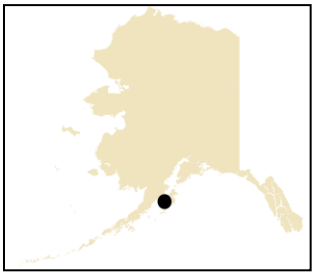


Larsen Bay

People and Place

Location [1]

Larsen Bay is located on the northwest coast of Kodiak Island. It is 60 miles southwest of the City of Kodiak and 283 miles southwest of Anchorage. The area encompasses 5.4 square miles of land and 2.2 square miles of water. The City was incorporated in 1974 and is under the jurisdiction of the Kodiak Island Borough.

Demographic Profile [2]

In 2010, there were 87 residents in Larsen Bay, ranking it the 259th largest of 352 Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population decreased by 40.8%. Between 2000 and 2009, the population declined by 31.3% and there was an average annual growth rate of -1.37%, compared to the statewide average of 0.75%; indicative of a steep rate of decline. Information regarding population trends can be found in Table 1.

Larsen Bay is a predominately Alutiiq community. In 2010, 71.3% of residents identified themselves as American Indian or Alaska Native, compared to 78.3% in 2000; 24.1% identified themselves as White, compared to 20.9% in 2000; and 4.6% identified themselves as two or more races, compared to 0.9% in 2000. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size in Larsen Bay was 2.56, compared to 3.30 in 1990 and 2.88 in 2000. Also in 2010, there were a total of 70 housing units, compared to 74 in 1990 and 70 in 2000. Of the households surveyed in 2010, 29% were owner-occupied, compared to 46% in 2000; 20% were renter-occupied, compared to 11% in 2000; 11% were vacant, compared to 3% in 2000; and 40% were occupied seasonally, compared to 40% in 2000.

In 2010, the gender makeup of Larsen Bay was 55.2% male and 44.8% female. This was somewhat more skewed than both the distribution statewide (52.0% male, 48.0% female) and the distribution in 2000 (53.0% male, 47.0% female). The median age was estimated to be 43.5 years, higher than both the statewide median of 33.8 years, and 2000 median of 29.3 years.

Compared with 2000, the population structure in 2010 was more constricted in the younger age groups and expanded in the older age groups. In that year, 24.2% of residents were under the age of 20, compared to 39.1% in 2000 while 10.4% were between the ages of 20 and 29, compared to 12.2% in 2000. However, in 2010, 40.4% were between the ages of 30 and 59, compared to 37.5% in 2000 and 25.3% were over the age of 59, compared to 11.3% in 2000.

[1] 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.

[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.

This suggests that the population of Larsen Bay is continuing to age and no longer possesses a pyramid structure when the population is examined by age and gender.

Gender distribution by age cohort was slightly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within both the 60 to 69 age range (9.2% male, 5.7% female) and the 80 and over age range (0.0% male, 3.5% female) with a disparity of 3.5%, closely followed by the 10 to 19 (6.9% male, 3.5% female) age group. Further information regarding trends in Fairbanks' population structure can be found in Figure 2.

Table 1. Population in Larsen Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	147	-
2000	115	-
2001	-	113
2002	-	107
2003	-	95
2004	-	96
2005	-	97
2006	-	83
2007	-	89
2008	-	68
2009	-	79
2010	87	-

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

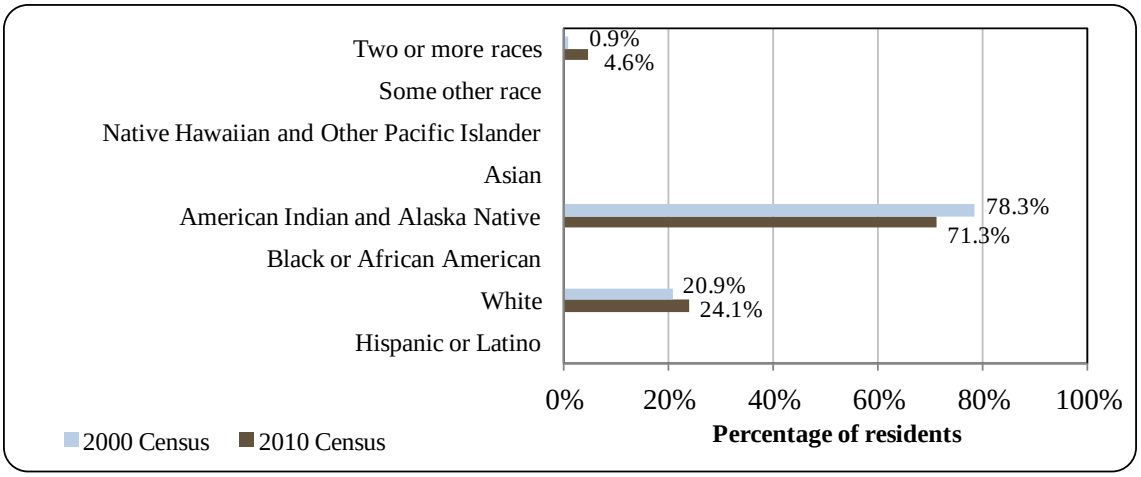
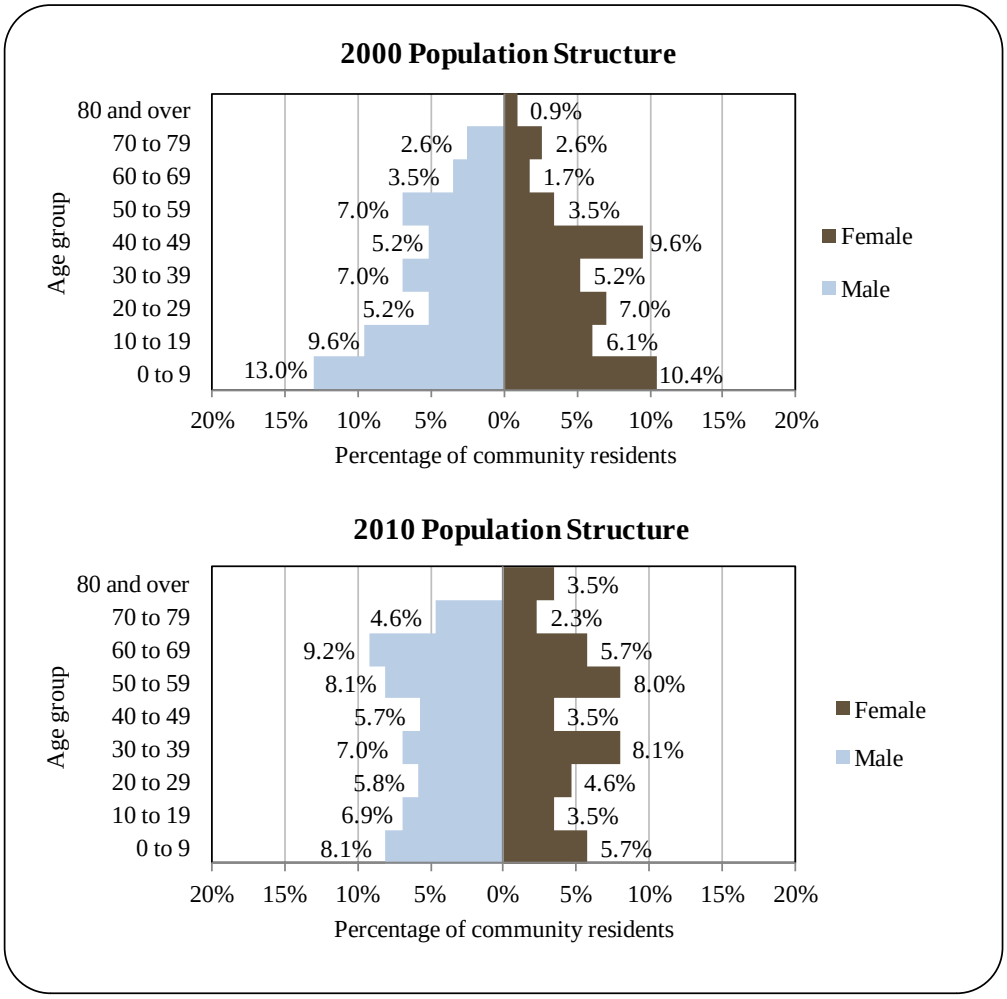


Figure 2. Population Age Structure in Larsen Bay Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[3] estimated that 94.4% 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, an estimated 2.6% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 3.1% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 14.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; 28.2% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 17.9% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

[3] 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[4]

Kodiak Island is within the traditional territory of the Alutiiq peoples, and the area is estimated to have been inhabited for at least 7,500 years.[5,6,7] The area around Larsen Bay is believed to have been inhabited for at least 2,000 years. Hundreds of artifacts have been uncovered in the community, which attest to the fact that an Aleut or more recently termed Alutiiq community lived in the area for about 2,000 years prior to the first contact with the Russians in the mid-1700s when fur traders began to frequent the islands. A tannery was present at Uyak Bay during the early 1800s. Peter Larsen was an Unga Island furrier, hunter and guide during the late 1800s and at the time of the 1890 Census the native village which was situated on the west shore of the bay, Uyak was renamed Larsen Bay after him. A cannery was constructed by the Alaska Packers Association in 1911. Owned now by the Kodiak Salmon Packers, the facility is one of the largest in the State of Alaska.[8]

Larsen Bay was incorporated in the year 1974. The City gained national attention in 1991 when the Smithsonian Institution repatriated the remains of 756 Alutiiq people which had been taken 50 years earlier in accordance with the Native American Graves Protection and Repatriation Act. The remains were given a Russian Orthodox reburial and interned in a mass grave. This was the largest repatriation of Native remains carried out by the Smithsonian.

Natural Resources and Environment[9]

The climate of the Kodiak Islands is dominated by a strong marine influence. There is moderate precipitation, frequent cloud cover and fog, and little or no freezing weather. Severe storms are common from December through February. Average annual precipitation is 23 inches. Temperatures remain within a narrow range, from 32 to 62 °F.[10]

The Larsen Bay area was sculpted heavily by glacial activities dating back to the Miocene. The bay itself is a fjord, which was at one time filled with ice as part of an extensive ice mass occupying Uyak Bay. Larsen Bay's coastal regions are characterized by narrow rocky beaches, moist tundra lowlands, and steep relief uplands. The community itself is located along a beach with gradual incline. Surrounding mountains reach elevations of approximately 3,000 feet. Because of extensive glaciation, the hills are generally smooth and rounded.[11]

Subsurface geology consists primarily of slate dating by to the Late Cretaceous Period. Bedrock is found and varying depths, with some areas exposed. The mantle of bedrock is

[4] 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.
[5] Crowell, A.L. Steffian, A.F., and G.L. Pullar, eds. 2001. Looking Both Ways: Heritage and Identity of the Alutiiq People. University of Alaska Press, Fairbanks.
[6] Clark, D.W. 1998. Kodiak Island: The Later Cultures. *Arctic Anthropology* 35:172-186.
[7] Clark, D.W. 1984. Pacific Eskimo: Historical Ethnography. In *Handbook of North American Indians, vol. 5*. D. Damas, ed. Pp 185-197. Smithsonian Insitution, Washington D.C.
[8] Norgaard Consultants. (1984). *Comprehensive Development Plan.* Retrieved August 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/LarsenBay-CP-1984.pdf
[9] See footnote 4.
[10] Ibid.
[11] See footnote 8.

covered in till with thicknesses up to 30 feet. Organic silt and volcanic ash overlay this till in depths of up to four feet. Soils are relatively shallow throughout Kodiak Island.[12]

Vegetation in the area is dominated by scattered birch, cottonwood, and alders. In addition, high brush alder and willow is mixed with tree stands. There are no Sitka spruce or western hemlock in the area, as are found in eastern Kodiak Island. Bluejoint and fescue grasses abound in the open area, accompanied by other vegetation, such as lupine, Jacob's ladder, germs, sedges, and horsetail. Small areas of wetlands are found, especially near the head of the bay where soils are poorly drained.[13]

The Kodiak archipelago and waters that surround it are home to many species of terrestrial and aquatic life. The Kodiak National Wildlife Refuge occupies two-thirds of Kodiak Island and is home to terrestrial species such as brown bears, bats, tundra vole, short-tailed weasel, red fox, river otter, Sitka black-tail deer, beavers, red squirrels, snowshoe hare, arctic ground squirrel, Roosevelt elk, muskrat, and mountain goat. Marine mammals documented in the area include whales, harbor seals, fur seals, sea otters, and Steller sea lions.[14] The adjacent waters provide some of the richest commercial fishing grounds in the world, home to stocks of Pacific salmon, halibut, flounder, cod, trout, grayling, crab, and shrimp.[15]

There are several mineral projects in the area as of 2011 including a tin claim around Halibut Bay to the north and a gold/silver claim around the City of Kodiak.[16] In addition, there is a placer gold deposit located in the vicinity of Alitak and Tanner Head Island to the south.[17]

Natural hazards in the area include coastal flooding, coastal erosion, earthquakes, tsunamis, volcanism, landslides, and sea-level rise. Coastal flooding and erosion is mainly attributed to storm surges. There are several faults that run through Kodiak Island, including one 3.5 km west of Larsen Bay, and earthquakes that are magnitude six or above are relatively frequent. Threats from Aleutian volcanoes include the possibility of acidic rain, ash clouds, landslides, tsunamis, and earthquakes. Residents in the area reported subsidence of around 2 to 20 ft as a result of the 1964 Good Friday earthquake. Coastal erosion is a significant threat to the coastline of Larsen Bay, particularly along the shore to the northeast of the mouth of Humpy Creek. East-facing shorelines are the most prone to such damage. Gulf of Alaska (GOA) storms exacerbate coastal erosion as well as cause wind-related damage to infrastructure and utilities. Cyclonic storms in the GOA can sustain speeds of between 50 and 75 knots. Tsunami risks are considered low because of Larson Bay's location on the west side of Kodiak Island. Ash is considered a secondary threat posed by volcanism in the area. In 1912, the eruption of Mt. Katmai blanketed Kodiak Island in several feet of ash. Corrosive rains cause ash clouds may also pose a threat.[18]

According to the Alaska Department of Environmental Conservation, there were no local significant environmental remediation projects active in 2010.[19]

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[12] Ibid.
[13] Ibid.
[14] U.S. Fish and Wildlife Service (n.d.). *Kodiak National Wildlife Refuge.* Retrieved December 2, 2011 from: http://kodiak.fws.gov/wildlife_habitat.htm.
[15] Ibid.
[16] Alaska Department of Commerce. (n.d.) *Mineral Resources of Alaska Map.* Retrieved December 2, 2011 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[17] See footnote 14.
[18] See footnote 8.
[19] Alaska Department of Environmental Conservation. (n.d.) *Contaminated Sites Program.* Retrieved June 5, 2012 from: http://dec.alaska.gov/spar/csp/list.htm.

Current Economy[20]

Larsen Bay's economy is heavily dependent on commercial fishing. In the summer months, the population swells to over 300 with approximately 200 local cannery workers and transient lodge workers joining the community. The local commercial fishing industry has been in decline since its peak in the 1980s. The impact of limited entry consolidated local fishing efforts, and many residents emigrated to find other employment. Permanent wage employment was replaced with a more seasonal economy as the community shrank. Local demographics have also had an impact on the local economy. Between 2000 and 2010, Larsen Bay's population structure went from an expansive, younger demographic, to a more constrictive, older demographic. Youth retention is of particular concern to the community and its economy. In 2004, only 12 of the 222 positions available in Larsen Bay were full time. The local seafood processor and tourism lodges provide seasonal employment, but the positions are low paying and typically outsourced to non-residents. The area surrounding Larsen Bay provides an abundance of exploitable marine resources. In addition, the Karluk River and Kodiak National Wildlife Refuge provides ample wildlife habitat and recreational resources. However, many areas surrounding Larsen Bay are restricted to non-commercial uses. As of 2004, Larsen Bay supported six tourism sport fish lodges; two of which were open year round.[21]

In 2010,[22] the estimated per capita income was $15,350 and the estimated median household income was $37,083, compared to $16,227 and $40,833 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[23] the real per capita income $21,338 and real median household income $53,695 indicate a decline in both individual and household earnings between 2000 and 2010. In 2010, Larsen Bay ranked 200th of 305 Alaskan communities from which per capita income was estimated, and 208th of 299 communities from which median household income was estimated.

However, Larsen Bay's small population size may have prevented the ACS from accurately portraying economic conditions.[24] 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 $1.06 million in total wages in 2010.[25,26] When matched with the 2010 Decennial Census population, the per capita income

[20] Unless otherwise noted, all monetary data are reported in nominal values.
[21] Townsend-Vennel, R. J. (2004). *Community of Larsen Bay, Community Comprehensive Plan.* Retrieved August 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/LarsenBay-CP-2004.pdf.
[22] 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.
[23] 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).
[24] 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.
[25] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[26] 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/.

equals $12,233, which is somewhat less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures.

According to 2006-2010 ACS estimates,[27] 50% of residents over the age of 16 were part of the civilian labor force in 2010. In that year, unemployment was estimated at 0%, compared to an estimated 5.9% statewide; and an estimated 0% of residents were living below the poverty level, compared to an estimated 9.5% of Alaskan residents overall. However, it is likely that the ACS misrepresented employment conditions due to Larsen Bay's small population size. The ALARI database[28] estimated that unemployment in 2010 was 27.4% according to unemployment insurance claimants. In addition, the 2006-2010 ACS estimated to 50% of those employed worked in the public sector, and 50% were self-employed. Again, the validity of this estimate is questionable considering the ACS sample size; however, if accurate, ALARI estimates may be misrepresentative as they do capture not self-employed residents.

By industry, half of those employed were estimated to work in public administration sectors; and half in agriculture, forestry, fishing, hunting, and mining sectors. Between 2000 and 2010, there was significant consolidating of Larsen Bay's economy. The proportion of residents working in agriculture, forestry, fishing, hunting, and mining sectors experienced the greatest gain in those years, while all other sectors—with the exception of public administration—experienced significant proportional declines. This reduction in diversity was also seen in employment by occupation type, with significant proportional increases in natural resources, construction, and maintenance positions. Again, it is likely that Larsen Bay's small population size impacted the ACS' ability to accurately portray economic conditions. According to 2010 ALARI estimates,[29] most (59.6%) employed residents worked in local government sectors; followed by financial service sectors (11.5%); leisure and hospitality sectors (5.8%); and education and health service sectors (5.8%). It was estimated that natural resources and mining sectors accounted for only 1.9% of sector employment that year. Further information regarding employment by industry sector can be found in Table 3.

By occupation, most (50.0%) employed residents were estimated to hold natural resources, construction, or maintenance positions; followed by service (25.0%) and sales or office positions (25.0%). With the exception of service positions, there was significant proportional variation in employment by occupation type between 2000 and 2010. Between those years, there were large representative gains in natural resources, construction, maintenance, sales, and office occupations; while there were large declines in production, transportation, material moving, management, and professional occupations. As with employment by industry sector, it is possible that the ACS was unable to accurately portray local employment by occupation type in 2010. Further information regarding employment by occupation type can be found in Table 4.

[27] See footnote 24.
[28] See footnote 26.
[29] Ibid.

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

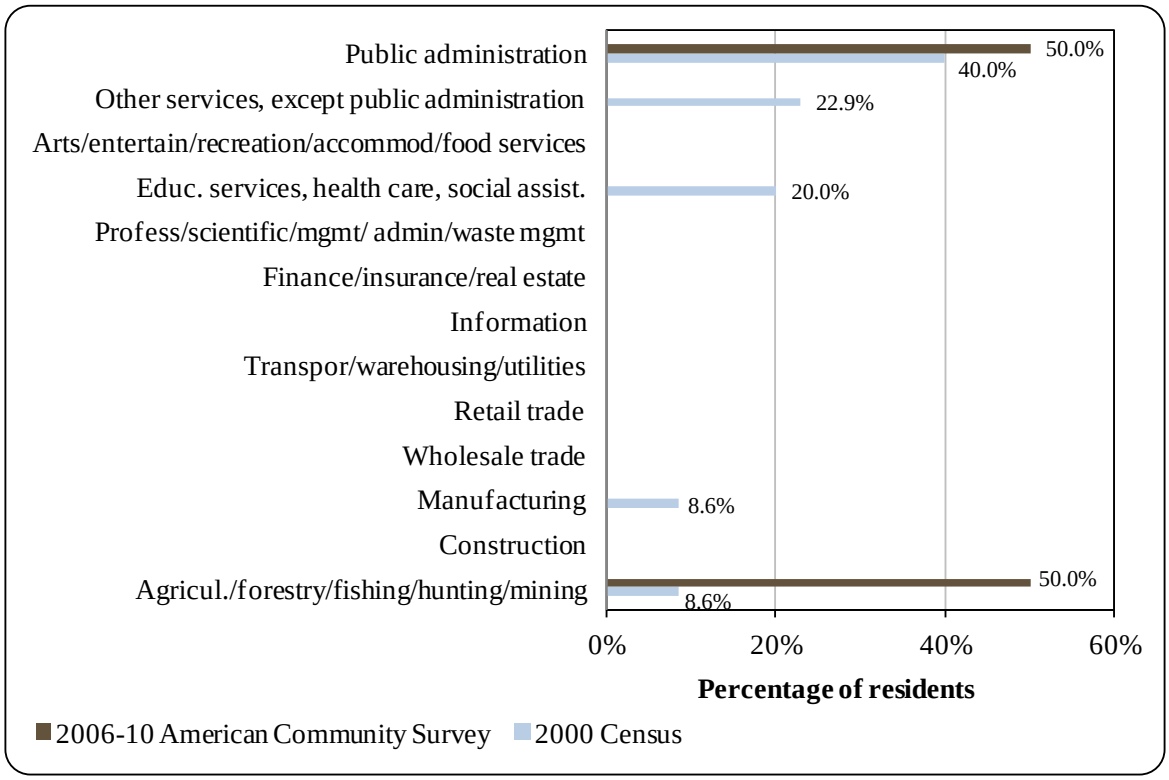
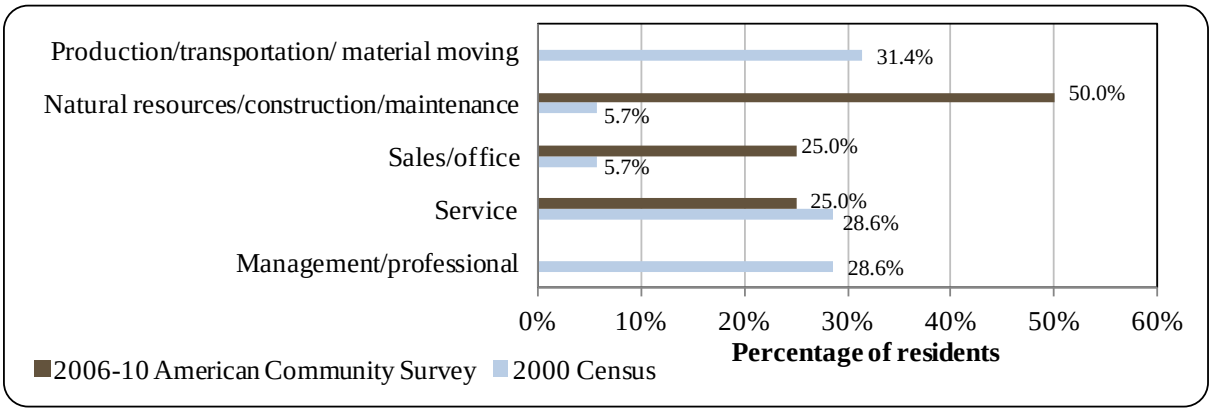


Figure 4. Local Employment by Occupation in 2000-2010, Larsen Bay (U.S. Census).



Governance

Larsen Bay is a Second-class city located within the Kodiak Island Borough. Incorporated in 1974, Larsen Bay has a manager or "Strong Mayor" form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized tribal government located in Larsen Bay. The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Larsen Bay is Koniag, Incorporated, and the local ANCSA chartered non-profit is the Kodiak Area Native Association. The ANCSA chartered village corporation is Anton Larsen, Inc. The closest National Marine Fisheries Service (NMFS), Alaska Department of Fish and

Game (ADF&G), and Bureau of Citizenship and Immigration Services offices are all located within the City of Kodiak, 60 miles northeast.

The City collected a 3% sales tax and an accommodations tax in 2010. When adjusted for inflation,[30] total municipal revenues increased by 14.5% between 2000 and 2010 from $627,854, to $929,462. In 2010, most (91.1%) locally generated revenues came from utility rents; followed by local tax revenues (2.9%) and building and equipment rentals (2.5%). In terms of outside revenues, Outside revenues were almost entirely collected from state revenue sharing sources. Also in that year, sales taxes accounted for 1.3% of total municipal revenues, compared to 3.1% in 2000. Finally, state allocated Community Revenue Sharing accounted for 10.8% of total municipal revenues, compared to 3.4% from State Revenue Sharing in 2000. State and federal fisheries-related grants awarded to Larsen Bay between 2000 and 2010 included $399,600 for a small boat harbor, $67,624 for a disaster/boat harbor, and $965,000 for freezer/storage/processing equipment.

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

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-related Grants (State and Federal)[5]
2000	$627,854	$19,418	$21,301	$222,630
2001	$748,362	$14,314	$20,480	n/a
2002	$919,511	$9,800	$20,483	$22,147
2003	$781,229	$6,333	$20,643	$222,447
2004	$730,103	$7,019	-	$965,000
2005	$674,334	$8,925	-	n/a
2006	$555,306	$9,627	-	n/a
2007	$631,606	$9,335	-	n/a
2008	$697,648	$9,231	-	n/a
2009	$822,603	$10,071	$99,417	n/a
2010	$929,462	$11,638	$99,961	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.

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

Infrastructure

Connectivity and Transportation

Larsen Bay is accessible by water or air only. No roads connect the community with any other on Kodiak Island. Docking facilities are available. In 2002, a small boat harbor was completed. A cargo barge arrives every 6 weeks from Seattle.

The State of Alaska operates a 2,690-foot gravel airstrip and a seaplane base. As of November 2011, the price for airfare in June 2012 was $360 for roundtrip from Anchorage to the City of Kodiak.[31] Regular and charter flights are available from Kodiak to Larsen Bay and serviced by Island Air Service and Servant Air. Uyak Air Service is based in Larsen Bay and provides air service to other Kodiak Island communities on a charter basis.

Facilities

Water is supplied by two groundwater sources – a gravity feed from the hydrological plant and a backup well – and stored in a 200,000-gallon steel tank. A water supply line is connected to the penstock of the hydroelectric plant and used a majority of the time to reduce utility expenses to both the service plant and the customers. All 40 homes are connected to the piped water system. A community septic tank with outfall line serves approximately half of these homes and the rest are on individual septic systems. Weekly refuse collection services are provided.

In the City's Comprehensive Development Plan, community members report that a post office is present in the community.[32] The community also has telephone and internet access, but does not have a cable provider. A fire-hydrant system is attached to the City's water storage tank, and the community utilizes a local volunteer fire department for fire protection. The community is served by a Village Public Safety Officer. The nearest state troopers are located in Kodiak.

Medical Services

The Larsen Bay Health Clinic provides residents with basic medical services and contains an examination room as well as laboratory, waiting room, and office. Larsen Bay is part of the Southern Emergency Medical Services Region. Emergency Services have coastal and air access. Emergency service is provided by a health aide. The nearest hospital is located in Kodiak.

Educational Opportunities

The education system is operated by the Kodiak Island Borough School District. The school is housed in two buildings,[33] the first being the older building which houses grades kindergarten through sixth grade. This building has two classrooms and a library. The second building was constructed in 1980 and houses grades seventh through twelfth. This building

[31] Inflation calculated using 2010 Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm
[32] U.S. Government Printing Office. (n.d.) *City of Larsen Bay Comprehensive Development Plan.* Retrieved July 23, 2012 from: http://www.gpo.gov/fdsys/pkg/CZIC-ht168-l38-l37-1984/html/CZIC-ht168-l38-l37-1984.htm.
[33] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

contains two classrooms, a vocational education room, a gymnasium, a kitchen, and a storage area. The facility is utilized by the community during selected non-school hours for recreational use. In 2011, the school had 16 students in attendance and 5 teachers.[34]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Prior to the arrival of Europeans, subsistence hunting and fishing was the basis of the economy for people living on Kodiak Island and surrounding areas. The Koniags historically migrated between permanent winter villages and temporary summer fish camps. Salmon was an important staple, and they also harvested other fish, intertidal resources and marine mammals, including whales, sea lions, seals, and sea otters. With the arrival of Russian colonists to Kodiak Island in the late 1700s, the Alutiiq people were forced to hunt for sea otters to fuel the trade of their valuable pelts.[35]

After the U.S. purchase of Alaska, American entrepreneurs arrived to continue hunting sea otter and to develop other industries, including salmon fishing. In 1889, the Royal Packing Company constructed a cannery at Larsen Bay. Shortly afterward, the American Packing Company built another. A majority of cannery employees were hired from outside the region, primarily from the United States and China. Native Alaskans became increasingly involved in commercial salmon fishing in the early 1900s, and coordinated commercial fishing activity with subsistence hunting and fishing activities. The most common fishing gear was the beach seine until purse seining became popular in the 1920s with the rise of fuel-powered boats. The salmon fishery was the primary focus of local commercial fishing activity, although by the 1920s, halibut fisherman began stopping in Kodiak, and herring and cod fishermen also worked in the area.[36]

The ADF&G manages the Kodiak salmon and herring fisheries in waters surrounding the Kodiak archipelago.[37] The salmon fishery is divided into seven fishing districts (Afognak District, Northeast Kodiak District, Eastside Kodiak District, Alitak Bay District, Southwest Kodiak District, Northwest Kodiak District, and Mainland Districts). Gear types in use currently include purse seine, set gillnets and beach seine.[38] Kodiak herring fisheries include a roe fishery (using both purse seine and gillnet gear) and a food/bait fishery. Herring sac roe fisheries take place in the spring when individual spawning biomasses are aggregated. In contrast, food/bait fisheries take place in the summer, fall, and winter when herring from several stocks may be mixed together. A Kodiak food/bait herring fishery has historically taken place in Shelikof Strait, but has been closed in recent years because the Kamishak Bay spawning biomass (Cook Inlet)

[34] 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.
[35] Mason, Rachel. 1995. *The Alutiiq Ethnographic Bibliography*. Project sponsored by the Kodiak Area Native Association. Retrieved November 30, 2011 from http://ankn.uaf.edu.
[36] Ibid.
[37] Alaska Dept. of Fish and Game. 2012. *Kodiak Management Area*. Retrieved June 25, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakodiak.main.
[38] 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.

has been below threshold since 1998. The Alaska Board of Fish (BOF) closes food/bait fisheries if any of the individual spawning populations is below threshold.[39]

Groundfish and crab fisheries that occur within 3 nautical miles (nm) of the coast or in inland waters are under the jurisdiction of the State of Alaska, and fisheries that take place beyond 3 nm in the U.S. Exclusive Economic Zone (EEZ) are under federal jurisdiction. In the Gulf of Alaska (GOA), federally-managed groundfish fisheries target Pacific cod, walleye pollock, pelagic shelf rockfish, sablefish, and flatfish. Parallel fisheries for Pacific cod and walleye pollock also take place in state waters surrounding Kodiak Island. Parallel fisheries occur at the same time as the federal fisheries. The Total Allowable Catch (TAC) set by NMFS in each fishery applies to both federal and parallel harvest. In addition to federally-managed groundfish fisheries, beginning in 1997, a 'state-waters fishery' for Pacific cod was initiated in the Kodiak area. Management plans for state-waters fisheries are approved by the BOF, and guideline harvest limits (GHL) are set by the ADF&G. Typically, state-waters fisheries are opened once federal and parallel fisheries close. In addition, the ADF&G manages lingcod fisheries in both state and EEZ waters off Alaska, and beginning in 1998, management of black rockfish and blue rockfish in the GOA was transferred from NMFS to ADF&G.[40]

Kodiak Island is one historical center of the red king crab fishery, and Tanner crabs are also distributed through the GOA. The ADF&G manages red king crab and Tanner crab stocks in the GOA. Ouzinkie residents primarily held permits in the snow crab fishery between 2000 and 2010. Snow crab are distributed throughout the eastern and northern Bering Sea, and are not found in the immediate Kodiak area.[41,42] The Kodiak red king crab fishery has been closed in recent years due to low abundance. Parts of the Kodiak district have been open for Tanner crab harvest in recent years. Kodiak area Tanner crab harvest is managed using 8 separate management areas, each with its own GHL.[43] Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

Larsen Bay has the longest history of a running cannery, Kodiak Salmon Packers, dating back to 1911. Since this time, Larsen Bay has been a focal point for the commercial and sports fishing industry. Before Russian fur traders arrived in the 18th century, Alutiiq villagers fished the waters around what is today Larsen Bay.

The City is located in Federal Statistical and Reporting Area 620, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf of Alaska (GOA) Sablefish Regulatory Area. Larsen Bay is not eligible to participate in the Community Development Quota program. The community is, however, eligible to participate in the Community Quota Entity (CQE) program.

The impetus for the CQE program followed the implementation of the halibut and sablefish Individual Fishing Quota (IFQ) program in 1995. The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated and apportionment of the annual Total Allowable Catch to eligible vessels.

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[39] Alaska Dept. of Fish and Game. 2012. *Commercial Herring Fisheries*. Retrieved June 25, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=CommercialByFisheryHerring.main.
[40] Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska.* Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf.
[41] Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=redkingcrab.main.
[42] Alaska Dept. of Fish and Game. 2012. *Tanner Crab Species Profile*. Retrieved June 25, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=tannercrab.management.
[43] See footnote 40.

Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, and unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead to decreased participation in communities traditionally dependent on the halibut or sablefish fisheries. To address this issue, the North Pacific Fishery Management Council implemented the CQE program in 2005. Under the program, eligible communities could form a non-profit corporation to purchase and manage quota share on their behalf. As of 2013, 45 communities were considered eligible for the CQE program, and 2 CQE non-profits had purchased commercial halibut IFQ and were actively leasing it to eligible community residents. Both of these CQE non-profits were located in the Kodiak area: Cape Barnabas, Inc. in Old Harbor and the Ouzinkie Company Holding Corporation in Ouzinkie.[44]

The Larsen Bay Development Company is the CQE non-profit entity which represents Larsen Bay and according to a household survey conducted in 2006, the majority of residents (72%) expressed a desire to participate directly in the CQE program and 85% of residents expected the program to help the Larsen Bay community.[45] As of October 2013, the Larsen Bay Development Company had not purchased any commercial IFQ. However, the non-profit did have seven halibut charter permits available for lease to community members.[46]

Processing Plants

According to ADF&G's 2010 Intent to Operate list, there is one shoreside processing plant in Larsen Bay. In 2006, Icicle Seafoods Inc. purchased the Larsen Bay processing plant from Kodiak Salmon Packers. The plant, constructed in 1911, is located in a small glacial fjord off of the large Uyak Bay that bisects Kodiak Island and is one of the oldest canneries in Alaska. The plant exclusively processes and cans salmon and is only open during the summer and early fall. Over 200 employees work at the facility from June until late September. Free room, laundry service and board as well as air transportation between Anchorage and Larsen Bay are provided to fish processing workers, provided they fulfill their contractual obligations. Icicle offers a varied fare in its galley.[47] In 2010, the plant employed a maximum of 246 workers.[48]

Fisheries-Related Revenue

The City began collecting harbor usage fees in 2004, but has collected revenue from the Shared Fisheries Business Tax and Fisheries Resource Landing Tax programs every year between 2000 and 2010. In 2010, known fisheries-related revenue totaled $107,079, an increase

[44] NOAA Fisheries. (2013). *Community Quota and License Programs and Community Quota Entities*. Retrieved October 24, 2013 from http://alaskafisheries.noaa.gov/ram/cqp.htm.
[45] Carothers, Courtney (2011). Equity and Access to Fishing Rights: Exploring the Community Quota Program in the Gulf of Alaska. *Human Organization* 70(3):213-223.
[46] See footnote 44.
[47] Icicle Seafoods, Inc. (n.d.). *Kodiak Salmon Packers.* Retrieved at http://www.icicleseafoods.com/locations/lsb/about.aspx on May 5, 2012.
[48] This information is based on the results of a survey of processing plant managers conducted by the Alaska Fisheries Science Center in 2011.

from 2000 when a total of $81,489 was collected. However, there was significant inter-annual variation in the intervening years. In the second half of the decade, anywhere from 23% to 34% of the total fisheries-related revenues came from harbor usage fees. For more information on known fisheries-related revenues for Larsen Bay between 2000 and 2010, see Table 3.

Commercial Fishing

In 2000, 21 residents held 26 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2010, 14 residents, or 16% of the population, held 14 CFEC permits. Of the permits held in 2010, 86% were for salmon, compared to 73% in 2000; 7% were for groundfish, compared to 23% in 2000; and 7% were for crab, compared to 0% in 2000. In addition, one resident held a groundfish License Limitation Program (LLP) permit in 2010. No residents held halibut quota shares between 2008 and 2010. However, residents held 1,181 shares through 1 account in 2007, compared to 4,559 shares through 2 accounts in 2000. No residents held sablefish or crab quota shares between 2005 and 2010.

Residents held 8 commercial crew licenses in 2010, compared to 29 in 2000. Also in that year, residents held majority ownership of 8 vessels, compared to 20 in 2000. Both the number of crew licenses and vessels owned by residents declined between 2000 and 2010. Of the permits held in 2010, 64% were actively fished, compared to 77% in 2000. This varied by fishery from 100% of groundfish and crab permits, to 58% of salmon permits. Fisheries prosecuted in 2010 by Larsen Bay residents included: GOA mechanical jig saltwater finfish and Kodiak purse seine, beach seine, and set gillnet salmon.

Between 2000 and 2010, no landings were made in Larsen Bay, with the exception of 2010, when 40 vessels made landings. However, landings are considered confidential for that year. Landings reported by Larsen Bay residents are considered confidential, with the exception of 2004 when residents landed 166,330 pounds of Pacific cod valued at $53,759. Information regarding commercial fishing trends can be found in Tables 4 through 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Larsen 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]	$81,429	$113,036	$69,750	$28,259	$33,675	$40,177	$51,718	$65,785	$73,461	$99,273	$82,480
Fisheries Resource Landing Tax[1]	$60	$358	$198	$259	$220	$271	$76	$139	$259	$90	$88
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	$20,500	$20,500	$12,750	$15,000	$13,750	$13,000	$24,510
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]	*$81,489*	*$113,394*	*$69,948*	*$28,518*	*$54,396*	*$60,948*	*$64,545*	*$80,924*	*$87,470*	*$112,363*	*$107,079*
Municipal revenue[5]	*$627,854*	*$748,362*	*$919,511*	*$781,229*	*$730,103*	*$674,334*	*$555,306*	*$631,606*	*$697,648*	*$822,603*	*$929,462*

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, Larsen Bay: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	1	1	1	1	1	1	1	2	1	1	1
	Active permits	1	0	0	0	1	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	2	1	1	1
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	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	2	2	1	1	1	2	2	1	1	1
	Fished permits	0	2	2	0	0	1	0	1	0	0	1
	% of permits fished	n/a	100%	100%	0%	0%	100%	0%	50%	0%	0%	100%
	Total permit holders	0	2	2	1	1	1	2	2	1	1	1
Other shellfish (CFEC) [2]	Total permits	1	0	0	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0
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, Larsen 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	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	6	2	2	1	7	2	1	1	1	2	1
	Fished permits	5	2	1	1	6	1	0	1	0	0	1
	% of permits fished	83%	100%	50%	100%	86%	50%	0%	100%	0%	0%	100%
	Total permit holders	5	2	2	1	5	2	1	1	1	1	1
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	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	19	13	13	11	14	13	14	10	9	12	12
	Fished permits	14	10	7	7	10	10	10	7	4	7	7
	% of permits fished	74%	77%	54%	64%	71%	77%	71%	70%	44%	58%	58%
	Total permit holders	19	13	13	12	16	13	18	12	10	12	13
Total CFEC Permits[2]	*Permits*	*26*	*17*	*17*	*13*	*22*	*16*	*17*	*13*	*11*	*15*	*14*
	Fished permits	*20*	*14*	*10*	*8*	*16*	*12*	*10*	*9*	*4*	*7*	*9*
	% of permits fished	*77%*	*82%*	*59%*	*62%*	*73%*	*75%*	*59%*	*69%*	*36%*	*47%*	*64%*
	Permit holders	*21*	*14*	*14*	*12*	*19*	*13*	*19*	*13*	*12*	*13*	*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 Larsen Bay: 2000-2010.

Year	[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 Larsen Bay[2]	Total Net Pounds Landed in Larsen Bay[2,5]	Total Ex-Vessel Value of Landings in Larsen Bay[2,5]
2000	29	0	0	20	37	0	0	$0
2001	32	0	0	22	39	0	0	$0
2002	17	0	0	24	38	0	0	$0
2003	22	0	1	22	37	0	0	$0
2004	25	0	1	16	33	0	0	$0
2005	24	0	1	11	18	0	0	$0
2006	13	0	1	9	18	0	0	$0
2007	10	0	1	10	19	0	0	$0
2008	9	0	1	6	16	0	0	$0
2009	11	0	1	8	18	0	0	$0
2010	8	1	1	8	17	40	--	--

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 Larsen Bay: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	2	4,559	451
2001	2	4,559	539
2002	2	4,559	558
2003	2	4,559	557
2004	2	4,559	617
2005	1	1,181	162
2006	1	1,181	160
2007	1	1,181	167
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 Larsen 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 Larsen 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 Larsen 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	--
Finfish	0	0	0	0	0	0	0	0	0	0	--
Halibut	0	0	0	0	0	0	0	0	0	0	--
Herring	0	0	0	0	0	0	0	0	0	0	--
Other Groundfish	0	0	0	0	0	0	0	0	0	0	--
Other Shellfish	0	0	0	0	0	0	0	0	0	0	--
Pacific Cod	0	0	0	0	0	0	0	0	0	0	--
Pollock	0	0	0	0	0	0	0	0	0	0	--
Sablefish	0	0	0	0	0	0	0	0	0	0	--
Salmon	0	0	0	0	0	0	0	0	0	0	--
Total[2]	*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	--
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	--
Total[2]	*$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 Larsen Bay 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	--	--	--	--	166,330	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	*166,330*	--	--	--	--	--	--
	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	--	--	--	--	$53,759	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	*$53,759*	--	--	--	--	--	--

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

Larsen Bay residents participate in recreational fishing. The number of active sport fish guide businesses remained relatively steady between 2000 and 2010 at either three or four in any given year. The only exception was 2004 when only two sport fish guide businesses were active. The number of sport fish guide licenses held also remained relatively steady, averaging about 12 licenses annually. Residents

Larsen Bay is located within Alaska Sport Fishing Survey Area Q – Kodiak. This area includes all Alaskan waters, including drainages, of the Kodiak and Afognak Island groups, including the Trinity Islands. Sportfishing on Kodiak Island can be divided into private anglers who use boats and those who use the Island's road system to access sportfishing destinations. There are 75 miles of paved and hard-packed gravel roads that cross 10 significant streams and provide access to 18 stocked lakes. Road system anglers can find salmon, Dolly Varden, and rainbow and steelhead trout in fresh waters. Remote areas on Kodiak, categorized as any areas

outside the road system, provide opportunities for salmon, Dolly Varden, and fall-run steelhead trout. Remote Area salmon begin to return in early June, and fishing grounds are typically accessed by charter boat or seaplane.[49]

Troll-fishing Kodiak's marine waters for Chinook and coho salmon is a popular activity on the island. Chiniak Bay provides year-round habitat for Chinook. The Karluk River south of Larsen Bay provides one of the only native freshwater Chinook. Normally, the Karluk River annually averages an in-river run of 8,000 Chinook; however, recent runs have been in decline. Sockeye salmon are plentiful in many drainages on Kodiak and tend to spawn along lakeshores and tributary systems. Generally, sockeye arrive in early June and run through the end of July. The Kodiak road system provides access to sockeye on the Buskin, Pasagshak, and Saltery rivers, in eastern Kodiak Island. Pink salmon are found in abundance throughout the coastal and freshwater drainage systems around Kodiak Island. Pinks can be taken along ocean beaches and near stream mouths between middle to late July with runs peaking around mid-August. Coho salmon are typically targeted in offshore marine areas using charter or private vessels. The troll recreational fishery peaks the third week of August, and is typically over by mid-September. Large runs of coho occur late in the year in the Karluk River, with lagoon fishing starting in early September and peaking by the end of the month. The Karluk River also maintains the largest population of steelhead trout on the island, averaging 8,000 fish annually. Middle to late October is the best time to fish for steelhead, although mid-April and early May are also good times. Dolly Varden are found at lake outlets and near the mouths of freshwater systems feeding on out-migrating pink salmon fry. Then in mid-July through October, Dolly Varden migrate back into freshwaters to spawn and winter. Halibut are abundant around Kodiak Island, and sportfishing is excellent from late April through early September. In a typical year, sport anglers catch over 25,000 halibut in Kodiak waters. More than 30 species of rockfish are found in Kodiak marine waters. Common species caught include dark, dusky, and yellow-eye rockfish. The estimated rockfish catch is around 25,000 fish annually. Lingcod are also found in the area, and the typical annual catch averages around 2,500 fish.[50]

In 2010, angler days fished totaled 40,377 for saltwater and 41,082 for freshwater fisheries, compared to 55,576 and 65,831 in 2000, respectively (Table 11). In that year non-Alaskan residents accounted for 49.6% of saltwater angler days fished, compared to 30.2% in 2000; indicating a proportional decline in resident angler days fished. The same trend was seen in freshwater angler days fished with non-Alaska residents accounting for 45.9% in 2010, compared to 28.3% in 2000.

According to ADF&G Harvest Survey Records, Larsen Bay private anglers target Chinook, coho, sockeye, and pink salmon, Pacific halibut, rockfish, Pacific cod, steelhead trout, and Tanner crab. According to 2010 kept/released charter logs, local charter fishing vessels reported keeping 232 Chinook salmon, 2,792 coho salmon, 2,487 halibut, 57 lingcod, 1,098 rockfish, and 6 sockeye salmon.[51]

[49] Alaska Dept. of Fish and Game. (2012). *Kodiak.* Division of Sport Fish. Retrieved August 14, 2012 from: http://www.adfg.alaska.gov/static-sf/Region2/pdfpubs/kodiak.pdf.
[50] Ibid.
[51] Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Table 11. Sport Fishing Trends, Larsen 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 Larsen Bay[2]
2000	4	11	30	64
2001	4	14	24	66
2002	3	15	32	1
2003	3	13	32	30
2004	2	13	38	40
2005	3	12	37	70
2006	3	11	35	88
2007	4	11	31	130
2008	4	15	29	206
2009	4	11	29	234
2010	3	10	31	192

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	16,767	38,809	18,524	47,307
2001	14,761	24,604	18,299	19,757
2002	18,356	19,737	15,018	35,113
2003	17,715	23,726	13,362	34,034
2004	18,896	22,787	21,331	31,124
2005	21,269	33,917	23,789	36,753
2006	23,511	21,991	23,483	26,239
2007	21,668	31,554	26,916	31,072
2008	20,275	31,944	24,944	24,876
2009	20,813	26,520	10,859	21,283
2010	20,012	20,365	18,871	22,211

[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

Larsen Bay residents participate extensively in subsistence fishing. Community residents consider halibut, salmon, trout, grayling, flounder, and cod as primary fish subsistence resources. In addition, clams, crab, and shrimp are harvested. Subsistence marine mammals include seals and sea lions. Waterfowl and terrestrial mammal hunting also takes place. Uyak Bay is the principal area for subsistence activities, both upland and waterside. Zachar and Spiridon Bay are also important areas for subsistence harvest.[52]

According to the ADF&G Community Subsistence Information System (CSIS), an estimated 83% of households participated in salmon subsistence activities in 2005, and 25% of households participated in non-salmon fish subsistence activities. In 2003, an estimated 80% of households participated in salmon subsistence activities, an estimated 76% participated in halibut subsistence activities, an estimated 12% participated in marine mammal subsistence activities, an estimate 40% participated in marine invertebrate subsistence activities, and an estimated 11% participated in non-salmon fish subsistence activities.[53]

Data on subsistence harvest of salmon, marine invertebrates, and non-salmon fish are somewhat limited. In 2008, residents reported harvesting sockeye salmon most often, followed by coho, pink, Chinook, and chum salmon. In that year, residents reported harvesting 1,130 fish, compared to 439 in 2000. Reported salmon harvests peaked in 2005 at 1,470 fish. In addition, residents reported harvesting 3,199 lbs of marine invertebrates and 1,034 lbs of other fish species in 2003.

Halibut is a popular subsistence resource in Larsen Bay. In 2010, 33 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 21 in 2003. In that year, an estimated 2,617 lbs of halibut was harvested on 13 SHARC, compared to an estimated 5,684 on 20 SHARC in 2003. Estimated halibut harvests peaked in 2004 at 12,327 lbs. In 2010, SHARC activity and estimated pounds harvested were both at their lowest since the program began. SHARC activity declined significantly after years of stable use.

Reported marine mammal harvests included sea otters and harbor seals. Between 2000 and 2010, a total of 46 sea otters were reported harvested; and 96 harbor seals were reported harvested between 2000 and 2008.

According to ADF&G's CSIS database, marine and freshwater species that residents of Larsen Bay have harvested or used include chitons, butter clams, king crab, octopus, razor clams, sea cucumber, sea urchin, Tanner crab, harbor seal, Steller sea lion, rockfish, Dolly Varden, herring, Pacific cod, and steelhead trout.[54] Information regarding subsistence trends can be found in Tables 12 through 15.

[52] Norgaard Consultants. (1984). *Comprehensive Development Plan.* Retrieved August 13, 2012 from: http://www.commerce.state.ak.us/dca/plans/LarsenBay-CP-1984.pdf.
[53] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS)*. ADF&G Division of Subsistence. Retrieved August 25, 2012 from: http://www.adfg.alaska.gov/sb/CSIS/.
[54] Ibid.

Table 12. Subsistence Participation by Household and Species, Larsen 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	80%	76%	12%	40%	11%	290.76
2004	84%	n/a	n/a	n/a	35%	n/a
2005	83%	n/a	n/a	n/a	25%	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, Larsen 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	1	11	n/a	3	23	3	430	n/a	n/a
2001	n/a	26	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	21	n/a	n/a	n/a	n/a	n/a	3,199	1,034
2004	28	28	21	n/a	19	23	958	n/a	2,032
2005	25	25	7	25	53	51	1,334	n/a	347
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	23	23	26	9	76	42	977	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, Larsen Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	21	20	5,684
2004	40	29	12,327
2005	39	21	4,359
2006	37	22	5,022
2007	42	29	6,827
2008	39	21	3,381
2009	34	24	3,889
2010	33	13	2,617

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, Larsen 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	6	n/a	n/a	n/a	19	n/a
2001	n/a	6	n/a	n/a	n/a	9	n/a
2002	n/a	n/a	n/a	n/a	n/a	3	n/a
2003	n/a	6	n/a	n/a	n/a	2	n/a
2004	n/a	23	n/a	n/a	n/a	12	n/a
2005	n/a	n/a	n/a	n/a	n/a	17	n/a
2006	n/a	4	n/a	n/a	n/a	20	n/a
2007	n/a	n/a	n/a	n/a	n/a	9	n/a
2008	n/a	n/a	n/a	n/a	n/a	5	n/a
2009	n/a	1	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.