

Koliganek (koh-LIG-uh-neck)



People and Place

*Location*¹

Koliganek is located on the left bank of the Nushagak River, 65 miles northeast of Dillingham. The village hopes to get its own zip code, although it currently shares one with Dillingham. Koliganek occupies 12.5 square miles of land and 0.1 square miles of water. The community is unincorporated, is located in the Dillingham Census Area, and is not under the jurisdiction of a borough.

*Demographic Profile*²

In 2010, there were 209 residents in Koliganek, ranking it 194th of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 15.5%. Between 2000 and 2009, the population grew by 0.00%, with an average annual growth rate of -0.87% indicating some variation between those years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there were an estimated 200 permanent residents living in Koliganek in 2010. Typically, there are seasonal workers living in the community between May and October, with the population peaking in October. Peaks in Koliganek's population are thought to be entirely driven by employment in fisheries sectors. Further information regarding population trends can be found in Table 1.

Koliganek is predominately a Yup'ik Eskimo village with Russian Orthodox influences. Between 2000 and 2010, the community experienced corresponding increases in the Alaska Native population and decreases in the White population. In 2010, 95.7% of residents identified themselves as American Indian or Alaska Native, compared to 87.4% in 2000; 3.3% identified themselves as White, compared to 10.4% in 2000³ and 1.0% identified themselves as two or more races, compared to 0.0% in 2000. No residents identified themselves as Hispanic or Latino in 2010. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 3.80, compared to 3.80 in 1990 and 3.43 in 2000. In that year, there were a total of 66 housing units, compared to 50 in 1990 and 77 in 2000. Of the households surveyed in 2010, 53% were owner-occupied, compared to 53% in 2000; 30% were renter-occupied, compared to 16% in 2000; 12% were vacant, compared to 29% in 2000; and 5% were occupied seasonally, compared to 3% in 2000. No residents lived in group quarters between 1990 and 2010.

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>.

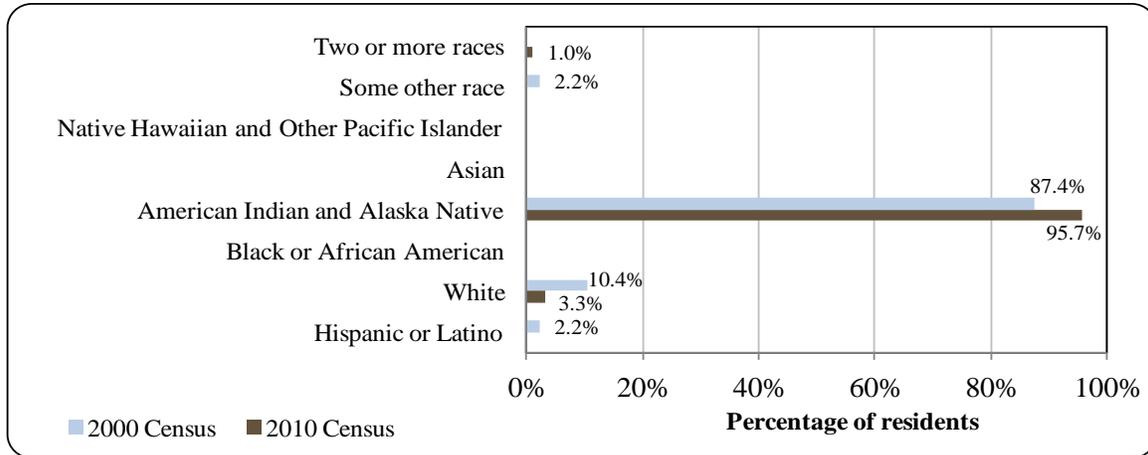
Table 1. Population in Koliganek from 1990 to 2010 by Source.

Year	U.S. Decennial Census ¹	Alaska Dept. of Labor Estimate of Permanent Residents ²
1990	181	-
2000	182	-
2001	-	177
2002	-	188
2003	-	199
2004	-	188
2005	-	168
2006	-	165
2007	-	192
2008	-	174
2009	-	182
2010	209	-

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

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

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

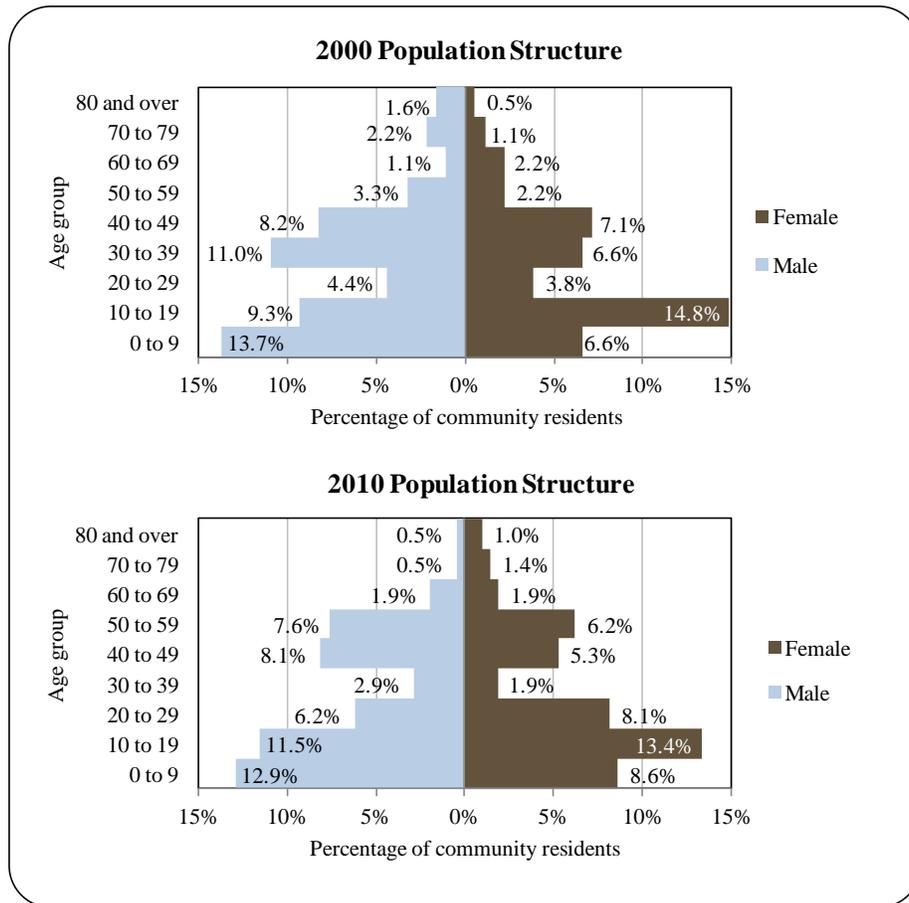


In 2010, the gender distribution of Koliganek was 52.2% male and 47.8% female. This was similar to the gender distribution statewide (52.0% male, 48.0% female), and slightly more even than the distribution in 2000 (54.9% male, 45.1% female). In that year, the median age was 21.3 years, which was lower than both the statewide median of 33.8 years and 2000 median of 26.0 years. Overall, the gender distribution was expansive in both 2000 and 2010, with several significant disparities among several cohorts (Figure 2). In addition, many cohorts displayed characteristics consistent with a stable population, meaning that as they transitioned into new age ranges they maintained their overall structural character. In 2010, 46.4% of residents were under

the age of 20, compared to 44.4% in 2000; 7.2% were over the age of 59, compared to 8.1% in 2000; 32.0% were between the ages of 30 and 59, compared to 38.4% in 2000; and 14.3% were between the ages of 20 and 29, compared to 8.2% in 2000.

Gender distribution by age cohort was significantly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 0 to 9 range (12.9% male, 8.6% female), followed by 40 to 49 (8.1% male, 5.3% female) and 20 and 29 (8.1% female, 6.2% male) ranges. Of those three, the greatest relative gender difference occurred within the 40 to 49 range. Information regarding trends in population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)³ estimated that 73.2% of residents aged 25 and over held a high school diploma or higher degree in 2010, somewhat less than the estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 14.3% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 12.5% had a 9th to 12th grade

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.

education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 26.8% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 2.7% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 1% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

Previous to Russian and European contact, the Nushagak River region was occupied by the Nushagamiut culture of Yup'ik Eskimos. The area's proximity to highly productive salmon grounds and location between the Alaska Peninsula and Yukon-Kuskokwim Delta lent to considerable cultural mixing, trade, and in some instances, conflict. Bristol Bay was visited by Captain James Cook in 1778 while searching for a northwest passage. The Bay was named after the Admiral Earl of Bristol. Although this was the first well recorded visit to Bristol Bay by Europeans, Cook gave evidence of a prior Russian presence in the area.⁴

Koliganek is a Yup'ik Eskimo village with Russian Orthodox practices. Subsistence activities are an important part of the lifestyle. The village was first listed in the 1880 Census as "Kalignak." The name is local, recorded by the U.S. Geological Survey in 1930. Since that time, the village has moved 4 miles downstream from the original site.⁵

The present location of Koliganek, also called "New Koliganek," was established about 1964. Prior to that, the residents lived at another site called "Koliganek" and, before that, in Old Koliganek, on the lower Nuyakuk River. The village of Old Koliganek was occupied until the early 1940s, when residents relocated. The next site was occupied only for about 20 year when frequent flooding forced residents to relocate once more.⁶

Natural Resources and Environment⁷

The area is in a climatic transition zone. The primary influence is maritime, although a continental climate affects the weather. Average summer temperatures range from 37 to 66 °F (3 to 19 °C); winter temperatures range from 4 to 30 °F (-16 to -1 °C).

The Nushagak-Mulchatna River watershed was formed by repeated Pleistocene glacial advances and retreats ending about 12,000 years ago. The modern shoreline of Bristol Bay was created in the same period when sea levels rose. The Nushagak River watershed is composed of mountains, mixed forests, tundra, lakes, and rivers. Dominant vegetation is tundra, mixed coniferous/birch forest, and willow/cottonwood/alder riparian corridors. In general, white spruce and mixed spruce-birch forests as well as muskeg and willow-alder thickets exist in elevations up to 900 feet. Above this, bare rock, heath tundra, and alpine meadow dominate. Wet meadows, marsh, and tidal marsh exist in lower elevations and depressions; as well as the moth of the

⁴ Tryck, Nyman & Hayes. 1985. *City of Dillingham Comprehensive Plan*. Retrieved March 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-1985.pdf>.

⁵ 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.

⁶ Krieg, T. M., D. L. Holden, and D. Koster. 2009. *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005*. Technical Paper No. 322. Retrieved September 5, 2012 from: <http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf>.

⁷ [See](#) footnote 5.

Nushagak River. Nushagak Bay is characterized by tidal mudflats, sandy/gravelly shoreline, bluffs, and glaciofluvial material up to 200 feet.⁸

The Nushagak River watershed provides important habitat for moose, caribou, brown and black bears, wolverine, wolves, porcupine, lynx, marten, beaver, snowshoe hare, weasels, mink, ground squirrels, and microtones. Caribou breed in the upper Nushagak basin and post-calving congregations have numbered between 40,000 and 200,000 animals. The area also provides staging, nesting, molting, or year-round habitat for over 150 species of birds. The Nushagak River system is the fifth largest river in Alaska by volume, and supports at least 13 anadromous and 16 resident fish species. Local fish species include all five species of Pacific salmon, Northern pike, rainbow trout, rainbow smelt, Arctic char, Dolly Varden, Arctic grayling, and blackfish.⁹

Significant mineral resources are present in the Bristol Bay region, including the Pebble copper-gold-molybdenum deposit east of Koliganek. The Pebble Mine site is located at the divide between the Koktuli River and Upper Talarik Creek, north of Iliamna Lake.¹⁰ Northern Dynasty Minerals Limited calls the Pebble deposit, “one of the greatest stores of mineral wealth ever discovered,” and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion lbs of copper, 66.9 million ounces of gold, and 3.3 billion lbs of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion lbs of copper, 40.4 million ounces gold, and 2.3 billion lbs of molybdenum.¹¹ Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, the single most important salmon-producing watershed in the Bristol Bay area. If the Pebble Mine is developed, Bristol Bay salmon fisheries could be affected.¹²

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.¹³ However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.¹⁴ On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.¹⁵

⁸ Nushagak-Mulchatna Watershed Council. 2007. *Nushagak River Watershed Traditional Use Area Conservation Plan*. Retrieved September 4, 2012 from:

http://www.nature.org/idc/groups/webcontent/@web/@alaska/documents/document/prd_017469.pdf.

⁹ Ibid.

¹⁰ Parker, G. Y., F.M. Raskin, C. A. Woody, and L. Trasky. 2008. Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska’s Large Mine Permitting Process. *Alaska Law Review* 25:1.

¹¹ Northern Dynasty Minerals Limited. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from <http://www.northerndynastyminerals.com/ndm/Pebble.asp>.

¹² Pg. 36 in: Duffield, J., C. Neher, D. A. Patterson, and O. S. Goldsmith. 2007. *Economics of Wild Salmon Ecosystems: Bristol Bay, Alaska*. USDA Forest Service Proceedings RMRS-P-49. Retrieved December 21, 2011 from http://www.fs.fed.us/rm/pubs/rmrs_p049/rmrs_p049_035_044.pdf.

¹³ Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

¹⁴ Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf>.

¹⁵ The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from <http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf>.

The Bristol Bay area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, a majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. There is also potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.¹⁶

According to a survey conducted by the AFSC in 2011, community leaders reported that Koliganek's future is threatened by mining developments in the region. As one community leader put it "Our fear is mining development in our head waters. We survive on salmon. Mining development is no good. There is too much risk."

Current Economy¹⁷

Because of limited opportunities for wage employment, subsistence is an important part of the local economy in Koliganek. As in much of the Bristol Bay area, most cash employment is seasonal. Commercial fishing and the public sector have both been especially important sources of employment and income.¹⁸ In a survey conducted by the AFSC in 2011, community leaders reported that Koliganek's economy is dependent on fishing.

In 2010,¹⁹ the estimated per capita income was \$15,944 and the estimated median household income was \$56,563, compared to \$13,242 and \$44,483 in 2000, respectively. However, after adjusting for inflation by converting 2000 values into 2010 dollars,²⁰ the real per capita income (\$17,413) and real median household income (\$58,626) indicate that both individual and household earnings decreased slightly. In 2010, Koliganek ranked 186th of 305 communities from which per capita was estimated, and 92nd of 299 communities from which median household income was estimated.

Koliganek's small population size may have prevented the ACS from accurately portraying economic conditions.²¹ Another understanding of per capita income is obtained

¹⁶ Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf.

¹⁷ Unless otherwise noted, all monetary data are reported in nominal values.

¹⁸ New Koliganek Village Council; Agnew::Beck Consulting, LLC; and Bristol Bay Economic Development Corporation. 2005. *Koliganek Comprehensive Plan*. Retrieved August 29, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf>.

¹⁹ 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>.

²⁰ 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>).

²¹ While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not

through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned \$1.40 million in total wages in 2010.²² When matched with the 2010 Decennial Census population, the per capita income equals \$6,717, which is significantly less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures. This is supported by the fact that the community was recognized as “distressed” by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.²³ However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.²⁴

According to 2006-2010 ACS estimates,²⁵ 58.8% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 18.3%, compared to an estimated 5.9% statewide; and an estimated 7.2% of residents lived below the poverty level, compared to an estimated 9.5% of Alaskan residents overall. Again, Koliganek’s small population may have prevent the ACS from accurately capturing economic conditions. According to 2010 ALARI estimates, the unemployment rate in Koliganek was 24.6% based on unemployment insurance claimants.²⁶

Of those employed, an estimated 48.4% worked in the private sector and an estimated 51.6% worked in the private sector. By industry (Figure 3), most (43.5%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration (24.2%); retail trade (16.1%); and agriculture, forestry, fishing, hunting, and mining sectors (12.9%). Between 2000 and 2010, there were significant proportional increases in the number of residents employed in agriculture, forestry, fishing, hunting, mining, and retail trade sectors. Conversely, there were significant proportional declines in the number of residents employed in construction, transportation, warehousing, utilities, finance, insurance, and real estate sectors. According to 2010 ALARI estimates,²⁷ most (44.1%) employed residents worked in local government sectors; followed by “other” unspecified sectors (19.4%); information sectors (7.5%); and professional and business sectors (7.5%).

By occupation type (Figure 4), most (43.5%) employed residents were estimated to hold management or professional positions; followed by sales or office (29.0%); service (17.7%); and production, transportation, or material moving positions (9.7%). Between 2000 and 2010, there were significant proportional increases in the number of sales and office positions held by residents. Conversely, there were significant proportional declines in the number of natural resources, construction, and maintenance positions.

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.

²² ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

²³ Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.

²⁴ 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/>.

²⁵ See footnote 21.

²⁶ See footnote 24.

²⁷ Ibid.

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

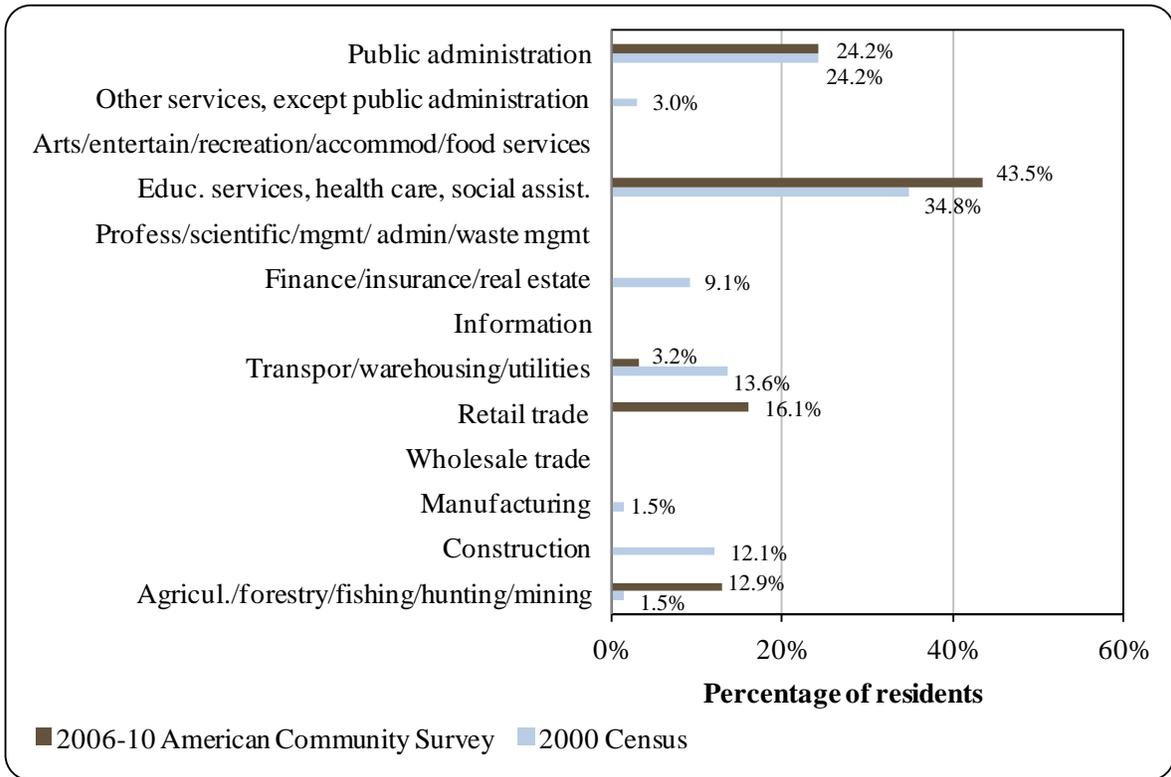
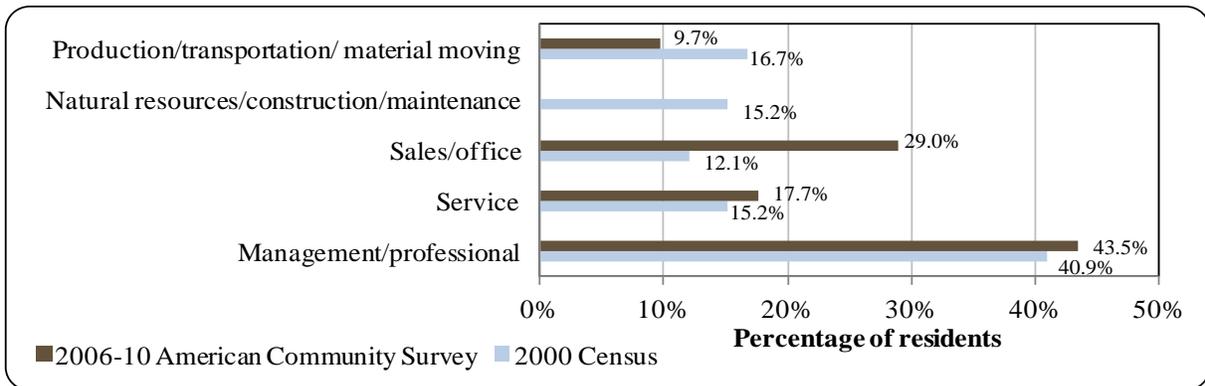


Figure 4. Local Employment by Occupation in 2000-2010, Koliganek (U.S. Census).



Governance

Koliganek is an unincorporated community located in the unorganized borough. Due to its unincorporated status, no taxes or public fees are collected locally. However, the community did receive a total of \$15,189 in State Revenue Sharing between 2000 and 2003 (Table 2).

The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Koliganek is the Bristol Bay Native Corporation, and the local ANCSA chartered non-profit is the Bristol Bay Native Association. The ANCSA chartered village corporation is Koliganek Natives Limited. The closest Alaska Department of Fish and Game (ADF&G) office

is located in Dillingham, 65 miles southwest, the closest National Marine Fisheries Service (NMFS) office is located in Bethel, 162 miles northwest, and the closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 280 miles northeast.

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

Year	Total Municipal Revenue ¹	Sales Tax Revenue ²	State/Community Revenue Sharing ^{3,4}	Fisheries-Related Grants (State and Federal) ⁵
2000	n/a	n/a	\$4,170	n/a
2001	n/a	n/a	\$3,707	n/a
2002	n/a	n/a	\$3,681	n/a
2003	n/a	n/a	\$3,631	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

¹ Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011 from 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, 2011 from <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, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

*Connectivity and Transportation*²⁸

Boats and ATVs are used in the summer and snowmachines in the winter. Locals travel to New Stuyahok frequently. There are no docking facilities; goods are lightered from Dillingham. In a survey conducted by the AFSC in 2011, community leaders reported vessels up to 200 feet long can use moorage in Koliganek but that no dock space is available for public moorage. Community leaders also reported a road system exists in the community.

A state-owned 3,000-ft long by 75-ft wide runway is available and charter service is provided by Grant Aviation and Peninsula Airways. Roundtrip airfare between Anchorage and Dillingham (the closest airport with scheduled service) in June 2012 was \$414.²⁹

²⁸ 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.

²⁹ Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).

*Facilities*³⁰

Electricity in Koliganek is provided by a diesel powerhouse owned by the Koliganek Village Council. Koliganek also purchases power from the school district and owns its own generator. The village council has operated a piped water and sewer system for over 25 years and water is derived from a well and is filtered and treated with chlorine before distribution. Thirty-three homes and facilities are connected to the piped water and a community septic tank. Eight homes have individual wells and septic systems. Fifteen homes haul water from multiple watering points and utilize individual privies. A sewage haul is not available, but residents can use designated pits. In addition to a piped sewer system, the village council operates a community septic tank and a sewage pumper, lagoon, and lift station. Individuals collect their own refuse and deposit it in a village council-operated Class 3 permitted landfill.

Public safety services are provided by the Village Public Safety Officer in Koliganek and state troopers posted in Dillingham. The village also maintains its own volunteer fire department with equipment provided through Project Code Red. Visitor accommodations are provided by Bobby's Bed and Breakfast. In a survey conducted by the AFSC in 2011, community leaders reported that Koliganek also has a post office and telephone service is in place. Internet service is provided by GCI. Community leaders indicate that no fisheries-related businesses are available in Kotzebue.

*Medical Services*³¹

The Koliganek Clinic provides residents with basic medical services and is operated by the Bristol Bay Area Health Corporation. Koliganek is an isolated location in the Southern Emergency Medical Services Region. Emergency Services have river and air access and First Responders are available in the community. Emergency service is provided by a health aide. The closest hospital is located in Dillingham.

*Educational Opportunities*³²

Koliganek has one school offering preschool through 12th grade instruction. As of 2011, there were 59 students enrolled and 7 teachers employed. Koliganek is part of the Southwest Region School District.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence fishing activities have been important to residents of the Koliganek area for thousands of years. The Nushagak region was historically inhabited by a coastal population that combined fishing and hunting of marine mammals and an interior population that focused on

³⁰ See footnote 28.

³¹ Ibid.

³² Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

hunting and fishing with frequent trips to the coast, especially during summer months.³³ Today, a combination of commercial and subsistence harvest of marine resources provide the foundation for Koliganek's economy.³⁴

Bristol Bay is the world's largest wild sockeye salmon fishery; however, exploitation of salmon on the Nushagak did not begin until the late 19th century. In 1883, the schooner Neptune prospected for salmon in Nushagak Bay, which was the same year the first cannery was built by the Arctic Packing Company in the village of Kanulik. The first salmon pack was produced in 1884, which consisted of a harvest of approximately 4,200 salmon. However, within a few years, the harvest topped one million fish as canneries were established in Scandinavian Beach, Wood River, Kakanak, Snag Point, Clark's Point, Ekuk, and Nushagak. By 1900, the industry was also well established on the east side of Bristol Bay. Early fishing was conducted using traps. However, traps were discontinued in 1924 in favor of drift gillnetting from sailboats. In the early 1950s, sailboats were replaced by more modern vessels after a federal ban on the use of power boats for fishing in Bristol Bay was lifted.³⁵

Koliganek is located on the Nushagak River which empties into Bristol Bay. This marine area is encompassed by the Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and Bering Sea Sablefish Regulatory Area. Because Koliganek is located more than 50 nautical miles from the coast, the community is not eligible to participate in the Community Development Quota program. Given its location outside the Gulf of Alaska, Koliganek is also not eligible to participate in the Community Quota Entity program. According to a survey conducted by the AFSC in 2011, community leaders reported that Koliganek does not participate directly in fisheries management processes in Alaska.

Processing Plants

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

Fisheries-Related Revenue

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

³³ VanStone, James W. 1968. "An Annotated Ethnographic Bibliography of the Nushagak River Region, Alaska." *Anthropology*, v. 54, no. 2. Field Museum of Natural History. Chicago.

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 Nushagak-Mulchatna Watershed Council. (2007). *Nushagak River Watershed Traditional Use Area Conservation Plan*. Retrieved September 4, 2012 from: http://www.nature.org/idc/groups/webcontent/@web/@alaska/documents/document/prd_017469.pdf.

Commercial Fishing

Between 1990 and 1997, Koliganek residents participated in both herring and salmon commercial fisheries; however, herring permit activity ceased during the following years. Since 1990, the total number of permits held by Koliganek community members has slowly declined. This is a trend experienced in other Bristol Bay communities as well.³⁶

In 2010, 21 residents, or 10.0% of the population, held 20 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 21 residents held 23 CFEC permits. Of the permits held in 2010, 100% were for salmon, compared to 87% in 2000. Of the salmon permits held in 2010, 75% were actively fished, compared to 74% in 2000. Fisheries prosecuted by Koliganek residents that year included: Bristol Bay drift and set gillnet salmon.³⁷ Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, residents did not participate in federal fisheries for halibut, crab, or sablefish. Residents held 26 commercial crew licenses in 2010, compared to 38 in 2000. The number of residents who held commercial crew licenses peaked at 38 in both 2000 and 2004. In addition, residents held majority ownership of 10 vessels in 2010, compared to 13 in 2000. Vessel ownership peaked in 2002 at 15 vessels (Table 5).

A lack of fish buyers and shoreside processors in the community prevented commercial landings from being reported in Koliganek between 2000 and 2010. However, landings were reported by Koliganek residents. Non-confidential information about landings by residents is limited to salmon. In 2010, residents landed 513,896 lbs of salmon valued at \$460,313 ex-vessel, compared to 432,639 lbs valued at \$284,520 ex-vessel; representing no change in value after adjusting for inflation³⁸ and without considering the species composition of landings. This represents a significant and steady increase in salmon landings and ex-vessel value between 2000 and 2010. Information regarding commercial fishing trends can be found in Tables 4 through 10.

³⁶ New Koliganek Village Council; Agnew::Beck Consulting, LLC; and Bristol Bay Economic Development Corporation. (2005). *Koliganek Comprehensive Plan*. Retrieved August 29, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf>.

³⁷ 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.]

³⁸ Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax ¹	n/a										
Shared Fisheries Business Tax ¹	n/a										
Fisheries Resource Landing Tax ¹	n/a										
Fuel transfer tax ²	n/a										
Extraterritorial fish tax ²	n/a										
Bulk fuel transfers ¹	n/a										
Boat hauls ²	n/a										
Harbor usage ²	n/a										
Port/dock usage ²	n/a										
Fishing gear storage on public land ³	n/a										
Marine fuel sales tax ³	n/a										
<i>Total fisheries-related revenue⁴</i>	<i>n/a</i>										
<i>Total municipal revenue⁵</i>	<i>n/a</i>										

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) ¹	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	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										
	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										
	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										
	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										
	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										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) ²	Total permits	3	2	1	1	1	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	3	2	1	1	1	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	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										
	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										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) ²	Total permits	20	20	21	22	27	24	22	18	19	22	20
	Fished permits	17	16	9	13	14	16	17	13	15	14	15
	% of permits fished	85%	80%	43%	59%	52%	67%	77%	72%	79%	64%	75%
	Total permit holders	20	23	21	23	29	25	23	20	20	25	21
<i>Total CFEC Permits²</i>	<i>Permits</i>	<i>23</i>	<i>22</i>	<i>22</i>	<i>23</i>	<i>28</i>	<i>24</i>	<i>22</i>	<i>18</i>	<i>19</i>	<i>22</i>	<i>20</i>
	<i>Fished permits</i>	<i>17</i>	<i>16</i>	<i>9</i>	<i>13</i>	<i>14</i>	<i>16</i>	<i>17</i>	<i>13</i>	<i>15</i>	<i>14</i>	<i>15</i>
	<i>% of permits fished</i>	<i>74%</i>	<i>73%</i>	<i>41%</i>	<i>57%</i>	<i>50%</i>	<i>67%</i>	<i>77%</i>	<i>72%</i>	<i>79%</i>	<i>64%</i>	<i>75%</i>
	<i>Permit holders</i>	<i>21</i>	<i>24</i>	<i>21</i>	<i>23</i>	<i>29</i>	<i>25</i>	<i>23</i>	<i>20</i>	<i>20</i>	<i>25</i>	<i>21</i>

¹National 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.]

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

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

Year	Crew License Holders ¹	Count Of All Fish Buyers ²	Count Of Shore-Side Processing Facilities ³	Vessels Primarily Owned By Residents ⁴	Vessels Homeported ⁴	Vessels Landing Catch In Koliganek ²	Total Net Lbs Landed In Koliganek ^{2,5}	Total Ex-Vessel Value Of Landings In Koliganek ^{2,5}
2000	38	0	0	13	12	0	0	\$0
2001	29	0	0	13	12	0	0	\$0
2002	27	0	0	13	15	0	0	\$0
2003	27	0	0	12	8	0	0	\$0
2004	38	0	0	15	12	0	0	\$0
2005	37	0	0	9	3	0	0	\$0
2006	32	0	0	10	4	0	0	\$0
2007	27	0	0	10	4	0	0	\$0
2008	22	0	0	10	3	0	0	\$0
2009	28	0	0	9	4	0	0	\$0
2010	26	0	0	10	4	0	0	\$0

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

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

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

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

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

⁵ Totals only represent non-confidential data.

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

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

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

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

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

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

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

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

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

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

	<i>Total Net Lbs¹</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
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
<i>Total²</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
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
<i>Total²</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>

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

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

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

² Totals only represent non-confidential data.

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

	<i>Total Net Lbs¹</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	432,639	241,251	120,494	416,288	581,450	588,504	525,992	483,438	493,276	503,243	513,896
<i>Total²</i>	<i>432,639</i>	<i>241,251</i>	<i>120,494</i>	<i>416,288</i>	<i>581,450</i>	<i>588,504</i>	<i>525,992</i>	<i>483,438</i>	<i>493,276</i>	<i>503,243</i>	<i>513,896</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$284,520	\$92,750	\$51,754	\$192,569	\$274,236	\$321,485	\$319,768	\$294,776	\$347,578	\$372,822	\$460,313
<i>Total²</i>	<i>\$284,520</i>	<i>\$92,750</i>	<i>\$51,754</i>	<i>\$192,569</i>	<i>\$274,236</i>	<i>\$321,485</i>	<i>\$319,768</i>	<i>\$294,776</i>	<i>\$347,578</i>	<i>\$372,822</i>	<i>\$460,313</i>

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

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

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

² Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing began in the Nushagak River area in 1950, with the opening of a the Angler's Paradise Lodges on the Kvichak side of Bristol Bay. Operating from an old scow, the Wood River Trout Camp was the first lodge to open on the west side of Bristol Bay in 1959, which would eventually become the Wood River Lodge on the Agulowak River. In the 1980s, Chinook salmon within the Nushagak River began to attract more interest, and Native village corporations began making temporary commercial land leases available.³⁹

Today, recreational fishing on the Nushagak River is a very popular activity with private anglers. Chinook salmon begins to run in early June and continue to build throughout the month. Fish availability begins to decline after the first week of July. The Nushagak River hosts the largest Chinook sport fishery in the United States, as well as large rainbow trout, grayling, Arctic char, Dolly Varden, northern pike, and lake trout fisheries.⁴⁰

For one month from mid-June to mid-July, more than 40 sportfishing lodges host clients that come from around the world to catch fish. Sportfishing on the Nushagak has been steadily increasing to the point that many local residents fear that congestion on the river may eventually reach levels seen on the Kenai River outside of Anchorage. Such congestion may result in reduced Chinook salmon escapement and increased habitat degradation. Most sportfishing camps and lodges are located within the Lower Mainstem Nushagak River Corridor, and many are situated on land leased from local Native village corporations, which all participate in a unified leasing and permitting program managed by Choggiung Ltd. While leasing activity is strictly monitored by this program, growth is largely unregulated in other areas, and many commercial guide lodges purchase private allotments, fee of building and client number restrictions. Fishing activity associated with lodges and sportfishing camps is also growing in the Middle Nushagak and Mulchatna River Corridors, closer to Koliganek. Most of the land within this conservation area is owed by the State, but there are also many Native allotment inholdings.⁴¹

In 2010, there were no sport fish guide businesses registered in Koliganek, compared to one in 2000. However, no registered sport fish guide businesses were active between 2000 and 2010 (Table 11). Very few sport fish guide licenses were issued in the community between those years, peaking at six in 2004. In addition, 2009 was the only year in which sportfishing licenses were sold within the community. Residents held a total of 35 sportfishing licenses in 2010, compared to 25 in 2000. The number of sportfishing licenses held by residents peaked in 2009 at 58. According to ADF&G Harvest Survey records, local private anglers target Chinook and coho salmon, rainbow trout, Arctic grayling, and northern pike. In a survey conducted by the AFSC in 2011, community leaders also reported that local private anglers target all five species of Pacific salmon. ADF&G Charter logbook data indicating species targeted by charter businesses in 2010 are unavailable.

Koliganek is located within the Nushagak, Wood River and Togiak ADF&G Harvest Survey Area, which includes the Nushagak River, Mulchatna River, Wood River, and Tilchik Lake drainages, as well as water westward to Cape Newenham.⁴² Overall, there was a steady

³⁹ Nushagak-Mulchatna Watershed Council. 2007. *Nushagak River Watershed Traditional Use Area Conservation Plan*. Retrieved September 4, 2012 from: <http://www.conservationgateway.org/Files/Pages/nushagak-river-watershed-.aspx>.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Alaska Department of Fish and Game. (n.d.). *Alaska Sport Fishing Survey*. Retrieved February 13, 2012 from: <http://www.adfg.alaska.gov/sf/sportfishingsurvey/index.cfm?ADFG=area.home>

decline in freshwater angler days fished in the survey area between 2000 and 2010. In 2010, freshwater resident and non-Alaska resident angler days fished totaled 23,385 days, compared to 43,083 in 2000. In that year, non-Alaska residents accounted for 89% of angler days fished, compared to 73% in 2000. Between 2000 and 2010, there was significantly less saltwater angler days fished than freshwater. In 2009, there was 147 total saltwater angler days fished, compared to 429 in 2000. Information regarding sportfishing trends can be found in Table 11.

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

Year	Active Sport Fish Guide Businesses¹	Sport Fish Guide Licenses¹	Sport Fishing Licenses Sold to Residents²	Sport Fishing Licenses Sold in Koliganek²
2000	0	2	25	0
2001	0	3	31	0
2002	0	3	39	0
2003	0	4	25	0
2004	0	6	41	0
2005	0	2	33	0
2006	0	2	38	0
2007	0	2	47	0
2008	0	2	46	0
2009	0	2	58	3
2010	0	0	35	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents³	Angler Days Fished – Alaska Residents³	Angler Days Fished – Non-Residents³	Angler Days Fished – Alaska Residents³
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

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

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

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

Subsistence Fishing

Evidence of the earliest Nushagak inhabitants is scarce, but archaeologists predict that human occupation began shortly following glacial retreat during the end of the last glacial period; around 7,000 years ago. Although methods have changed, Yup'ik residents, like their ancestors, still rely on subsistence resources found in the watershed. Moose, caribou, salmon, geese, berries, and plants are principal resources that are relied on. Hunting, fishing, and gathering all constitute a way of life for local residents. The Middle Nushagak and Mulchatna River provide important nearshore rearing and mainstem spawning habitat for Chinook salmon. Sockeye salmon spawn and rear in slow moving off-channel habitats. Coho salmon rear in slower-moving sites within the upper Mulchatna River.

Much of Koliganek's economic activity is conducted on a household level. In the past, there was little importation of food, and families relied on harvesting fish, game, and wild plants. To supplement subsistence resource harvesting, many residents maintain small gardens during the summer.⁴³ In a household survey conducted by ADF&G in 2005 (Table 12), 82% of households were found to be participating in salmon subsistence activities, 18% were found to be participating in halibut subsistence activities, and 70% were found to be participating in non-salmon fish subsistence activities. Per capita subsistence harvest of those species was estimated to be 656.6 lbs.⁴⁴ Broken down by activity, 63% of surveyed households fished and 73% processed fish that year. In addition, 21.4% of respondents said that they removed Chinook salmon from commercial catch for subsistence purposes; 32.1% reported that they removed sockeye salmon, 7.1% reported that they removed chum salmon, and 7.1% reported that they removed coho salmon.

Chinook salmon return to the Nushagak River in late May and are the most harvested species according to a 2005 ADF&G survey⁴⁵ (this is not reflected in returned salmon permits seen in Table 13). Chinook are harvested on the Nushagak River at locations near the village, and downstream as far as the historical location of the village of Nushagak at Nushagak Point. Some residents travel as far as Ekuik during the commercial salmon season. Sockeye and chum are next to return to the Nushagak watershed, followed by coho and pink. Pink and chum salmon usually are not targeted, but are utilized when caught. Sockeye runs typically peak in Bristol Bay the first week of July and reach Koliganek around the middle to latter half of that month. Although not related to subsistence fisheries, berry picking in late summer is popular among Koliganek residents, with 93% of surveyed households participating in the activity or in 2005. The Nushagak River and its tributaries support numerous freshwater fish species, which are harvested throughout the year. Whitefish are caught with nets, mainly in the fall. Ice fishing is a major subsistence activity in the winter, with residents harvesting northern pike and Arctic grayling.⁴⁶

⁴³ New Koliganek Village Council, Agnew::Beck Consulting, LLC., and Bristol Bay Economic Development Corporation. 2005. *Koliganek Comprehensive Plan*. Retrieved August 29, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Koliganek-CP-2005.pdf>.

⁴⁴ 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).

⁴⁵ Krieg, T. M., Holen, D. L., and Koster, D. 2009. *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005*. Technical Paper No. 322. Retrieved September 5, 2012 from: <http://www.subsistence.adfg.state.ak.us/TechPap/tp322.pdf>.

⁴⁶ Ibid.

Of the species reported by ADF&G in Table 13, residents reported harvesting sockeye salmon most often, followed by chum, Chinook, coho, and pink salmon. According to data collected from returned subsistence salmon permits, residents reported harvesting 4,423 salmon in 2008, compared to 2,792 in 2000. Reported salmon harvests peaked in 2005 at 8,422 fish, a year which coincided with a relatively extensive ADF&G subsistence study in Koliganek. Also in that year, an estimated 13,254 lbs of other salmon fish was harvested. No data specific to subsistence halibut or marine mammal harvests are available for Koliganek between 2000 and 2010 (Tables 14 and 15)

According to ADF&G Community Subsistence Information System (CSIS) data, species that residents of Koliganek have harvested and/or used include butter clams, Dungeness crab, horse clams, octopus, littleneck clams, pinkneck clams, razor clams, shrimp, Tanner crab, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, broad whitefish, sculpin, burbot, char Dolly Varden, flounder, grayling, herring, herring roe, humpback whitefish, lake trout, cisco, lingcod, rainbow trout, rockfish, round whitefish, smelt, steelhead, stickleback, whale, sucker, cod, and northern pike.⁴⁷

Additional Information

In a survey conducted by the AFSC in 2011, community leaders emphasized the importance of commercial salmon, sportfishing, and subsistence to the local economy. They expressed that although the community has not been heavily impacted by specific fisheries policies or management actions, there is local anxiety over mining development and potential impacts to headwaters. Risks to subsistence resources are a chief concern to Koliganek residents.

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	82%	18%	n/a	n/a	70%	656.6
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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).

⁴⁷ Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS)*. ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

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

Year	Subsistence Salmon Permits Issued ¹	Salmon Permits Returned ¹	Chinook Salmon Harvested ¹	Chum Salmon Harvested ¹	Coho Salmon Harvested ¹	Pink Salmon Harvested ¹	Sockeye Salmon Harvested ¹	Lbs of Marine Inverts ²	Lbs of Non-Salmon Fish ²
2000	15	15	835	770	140	n/a	1,047	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	16	11	940	1,245	282	73	1,079	n/a	n/a
2005	22	22	1,402	2,582	266	358	3,814	n/a	13,254
2006	13	9	1,102	1,349	144	108	1,182	n/a	n/a
2007	14	14	1,054	600	194	16	1,216	n/a	n/a
2008	12	11	957	1,189	252	97	1,928	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

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

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

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

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

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

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

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

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

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

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

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

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