/a	n/a	1,505	2,400
2010	n/a	n/a	1,319	3,065

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 resources comprise an important part of Wainwright's mixed economy. According to a 2003 survey, almost 92% of Wainwright households depended on subsistence to some extent, with 31% of households dependent on subsistence for at least 50% of their food source.[673] Wainwright residents engage in subsistence fishing throughout the year, but most fishing activity takes place during the summer and fall. In midsummer, nets are set up in front of the village for salmon, trout, and whitefish, with fishing moving to streams and rivers along with the migration of fish. Fall fishing typically takes place at camps along the Kuk, Ivisaruk, Avalik, and Utukok Rivers. Smelt fishing is conducted January through March in the Kuk Lagoon.[674] Other important subsistence fish species include whitefish, Arctic grayling, rainbow smelt, burbot, lingcod, Bering cisco, and pink and chum salmon.[675]

[673] North Slope Borough (2004). 2004. *North Slope Borough 2003 economic and census report Volume IX.* North Slope Borough Department of Planning and Community Services. Barrow. (June 2007). Coastal Management Plan. Retrieved April 10, 2012 from http://www.north-slope.org/programs/coastal_management/.

[674] North Slope Borough (2007). *Coastal Management Plan*. Retrieved April 10, 2012 from http://www.north-slope.org/programs/coastal_management/.

[675] Kassam, K.S. and Wainwright Traditional Council (2001). *Passing on the knowledge: mapping human ecology in Wainwright, Alaska*. Calgary, Alberta: University of Calgary.

Data between 2000 and 2010 on subsistence harvests in Wainwright is limited, as shown in Tables 12-15. Available survey data collected by ADF&G show estimated harvests of Chinook salmon, sockeye salmon, walrus, and beluga whale in selected years. Marine mammals constitute an important subsistence resource for Wainwright residents. The bowhead whale hunt, typically occurring anytime from mid April to early June, is a central part of Wainwright community life: customs associated with the bowhead whale, including the celebrations that follow a successful hunt, help reinforce social relations and the values of sharing and interdependence. Other marine mammals used as subsistence resources in Wainwright include bearded seals, polar bears, beluga whale, and Pacific walrus.[676]

Of the species listed by ADF&G in Table 12, sockeye salmon were harvested exclusively (based on reported harvests). In any given year between 2000 and 2005, between one and two subsistence salmon permits were held by Wainwright residents. In those years, 132 sockeye salmon were reported harvested. Between 2000 and 2010, an estimated 213 beluga whales were harvested. Harvest reporting was somewhat variable, with few harvests occurring in 2004 through 2006, and in 2010. An estimated 276 walrus were harvested between 2000 and 2010, 70.3% of which were reported harvested between 2000 and 2004. Finally, an estimated 31 polar bears were harvested between 2000 and 2005. Information regarding marine mammal subsistence harvests can be found in Table 15.

Table 12. Subsistence Participation by Household and Species, Wainwright: 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).

[676] Ibid.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Wainwright: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	2	2	1	n/a	n/a	n/a	29	n/a	n/a
2002	2	2	2	n/a	n/a	n/a	31	n/a	n/a
2003	1	1	1	n/a	n/a	n/a	29	n/a	n/a
2004	1	1	1	n/a	n/a	n/a	29	n/a	n/a
2005	2	2	n/a	n/a	n/a	n/a	14	n/a	n/a
2006	n/a	n/a	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	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, Wainwright: 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, Wainwright: 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	39	3	n/a	n/a	n/a
2001	23	n/a	90	9	n/a	n/a	n/a
2002	37	n/a	111	3	n/a	n/a	n/a
2003	38	n/a	18	2	n/a	n/a	n/a
2004	n/a	n/a	36	5	n/a	n/a	n/a
2005	1	n/a	7	9	n/a	n/a	n/a
2006	n/a	n/a	25	n/a	n/a	n/a	n/a
2007	58	n/a	14	n/a	n/a	n/a	n/a
2008	25	n/a	3	n/a	n/a	n/a	n/a
2009	22	n/a	28	n/a	n/a	n/a	n/a
2010	9	n/a	5	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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