

Emmonak (ee-MAHN-nuck)



People and Place

*Location*¹

Emmonak is located at the mouth of the Yukon River, 10 mi from the Bering Sea, on the north bank of Kwiguk Pass. It lies 160 mi northwest of Bethel and 490 mi northwest from Anchorage, in the Yukon Delta National Wildlife Refuge (YDNWR). The area encompasses 7.5 sq mi of land and 1.1 sq mi of water. The community was incorporated as a Second-class city in 1964, is located in the Wade Hampton Census Area, and is not under the jurisdiction of a borough.

*Demographic Profile*²

In 2010, there were 762 residents ranking Emmonak 79th of 352 Alaskan communities in terms of population size. Overall since 1990, the population grew by 18.7%. Between 2000 and 2009, the population grew by 0.91% with an average annual growth rate of 0.18%, which was slightly less than the statewide average of 0.75% and indicative of modest growth. Information regarding population trends can be found in Table 1.

The racial composition of Emmonak is predominately Yup'ik Eskimo. Overall, racial and ethnic composition has remained relatively unchanged between 2000 and 2010 (Figure 1). In 2010, 96.3% of residents identified themselves as American Indian or Alaska Native, compared to 91.3% in 2000. Also in that year, 3.1% of residents identified themselves as White, compared to 5.6% in 2000; 0.4% identified themselves as two or more races, compared to 2.7% in 2000; and 0.1% identified themselves as Asian, compared to 0.1% in 2000. In addition, 0.1% of residents identified themselves as Hispanic or Latino, compared to 1% in 2000.

In 2010, the average household size was 4.12, an increase from 3.9 in 1990 and 4.06 in 2000. In that year, there were 213 total housing units, compared to 172 in 1990 and 218 in 2000. Of the households surveyed in 2010, 75% were owner-occupied, compared to 67% in 2000; 12% were renter-occupied, compared to 19% in 2000; 11% were vacant, compared to 9% in 2000; and 2% were occupied seasonally, compared to 4% in 2000. Since 1990, there have been no reports of residents living in group quarters.

The gender distribution in 2010 was somewhat skewed at 56.3% male and 43.7% female; which was less even than the distribution statewide (52% male, 48% female) and the distribution in 2000 (53.8% male, 46.2% female). The median age that year was 24.4, which was significantly younger than the statewide median of 33.8 and slightly older than the 2000 median of 23.

¹ Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

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>.

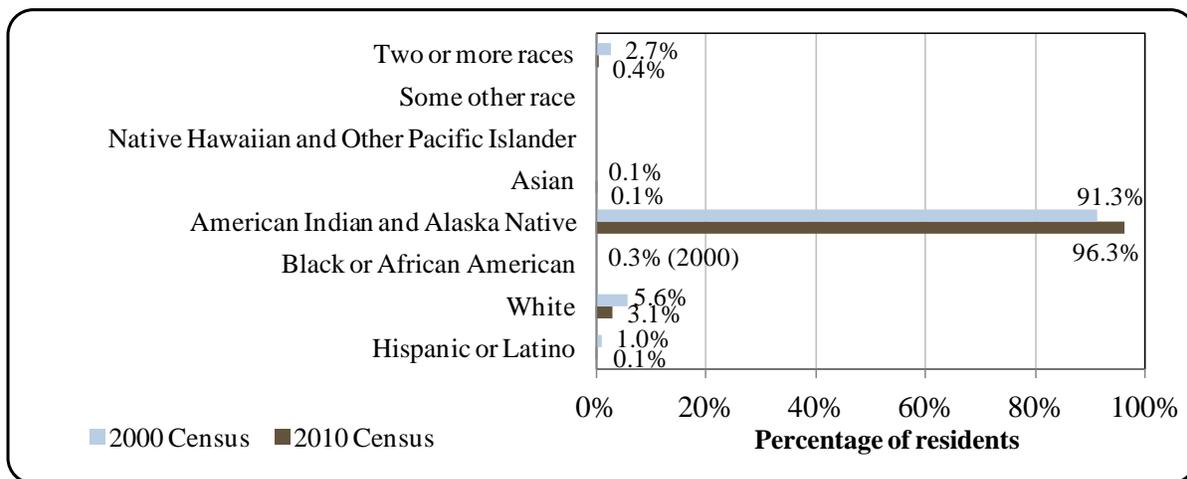
Table 1. Population in Emmonak from 1990 to 2010 by Source.

Year	U.S. Decennial Census ¹	Alaska Department of Labor Estimate of Permanent Residents ²
1990	642	-
2000	767	-
2001	-	764
2002	-	744
2003	-	758
2004	-	764
2005	-	740
2006	-	758
2007	-	775
2008	-	792
2009	-	774
2010	762	-

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, Emmonak: 2000-2010 (U.S. Census).

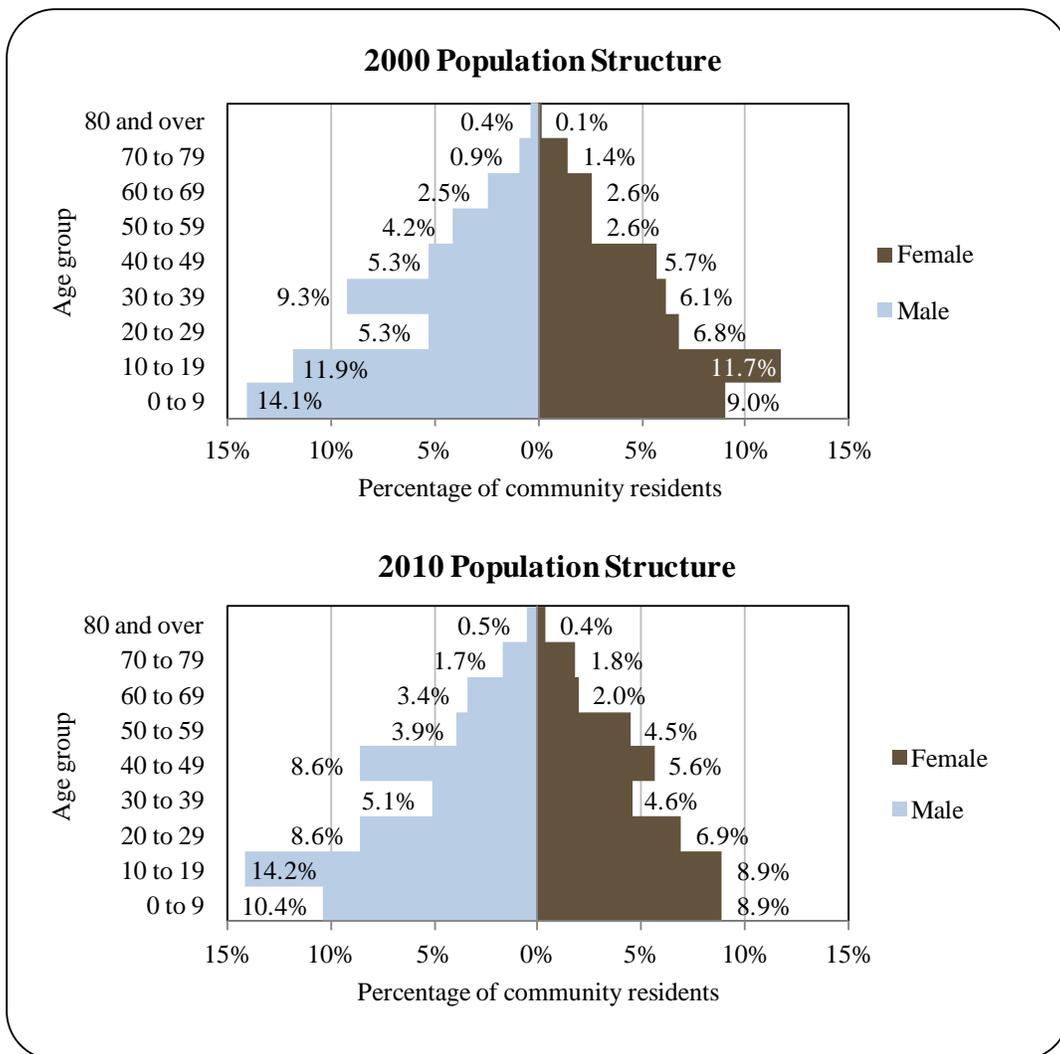


Compared with 2000, the 2010 population structure showed age transitions consistent with a stable population, meaning that cohorts aged while still mostly retaining their structural character. The overall population structures in both 2000 and 2010 can be characterized as expansive, with 42.4% of residents under the age of 20 in 2010, compared to 46.7% in 2000.

Also in that year, 9.8% of residents were over the age of 59, compared to 7.9% in 2000; 32.3% were between the ages of 30 and 59, compared to 33.2% in 2000; and 15.5% were between the ages of 20 and 29, compared to 12.1% in 2000.

Gender distribution by age cohort was slightly less even in 2010 than in 2000, and uneven cohorts were generally biased towards males. In that year, the greatest absolute gender difference occurred in the 10 to 19 range (14.2% male, 8.9% female), followed by the 40 to 49 (8.6% male, 5.6% female) and 20 to 29 (8.6% male, 6.9% female) ranges. Of those three, the greatest relative gender difference occurred in the 10 to 19 range. Information regarding population structure can be found in Figure 2.

Figure 2. Population Age Structure in Emmonak 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 75.5% of residents aged 25 and older held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 9.1% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 15.4% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 25.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3.3% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 9.6% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 2.2% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture

Evidence of occupation of the Lower Yukon Delta and coastal regions date back approximately 3,000 years to the Norton Tradition of Yup'ik, although evidence of occupation in the mountainous regions to the south may date back 6,000 to 8,000 years.⁴ Trade routes with the Chukchis of Siberia predated European contact, and by the time Russian fur traders set up trading posts in the area an extensive trade network throughout the Norton Sound had already been established. The village of Pastuliarraq, next to the Pastolik River and east of present day Kotlik, became a trading hub for region trading over 36,000 lb of beluga whale oil annually. The flow of goods between Alaska and Siberia was so extensive that a Russian trading post at St. Michael was built in hopes of intercepting trade. By the mid to late nineteenth Century, these routes were dismantled due to smallpox and influenza epidemics as well as the emergence of St. Michael as an economic center.⁵

The village was originally called "Kwiguk," a Yup'ik word meaning "big stream". Villagers call themselves "Kuigpagmuit" or "people from the Yukon River". It has also been called "Emanguk" by the Census Bureau. The original settlement was 1.4 mi south of its present location and was first reported by the U.S. Coast and Geodetic Survey in 1899. A post office was established there in 1920. Later, commercial fishing became a major industry in the village, and the Northern Commercial Company built a cannery. In 1964, the cannery was washed away by floods. That same year, the city government was incorporated. Due to increasing flooding and erosion, the village was relocated 1.4 mi north of Kwiguk in 1964-65. The new location was renamed Emmonak, which means "blackfish".⁶

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.

⁴ Shaw, R. D. (1998). An Archaeology of the Central Yupik: a Regional Overview for the Yukon-Kuskokwim Delta, Northern Bristol Bay, and Nunivak Island. *Arctic Anthropology*, 35(1), 234-246.

⁵ Griffin, D. (1996). A Culture in Transition: a History of Acculturation and Settlement near the Mouth of the Yukon River, Alaska. *Arctic Anthropology*, 33(1), 98-115.

⁶ Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Natural Resources and Environment

A maritime climate predominates in Emmonak. Temperatures range from -25 to 79 °F (-32 to 26 °C). Precipitation averages 19 inches per year, while snowfall averages 50 to 60 inches per year. Yukon River freeze-up occurs during October; break-up occurs in June.⁷

Emmonak is located in the YDNWR, which occupies 26 million acres of western Alaska. The area surrounding Emmonak is characterized by wet lowlands covered by numerous shallow lakes and ponds. Rivers and tributaries are also common features throughout the landscape. Soils are predominately silt and clay alluvium covered in peat. Vegetation is consistent with subarctic tundra, and underlain by permafrost of varying depths dependant on proximity to water. Riparian black spruce and poplar line rivers and tributaries, and a variety of scrub, peatland, heath meadow, marsh, and bog habitats populate the tundra.⁸

The YDNWR supports one of the largest aggregations of water birds in the world. Millions of waterfowl shorebirds and migratory birds frequent the area. The Yukon River supports runs of all five species of Pacific salmon. Freshwater fish include sheefish, whitefish, Alaska blackfish, burbot, northern pike, Dolly Varden, rainbow trout, and Arctic grayling. Marine species include herring, halibut, tomcod, and starry flounder. Marine mammals in the area include Pacific walrus, spotted seals, ringed seals, Pacific bearded seals, harbor and Dall porpoises, fur and harbor seals, and beluga, fin, gray, killer, and minke whales. Terrestrial mammals include moose, brown bears, shrews, muskrat, lemming, weasel, mink, otter, and caribou.⁹

Beyond fisheries and ecosystem services, there are no other viable environmental resources in the vicinity of Emmonak. Harvestable timber resources are not available, and the YDNWR precludes mineral and oil development.¹⁰

Environmental hazards present in the community include coastal and riverine flooding and erosion, wildfire, earthquakes, and severe weather events. Flooding and erosion present the greatest hazard to Emmonak due to a range of factors including its location on unconsolidated soils, permafrost melt, seasonal variations in Yukon River flow, and storm events. Climate change is expected to exacerbate flooding and erosion processes through changes in sea ice seasonality, increases in storm frequency and magnitude, and permafrost melt. Winter cyclonic storms bringing high winds, heavy snow, or extreme cold conditions can impact infrastructure and transportation systems. The possibility of wildfires occurring in the Emmonak area is present, but probability is unknown. Vegetation in the Yukon Delta region is consistent with subarctic moist tundra, and there is no historical precedence of wildfires in the area. In addition, while the possibility of an earthquake impacting Emmonak exists, probability of one occurring is low.¹¹

⁷ Ibid.

⁸ U.S. Fish and Wildlife Service. (2004). *Land Conservation Plan for Yukon Delta National Wildlife Refuge*. Retrieved April 4, 2012 from: http://alaska.fws.gov/nwr/planning/pdf/YD_LCP.pdf.

⁹ Ibid.

¹⁰ Ibid.

¹¹ City of Emmonak; WH Pacific; and Bechtol. (2008). *City of Emmonak Alaska: Local Hazards Mitigation Plan*. Retrieved April 4, 2012 from: http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Emmonak_LHMP.pdf.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active locally in 2010.¹²

Current Economy¹³

The city experiences a seasonal economy as a center for commercial fishing, purchasing, and processing on the lower Yukon River. Yukon Delta Fish Marketing Co-op and Bering Sea Fisheries process and export salmon from Emmonak. Subsistence activities, trapping, and public assistance support the cash economy. The majority of the community travels to fish camps during the summer months to dry salmon for winter use. Moose, beluga whale, seal, and waterfowl are also utilized.¹⁴ Top employers¹⁵ in 2010 included: Kwipak Fisheries LLC, City of Emmonak, Lower Yukon School District, Emmonak Tribal Council, Emmonak Corporation, Yukon-Kuskokwim Health Corporation, AK Commercial Company, Yukon River Towing LLC, Rural AK Community Action Program, and Chuloonawick Native Village.

In 2010,¹⁶ the estimated per capita income was \$13,529 and the estimated median household income was \$55,313, compared to \$9,069 and \$32,917 in 2000, respectively. However, after accounting for inflation by converting 2000 values with 2010 dollars,¹⁷ the real per capita income (\$11,778) and real median household income (\$43,285) indicate an increase in both individual and household earnings. In that year, Emmonak ranked 219th of 305 communities from which per capita income was estimated, and 101st of 299 communities from which median household income was estimated.

Emmonak's small population size may have prevented the ACS from accurately portraying economic conditions.¹⁸ A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned \$6.49 million in total wages in 2010.¹⁹ When matched with the population in 2010, the per capita income equals \$8,511, which was significantly less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures.²⁰ In addition, the community was recognized as “distressed” by the Denali Commission indicating that over 70%

¹² Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved August 21, from: <http://www.dec.state.ak.us/spar/csp/list.htm>.

¹³ Unless otherwise noted, all monetary data are reported in nominal values.

¹⁴ Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/comddb/CF_BLOCK.htm.

¹⁵ 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/>.

¹⁶ 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>.

¹⁷ Inflation calculated using the 2010 Anchorage CPI from the Alaska Department of Labor (Retrieved January 15, 2012 from <http://labor.alaska.gov/research/cpi/cpi.htm>).

¹⁸ See footnote 3.

¹⁹ ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

²⁰ See footnote 15.

of residents aged 16 and older earned less than \$16,120 in 2010.²¹ However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates, 58.1% of residents over the age of 16 were in the civilian labor force in 2010. In that year, unemployment was estimated at 12.5%, compared to an estimated 5.9% statewide; and an estimated 17.8% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed, an estimated 39.8% worked in the private sector, 58% worked in the public sector, and 2.2% were self-employed. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Emmonak do not reflect the value of subsistence to the local economy.

Emmonak's economy is relatively diverse, although the majority of wage employment is seasonal. By industry, most (39.8%) employed residents in 2010 were estimated to work in education service, health care, or social assistance sectors; followed by public administration sectors (15.2%); retail trade sectors (12.1%); and agriculture, forestry, fishing, hunting, and mining sectors (6.9%) (Figure 3). By occupation type, most (39.4%) employed residents in 2010 were estimated to hold management or professional positions; followed by service (22.9%); sales or office (16%); production, transportation or material moving (12.6%); and natural resources, construction, or maintenance positions (9.1%) (Figure 4). Employment by industry varied little between 2000 and 2010, with a modest increases in education services, health care, social assistance, agriculture, forestry, fishing, hunting, and mining sectors; and slight declines in most other sectors. In addition, there was growth in the number of management, professional, service, production, transportation, and material moving positions; and declines in all others. According to 2010 ALARI estimates, most (39.8%) employed residents worked in local government sectors; followed by manufacturing sectors (20.7%); and trade, transportation, and utilities sectors (20.4%). Information regarding employment trends can be found in Figures 3 and 4.

²¹ 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, Emmonak (U.S. Census).

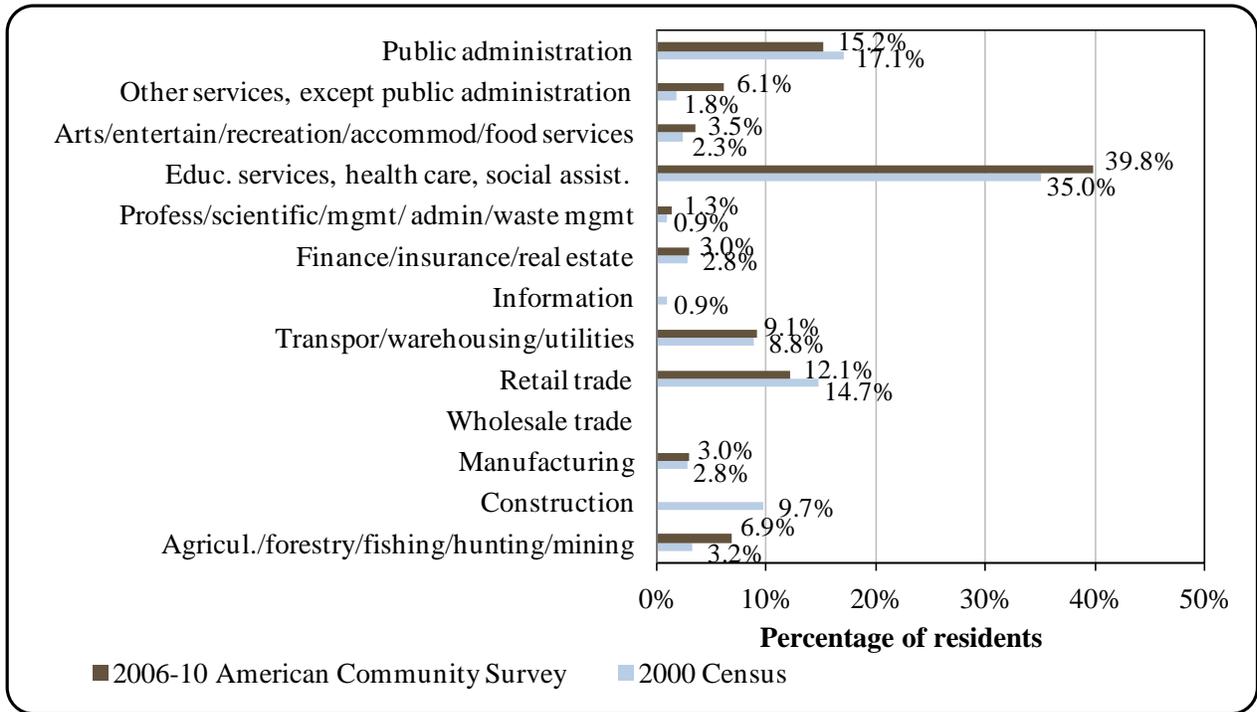
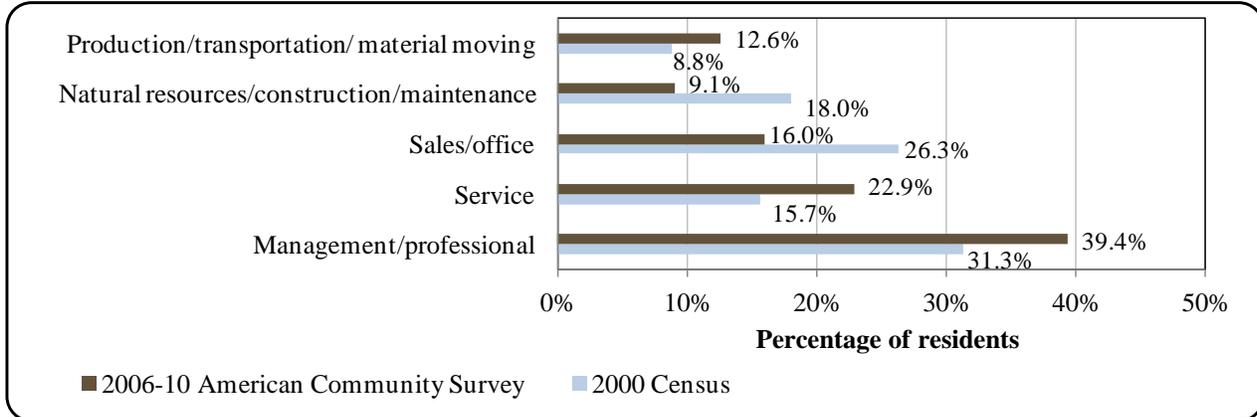


Figure 4. Local Employment by Occupation in 2000-2010, Emmonak (U.S. Census).



Governance

Emmonak is a Second-class city with a mayoral form of government. There is a U.S. Bureau of Indian Affairs recognized Native village council, and the Emmonak Corporation is the Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation.

There is a seasonally operated Alaska Department of Fish and Game (ADF&G) office located in the city. The closest permanent ADF&G office is located in Nome, 120 mi north. The closest U.S. Bureau of Citizenship and Immigration Services office is also located in Nome. The closest National Marine Fisheries Service (NMFS) office is located in Bethel 160 mi southeast.

In 2010, Emmonak administered a 3% sales tax. When adjusted for inflation,²² total municipal revenues increased by 71.6% between 2000 and 2010 from \$1.56 million, to \$3.46 million. Most revenues collected in 2010 came from grants, followed by gaming, rentals, utility and service payments, Community Revenue Sharing, and sales taxes. Inflation adjusted municipal revenues remained relatively constant between 2000 and 2010, averaging approximately \$2.22 million. In 2010, sales tax accounted for 5.7% of total revenues, compared to 10.4% in 2000. In 2010, Emmonak received \$134,817 in state allocated Community Revenue Sharing, which accounted for 3.9% of total revenues. This represented a proportional decrease from 2000, when \$67,195 in State Revenue Sharing accounted for 4.3%. Between 2000 and 2010, Emmonak received one fisheries-related grant. In 2009, \$516,000 was awarded by the state for a port feasibility and design project. Information regarding municipal finances can be found in Table 2.

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

Year	Total Municipal Revenue ¹	Sales Tax Revenue ²	State/Community Revenue Sharing ^{3,4}	Fisheries-Related Grants (State and Federal) ⁵
2000	\$1,559,908	\$161,884	\$67,195	n/a
2001	\$1,433,560	\$135,774	\$50,662	n/a
2002	\$1,359,589	\$122,902	\$50,642	n/a
2003	\$1,842,018	\$137,760	\$47,676	n/a
2004	\$1,800,496	\$152,049	-	n/a
2005	\$1,484,840	\$150,592	-	n/a
2006	\$1,920,193	\$155,228	-	n/a
2007	\$2,706,792	\$146,648	-	n/a
2008	\$2,012,810	\$141,211	-	n/a
2009	\$2,330,170	\$181,396	\$136,505	\$516,000
2010	\$3,460,680	\$198,843	\$134,817	n/a

¹ Alaska Department of Community 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 Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from

http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

³ Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 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 Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

²² Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Infrastructure

*Connectivity and Transportation*²³

Emmonak relies on air and water transportation. A state-owned 4,601 ft long by 100 ft wide gravel airstrip is available. Roundtrip airfare between Anchorage and Emmonak in June 2012 was \$840.²⁴ There are no connecting roads, but winter trails to Kotlik, Alakanuk, and Nunam Iqua are used by snowmobiles. Skiffs and ATVs are used during the summer for local transportation.

*Facilities*²⁵

Water is derived from the Yukon River and is treated. Piped water and sewer services were expanded to the west side, so homes, businesses, and the school are now served with an above-ground circulating water system and vacuum sewage system. Electricity is provided by diesel generator. Visitor accommodations include City Hotel and Howie & Audrey's Bed and Breakfast. Public safety services are provided by local state troopers. Fire and rescue services are provided by Emmonak Volunteer Fire Department. Additional public facilities include a youth center, community center, gym, and library. Communications services include local and long distance telephone, cable television, radio, and internet.

*Medical Services*²⁶

Pearl E. Johnson Sub-Regional Clinic provides general and emergency health care and is a Community Health Aid Program site. Nearby hospitals are located in Nome and Bethel.

*Educational Opportunities*²⁷

Emmonak School offers preschool through 12th grade instruction. In 2011, there were 209 students enrolled and 17 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

People of the Yukon River Delta region have been sustained by salmon for millennia. Prior to Russian contact in the mid-1800s, fish were harvested and traded throughout the Yukon-

²³ Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/comddb/CF_BLOCK.htm.

²⁴ Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).

²⁵ See footnote 23.

²⁶ Ibid.

²⁷ Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

Kuskokwim (Y-K) Delta area. Trade routes were also established with Inupiat and Athabascan peoples outside the Y-K Delta, and reached as far as Siberia.²⁸

Management of Yukon River salmon dates back to 1919, when limits on commercial salmon harvesting were first established following concerns by subsistence users over weak salmon runs. In that year, canned salmon was limited to 30,000 cases. In that year, salmon runs were reported at their worst, and subsistence users upriver were struggling.²⁹ In addition, pickled salmon was limited to 1,000 barrels and cured salmon was limited to 200 tierces. At that time, commercial fishing was prohibited above the mouth of the Clear River, which was 114 mi from the mouth of the Yukon River. By 1924, fishing on the Yukon River was prohibited until it was reopened again in 1935. Management of salmon fisheries was passed to the U.S. Department of the Interior in 1940, where it remained until the state assumed control in 1960.³⁰

Today, residents of Emmonak primarily participate in commercial and subsistence salmon fisheries. The community is located in Federal Reporting Area 514, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. Emmonak is also eligible for participation in the Community Development Quota (CDQ) program and is represented by the Yukon Delta Fisheries Development Association. 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.³¹ Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

Processing Plants

Kwik'pak Fisheries LLC began operations in 2011. During the plant's peak season, which includes salmon and freshwater whitefish, the plant employs a maximum of 185 workers³² who are primarily Eskimo (Siberian Yupik). In its galley, Kwik'pak serves its workers seal oil as a condiment and dip for meat and fish. The galley also serves such items as fish head soup, ducks, caribou, and moose which are brought in by workers' families to be prepared for consumption. In addition, the management of the Kwik'pak plant has made it a practice to employ local elders to captain tender boats, thereby allowing these elders to pass their traditional navigational skills and knowledge to younger generations. Plant management also honors local subsistence practices by allowing younger processing workers to leave work to help with their families' traditional harvesting practices.³³ Kwik'pak Fisheries is a community-based business, formed by six local villages. It offers employment, training, and educational opportunities to area

²⁸ Moncrieff, C.F. (2007). *Traditional Ecological Knowledge of Customary Trade of Subsistence Harvested Salmon on the Yukon River*. Retrieved April 5, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/04-265final.pdf>.

²⁹ Ikuta, H. (2010). *Historical Perspectives on Yukon and Kuskokwim Chinook Salmon Subsistence Fishing*. Retrieved April 5, 2012 from: <http://www.avcp.org/apps/Agendas-Reports/>.

³⁰ Pennoyer, S.; Middleton, K.R.; and Morris, M.E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 5, 2012 from: <http://www.sf.adfg.state.ak.us/fedaidpdfs/afrbIL.070.pdf>.

³¹ 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.

³² This information is based on the results of a processing plant survey conducted by the Alaska Fisheries Science Center in 2011.

³³ NOAA observation during a field visit, July 2009.

residents and their families and works to “enable Yupik families to continue the traditional lifestyle their people have practiced for thousands of years...fishing, hunting and living off the land.”³⁴

Fisheries-Related Revenue

Emmonak receives fisheries-related revenue from both raw fish taxes and Shared Fisheries Business Taxes. In 2010, \$23,981 was collected through fisheries-related revenue streams, compared to \$20,253 in 2000. Fisheries-related revenue peaked in 2004 at \$27,711. Information regarding fisheries-related revenue can be found in Table 3.

Commercial Fishing

In 2010, 110 residents, or 14.4% of the total population, held 118 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 110 residents held 112 CFEC permits. Fisheries prosecuted by residents in 2010 included: statewide set gillnet freshwater fish and lower Yukon gillnet salmon.³⁵ Of the CFEC permits held in 2010, 87% were for salmon, compared to 94% in 2000; 11% were for other finfish, compared to 0% in 2000; and 2% were for herring, compared to 4% in 2000. In addition, between 2000 and 2010, two residents held two License Limitation Program (LLP) permits for crab, although neither was active during that time. No residents held groundfish LLP or Federal Fisheries Permits (FFP) between 2000 and 2010. Also, no residents held halibut, sablefish, or crab quota shares between 2010 and when the programs began.

Residents held 111 commercial crew licenses (14.5% of the total population) in 2010, compared to 134 in 2000. Also in that year, residents held majority ownership of 23 vessels, compared to 21 in 2000. No landings were made in Emmonak in 2010 and landings made in 2009 are considered confidential; however, in 2008 1.98 million pounds were landed valued at \$1.39 million ex-vessel, compared to 529,925 lb valued at \$1,161,336 in 2002. By species, 1.95 million pounds of salmon valued at \$1.37 million ex-vessel were landed in Emmonak in 2008, compared to 326,906 lb valued at \$1.15 million 2002; a decrease of approximately \$4 per pound after accounting for inflation³⁶ and without considering the species composition of landings. Landings by residents were considered confidential for most species during most years. In 2007, residents landed 26,240 lb of salmon valued at \$25,316. Compared to 24,343 lb valued at \$31,423 in 2006. Information regarding commercial fishing trends can be found in Tables 4 through 10.

³⁴ Kwikpak Fisheries. (n.d.). Retrieved from: <http://kwikpakfisheries.com/>.

³⁵ 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.]

³⁶ Inflation calculated using the 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, retrieved January 15, 2012 from <http://www.bls.gov/ppi/#data>.

NOAA-TM-AFSC-259 – Volume 12
Community Profiles for North Pacific Fisheries – Alaska: Emmonak

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax ¹	\$16,000	\$11,156	\$2,223	\$123	\$27,711	\$3,826	\$5,921	n/a	\$10,212	\$8,369	\$10,000
Shared Fisheries Business Tax ¹	\$4,253	\$11,233	\$2,223	\$123	\$0	\$3,826	\$5,921	\$8,898	\$10,299	\$8,472	\$13,981
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>\$20,253</i>	<i>\$22,389</i>	<i>\$4,446</i>	<i>\$245</i>	<i>\$27,711</i>	<i>\$7,652</i>	<i>\$11,842</i>	<i>\$8,898</i>	<i>\$20,511</i>	<i>\$16,842</i>	<i>\$23,981</i>
<i>Total municipal revenue⁵</i>	<i>\$1.56 M</i>	<i>\$1.43 M</i>	<i>\$1.36 M</i>	<i>\$1.84 M</i>	<i>\$1.80 M</i>	<i>\$1.48 M</i>	<i>\$1.92 M</i>	<i>\$2.71 M</i>	<i>\$2.01 M</i>	<i>\$2.33 M</i>	<i>\$3.46 M</i>

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

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

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

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

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

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

NOAA-TM-AFSC-259 – Volume 12
Community Profiles for North Pacific Fisheries – Alaska: Emmonak

Table 4. Permits and Permit Holders by Species, Emmonak: 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	2	2	2	2	2	2	2	2	2	2	2
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	2	2	2	2	2	2	2	2	2	2	2
Federal Fisheries Permits ¹	Total permits	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	n/a							
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Crab (CFEC) ²	Total permits	2	4	6	4	2	1	0	0	0	0	0
	Fished permits	0	0	2	0	1	0	0	0	0	0	0
	% of permits fished	0%	0%	33%	0%	50%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	4	5	4	2	1	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	5	2	4	3	2	3	2	2	2	2	2
	Fished permits	1	1	3	0	0	0	0	0	0	0	0
	% of permits fished	20%	50%	75%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	4	2	4	3	2	3	2	2	2	2	2

Table 4 cont'd. Permits and Permit Holders by Species, Emmonak: 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	8	23	19	19	14	13
	Fished permits	0	0	0	0	0	6	8	8	4	7	5
	% of permits fished	n/a	n/a	n/a	n/a	n/a	75%	35%	42%	21%	50%	38%
	Total permit holders	0	0	0	0	0	8	23	19	19	14	13
Salmon (CFEC) ²	Total permits	105	102	101	102	100	101	105	105	106	106	103
	Fished permits	86	0	90	91	90	93	97	99	93	79	77
	% of permits fished	82%	0%	89%	89%	90%	92%	92%	94%	88%	75%	75%
	Total permit holders	110	103	107	106	104	108	108	111	113	111	108
<i>Total CFEC Permits²</i>	<i>Permits</i>	<i>112</i>	<i>108</i>	<i>111</i>	<i>109</i>	<i>104</i>	<i>113</i>	<i>130</i>	<i>126</i>	<i>127</i>	<i>122</i>	<i>118</i>
	<i>Fished permits</i>	<i>87</i>	<i>1</i>	<i>95</i>	<i>91</i>	<i>91</i>	<i>99</i>	<i>105</i>	<i>107</i>	<i>97</i>	<i>86</i>	<i>82</i>
	<i>% of permits fished</i>	<i>78%</i>	<i>1%</i>	<i>86%</i>	<i>83%</i>	<i>88%</i>	<i>88%</i>	<i>81%</i>	<i>85%</i>	<i>76%</i>	<i>70%</i>	<i>69%</i>
	<i>Permit holders</i>	<i>110</i>	<i>104</i>	<i>109</i>	<i>108</i>	<i>104</i>	<i>109</i>	<i>115</i>	<i>116</i>	<i>116</i>	<i>114</i>	<i>110</i>

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

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

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

Year	Crew License Holders¹	Count Of All Fish Buyers²	Count Of Shore-Side Processing Facilities³	Vessels Primarily Owned By Residents⁴	Vessels Homeported⁴	Vessels Landing Catch In Emmonak²	Total Net Pounds Landed In Emmonak^{2,5}	Total Ex-Vessel Value Of Landings In Emmonak^{2,5}
2000	134	3	2	21	23	0	0	\$0
2001	12	1	1	9	14	26	--	--
2002	85	6	2	11	17	30	529,925	\$1,161,336
2003	123	7	0	8	14	36	986,660	\$1,679,738
2004	103	6	2	11	17	12	1,311,750	\$2,973,314
2005	78	6	2	12	21	39	1,907,880	\$1,947,302
2006	115	5	2	13	24	45	2,533,937	\$3,783,610
2007	153	10	2	15	24	45	2,602,586	\$2,603,291
2008	132	7	1	16	31	31	1,967,190	\$1,394,197
2009	105	2	1	22	39	30	--	--
2010	111	1	1	23	40	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 Emmonak: 2000-2010.

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

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

Table 7. Sablefish Catch Share Program Participation by Residents of Emmonak: 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 Emmonak: 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.]

NOAA-TM-AFSC-259 – Volume 12
Community Profiles for North Pacific Fisheries – Alaska: Emmonak

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Emmonak: 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	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	326,906	819,522	--	1,901,565	2,522,674	2,593,127	1,945,981	--	--
<i>Total²</i>	--	--	<i>326,906</i>	<i>819,522</i>	--	<i>1,901,565</i>	<i>2,522,674</i>	<i>2,593,127</i>	<i>1,945,981</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	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	\$1,151,591	\$1,639,500	--	\$1,941,109	\$3,775,117	\$2,594,263	\$1,372,988	--	--
<i>Total²</i>	--	--	<i>\$1,151,591</i>	<i>\$1,639,500</i>	--	<i>\$1,941,109</i>	<i>\$3,775,117</i>	<i>\$2,594,263</i>	<i>\$1,372,988</i>	--	--

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

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

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

² Totals only represent non-confidential data.

NOAA-TM-AFSC-259 – Volume 12
Community Profiles for North Pacific Fisheries – Alaska: Emmonak

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

	<i>Total Net Pounds¹</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	24,343	26,240	--	--	--
<i>Total²</i>	--	--	--	--	--	--	24,343	26,240	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	\$31,423	\$25,316	--	--	--
<i>Total²</i>	--	--	--	--	--	--	\$31,423	\$25,316	--	--	--

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

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

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

² Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing by non-local residents around Emmonak is limited due to the remote location of the community. There were not any sport fish guide businesses located in the community between 2000 and 2010. In 2010, 163 sport fishing licenses were sold to residents, and 301 total licenses were sold in the community, compared to 104 and 0 in 2000, respectively. Local sport fishing license sales peaked in 2009 at 319 sold (Table 11).

Emmonak is located in the Yukon River drainage ADF&G Sport Fishing Survey Area, which includes all Yukon River drainages from the south side of the Brooks Range to the Bering Sea; and from the Canadian border to the Bering Sea. In 2010, there were a total of 9,134 freshwater angler days fished, compared to 11,223 in 2000. In that year, non-Alaska residents accounted for 43.6% of angler days fished, compared to 29.8% in 2000. According to ADF&G Harvest Survey data,³⁷ local private anglers target coho salmon and Arctic grayling. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence fishing is an important part of life for residents of Emmonak. In 1995, an estimated 80% of Emmonak households were participating in subsistence salmon fisheries.³⁸ Subsistence salmon fishing occurs late May through early October. Many households within the Lower Yukon River area with commercial permits sell most of their catch to commercial buyers while retaining some to be processed by the family for local consumption. Common fishing methods used include weirs, traps, dip gill nets, set gill nets, drift gill nets, fish arrows, and fishwheels.³⁹ According to a 2009 ADF&G report, in 2008, salmon and other fish made up an estimated 54% of the subsistence harvest in Emmonak. Also in that year, marine mammals made up an estimated 16% of the subsistence harvest while terrestrial mammals, birds, wild plants, and eggs made up the remainder. Between 1980 and 2008, per capita subsistence harvest levels declined from an estimated 612 lb, to an estimated 510 lb. Shellfish are also significantly harvested by Emmonak residents.^{40,41}

Although overall subsistence harvest percentages were available from the documents cited above, as of the writing of this profile, no data were reported in the Community Subsistence Information System regarding the percentage of Emmonak households involved in subsistence of

³⁷ Alaska Department of Fish and Game. (2011). *Alaska Sportfishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

³⁸ Borba, B. M.; and Hamner, H. H. (1996). *Subsistence and Personal Use Salmon Harvest Estimates, Yukon Area, 1995*. Retrieved April 6, 2012 from: <http://www.sf.adfg.state.ak.us/fedaidpdfs/RIR.3A.1996.28.pdf>.

³⁹ Wolfe, R. J. (1982). *The Subsistence Salmon Fishery of the Lower Yukon River*. Retrieved July 5, 2012 from: <http://www.subsistence.adfg.state.ak.us/TechPap/tp060.pdf>.

⁴⁰ Fall, J.A., Brown, C.L., Braem, N.S., Hutchinson-Scarborough, L.B., Koster, D.S., Krieg, T.M., Slayton, L., 2012. Subsistence Harvests and Use in Three Bering Sea Communities, 2008: Akutan, Emmonak, and Togiak. Alaska Department of Fish and Game. Division of Subsistence Technical Paper no. 371, Juneau.

⁴¹ Fall, J. A. (2011). *Continuity and Change in Subsistence Harvests in Three Bering Sea Communities: Akutan, Emmonak, and Togiak*. Retrieved July 5, 2012 from: <http://seagrant.uaf.edu/conferences/2011/wakefield-people/presentations/fall-akutan-emmonak-togiak.pdf>.

various marine species, or per capita subsistence harvest between 2000 and 2010.⁴² This is reflected in Table 12.

Although information is not presented at the household level, information is available regarding total reported salmon and marine mammal harvests by residents between 2000 and 2010. ADF&G provides estimated harvest levels of salmon for subsistence purposes based on the issuance and retrieval of subsistence salmon permits. Between 2000 and 2008, between 61 and 90 salmon permits were issued for household harvests in Emmonak (Table 13). Chum salmon are harvested most, followed by Chinook, coho, and pink salmon. In 2008, residents reported harvesting 15,370 fish, compared to 12,220 in 2000. Reported salmon harvests peaked in 2006 at 16,941 fish.

Some data were also available regarding marine mammal harvest by Emmonak residents. Between 2000 and 2009, an estimated 200 beluga whales and 2 walrus were harvested (Table 15). Data regarding subsistence harvests of halibut (Table 14), marine invertebrates and non-salmon fish (Table 13) and other marine mammals are not available.

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

Year	Active Sport Fish Guide Businesses¹	Sport Fish Guide Licenses¹	Sport Fishing Licenses Sold to Residents²	Sport Fishing Licenses Sold in Emmonak²
2000	0	0	104	0
2001	0	0	106	0
2002	0	0	65	0
2003	0	0	98	0
2004	0	0	73	0
2005	0	0	134	153
2006	0	0	158	212
2007	0	0	152	201
2008	0	0	147	250
2009	0	0	188	319
2010	0	0	163	301

⁴² Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 11 Cont. Sport Fishing Trends, Emmonak: 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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	n/a	89	5,761	9,194
2003	n/a	17	3,344	5,756
2004	17	n/a	5,479	7,613
2005	n/a	n/a	4,182	4,783
2006	n/a	n/a	3,607	7,816
2007	n/a	n/a	3,168	8,226
2008	n/a	n/a	2,573	10,400
2009	n/a	n/a	2,969	7,639
2010	n/a	n/a	3,983	5,151

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/sport_fishingsurvey/ (Accessed September 2011).

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

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

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

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

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

Year	Subsistence Salmon Permits Issued ¹	Salmon Permits Returned ¹	Chinook Salmon Harvested ¹	Chum Salmon Harvested ¹	Coho Salmon Harvested ¹	Pink Salmon Harvested ¹	Sockeye Salmon Harvested ¹	Lb of Marine Inverts ²	Lb of Non-Salmon Fish ²
2000	198	84	2,270	9,759	191	n/a	n/a	n/a	n/a
2001	183	65	2,473	9,514	342	9	n/a	n/a	n/a
2002	161	61	1,750	9,719	514	39	n/a	n/a	n/a
2003	159	61	2,763	8,958	571	4	n/a	n/a	n/a
2004	161	85	2,801	9,558	300	32	n/a	n/a	n/a
2005	163	80	1,730	14,030	191	54	n/a	n/a	n/a
2006	163	90	2,311	13,955	450	225	n/a	n/a	n/a
2007	156	89	2,326	11,616	1,032	51	n/a	n/a	n/a
2008	154	81	2,696	11,316	717	641	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, Emmonak: 2003-2010.

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

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

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, Emmonak: 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	30	n/a	n/a	n/a	n/a	n/a	n/a
2001	30	n/a	n/a	n/a	n/a	n/a	n/a
2002	40	n/a	n/a	n/a	n/a	n/a	n/a
2003	30	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	40	n/a	n/a	n/a	n/a	n/a	n/a
2006	30	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	2	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.