

Tununak (too-NOO-nuck)



People and Place

*Location*¹

Tununak is located in a small bay on the northeast coast of Nelson Island, 115 miles northwest of Bethel and 519 miles northwest of Anchorage. Tununak is located in the Bethel Recording District and the Bethel Census Area and is not located within an organized Borough.

*Demographic Profile*²

In 2010, there were 327 inhabitants in Tununak, making it the 155th largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Tununak grew by 1.54%, with an average annual growth rate of 0.79%, indicating a slow rate of population growth (Table 1).

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

Year	U.S. Decennial Census ¹	Alaska Dept. of Labor Estimate of Permanent Residents ²
1990	316	-
2000	325	-
2001	-	326
2002	-	323
2003	-	307
2004	-	329
2005	-	328
2006	-	332
2007	-	340
2008	-	332
2009	-	330
2010	327	-

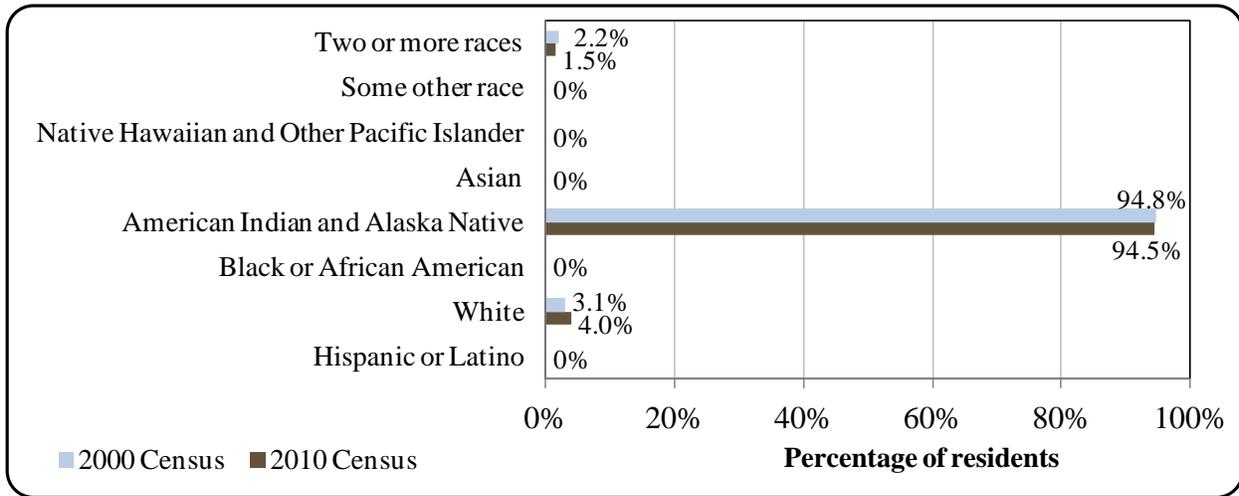
¹ (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from <http://www.census.gov/prod/www/abs/decennial/1990.html>. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places 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>.

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>.

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



Most Tununak residents identified themselves as American Indian and Alaska Native in 2010 (94.5%). Other ethnic groups present in Tununak in that year included White (4%) and two or more races (1.5%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native decreased by 0.3%, while the percentage of the population identifying themselves as two or more races also decreased. There was a corresponding increase in the percentage of the population identifying themselves as White during this period (Figure 1).

The average household size in Tununak in 2010 was 3.89, a decrease from 4 persons per household in 1990 and 3.96 in 2010. The total number of households in Tununak increased from 78 in 1990 to 82 in 2000 to 84 occupied housing units in 2010. Of the 90 housing units surveyed for the 2010 Decennial Census, 64 were owner-occupied, 20 were renter occupied, and six were vacant. Throughout this period no residents of Tununak were reported to be living in group quarters.

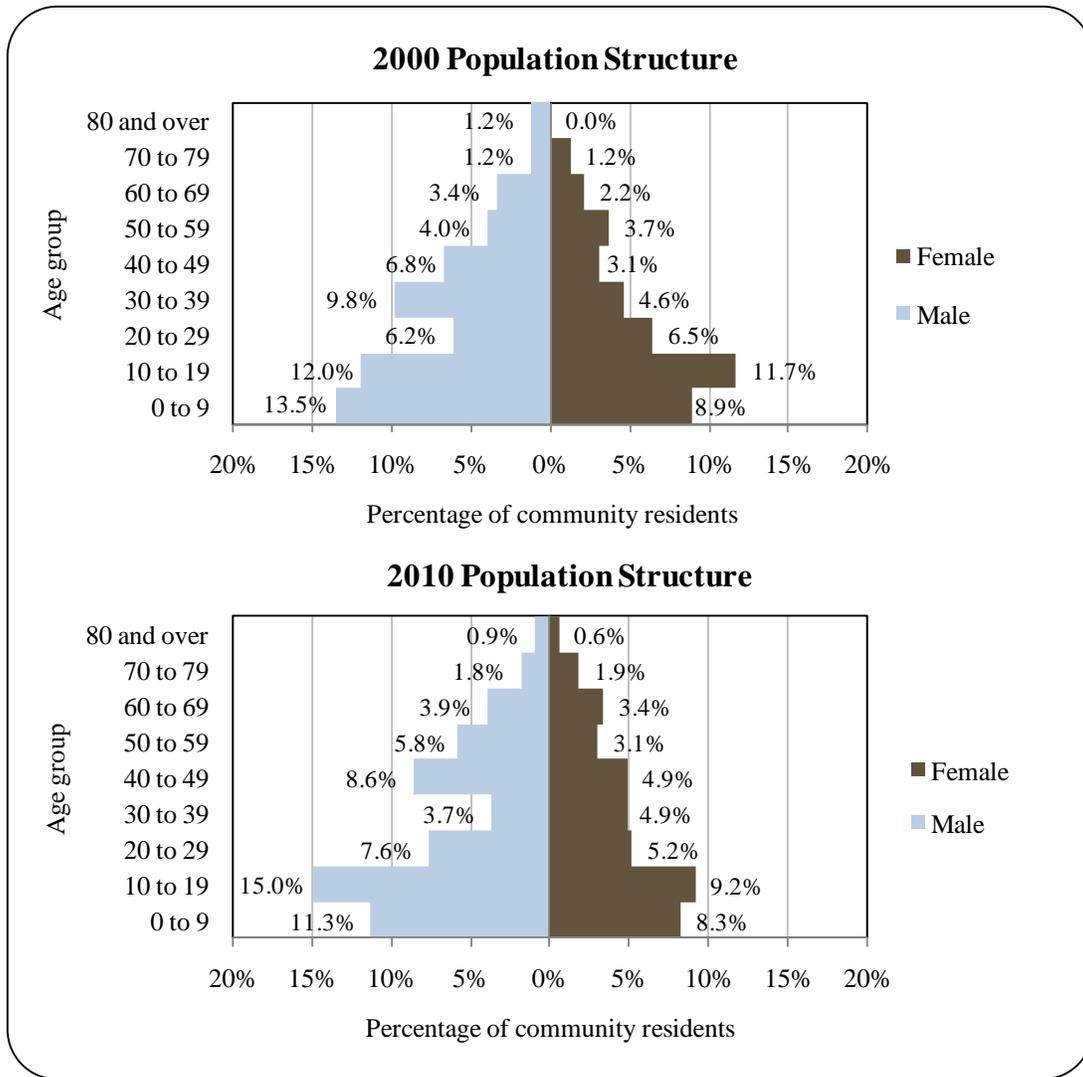
In 2010, the gender makeup in Tununak was 58.7% female and 41.3% male, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 24.6 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the largest percentage of the population fell within the age category 10 to 19 years old, with the next largest percentage falling within the age category 0 to 9 years old. Relatively few individuals were age 70 or over in 2010. The overall population structure of Tununak in 2000 and 2010 is shown in Figure 2.

According to the 2006-10 American Community Survey,³ in terms of educational attainment, 78.1% of Tununak residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 18.4% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 3.6% were estimated to have a ninth to 12th grade

³ 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.

education but no diploma, compared to 5.8% of Alaska residents overall; 45.4% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 25.5% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 1.5% were estimated to have an Associate’s degree, compared to 8% of Alaska residents overall; and 5.6% were estimated to have a Bachelor’s degree, compared to 17.4% of Alaska residents overall.

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



*History, Traditional Knowledge, and Culture*⁴

In 1878, Nelson Island was named after Edward Nelson, a Smithsonian naturalist who noted six people, including one non-Native trader, living in Tununak. In 1889, the Jesuits opened a small chapel and school. They found the villagers difficult to convert due to the migratory nature of their traditional culture and because the shamans were still quite powerful. The mission closed in 1892. In 1925 a government school was built, and a Northern Commercial Company store was opened in 1929. From 1934 to 1962, a missionary named Father Deshout lived on Nelson Island. His long-standing relationship and work with the people in the area had a great influence. The 1950s brought great changes to the islanders' lifestyle, through their involvement with the Territorial Guard and work in fish canneries, high schools, and healthcare treatment for tuberculosis. For many, this was their first exposure outside the community. By the 1970s, snowmobiles were replacing dog-sled teams, and the last qasgiq (men's community house) was abandoned. The city was incorporated in 1975, but it was dissolved on February 28, 1997, in favor of traditional council governance.

Tununak is a traditional Yup'ik Eskimo village, with an active fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the village.

Natural Resources and Environment⁵

The village is located in a marine climate. Average annual precipitation is 17 inches, with 28 inches of snowfall. Summer temperatures can range from 42 to 59 °F (5.6 to 15 °C), and winter temperatures average 2 to 19 °F (-16.7 to -7.2 °C). Extremes have been recorded from 80 to -35 °F (26.7 to -37.2 °C).

Tununak is located on Nelson Island, the second largest island within the Yukon Delta National Wildlife Refuge (Refuge). The southern portion of the island is low-lying and covered with small lakes and streams. The northern portion of the island hosts more rugged terrain, with several peaks over 1,300 feet in elevation. The Bering Sea coast along the Yukon-Kuskokwim River delta is characterized by sandy beaches that merge into active sand dunes greater than 100 feet in height. The dunes are particularly susceptible to erosion.⁶

The Refuge was established “to conserve fish and wildlife populations and habitats in their natural diversity, including, but not limited to shorebirds, seabirds, tundra swans, emperor, white-fronted and Cackling Geese, black brant and other migratory birds, salmon, muskoxen, and marine mammals; to fulfill treaty obligations; to provide the opportunity for continued subsistence uses; and to ensure water quality and necessary water quantity.” Refuge lands are open to sport and subsistence hunting and fishing. The most productive wildlife habitat is the coastal region between Nelson Island and the Askinuk Mountains to the north.⁷ Natural hazards that have been identified to be present in the Bethel Census Area include flooding, earthquakes,

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 Ibid.

⁶ U.S. Fish and Wildlife Service. 2011. Yukon Delta National Wildlife Refuge website. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

⁷ Ibid.

and severe weather.⁸ Communities in the region are also suffering from severe erosion of both riverbanks and coastal shorelines, and are susceptible to tundra fires.^{9,10}

Current Economy¹¹

Employment is primarily with the school district, village corporation, stores, and commercial fishing. Trapping and Native crafts also generate cash for many families, and subsistence activities are an important contributor to villagers' diets. Seal meat, seal oil, and herring are the staples of the diet. Beluga whale and walrus are also hunted. Residents participate in a lottery to hunt musk-ox on Nelson and Nunivak Islands. In 2010, 46 residents held commercial fishing permits. Coastal Villages Seafood, Inc., processes halibut and salmon in Tununak.¹² Top employers in 2010¹³ included Lower Kuskokwim School District, Tununak IRA Traditional Council, Coastal Villages Seafoods Inc., Tununrmiut Rinit Corp., Yukon Kuskokwim Health Corp. 90, Rural Alaska Community Action Program, Coastal Villages Region Fund, Tununak Native Store, United Utilities Inc., and Association of Village Council Presidents.

In 2010, per capita income in Tununak was estimated to be \$12,364 and the median household income was estimated to be \$30,628, compared to \$7,653 and \$25,000 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,¹⁴ the real per capita income in 2000 is shown to have been \$10,064 and the real 2000 median household income was \$32,875. This shows that per capita income increased over the period, while there was a decrease in the median household income. In 2010, Tununak ranked 234th of 305 Alaskan communities with per capita income that year, and 242nd of 299 Alaskan communities with household income data. However, Tununak's small population size may have prevented the American Community Survey from accurately portraying economic conditions.¹⁵ A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, the per capita income in Tununak in 2010 was \$5,794, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in

⁸ State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

⁹ Climate Adaptation Knowledge Exchange (2011). *Relocating the Village of Newtok, Alaska due to Coastal Erosion*. Retrieved January 19, 2012 from <http://www.cakex.org>.

¹⁰ Village of Newtok (2008). *Local Hazards Mitigation Plan*. Retrieved January 19, 2012 from http://www.dced.state.ak.us/dca/planning/pub/Newtok_HMP.pdf.

¹¹ Unless otherwise noted, all monetary data are reported in nominal values.

¹² See footnote 4.

¹³ 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/>.

¹⁴ Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

¹⁵ 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.

2000.¹⁶ 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 2010.¹⁷ However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Tununak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 24.4%.

Based on the 2006-2010 American Community Survey, 70.2% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 28.7%, compared to the statewide unemployment rate of 5.9%. Approximately 29.9% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Tununak are not reflective of the value of subsistence to the local economy.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the public sector (63.7%), while 36.3% were employed in the private sector. Out of 124 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (32.7%), public administration (29.6%), and retail trade (15.4%). Smaller percentages of the workforce were employed in other services except public administration (8%), arts, entertainment, recreation, accommodation, and food services (2.5%), professional, scientific, management, administration, and waste management (1.9%), finance, insurance, and real estate (1.9%), transportation, warehousing, and utilities (3.1%), and construction (4.9%). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

¹⁶ See footnote 13.

¹⁷ Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: www.denali.gov.

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

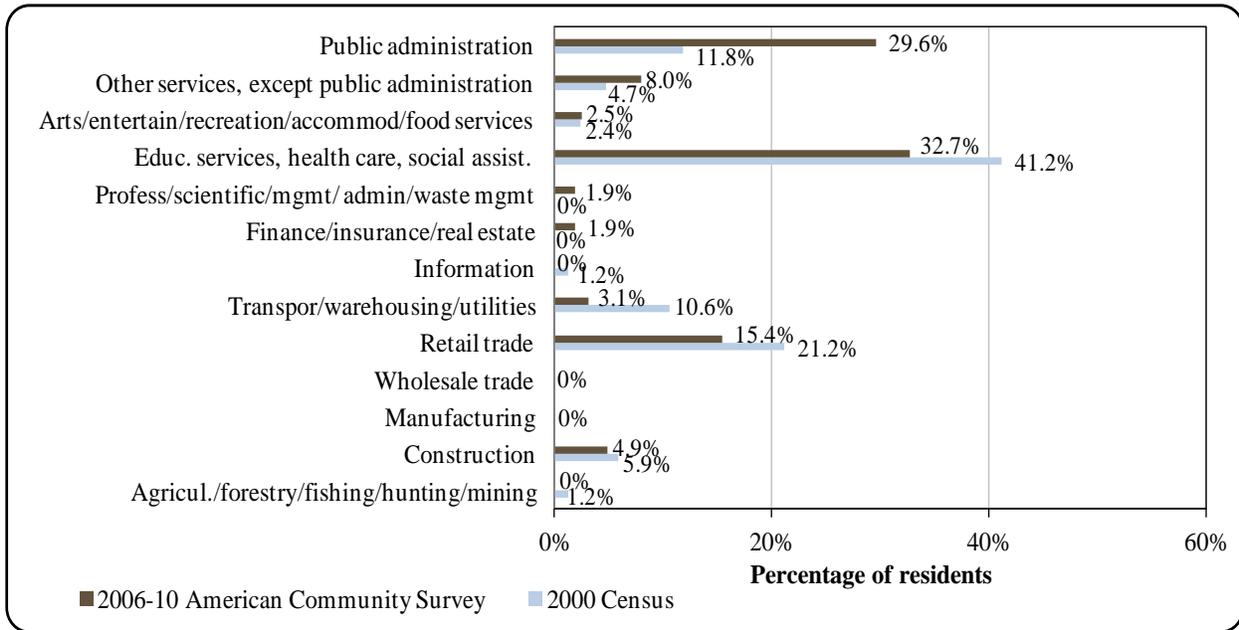
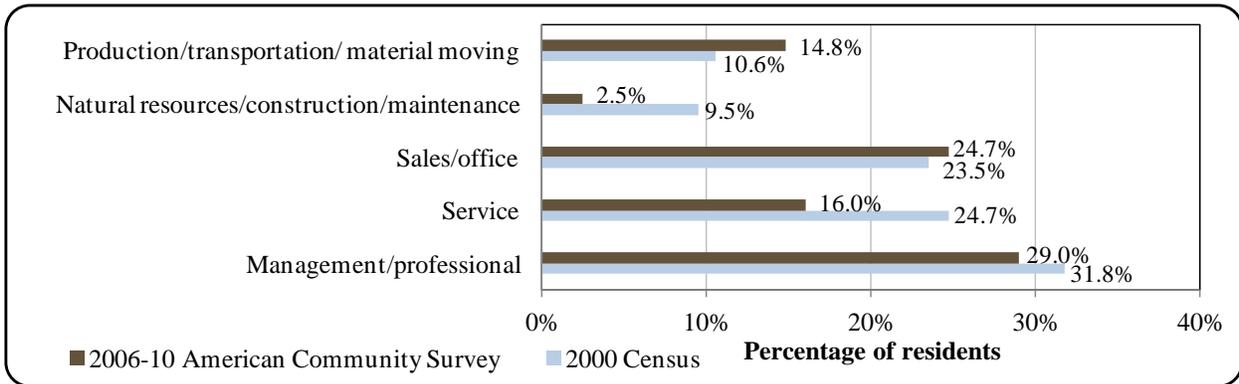


Figure 4. Local Employment by Occupation in 2000-2010, Tununak (U.S. Census).



Governance

Tununak is an unincorporated town that is not located within an organized Borough. Because of Tununak’s unincorporated status, no municipal taxes were administered between 2000 and 2010. However, Tununak did receive State Revenue Sharing contributions of approximately \$3,700 in 2001 and 2003. Tununak did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of Tununak’s community revenue is presented in Table 2.

Tununak was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The local village Native corporation is Tununrmiut Rinit Corporation. The regional Native corporation to which Tununak belongs is the Calista Corporation. The region Calista Corporation serves is a vast and beautiful corner of the world. Tucked between two of Southwest Alaska’s mightiest rivers – the Yukon and the Kuskokwim –

this unique isolated area is the traditional home of the state’s indigenous Yup’ik, Cup’ik and Athabascan people, Calista Corporation’s shareholders. The Calista Region encompasses 57,000 square miles and is the second largest ANCSA region in land size. The land entitlement to Calista, however, is only 6.5 million acres - less than 20 % of the land area. Approximately 75 % of the land within the Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining lands are owned by federal and state governments, with a very small amount privately owned. Surrounded by mostly federally owned lands, the Region is about the size of New York State. It encompasses nearly 10 percent of Alaska’s land area and is comprised of 56 federally recognized tribes. There are no roads that connect the region with the rest of Alaska. Because everything must be flown or barged to each community, the cost of food, fuel, transportation and energy are extraordinarily high. Calista Corporation works hard and partners with many to improve and enrich the way of life for its Shareholders and Descendants.¹⁸

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

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

Year	Total Municipal Revenue ¹	Sales Tax Revenue ²	State/Community Revenue Sharing ^{3,4}	Fisheries-Related Grants (State and Federal) ⁵
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	\$3,707	n/a
2002	n/a	n/a	n/a	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.

¹⁸ Calista Corporation (2011). *Shareholder Overview: Our History*. Retrieved on May 11, 2012 from <http://www.calistacorp.com/shareholders/shareholder-overview>.

Infrastructure

Connectivity and Transportation

Tununak relies on air transportation for passengers, mail, and cargo service. A state-owned 1,778 ft long by 30 ft wide gravel airstrip is available. Barges deliver goods two to four times each summer, and goods are lightered to shore. Boats, snowmobiles, and ATVs are used for local travel.¹⁹ Round-trip airfare between Tununak and Anchorage in June of 2012 was \$768.²⁰

*Facilities*²¹

Water is derived from Muskox Creek. A flush/haul system provides services to some homes. Some residents currently haul water from six watering points. The community relies on the washeteria for laundry and bathing. The school provides its own piped water system, and sewage discharges to the village drainfield. Law enforcement services are provided by a Village Public Safety Officer (VPSO) and state troopers in Bethel. Tununak also has a community hall.

*Medical Services*²²

Medical care is provided by the Tununak Clinic, which is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program (CHAP) site. Emergency services have coastal and air access and are provided by a health aide. The closest Acute Care facility and qualified Emergency Care Center is located in Bethel.

*Educational Opportunities*²³

The Paul T. Albert Memorial School provides instruction to students in pre-school through 12th grade. In 2011 the school had 131 students and 9 teachers.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Tununak is located on Nelson Island on Tununak Bay, across the water from Nunivak Island.²⁴ The area is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Toksook Bay

¹⁹ 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.

²⁰ Airfare was calculated on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

²¹ See footnote 19.

²² Ibid.

²³ Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

²⁴ Ibid.

participates in the Community Development Quota (CDQ) program through the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.²⁵ Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. The mission of CVRF is to provide the means for development of its member communities by sensibly creating tangible, long-term opportunities for all residents who want to fish and work. On behalf of the 20 member communities, CVRF has grown to be the largest seafood owner/operator headquartered in Alaska. CVRF is now able to take a broader and more balanced approach to managing the Kuskokwim Delta and Bering Sea seafood resources. For its residents, CVRF must continue to protect its fisheries and its investments in these fisheries, grow in a strategic and sustainable manner, and remain adaptable to take advantage of all positive opportunities. CVRF's investments in Bering Sea fisheries enables CVRF to provide fishing opportunities in salmon, halibut, and herring in the region.²⁶

Processing Plants

According to ADF&G's 2010 Intent to Operate list, there was one processing plant operating in Tununak in 2010. The Coastal Villages Seafoods fish processing plant in Tununak is a CDQ operation, a subsidiary of the Coastal Villages Region Fund. The Tununak facility processes halibut in June and July. CVRF maintains a local community service center that helps local fishing families maintain, repair, service and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.²⁷

Fisheries-Related Revenue

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

Commercial Fishing

Tununak ranked 57th in landings and 55th in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings in 2010. In 2010, a total of 58 Tununak residents held 75 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the halibut, herring, and salmon fisheries. There were 28 CFEC permits

²⁵ Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.

²⁶ Coastal Villages Region Fund (2010). *CVRF: Who We Are*. Retrieved on May 11, 2012 from <http://www.coastalvillages.org/>.

²⁷ Coastal Villages Seafoods. (n.d.). *Company website*. Retrieved April 15, 2012 from <http://coastalvillages.org/>.

reported as fished in 2010 (37%). Between three and four salmon CFEC permits were issued each year to between three and five Tununak residents, however the only years in which salmon CFEC permits were reported as fished were 2000, 2003, and 2007. Salmon CFEC permits were issued in 2010 for the Bristol Bay drift gill net and Kuskokwim gill net fisheries. In 2010, there were 34 halibut CFEC permits issued to 30 permit holders, with 28 permits (82%) reported as fished. The majority (20) of these permits were issued for the statewide hand troll fishery, with the remainder issued for the statewide longline fishery using vessels under 60 feet and the statewide mechanical jig fishery. The number of halibut CFEC permits, permit holders, and permits reported as fished decreased between 2000 and 2010. There were 37 herring CFEC permits issued to 36 Tununak residents in 2010, though none of the permits issued that year were reported as fished. Nearly all of these permits were issued for the Nelson Island gill net fishery, with one permit issued for the Nunivak Island gill net fishery. Overall between 2000 and 2010, the number of herring CFEC permits and permit holders remained relatively stable, though there were no herring CFEC permits reported as fished in 2005 or between 2007 and 2010. Information on permits and permit holders by species is presented in Table 4.

There was only 1 crew license holder in Tununak in 2010, a substantial decline from 23 crew license holders in 2000. Though there was a shore-side processing facility located in Tununak between 2000 and 2010, the only two years in which a fish buyer was recorded in the community during this period were 2009 and 2010. The number of commercial fishing vessels owned by Tununak residents and the number of vessels homeported in the community both decreased between 2000 and 2010. There were 34 vessels recorded as landing catch in the community in 2009 and 40 vessels in 2010, though the landings and ex-vessel revenue in those years were considered confidential due to a small number of fish buyers. There were no vessels landing catch in the community between 2000 and 2008. Information on characteristics of the commercial fishing sector in Tununak is presented in Table 5.

Between 2000 and 2010, there were 4,454 halibut quota shares were held by residents of Tununak, however there was no Individual Fishing Quota allotment associated with those shares during this period. Information on halibut quota holdings between 2000 and 2010 is presented in Table 6. There were no sablefish quota shares held between 2000 and 2010 (Table 7) and no crab quota shares held between 2005 and 2010 (Table 8) in Tununak.

As stated previously, there were no commercial landings recorded in Tununak between 2000 and 2008. Landings and associated ex-vessel revenue in 2009 and 2010 was considered confidential due to a small number of participants (Table 9). Landings by Tununak residents were considered confidential for all species and all years between 2000 and 2010 except halibut between 2000 and 2010 and herring between 2000 and 2004 and in 2006. Landings and ex-vessel revenue for both species varied widely during this period. Information on landed pounds and ex-vessel revenue by Tununak residents between 2000 and 2010 is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Tununak: 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 revenue</i> ⁴	<i>n/a</i>										
<i>Total municipal revenue</i> ⁵	<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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) ¹	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) ¹	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits ¹	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) ²	Total permits	41	57	49	42	33	37	29	37	34	35	34
	Fished permits	30	45	32	26	21	30	23	31	28	28	28
	% of permits fished	73%	79%	65%	62%	64%	81%	79%	84%	82%	80%	82%
	Total permit holders	37	47	42	37	29	33	27	34	31	31	30
Herring (CFEC) ²	Total permits	38	37	37	37	36	33	34	32	32	37	37
	Fished permits	18	9	8	7	5	0	5	0	0	0	0
	% of permits fished	47%	24%	22%	19%	14%	0%	15%	0%	0%	0%	0%
	Total permit holders	38	37	37	36	37	35	34	32	32	36	36

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) ²	Total permits	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	-	-	-	-	-	-	-	-
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Other Finfish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) ²	Total permits	4	4	4	4	3	3	3	3	3	4	4
	Fished permits	2	0	0	1	0	0	0	1	0	0	0
	% of permits fished	50%	0%	0%	25%	0%	0%	0%	33%	0%	0%	0%
	Total permit holders	5	4	4	4	3	3	3	3	3	4	5
<i>Total CFEC Permits²</i>	<i>Permits</i>	<i>84</i>	<i>99</i>	<i>91</i>	<i>83</i>	<i>72</i>	<i>73</i>	<i>66</i>	<i>72</i>	<i>69</i>	<i>76</i>	<i>75</i>
	<i>Fished permits</i>	<i>51</i>	<i>54</i>	<i>40</i>	<i>34</i>	<i>26</i>	<i>30</i>	<i>28</i>	<i>32</i>	<i>28</i>	<i>28</i>	<i>28</i>
	<i>% of permits fished</i>	<i>61%</i>	<i>55%</i>	<i>44%</i>	<i>41%</i>	<i>36%</i>	<i>41%</i>	<i>42%</i>	<i>44%</i>	<i>41%</i>	<i>37%</i>	<i>37%</i>
	<i>Permit holders</i>	<i>57</i>	<i>60</i>	<i>59</i>	<i>56</i>	<i>51</i>	<i>56</i>	<i>50</i>	<i>53</i>	<i>53</i>	<i>58</i>	<i>58</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 Tununak: 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 Tununak ²	Total Net Pounds Landed in Tununak ^{2,5}	Total Ex-Vessel Value of Landings in Tununak ^{2,5}
2000	23	0	1	55	51	0	0	\$0
2001	13	0	1	55	50	0	0	\$0
2002	16	0	1	47	43	0	0	\$0
2003	12	0	1	41	38	0	0	\$0
2004	10	0	1	32	30	0	0	\$0
2005	2	0	1	35	32	0	0	\$0
2006	8	0	1	27	26	0	0	\$0
2007	2	0	1	35	37	0	0	\$0
2008	3	0	1	33	33	0	0	\$0
2009	4	1	1	34	33	34	--	--
2010	1	1	1	36	34	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 Tununak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	0	4,454	0
2001	0	4,454	0
2002	0	4,454	0
2003	0	4,454	0
2004	0	4,454	0
2005	0	4,454	0
2006	0	4,454	0
2007	0	4,454	0
2008	0	4,454	0
2009	0	4,454	0
2010	0	4,454	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 Tununak: 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 Tununak: 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 Tununak: 2000-2010.

	<i>Total Net Pounds¹</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	--	--
Halibut	0	0	0	0	0	0	0	0	0	--	--
Herring	0	0	0	0	0	0	0	0	0	--	--
Other Groundfish	0	0	0	0	0	0	0	0	0	--	--
Other Shellfish	0	0	0	0	0	0	0	0	0	--	--
Pacific Cod	0	0	0	0	0	0	0	0	0	--	--
Pollock	0	0	0	0	0	0	0	0	0	--	--
Sablefish	0	0	0	0	0	0	0	0	0	--	--
Salmon	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>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Finfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Halibut	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Other Groundfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Other Shellfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Pacific Cod	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Pollock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Sablefish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--
Salmon	\$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 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 Tununak Residents: 2000-2010.

	<i>Total Net Pounds¹</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	18,966	48,763	29,792	17,158	7,573	17,516	30,254	28,720	26,279	14,952	16,719
Herring	342,980	106,926	97,254	211,976	104,217	--	64,676	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total²</i>	<i>361,946</i>	<i>155,689</i>	<i>127,046</i>	<i>229,134</i>	<i>111,790</i>	<i>17,516</i>	<i>94,930</i>	<i>28,720</i>	<i>26,279</i>	<i>14,952</i>	<i>16,719</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	\$23,715	\$59,396	\$52,790	\$21,680	\$9,366	\$36,331	\$113,224	\$124,226	\$114,022	\$36,356	\$52,664
Herring	\$33,118	\$5,346	\$5,057	\$11,447	\$11,047	--	\$3,622	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total²</i>	<i>\$56,833</i>	<i>\$64,743</i>	<i>\$57,847</i>	<i>\$33,127</i>	<i>\$20,413</i>	<i>\$36,331</i>	<i>\$116,846</i>	<i>\$124,226</i>	<i>\$114,022</i>	<i>\$36,356</i>	<i>\$52,664</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 pounds refers to the landed weight recorded in fish tickets.

² Totals only represent non-confidential data.

Recreational Fishing

There were no residents of Tununak holding sport fish guide licenses between 2000 and 2010, and no active sport fish guide business located in Tununak during this period. Given this, no kept/released log book data were reported for fishing charters out of Tununak between 2000 and 2010.²⁸ In 2010, there were 56 sportfishing licenses sold to Tununak residents (irrespective of the location of the point of sale), an increase from 6 licenses sold to community residents in 2000. During this period there were no sportfishing licenses sold within the community, indicating the potential that Tununak residents travel to other areas or nearby communities to participate in sportfishing activities.

The Alaska Statewide Harvest Survey,²⁹ conducted by ADF&G between 2000 and 2010, did not provide information about species targeted by private anglers in Tununak. However, Tununak is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages and information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, saltwater sportfishing activity was minimal, with between zero and 28 non-Alaska resident angler days fished per year, and between zero and 108 Alaska resident angler days fished per year. A majority of sportfishing activity occurred in freshwater, with non-Alaska resident anglers fishing consistently more angler days (12,624 – 17,582 angler days per year) than Alaska resident anglers (5,166 – 9,152 angler days per year). This information about the sportfishing sector in and near Tununak is displayed in Table 11.

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

Year	Active Sport Fish Guide Businesses¹	Sport Fish Guide Licenses¹	Sport Fishing Licenses Sold to Residents²	Sport Fishing Licenses Sold in Tununak²
2000	0	0	6	0
2001	0	0	7	0
2002	0	0	19	0
2003	0	0	21	0
2004	0	0	13	0
2005	0	0	38	0
2006	0	0	12	0
2007	0	0	19	0
2008	0	0	30	0
2009	0	0	39	0
2010	0	0	56	0

²⁸ Alaska Department of Fish and Game (2011). *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

²⁹ 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, Tununak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents ³	Angler Days Fished – Alaska Residents ³	Angler Days Fished – Non-Residents ³	Angler Days Fished – Alaska Residents ³
2000	27	13	13,388	6,602
2001	0	0	16,437	4,236
2002	0	0	14,583	6,062
2003	28	63	16,923	7,355
2004	0	15	16,239	9,152
2005	19	18	13,725	5,685
2006	0	0	14,773	7,616
2007	0	0	13,390	7,816
2008	0	108	17,582	8,172
2009	0	0	12,625	5,166
2010	0	0	14,033	5,422

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

Trapping and Native crafts generate cash for many families, and subsistence activities are an important contributor to villagers’ diets. Seal meat, seal oil, and herring are the staples of the diet. Beluga whale and walrus are also hunted. Residents participate in a lottery to hunt musk-ox on Nelson or Nunivak Islands.³⁰

Data were not reported regarding subsistence participation at the household level or per capita subsistence harvest in Tununak between 2000 and 2010. However, data are reported on total subsistence harvests at the species level. In years for which data were reported for salmon harvests between 2000 and 2010, an average of 101 subsistence salmon permits was issued to Tununak residents, with an average of four permits returned. Coho salmon were the primary species harvested for subsistence (an average of 34 coho per year), along with Chinook salmon, chum salmon, and sockeye salmon (Table 13). Data on subsistence harvest of marine invertebrates and non-salmon fish were not reported during this period.

Between 2004 and 2008, an average of 69 Subsistence Halibut Registration Certificate (SHARC) were issued to Tununak residents, although in only 11 were issued in both 2009 and

³⁰ 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.

2010. The number of SHARC reported as fished averaged 36 between 2004 and 2007, but in 2008 there were 8 permits reported as fished and in 2009 there were 7 permits reported as fished. By 2010, only two SHARC were fished. The reported annual subsistence harvest of halibut averaged 3,520 pounds per year between 2004 and 2008, with 488 pounds of subsistence halibut harvest reported in 2009, and 190 pounds in 2010. Information about subsistence harvest of halibut is presented in Table 14.

Although anecdotal reports of seal and walrus harvests are known, only three walrus were officially reported harvested for subsistence use in 2002, but no other data reported for subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

The ADF&G Division of Subsistence reported that unknown species of marine invertebrates were used for subsistence in Tununak during this period. Marine mammals reported as harvested for subsistence use included bearded seal, ribbon seal, ringed seal, spotted seal, and Steller sea lion. Non-salmon fish reported as harvested for subsistence use included: blackfish, burbot, capelin (grunion), Dolly Varden, flounder, herring, herring roe, herring sac roe, herring spawn on kelp, Pacific cod (gray), Pacific tomcod, pike, sculpin, sheefish, smelt, stickleback (needlefish), unknown smelt, whitefish, and wolf fish.³¹

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

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

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

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

³¹ 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, Tununak: 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	108	9	52	44	23	n/a	48	n/a	n/a
2001	108	2	n/a	n/a	25	n/a	n/a	n/a	n/a
2002	110	5	1	n/a	49	n/a	8	n/a	n/a
2003	110	1	5	10	n/a	n/a	5	n/a	n/a
2004	104	5	5	n/a	40	n/a	10	n/a	n/a
2005	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	61	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

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

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

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

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	70	31	2,605
2005	70	43	2,654
2006	70	33	4,032
2007	69	38	7,015
2008	68	8	1,296
2009	11	7	488
2010	11	2	190

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, Tununak: 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.