NOAA Technical Memorandum NMFS-AFSC-259

Community Profiles for North Pacific Fisheries - Alaska

Volume 7

by
A. Himes-Cornell, K. Hoelting, C. Maguire, L. Munger-Little,
J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center

November 2013

NOAA Technical Memorandum NMFS

The National Marine Fisheries Service's Alaska Fisheries Science Center uses the NOAA Technical Memorandum series to issue informal scientific and technical publications when complete formal review and editorial processing are not appropriate or feasible. Documents within this series reflect sound professional work and may be referenced in the formal scientific and technical literature.

The NMFS-AFSC Technical Memorandum series of the Alaska Fisheries Science Center continues the NMFS-F/NWC series established in 1970 by the Northwest Fisheries Center. The NMFS-NWFSC series is currently used by the Northwest Fisheries Science Center.

This document should be cited as follows:

> Himes-Cornell, A., K. Hoelting, C. Maguire, L. Munger-Little, J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little. 2013. Community profiles for North Pacific fisheries - Alaska. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-259, Volume 7, 348 p.

Reference in this document to trade names does not imply endorsement by the National Marine Fisheries Service, NOAA.

NOAA Technical Memorandum NMFS-AFSC-259

Community Profiles for North Pacific Fisheries - Alaska

Volume 7

by
A. Himes-Cornell, K. Hoelting, C. Maguire, L. Munger-Little,
J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little

Alaska Fisheries Science Center
Resource Ecology and Fisheries Assessment Division
Economics and Social Sciences Research Program
7600 Sand Point Way N.E.
Seattle, WA 98115

www.afsc.noaa.gov

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

November 2013

This document is available to the public through:

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

www.ntis.gov

Interior Alaska

REGIONAL INTRODUCTION: INTERIOR ALASKA 1

COMMUNITIES 1
PEOPLE AND PLACE 2
Location 2
Demographic Profile 2
History 3
NATURAL RESOURCES AND ENVIRONMENT 4
GOVERNANCE 5
INVOLVEMENT IN NORTH PACIFIC FISHERIES 6
REGIONAL CHALLENGES 8

ANVIK 9

PEOPLE AND PLACE 9
Location 9
Demographic Profile 9
History, Traditional Knowledge, and Culture 11
NATURAL RESOURCES AND ENVIRONMENT 12
CURRENT ECONOMY 13
GOVERNANCE 16
INFRASTRUCTURE 17
Connectivity and Transportation 17
Facilities 18
Medical Services 18
Educational Opportunities 18
INVOLVEMENT IN NORTH PACIFIC FISHERIES 19
History and Evolution of Fisheries 19
Processing Plants 20
Fisheries-Related Revenue 20
Commercial Fishing 20
Recreational Fishing 28
Subsistence Fishing 28

COLDFOOT 33

PEOPLE AND PLACE 33
Location 33
Demographic Profile 33
History, Traditional Knowledge, and Culture 35
NATURAL RESOURCES AND ENVIRONMENT 36
CURRENT ECONOMY 37
GOVERNANCE 39
INFRASTRUCTURE 39
Connectivity and Transportation 39
Facilities 40

Medical Services ... 40
Educational Opportunities ... 40
INVOLVEMENT IN NORTH PACIFIC FISHERIES ... 40
History and Evolution of Fisheries ... 40
Processing Plants ... 40
Fisheries-Related Revenue ... 40
Commercial Fishing ... 40
Recreational Fishing ... 48
Subsistence Fishing ... 49

DELTA JUNCTION ... 52

PEOPLE AND PLACE ... 52
Location ... 52
Demographic Profile ... 52
History, Traditional Knowledge, and Culture ... 55
NATURAL RESOURCES AND ENVIRONMENT ... 56
CURRENT ECONOMY ... 57
GOVERNANCE ... 60
INFRASTRUCTURE ... 61
Connectivity and Transportation ... 61
Facilities ... 61
Medical Services ... 61
Educational Opportunities ... 62
INVOLVEMENT IN NORTH PACIFIC FISHERIES ... 62
History and Evolution of Fisheries ... 62
Processing Plants ... 62
Fisheries-Related Revenue ... 63
Commercial Fishing ... 63
Recreational Fishing ... 72
Subsistence Fishing ... 72

FAIRBANKS ... 76

PEOPLE AND PLACE ... 76
Location ... 76
Demographic Profile ... 76
History, Traditional Knowledge, and Culture ... 79
NATURAL RESOURCES AND ENVIRONMENT ... 80
CURRENT ECONOMY ... 81
GOVERNANCE ... 85
INFRASTRUCTURE ... 86
Connectivity and Transportation ... 86
Facilities ... 86
Medical Services ... 87
Educational Opportunities ... 87
INVOLVEMENT IN NORTH PACIFIC FISHERIES ... 88
History and Evolution of Fisheries ... 88

Processing Plants ... 89
Fisheries-Related Revenue ... 90
Commercial Fishing ... 90
Recreational Fishing ... 98
Subsistence Fishing ... 99

FORT YUKON ... 103

PEOPLE AND PLACE ... 103
Location ... 103
Demographic Profile ... 103
History, Traditional Knowledge, and Culture ... 106
NATURAL RESOURCES AND ENVIRONMENT ... 107
CURRENT ECONOMY ... 107
GOVERNANCE ... 110
INFRASTRUCTURE ... 111
Connectivity and Transportation ... 111
Facilities ... 112
Medical Services ... 112
Educational Opportunities ... 112
INVOLVEMENT IN NORTH PACIFIC FISHERIES ... 113
History and Evolution of Fisheries ... 113
Processing Plants ... 114
Fisheries-Related Revenue ... 114
Commercial Fishing ... 114
Recreational Fishing ... 122
Subsistence Fishing ... 123
ADDITIONAL INFORMATION ... 124

GALENA ... 127

PEOPLE AND PLACE ... 127
Location ... 127
Demographic Profile ... 127
History, Traditional Knowledge, and Culture ... 130
NATURAL RESOURCES AND ENVIRONMENT ... 131
CURRENT ECONOMY ... 132
GOVERNANCE ... 134
INFRASTRUCTURE ... 136
Connectivity and Transportation ... 136
Facilities ... 136
Medical Services ... 136
Educational Opportunities ... 136
INVOLVEMENT IN NORTH PACIFIC FISHERIES ... 137
History and Evolution of Fisheries ... 137
Processing Plants ... 138
Fisheries-Related Revenue ... 138
Commercial Fishing ... 138

Recreational Fishing 147
Subsistence Fishing 148

GRAYLING 152

PEOPLE AND PLACE 152
Location 152
Demographic Profile 152
History, Traditional Knowledge, and Culture 155
NATURAL RESOURCES AND ENVIRONMENT 155
CURRENT ECONOMY 156
GOVERNANCE 160
INFRASTRUCTURE 161
Connectivity and Transportation 161
Facilities 162
Medical Services 162
Educational Opportunities 163
INVOLVEMENT IN NORTH PACIFIC FISHERIES 163
History and Evolution of Fisheries 163
Processing Plants 164
Fisheries-Related Revenue 165
Commercial Fishing 165
Recreational Fishing 172
Subsistence Fishing 174

HOLY CROSS 178

PEOPLE AND PLACE 178
Location 178
Demographic Profile 178
History, Traditional Knowledge, and Culture 181
NATURAL RESOURCES AND ENVIRONMENT 182
CURRENT ECONOMY 183
GOVERNANCE 186
INFRASTRUCTURE 188
Connectivity and Transportation 188
Facilities 188
Medical Services 189
Educational Opportunities 189
INVOLVEMENT IN NORTH PACIFIC FISHERIES 189
History and Evolution of Fisheries 189
Processing Plants 191
Fisheries-Related Revenue 191
Commercial Fishing 191
Recreational Fishing 200
Subsistence Fishing 201

NENANA 205

PEOPLE AND PLACE 205
Location 205
Demographic Profile 205
History, Traditional Knowledge, and Culture 208
NATURAL RESOURCES AND ENVIRONMENT 209
CURRENT ECONOMY 210
GOVERNANCE 213
INFRASTRUCTURE 215
Connectivity and Transportation 215
Facilities 215
Medical Services 216
Educational Opportunities 216
INVOLVEMENT IN NORTH PACIFIC FISHERIES 216
History and Evolution of Fisheries 216
Processing Plants 217
Fisheries-Related Revenue 218
Commercial Fishing 218
Recreational Fishing 226
Subsistence Fishing 228
ADDITIONAL INFORMATION 228

NORTH POLE 231

PEOPLE AND PLACE 231
Location 231
Demographic Profile 231
History, Traditional Knowledge, and Culture 234
NATURAL RESOURCES AND ENVIRONMENT 234
CURRENT ECONOMY 235
GOVERNANCE 238
INFRASTRUCTURE 239
Connectivity and Transportation 239
Facilities 240
Medical Services 240
Educational Opportunities 240
INVOLVEMENT IN NORTH PACIFIC FISHERIES 241
History and Evolution of Fisheries 241
Processing Plants 242
Fisheries-Related Revenue 242
Commercial Fishing 242
Recreational Fishing 250
Subsistence Fishing 251
ADDITIONAL INFORMATION 252

SHAGELUK **255**
PEOPLE AND PLACE 255
Location 255
Demographic Profile 255
History, Traditional Knowledge, and Culture 258
NATURAL RESOURCES AND ENVIRONMENT 259
CURRENT ECONOMY 260
GOVERNANCE 262
INFRASTRUCTURE 264
Connectivity and Transportation 264
Facilities 264
Medical Services 265
Educational Opportunities 265
INVOLVEMENT IN NORTH PACIFIC FISHERIES 265
History and Evolution of Fisheries 265
Processing Plants 266
Fisheries-Related Revenue 266
Commercial Fishing 267
Recreational Fishing 274
Subsistence Fishing 276

TANANA **279**
PEOPLE AND PLACE 279
Location 279
Demographic Profile 279
History, Traditional Knowledge, and Culture 282
NATURAL RESOURCES AND ENVIRONMENT 283
CURRENT ECONOMY 284
GOVERNANCE 287
INFRASTRUCTURE 288
Connectivity and Transportation 288
Facilities 289
Medical Services 289
Educational Opportunities 289
INVOLVEMENT IN NORTH PACIFIC FISHERIES 289
History and Evolution of Fisheries' 289
Processing Plants 290
Fisheries-Related Revenue 290
Commercial Fishing 291
Recreational Fishing 299
Subsistence Fishing 301

TWO RIVERS **304**
PEOPLE AND PLACE 304
Location 304

Demographic Profile 304
History, Traditional Knowledge, and Culture 307
NATURAL RESOURCES AND ENVIRONMENT 307
CURRENT ECONOMY 308
GOVERNANCE 311
INFRASTRUCTURE 312
Connectivity and Transportation 312
Facilities 312
Medical Services 312
Educational Opportunities 312
INVOLVEMENT IN NORTH PACIFIC FISHERIES 312
History and Evolution of Fisheries 312
Processing Plants 313
Fisheries-Related Revenue 313
Commercial Fishing 313
Recreational Fishing 322
Subsistence Fishing 323
ADDITIONAL INFORMATION 324

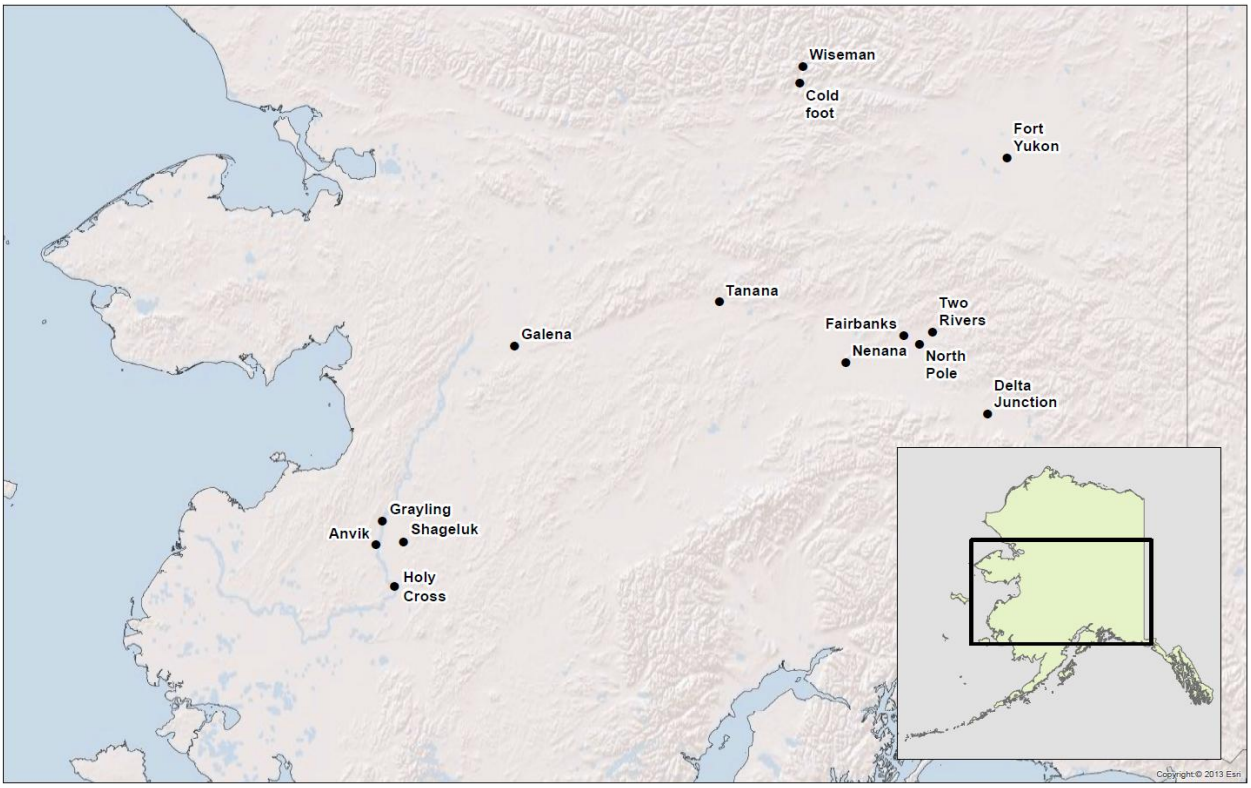
WISEMAN 327

PEOPLE AND PLACE 327
Location 327
Demographic Profile 327
History, Traditional Knowledge, and Culture 329
NATURAL RESOURCES AND ENVIRONMENT 330
CURRENT ECONOMY 331
GOVERNANCE 333
INFRASTRUCTURE 334
Connectivity and Transportation 334
Facilities 334
Medical Services 334
Educational Opportunities 334
INVOLVEMENT IN NORTH PACIFIC FISHERIES 334
History and Evolution of Fisheries 334
Processing Plants 335
Fisheries-Related Revenue 335
Commercial Fishing 335
Recreational Fishing 343
Subsistence Fishing 343

Regional Introduction: Interior Alaska

Communities

Anvik
Coldfoot
Delta Junction
Fairbanks
Fort Yukon
Galena
Grayling
Holy Cross
Nenana
North Pole
Shageluk
Tanana
Two Rivers
Wiseman



People and Place

Location

The majority of interior Alaskan communities lie on the banks of the middle and upper branches of the Yukon and Kuskokwim rivers as well as their tributaries. The vast area ranges from the community of Anvik (62.66° N by -160.21° W) to the Canadian border, and as far north as the community of Wiseman (67.41° N by -150.11° W). Fairbanks (64.84° N by -147.72° W) is the region's largest city and economic hub.

Demographic Profile

Interior Alaska consists of one borough (Fairbanks Northstar Borough), and two census areas (Southeast Fairbanks Census Area and Yukon-Koyukuk Census Area). A total of 14 communities met our criteria for profiling, of which only 5 exceeded 500 residents in 2010. In that year, the regional population was 110,198, of which 28.6% lived in the city of Fairbanks.[1]

In 2010, 74.5% of residents identified themselves as White, 14.5% identified themselves as at least part American Indian or Alaska Native, 5.5% identified themselves as at least part Black or African American, 3.9% identified themselves as at least part Asian, and 0.7% identified themselves as at least part Native Hawaiian or Other Pacific Islander. In addition, 5.4% of residents identified themselves as Hispanic or Latino. It should be noted that most residents who identified themselves as White in 2010 were concentrated within the Fairbanks Northstar Borough, which is also where 88.6% of the region's total population resides. Because of this, region-wide statistics mask demographics found outside the region's population centers. For example, only 22.2% of residents within the Yukon-Koyukuk Census Area identified themselves as White, while 76.4% identified themselves as at least part American Indian or Alaska Native.[2]

Rural communities within the region have a mixed cash and subsistence economy. However, for most communities subsistence is the dominant form of livelihood. Many communities rely on construction, mining, and commercial fishing for seasonal wage employment. Permanent wage positions within smaller communities are often tied the local governance or schools. The communities of Coldfoot and Wiseman are dependent on traffic along the Dalton Highway. These communities depend on tourism, commercial trucking, and public lands management for employment. The city of Galena acts as a regional center for western interior Alaska, providing air transportation, retail, and government employment. The Fairbanks region includes Fairbanks, Two Rivers, North Pole, Delta Junction, and Nenana, and is the economic hub for interior Alaska. Major sectors include retail, transportation, mineral and petroleum support services, agriculture, governance, and military services.[3] In 2010, overall regional per capita income was estimated at $25,555 and overall median household income was estimated at $65,813. Again, there were significant differences between rural and urban areas.

---

[1] U.S. Census Bureau (2010). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
[2] Ibid.
[3] 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.

Fairbanks Northstar Borough had an estimated per capita income of $30,395 and estimated median household income of $79,824; while the Yukon-Koyukuk Census Area had an estimated $18,614 and $45,463 respectively.[4]

History[5]

Evidence of early human occupation of the southern Brooks Range is estimated to stretch back approximately 8,500 to 11,000 years according to Paleo-Arctic sites found in the upper Kobuk River region and Anaktuvuk Pass.[6] Evidence of Proto-Athabaskan-Eyak traditions within the Yukon River region date back at least 6,000 years.[7] Many distinct Athabaskan language groups populate interior Alaska including Deg Hit'an, Holikachuk, Koyukon, Kuskokwim, Tanana, Ahtna, Gwich'in, Han, and Tanacross.[8] Extensive trade networks existed, connecting interior Athabaskans with coastal groups around the Norton Sound and Siberia.

In 1790, the Lebedev-Lastochkin Company began exploring the lower Yukon River in an effort to expand its fur trade operations. Soon after, the Russian-American Company began exploiting the area, and as resources declined effort was expanded into the western interior. By 1845, the Hudson's Bay Company had begun operating on the Porcupine River, and soon furs were being traded with Athabaskans along the upper Yukon River. In the latter part of the nineteenth century, the Western Union Telegraph Company began exploring the region as part of an effort to create a global telegraph network. Since attempts to run a telegraph line under the Atlantic Ocean had failed, it was decided that a line would instead be connected to Siberia via a cable running through the Bering Sea. Part of this undertaking involved the forming of an expeditionary team to collect information about the land through which the line would pass. This was the first time Americans explored Alaska's interior. Competition for furs escalated in the region, and by 1883 the Alaska Commercial Company held a monopoly, and the price of furs dropped. In 1886, gold was discovered at Fortymile River, and prospectors soon began filling the new mining district. As mining grew, so did the Yukon River's importance as a regional transportation route. Riverboats operated by the Alaska Commercial Company and the North American Trading and Transportation Company became the principle means of getting into interior Alaska.

By the start of the twentieth century, most prospectors were broke and the volatile fur trade left many competing for resources and wealth. By this time, Episcopalian and Roman Catholic missionaries had traveled throughout the interior, establishing mission schools. Economic hardship and the pressures of assimilation prompted many Athabaskans to abandon their semi-nomadic lifestyles for more permanent settlements where work could be found. Swelling populations of miners caused concern within the U.S. Government that violence could

[4] 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.
[5] Alaska Humanities Forum. (2004). *Alaska History and Cultural Studies.* Retrieved November 26, 2012 from: http://www.akhistorycourse.org/.
[6] National Park Service. (1988). *Final Environmental Impact Statement: Wilderness Recommendation: Gates of the Arctic National Park and Preserve, Alaska.* Retrieved May 22, 2012 from: http://babel.hathitrust.org/.
[7] National Park Service. (n.d.). *Archaeology of Interior Alaska.* Retrieved November 26, 2012 from: http://www.nps.gov/akso/akarc/interior.htm.
[8] University of Alaska Fairbanks. (n.d.). *Alaska Native Knowledge Network.* Retrieved November 26, 2012 from: http://www.ankn.uaf.edu/index.html.

ensue if food or resources became scarce. In response to these concerns, several military posts were established along the Yukon River to keep order if needed.

In 1902, word spread of gold in the Tanana River valley. A settlement was established, and as word spread, more prospectors entered the region. By 1903, the settlement which would eventually become the city of Fairbanks had 1,200 residents. In addition to gold, the Tanana River Valley supported an experimental agricultural projected headed by Dr. Charles Georgeson. Georgeson estimated that 100,000 acres of the Tanana region were suitable for crop production and dairy farming. By 1900, more than 300 bushels of potatoes were being cultivated.

By 1915, construction of a railroad connecting Fairbanks with Seward was underway. Tanana Athabaskans expressed concern over warnings by the U.S. Government concerning the impending influx of White settlers following the railroad's completion. It was also at that time, when the Tanana rejected proposals to establish a reservation system, which had significant implications on how U.S. Government-Alaska Native relations would evolve. The 1920s saw a revival of the fur industry as global demand peaked. Trappers would find seasonal work selling furs to the Alaska Commercial Company or to auctioneers in Seattle. It was also in the 1920s that the Alaska Railroad was completed, intensifying development of the Fairbanks region. The Tanana coal fields were being developed, and construction began on the 72-mile long "Davidson Ditch" which would bring 81 million gallons of water per day from the Chatanika River to the Fairbanks gold fields.

World War II brought intense development to the interior of Alaska. The Alaska Highway was built, linking Fairbanks with Canada and the rest of the contiguous United States. Military construction continued following the war's end, including Fort Wainwright and Eielson Air Force Base. Territorially operated airstrips were established in most villages, and air travel became a major method of transportation. This established Fairbanks as a regional transportation hub.

Land encroachment conflicts with Athabaskan groups began to rise during the 1960s resulting from proposals for a pipeline running from Prudhoe Bay to Valdez, effectively bifurcating important subsistence areas. The Alaska Native Claims Settlement Act (ANCSA) was passed in 1971 as a compromise, and 12 million acres of land and $48.5 million was given to Doyon Ltd., interior Alaska's regional Native corporation. Work began on the pipeline in 1973, and a construction boom ensued. In 1977, the pipeline's completion caused a recession in Fairbanks, as many workers remained.

Today, the region remains closely tied to its resources. Many small traditional communities along the regions drainages depend principally upon subsistence resources. Other communities were established more recently around mining developments or along the highway system. These communities are largely dependent on the oil fields of northern Alaska and tourism. Fairbanks remains the economic and transportation hub for the region.

Natural Resources and Environment

Interior Alaska's weather is characterized by extremes. Winter temperatures average -12° F; summer temperatures average 61° F. But the seasonal temperature swing in this region is one of the widest on earth, with recorded winter lows of -78° F and summer highs of 93° F -- a swing of 171 degrees. The latitude in Interior Alaska also makes for a high degree of seasonal

variability of sunlight, with 4 hours of daylight in the winter and 21 hours of daylight in the summer. Precipitation in the region is relatively low, averaging 11.3 inches per year.[9]

Alaska's interior covers a vast and diverse range of environments. Much of the region was free of glacial ice during the Pleistocene and consists of various terrains ranging from rolling hills and flat lowlands sandwiched between the Alaska Range to the south, and the Brooks Range to the north. Much of the region has been shaped by the region's two major drainages: the Yukon and Kuskokwim rivers, which have left a series of oxbow and shallow circular lakes covering much of the flat lowlands. A relatively short growing season supports the spruce-dominated taiga forest which covers much of interior Alaska and northern Canada. Riparian areas are colonized by alder, willow, poplar, and aspen. Disturbed areas and bog environments are covered with willow, sedges, birch and Labrador-tea. Shrub communities are common in areas affected by wildfires. Continuous permafrost covers much of the region. Terrestrial wildlife includes beaver, mink, river otter, muskrat, marten, grizzly bear, black bear, wolf, red fox, caribou, moose, and snowshoe hare.[10] Fishery resources include Arctic char, broad whitefish, burbot, Chinook salmon, coho salmon, chum salmon, Dolly Varden, Arctic grayling, humpback whitefish, lake trout, least cisco, longnose sucker, northern pike, rainbow trout, round whitefish, and sheefish.[11]

Mineral resources within the region include gold, zinc, mercury, antimony, copper, molybdenum, tungsten, tin, silver, and lead. Extensive coal beds are also found throughout the region. Major mineral projects include: Donlin Gold, Nixon Fork, Usibelli Coal, Fort Knox, Pogo, Money Knob, Old Smokey, Livengood, and Fortymile.[12] The Tanana River Valley supports harvestable timber resources as well areas fit for crop cultivation.[13]

Governance

Regional governance is tied heavily to Fairbanks; although, Anvik, Grayling, Shageluk, and Holy Cross are significantly closer to the western Alaskan hub of Bethel. The City of Fairbanks hosts the seat for the Fairbanks Northstar Borough. In 2010, the Borough administered an 11.43 mills property tax, 8% accommodations tax, 8% tobacco tax, and 4% alcohol tax. Doyon Ltd., based in Fairbanks, is the regional ANCSA chartered Native corporation and has a land entitlement of 12.5 million acres and over 18,600 shareholders.[14] The Fairbanks Native Association is the regional ANCSA chartered non-profit. With the exception of Coldfoot, Two Rivers, and Wiseman, every community profiled within the region is incorporated into a municipality. In addition, the communities of Anvik, Fort Yukon, Galena, Grayling, Holy Cross, Nenana, Shageluk, and Tanana have federally recognized Tribal councils and ANCSA chartered village corporations.

---

[9] The Encyclopedia of Earth. (n.d.). *Interior Alaska-Yukon Lowland Taiga*. Retrieved November 26, 2012 from: http://www.eoearth.org/article/Interior_Alaska-Yukon_lowland_taiga.
[10] Ibid.
[11] Alaska Department of Fish and Game. (n.d.). *Commercial Fisheries Overview: Yukon Management Area.* Retrieved July 31, 2012 from http://www.ADF&G.alaska.gov/index.cfm?ADF&G=commercialbyareayukon.main.
[12] Alaska Dept. of Commerce. (n.d.). *Minerals Development.* Retrieved November 26, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[13] Tryck, Nyman & Hayes. (1975). *Delta Junction Community Development Plan.* Retrieved March 6, 2012 from: http://www.commerce.state.ak.us/dca/plans/DeltaJunction-CP-1975.pdf.
[14] Doyon Ltd. (n.d.). *Corporate Profile.* Retrieved November 27, 2012 from: http://www.doyon.com/corporate_profiles/index.aspx.

Grayling is the only community profiled within the region that is eligible for participation in the federal Community Development Quota (CDQ) program, and is represented by the Yukon Delta Fisheries Development Association. CDQ groups distribute a portion of commercial fishing proceeds to their various member communities and sponsor economic and infrastructural development.

Involvement in North Pacific Fisheries

Fisheries participation in interior Alaska is tied closely to the Yukon, Koyukuk, and Tanana rivers. Commercial salmon fishing is permitted within the 1,200 mile long main stem of the Yukon River, although most commercial fishing occurs within the River's lower reaches. Commercial fishing is also permitted in the lower 225 miles of the Tanana River, and lower 12 miles of the Anvik River. Large Chinook, chum, and coho salmon harvests from 1919 to 1921 led to the closure of commercial fishing on the Yukon River from 1925 to 1931 due to concerns over subsistence availability. Fishing was allowed again in 1932, but under tighter regulations. During the 1970s and 1980s, many residents began integrating commercial fishing with subsistence fishing; retaining a portion of their harvests for personal use.[15] Due to salmon stock declines between 1998 and 2002, significant reductions in harvest limits have been made. Escapement limits and cross-border commitments to Canada have limited both commercial and subsistence Chinook salmon harvests for communities located on middle and upper Yukon drainages. In most upper Yukon River drainages, summer chum salmon are difficult to market because of transportation costs and flesh degradation caused by prolonged exposure to freshwater and sexual maturity. However, salmon roe quality is considered excellent.[16]

In 2010, there was one shoreside seafood processor in the region, located in Fairbanks;[17] however, landings made that year are considered confidential.[18] At the same time, residents of profiled communities landed a total of 5.99 million pounds of fish valued at $5.24 million.[19] In 2010, residents of the region held 365 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC), of which 43.6% were held in Fairbanks. However, only 30.1% of total permits held were actively fished. Of the total CFEC permits held in 2010, 75.3% were for salmon.[20] A total of 1.56 million shares of halibut and 696,651 shares of sablefish quota were held by residents of the region in 2010. Halibut quota was held by residents in the

[15] Alaska Department of Fish and Game. (n.d.). *Commercial Fisheries Overview: Yukon Management Area.* Retrieved July 31, 2012 from http://www.ADF&G.alaska.gov/index.cfm?ADF&G=commercialbyareayukon.main.
[16] Ibid.
[17] 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.]
[18] 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.]
[19] Ibid.
[20] 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.]

communities of Fairbanks, Delta Junction, and North Pole, while sablefish quota was only held by residents in the communities of Fairbanks and Delta Junction.[21]

In 2012, historically low Chinook returns prompted fishery closures and restrictions not seen in over 80 years. In that year, the commercial Chinook fishery, which had an average annual harvest value of $1.5 million, was completely shut down. The commercial chum salmon fishery, which had been experiencing a rebound after years of depressed market conditions, was also severely restricted. Subsistence harvests were also severely restricted, causing concern in many communities over how to meet subsistence requirements before winter.[22]

Subsistence is relied upon heavily in rural interior Alaska communities to supplement diets and income. Popular subsistence species include Chinook, chum, and coho salmon, Arctic grayling, broad and round whitefish, northern pike, burbot, and least cisco.[23] In 2008, residents within the region reported harvesting 129,939 salmon using 3,960 subsistence salmon permits issued by the Alaska Department of Fish and Game. At 52,224 fish, sockeye salmon accounted for the majority of reported harvests despite their limited availability in Yukon River drainages. However, it should be noted that 98.5% of reported sockeye harvests occurred in Fairbanks, Delta Junction, and North Pole. Many residents of these communities may have traveled to different locations to conduct harvests. At 50,297 fish, chum salmon accounted for the majority of reported salmon harvests in the remaining communities, followed by Chinook salmon.[24]

Recreational fishing is a popular activity along the Yukon and Tanana rivers. Most recreational fishing effort is based out of Fairbanks due to its accessibility and developed visitor infrastructure. The Tanana River Management Area offers fishing opportunities for lake trout, Dolly Varden, Arctic grayling, burbot, Chinook and coho salmon, northern pike, rainbow trout, and sheefish.[25] The Yukon Drainage Management Area covers the entirety of the Yukon River drainage excluding the Tanana River. Popular species targeted include Arctic grayling, Dolly Varden, northern pike, burbot, late trout, rainbow trout, sheefish, and all five species of Pacific salmon.[26]

In 2010, 32,599 sportfishing licenses were sold in profiled communities within the region, of which 79.3% were sold in Fairbanks alone. In that year, residents held a total of 27,894 sportfishing permits, most of which were held in Fairbanks and North Pole. There were a total of 30 registered sport fish guide businesses in the region, 14 of which were registered in

[21] 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.]
[22] Alaska Department of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster.* Retrieved November 27, 2012 from: http://www.ADF&G.alaska.gov/index.cfm?ADF&G=hottopics.federalChinookdisaster.
[23] 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.ADF&G.alaska.gov/sb/CSIS/ (Accessed February 2011).
[24] 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.
[25] Alaska Department of Fish and Game. (n.d.). *Tanana River Management Area.* Retrieved November 27, 2012 from: http://www.ADF&G.alaska.gov/index.cfm?ADF&G=ByAreaInteriorTanana.main
[26] Alaska Department of Fish and Game. (n.d.). *Yukon Drainage Management Area.* Retrieved November 27, 2012 from: http://www.ADF&G.alaska.gov/index.cfm?ADF&G=ByAreaInteriorYukonDrainage.fishingInfo#/harvest.

Fairbanks. Other communities with registered sport fish guide businesses included Anvik, Delta Junction, Galena, Holy Cross, North Pole, and Two Rivers.[27]

Regional Challenges

Seafood market accessibility and limited access to subsistence and commercial fishery resources are two major challenges facing interior Alaska communities. Many communities along the Yukon River have expressed interest in enhancing their local fisheries economy through increased marketing and processing capacity.[28] However, due to their remoteness, it is exceedingly difficult for many communities to get products to markets. Chinook salmon are considered a regional subsistence staple, and are preferred over chum or coho salmon. However, escapement requirements and low returns have limited harvesting, and recent poor returns have placed stress on many communities. The recent 2012 Chinook salmon crash exposes how vulnerable communities are to fluctuations in salmon runs.

Challenges facing the Fairbanks region include the residual effects of the 1970s oil boom, and its dependence on the military and extractable resources. The City's rapid growth during construction of the Trans-Alaska oil pipeline translated to an increase in cost of living, income disparity, and other associated social and economic challenges. Although mining and oil extraction industries are well established in the region, changing market and regulatory environments can lead to unforeseen and widespread impacts to the local economy.[29]

[27] 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.]
[28] Yukon River Drainage Fisheries Association. (2006). *Alaska Fishing Communities – Harvesting the Future*. Retrieved November 27, 2012 from: http://seagrant.uaf.edu/conferences/fish-com2/ppts/klein.pdf.
[29] Bradner, T. (2011). Fairbanks Economy Stable, Challenges Ahead. *Peninsula Clarion*. Retrieved November 27, 2012 from: http://peninsulaclarion.com/news/2011-07-08/fairbanks-economy-stable-challenges-ahead.

Anvik (*AN-vick*)

People and Place

Location [30]

Anvik is located in Interior Alaska on the Anvik River, west of the Yukon River, 34 mi north of Holy Cross and 350 mi northwest of Anchorage. The area encompasses 9.5 sq mi of land and 2.4 sq mi of water. Anvik was incorporated as a second-class city in 1969. The community is located in the Yukon-Koyukuk Census Area and is not under the jurisdiction of a borough.

Demographic Profile [31]

In 2010, there were 85 residents in Anvik, ranking it 263rd of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 3.7%. However, between 2000 and 2009, the population fell by 27.9% with an average annual growth rate of -3.13%; well below the statewide average annual growth rate of 0.75% and indicative of a declining population. Information regarding population trends can be found in Table 1.

The population of Anvik was predominately Ingalik Athabaskan in 2010.[32] In that year, 92.9% of residents identified themselves as American Indian or Alaska Native, compared to 90.4% in 2000; 3.5% identified themselves as White, compared to 8.7% in 2000; and 3.5% identified themselves as two or more races, compared to 0.0% in 2000. Information regarding Anvik's racial and ethnic composition can be found in Figure 1.

In 2010, the average household size was 2.58, compared to 2.5 in 1990 and 2.67 in 2000. In that same year, there were a total of 46 housing units, compared to 47 in 1990 and 49 in 2000. Of the households surveyed in 2010, exactly half were owner occupied, compared to 69.4% in 2000; 21.7% were renter occupied, compared to 10.2% in 2000; 13% were vacant, compared to 10.2% in 2000; and 15.2% were occupied seasonally, compared to none in 2000. Since 1990 there have not been any reports of residents living in group quarters.

Gender distribution was skewed in 2010 at 54.1% male and 45.9% female. This was less even than the distribution statewide (52.0% male, 48.0% female) and similar to the distribution in 2000 (54.8% male, 45.2% female). The median age that year was 29.8 years, which was younger than the statewide median of 33.8 years, and similar to the 2000 median of 28.5 years.

[30] 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.
[31] 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.
[32] See footnote 30.

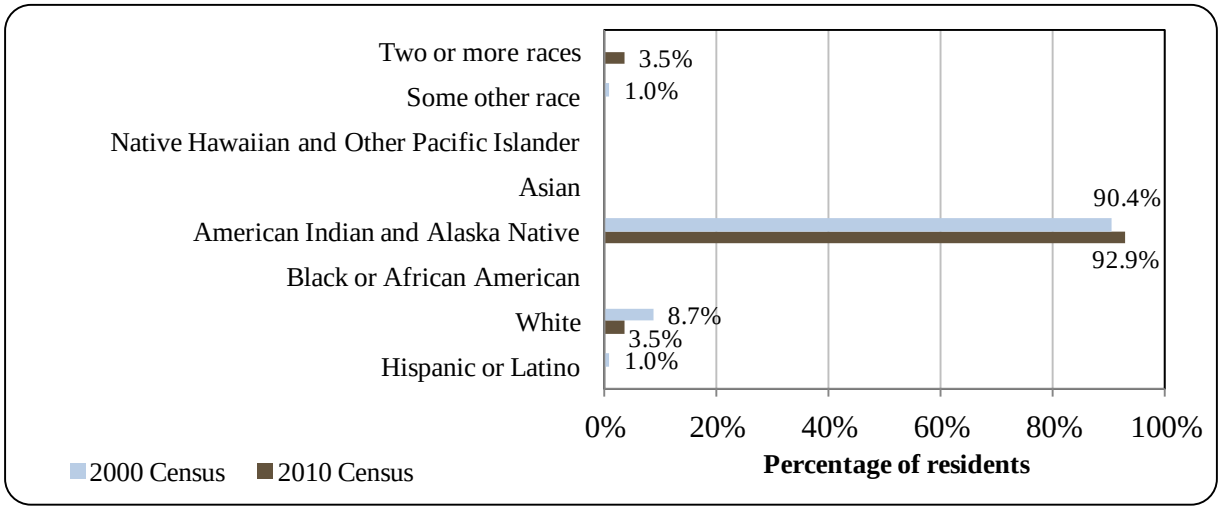
Table 1. Population in Anvik from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permenant Residents[2]
1990	82	-
2000	104	-
2001	-	102
2002	-	107
2003	-	105
2004	-	100
2005	-	99
2006	-	88
2007	-	102
2008	-	84
2009	-	75
2010	85	-

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



The 2010 population structure was similar to 2000; although Anvik's small population size resulted in some irregularity. In that year, 36.5% of residents were under the age of 20, compared to 41.2% in 2000; 16.6% were over the age of 59, compared to 7.8% in 2000; 32.9% were between the ages of 30 and 59, compared to 40.5% in 2000; and 14.1% were between the ages of 20 and 29, compared to 10.6% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 10 to 19 range (10.6% male, 4.7% female), followed by the 20 to 29 (9.4% female, 4.7% male) and 30 to 39 (9.4% male, 4.7% female) ranges. Of those three, the greatest relative gender difference occurred in the 10 to 19 range. Information regarding trends in Anvik's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[33] estimated that 68.1% 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 21.3% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 10.6% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and an estimated 34.0% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall. No residents were estimated to hold a post-secondary degree in 2010.

History, Traditional Knowledge, and Culture[34]

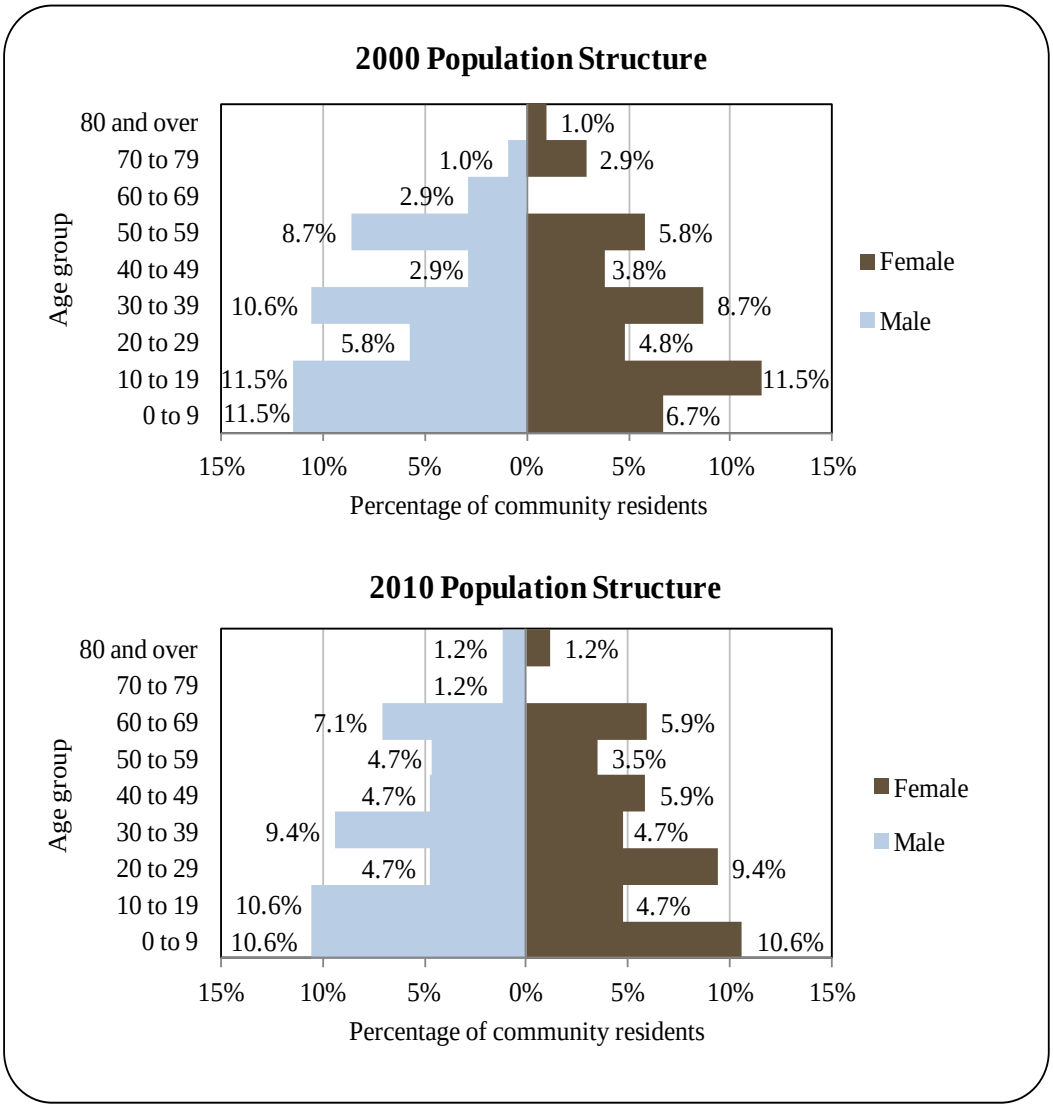
Historically, Anvik was a Deg Hit'an Athabascan village, although it has also been referred to as Ingalik Athabaskan. Deg Hit'an translates as "the People of this area", describing those who historically lived in the Anvik-Shageluk area encompassing parts of the Anvik River, Innoko River, and areas along the Yukon River from Anvik to Holy Cross. Previous to contact with Russians and Americans, the area supported an extensive trade network connecting coastal and inland river communities. The Unalakleet people traded with the Sledge and King Island people, who in turn traded with Russian posts on the Kolyma River in Siberia. The Anvik River also provided a trade route between the lower Yukon area and the Norton Sound. Items traded often included dried and smoked fish, wooden tubs, dishes, bowls, and furs. First contact was reported in January of 1834 by Russian explorer Andrei Glazunov, who counted approximately 240 people living in the village. Within 4 years of Glazanov's visit, a smallpox epidemic swept through southwest Alaska and by 1842, the estimated population of 1,000 in the Anvik-Shageluk area had diminished to 699 according to the Russian explorer, Zagoskin. Anvik suffered extensive disease outbreaks in the years following European contact and the population declined by 20% between 1900 and 1914. During this time, many surviving residents and orphans of the epidemic moved from the old village of Tthogi qay xitl'ot, across the river to present day Anvik. By 1915, the old village was used only as a summer fish camp and later as a dog staging area.

Today the village is a contemporary subsistence community that maintains strong ties to its traditions. The traditional Deg Xinag Athabaskan dialect was fluently spoken by one elder in the community as of 2003 and revitalization efforts are in place. The sale of alcohol is prohibited in the community.

[33] 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.

[34] City of Anvik. (2004). *Anvik Comprehensive Community Plan*. Retrieved December 23, 2011 from: http://www.commerce.state.ak.us/dca/plans/Anvik-CP-2004.pdf

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



Natural Resources and Environment

The climate of Anvik is continental, and characterized by temperature extremes ranging from -60 to 87 °F (-51 to 31 °C). Total precipitation averages 21 inches per year, and snowfall averages 110 inches per year. The Yukon River is ice-free from June through October.[35]

Anvik is located at the confluence of the Anvik and Yukon rivers. The Anvik watershed includes a portion of the eastern flank of the Nulato hills, a north-south running range extending from the lower Yukon Delta to the Kotzebue Sound. The area is characterized by lowland wet tundra with meandering rivers, and scattered oxbow and shallow lakes. Uplands consist of

[35] 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.

forested terraces, flat plains, and high bluffs. The community site itself occupies a natural levee of silt loam and fine sand.[36]

Vegetation includes spruce stands which follow the Yukon River. Well-drained soils support white spruce, paper birch, and quaking aspen along slopes. Lowlands are forested with dwarf black spruce, sedges, mosses, and stunted shrubs. Mixed stands of balsam poplar, cottonwood, willow, and alder brush populate floodplains. Edible and useful plants include cranberries, blueberries, salmon or cloud berries, rose hips, Indian potatoes, wild celery, wild onion, wild rhubarb, and sour dock.[37]

Anvik is approximately 13 mi south of the Innoko National Wildlife Refuge, which covers 3.85 million acres and provides habitat to a number of fish, waterfowl, big game, and fur-bearers. Terrestrial wildlife includes moose, bear, wolves, lynx, wolverine, river otter, beaver, porcupine, caribou, snowshoe hare, red fox, red squirrel, marten, muskrat, weasel, mink, shrews, voles, and mice. Aquatic wildlife includes king, coho, and chum salmon, northern pike, Dolly Varden, Arctic grayling, burbot, and whitefish.[38]

Mineral deposits in the area include Wolf Creek Mountain mercury/antimony deposit to the west, Stuyahok and Arnold Kako gold deposits to the southwest, and McLeod copper/molybdenum deposit to the northeast.[39] A large-scale gold operation is being developed by Donlin Gold north of Crooked Creek to the southeast of Anvik. The mine is projected to operate for 25 years, with over 33 million ounces of gold speculated to be in the area.[40]

Potential natural hazards to the community include flooding and bank erosion, wildfire, and earthquakes. Flood potential in the downtown area is high due to ice jamming and rapid snow melt. In addition, the seismic zone that Anvik is located in has the potential to produce earthquakes greater than magnitude 6 on the Richter scale.[41]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Anvik in 2010.[42]

Current Economy[43]

Anvik has a mix of both a cash and subsistence economy; however, subsistence is the dominant form of livelihood for residents. When not participating in subsistence gathering or harvesting, residents earn income through seasonal and part time work, home gardening, or trapping. Local guiding businesses provide opportunities for residents to participate in the sportfishing and hunting sectors. Donlin Gold has increased employment in the region since it began a major mining project to the southeast.[44] Top employers in 2010[45] included Iditarod Area

[36] See footnote 34.
[37] Ibid.
[38] U.S. Fish and Wildlife Service. (n.d.). *Innoko National Wildlife Refuge.* Retrieved December 23, 2011 from: http://www.fws.gov/refuges/profiles/WildHabitat.cfm?ID=75605
[39] Alaska Department of Commerce. (n.d.). *Mineral Resources of Alaska.* Retrieved December 21, 2011 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm
[40] Donlin Gold. (n.d.) *Homepage.* Retrieved December 27, 2011 from: http://www.donlingold.com/
[41] See footnote 34.
[42] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved March 6, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm.
[43] Unless otherwise noted, all monetary data are reported in nominal values.
[44] See footnote 34.
[45] 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/.

School District, Anvik Traditional Council, City of Anvik, Deloy Ges Inc., and Doyon Drilling Inc.

In 2010,[46] the estimated per capita income was $10,799 and the estimated median household income was $14,583, compared to $8,081 and $21,250 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[47] the real per capita income ($10,626) and real median income ($27,943) indicate that while individual earnings remained unchanged, household increased declined. In 2010, Anvik ranked 260th of 305 communities from which per capita income was estimated, and 292nd of 299 communities from which median household income was estimated.

Anvik's small population size may have prevented the ACS from accurately portraying economic conditions.[48] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned $842,849 in total wages in 2010.[49] When matched with the 2010 population, the per capita income equals $9,916; suggesting that caution should be used when comparing 2010 ACS estimates with the 2000 Census.[50] In addition, 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. However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.[51]

According to 2006-2010 ACS estimates,[52] 88.5% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 28.8%, compared to an estimated 5.9% statewide; and an estimated 39.7% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. However, these unemployment and poverty statistics are likely inaccurate given the small population of 85. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 26.2%.[53] Of those employed in 2010, an estimated 67.7% worked in the private sector and an estimated 32.3% worked in the public sector.

By industry, most (45.2%) employed residents were estimated to work in retail trade sectors in 2010; followed by education services, health care, and social assistance sectors (32.3%); transportation, warehousing, and utilities sectors (12.9%); and agriculture, forestry, fishing, hunting, and mining sectors (9.7%). By occupation type, most (32.3%) employed

---

[46] 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.

[47] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

[48] 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.

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

[50] See footnote 45.

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

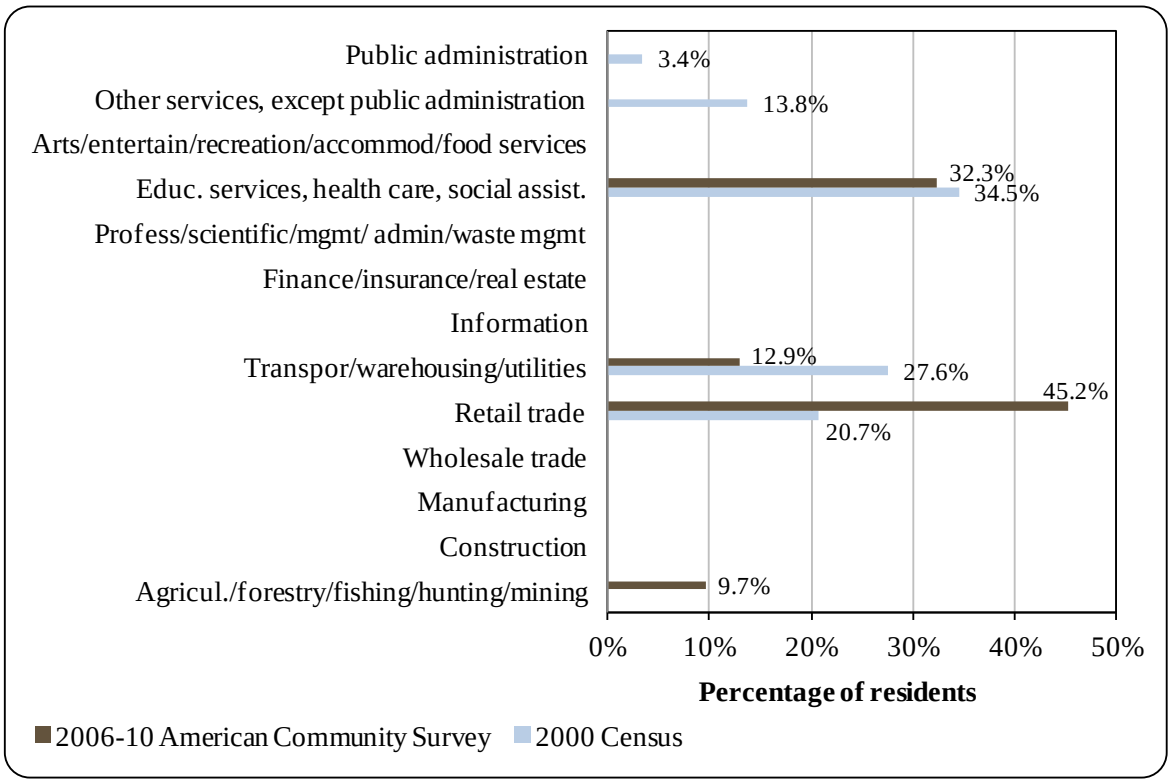
[52] See footnote 48.

[53] See footnote 45.

residents were estimated to hold sales or office positions that year; followed by production, transportation, or material moving positions (25.8%); service positions (16.1%); management or professional positions (16.1%); and natural resources, construction, or maintenance positions (9.7%). There were significant variations in both industry sector employment and occupation types between 2000 and 2010. While it is possible that those shifts were attributed to changes in economic conditions, it is more likely that ACS sampling techniques did not accurately capture the scope of industry representation, which may account for the extreme variations. Information regarding employment trends can be found in Figures 3 and 4.

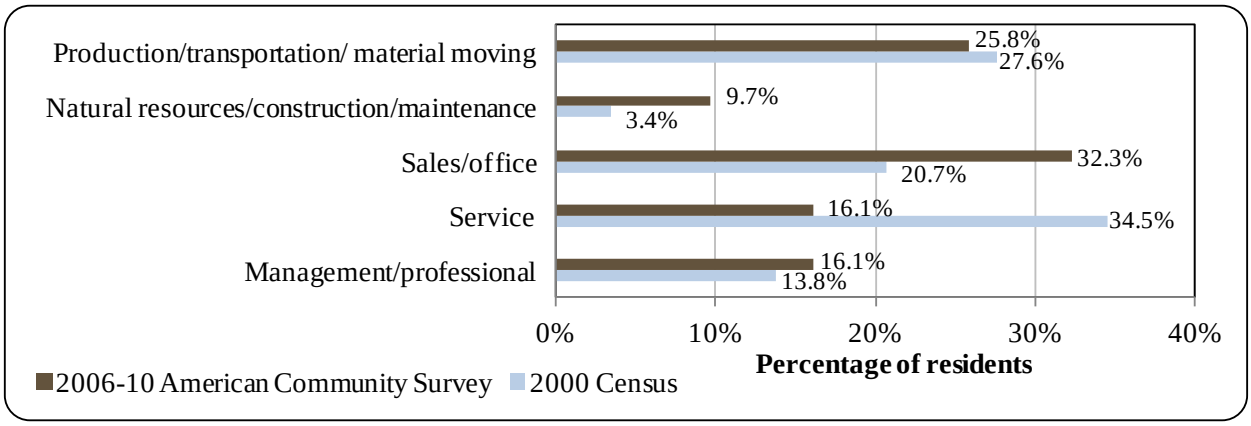
According to 2010 ALARI estimates,[54] most (72.5%) of employed residents were estimated to work in local government sectors; followed by financial sectors (7.8%) and natural resources and mining sectors (5.9%).

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



[54] Ibid.

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



Governance

Anvik is a Second-class city with a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized Native village council (Anvik Village) and Alaska Native Claims Settlement Act (ANCSA) chartered village Native corporation (Deloy Ges, Inc.). The regional ANCSA chartered Native Corporation is Doyon Ltd. The closest ADF&G and National Marine Fisheries Service (NMFS) offices are located in Bethel, 139 mi southwest. The closest U.S. Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 350 mi southeast.

In 2010, total municipal revenue peaked at $206,064, compared to $85,069 in 2000. In 2010, no taxes were administered by the city. However, state-allocated Community Revenue Sharing accounted for 48.4% of total municipal revenues that year, compared to 30.0% from State Revenue Sharing in 2000. In addition, there were several state and federal fisheries-related grants awarded to Anvik between 2000 and 2010 including, $37,500 for a roe processing plant and $371,600 for fish processing equipment and power access. Information regarding municipal budget trends can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Anvik 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	$85,069	n/a	$28,901	$37,500
2001	$96,152	n/a	$27,854	n/a
2002	$118,000	n/a	$27,851	n/a
2003	$156,065	n/a	$27,870	n/a
2004	$144,646	n/a	-	n/a
2005	$116,180	n/a	-	n/a
2006	$83,745	n/a	-	n/a
2007	$129,849	n/a	-	n/a
2008	$177,148	n/a	-	$371,600
2009	$204,431	n/a	$101,257	n/a
2010	$206,064	n/a	$100,285	n/a

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

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

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

[3] Alaska Department of Revenue (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

Infrastructure

Connectivity and Transportation

The Anvik River, west of the Yukon River, allows access to the community during the summer by barge or float plane. The city would like to develop additional dock and harbor facilities. The state-owned 4,000-ft long by 75-ft wide, gravel airstrip provides year-round access. Three mi of local roads are used by All Terrain Vehicles (ATVs), snowmachines, and dog teams.[55] Roundtrip airfare between Anchorage and Anvik in June 2012 was $646.[56]

[55] 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.

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

Facilities

The majority of homes have new individual water wells, piped sewage disposal, and complete plumbing. Treated well water is also available at the "washeteria." Funds have been requested to complete the remaining unserved homes. In total, 13 homes need plumbing, 16 homes need a septic tank, and 4 new water wells need to be drilled. Blackwell School connected to the city water system when its own well went dry in 1999. The school has its own drainfield.[57] Additional businesses and services include fuel storage, a community center, fuel sales, a general store, and a teen center. Satellite communication services are provided by Bush Tell and AT&T. Internet services are provided by GCI. Alaska Rural Communications Services (ARCS) provides public television and KSKO public radio broadcasts regionally via transmitter. In addition, residents often use VHF (Very High Frequency) radios to communicate with neighboring communities. Visitor accommodations include Chase Enterprises Lodge and Anvik City Building and School. Public safety services are provided by Village Public Safety Office (VPSO) and state troopers based in Aniak. Fire and rescue services are provided by VPSO and Anvik volunteer fire department. Additional public facilities include a community hall, school gym, museum, and school/community library.[58]

As of 2004, Anvik lacked commercial lodging/accommodations, restaurant/food services, and transportation rental and repair services. The community has plans to develop barge docking, vessel landing, barge staging, and vessel storage infrastructure.[59]

Medical Services

The Anvik Health Clinic is a Primary Health Facility and Community Health Aid Program (CHAP) site. Acute and long term care is provided in Bethel.[60] Mental health services are provided in nearby McGrath and secondary or intermediate healthcare is provided in Aniak.[61]

Educational Opportunities

The Blackwell School provides a preschool through 9th grade education. As of 2011, there were 16 students enrolled and 3 teachers employed.[62] K-12 education services are provided in McGrath. In addition, the University of Alaska Fairbanks (UAF) offers secondary educational opportunities through Interior-Aleutian Campus (IAC) McGrath Center.[63]

---

[57] See footnote 55.
[58] City of Anvik. (2004). *Anvik Comprehensive Community Plan*. Retrieved December 23, 2011 from: http://www.commerce.state.ak.us/dca/plans/Anvik-CP-2004.pdf
[59] Ibid.
[60] See footnote 55.
[61] See footnote 58.
[62] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[63] See footnote 55.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Historically, residents of the lower-middle Yukon River region followed seasonal subsistence practices, utilizing seasonal camps. This continued until missionary and governmental influences encouraged more sedentary lifestyles. However, mobility continued to be important for communities within the region, maintaining kinship ties and shared subsistence practices.

While subsistence harvesting remains the dominant form of fisheries participation practiced by residents, the community has also been developing both its commercial and recreational sectors. Residents of Anvik have held commercial fisheries permits since 1980,[64] and landings have historically been made in the community. Sport fish guide businesses in the area also provide services to private anglers. In 2003, residents participated in a brief Arctic lamprey opening using dip nets or locally made eeling sticks. Landings from this fishery were transported 20 mi upriver to Grayling and sold to Kwikpak Fisheries for $1.25 per lb.[65] Anvik is located within the Yukon Fisheries Management Area District 4A and Alaska Game Management Unit 21E. Although the community is ineligible to participate in the Community Development Quota (CDQ) program, it is represented regionally through the Western Interior Regional Advisory Council on subsistence issues, as well as through the G.A.S.H. (Grayling, Anvik, Shageluk, Holy Cross) advisory committee to ADF&G.

The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s. Poor returns of Chinook salmon in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[66] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009 led to declaration of a fishery disaster that year.[67] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[68]

---

[64] Commercial Fisheries Entry Commission. (n.d.). Retrieved December 27, 2011 from: http://www.cfec.state.ak.us/gpbycen/1980/290603.htm

[65] See footnote 58.

[66] Clark, McGregor, Mecum, Krasnowski and Carroll. (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Department of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.

[67] Upton, Harold F. (2010). *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.

[68] Alaska Department of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=hottopics.federalChinookdisaster.

Currently, commercial salmon fishing takes place along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts and 28 statistical areas. Fishing takes place with set and drift gillnets, and fish wheels are also allowed in Upper Yukon districts (Districts 4, 5, and 6). Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.[69]

Processing Plants

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list, the company Bonasila Inc. operates a seafood processing plant called Bonasila Roe Plant in Anvik.

Fisheries-Related Revenue

Between 2000 and 2010, Anvik did not record any fisheries-related revenue. Information regarding fisheries-related revenue trends can be found in Table 3.

Commercial Fishing

In 2010, 11 residents, or 12.9% of the population, held a total of 14 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 14 residents held 15 CFEC permits. Of the CFEC permits held in 2010, salmon made up 71%, compared to 100% in 2000; and "other" finfish made up 29%, compared to 0% in 2000. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, no residents held halibut, sablefish, and crab quota between 2010 and when the programs began.

No residents held commercial crew licenses in 2010, compared to one in 2000. In addition, no residents held majority ownership of any commercial vessels, compared to eight in 2000. Overall, 14% of the CFEC permits issued were actively fished in 2010, compared to 0% in 2000. This ranged by fishery from 50% of "other" finfish permits , to 0% of salmon permits. In that year, CFEC permits were fished exclusively in the statewide freshwater set gillnet fishery. Overall, permit activity remained relatively low between 2000 and 2010, averaging approximately 6% of total permits held between those years. No permits were fished between 2000 and 2002, as well as 2004 and 2005. Permit activity peaked in 2009 at 27% of total permits held, despite the fact that the total number of permits held remained relatively constant over the decade. This was entirely credited to a spike in salmon permit activity.

No landings were reported in Anvik in 2010; although landings were made in 2007 and 2008. Salmon landings peaked in 2007 when 32,057 lbs of salmon were landed in Anvik with an ex-vessel value of $16,678. However, the value per-pound peaked in 2009, when 27,771 lbs of salmon was valued at $17,780 in ex-vessel. Data regarding landings by residents between 2000 and 2009 are considered confidential. No landings were reported by residents in 2010. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[69] Ibid.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*$85,069*	*$96,152*	*$118,000*	*$156,095*	*$144,646*	*$116,180*	*$83,745*	*$129,849*	*$177,148*	*$204,431*	*$206,064*

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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	2	0	0	1	1	2	3	4
	Fished permits	0	0	0	1	0	0	0	0	1	1	2
	% of permits fished	n/a	n/a	n/a	50%	n/a	n/a	0%	0%	50%	33%	50%
	Total permit holders	0	0	0	2	0	0	1	1	2	3	4
Salmon (CFEC) [2]	Total permits	15	15	14	14	14	14	14	13	13	11	10
	Fished permits	0	0	0	0	0	0	0	1	0	3	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	8%	0%	27%	0%
	Total permit holders	14	14	13	13	13	13	13	12	13	10	9
Total CFEC Permits[2]	*Permits*	*15*	*15*	*14*	*16*	*14*	*14*	*15*	*14*	*15*	*14*	*14*
	Fished permits	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*1*	*1*	*4*	*2*
	% of permits fished	0%	0%	0%	*6%*	0%	0%	0%	*7%*	*7%*	*29%*	*14%*
	Permit holders	*14*	*14*	*13*	*13*	*13*	*13*	*13*	*12*	*13*	*10*	*11*

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

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

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

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

Year	Crew Licenses 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 Anvik[2]	Total Net Lbs Landed In Anvik[2,5]	Total Ex-Vessel Value Of Landings In Anvik [2,5]
2000	1	0	0	8	10	0	0	$0
2001	0	0	0	8	9	0	0	$0
2002	0	0	0	8	9	0	0	$0
2003	2	0	0	2	3	0	0	$0
2004	0	0	0	11	13	0	0	$0
2005	0	0	0	1	2	0	0	$0
2006	0	0	0	1	2	0	0	$0
2007	3	1	0	1	2	0	--	--
2008	0	0	0	1	2	0	0	$0
2009	5	1	1	1	2	0	--	--
2010	0	0	1	0	1	0	0	$0

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

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	--	0	--	0
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
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	--	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	--	$0	--	$0
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
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	--	*$0*	--	*$0*

Note: Cells showing "–" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net lbs refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	0
Finfish	--	--	--	--	--	--	--	--	--	--	0
Halibut	--	--	--	--	--	--	--	--	--	--	0
Herring	--	--	--	--	--	--	--	--	--	--	0
Other Groundfish	--	--	--	--	--	--	--	--	--	--	0
Other Shellfish	--	--	--	--	--	--	--	--	--	--	0
Pacific Cod	--	--	--	--	--	--	--	--	--	--	0
Pollock	--	--	--	--	--	--	--	--	--	--	0
Sablefish	--	--	--	--	--	--	--	--	--	--	0
Salmon	--	--	--	--	--	--	--	--	--	--	0
Total[2]	--	--	--	--	--	--	--	--	--	--	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	$0
Finfish	--	--	--	--	--	--	--	--	--	--	$0
Halibut	--	--	--	--	--	--	--	--	--	--	$0
Herring	--	--	--	--	--	--	--	--	--	--	$0
Other Groundfish	--	--	--	--	--	--	--	--	--	--	$0
Other Shellfish	--	--	--	--	--	--	--	--	--	--	$0
Pacific Cod	--	--	--	--	--	--	--	--	--	--	$0
Pollock	--	--	--	--	--	--	--	--	--	--	$0
Sablefish	--	--	--	--	--	--	--	--	--	--	$0
Salmon	--	--	--	--	--	--	--	--	--	--	$0
Total[2]	--	--	--	--	--	--	--	--	--	--	*$0*

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

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

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

[2] Totals only represent non-confidential data.

Recreational Fishing

Anvik's remote location limits recreational fishing by non-Alaska residents; however, this has not prevented sportfishing outfitters from providing opportunities for both resident and non-Alaska resident private anglers. As of 2010, the Anvik River Lodge was the only sportfishing business in the area, although it was not registered as active that year. In that year, 31 residents held sportfishing licenses and 184 sportfishing licenses were sold in the community, compared to 22 and 74 in 2000, respectively. Sportfishing license sales peaked in 2010. According to ADF&G Harvest Survey data,[70] northern pike is the only species targeted by private anglers. However, there are further reports of chum, king, pink, and coho salmon, Arctic char, Dolly Varden char, and Arctic grayling being targeted.[71] There is no kept/released charter log data available for Anvik.

Anvik is located in the Yukon River Drainage ADF&G Harvest Survey Area which includes all Yukon River drainages, from the south side of the Brooks Range to the Bering Sea, from the Canadian border to the Bering Sea, and all drainages of the Koyukuk and Alatna rivers. 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. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence resources are heavily relied upon by residents to supplement incomes, preserve traditional values, and bolster a sense of community. Anvik's mixed subsistence/cash economy grew from a hunter-gatherer economy that existed in the area prior to Russian-American contact. The community participates in subsistence fishing, hunting, trapping, and gathering. According to ADF&G,[72] an estimated 46% of households surveyed participated in non-salmon fish subsistence activities in 2002, totaling 174.23 lbs per capita. That same year, an estimated 46% of households surveyed were harvesting terrestrial mammals, totaling 104.32 lbs per capita. Non-salmon fish harvested by residents include whitefish, inconnu, northern pike, Arctic grayling, Longnose sucker, burbot, Alaska blackfish, and Arctic lamprey. Non-salmon fish are harvested year-round, with pre-breakup (March and April) pike, whitefish, and sheefish harvests commonly occurring. Following breakup, dipnets are commonly used to fish for whitefish during their spring migration. Through May and June, gillnets are used to harvests whitefish, pike, and sheefish. Although effort largely shifts to salmon during summer months, non-salmon fish continue to be harvested throughout the season. During the summer, residents also rely on fish wheels and hook and line gear.[73]

---

[70] 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).

[71] Anvik River Lodge. (n.d.). Retrieved December 27, 2011 from: http://www.anviklodge.com/fishing/index.htm

[72] 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).

[73] Brown, C., J. Burr, K. Elkin, and R. J. Walker. 2005. *Contemporary Subsistence Uses and Population Distribution of Non-Salmon Fish in Grayling, Anvik, Shageluk, and Holy Cross.* Alaska Department of Fish and

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Anvik[2]	Freshwater Angler Days Fished – Non-residents[3]	Freshwater Angler Days Fished – Alaska Residents[3]
2000	0	6	22	74	3,345	7,878
2001	0	3	34	39	4,063	6,454
2002	0	2	26	72	5,761	9,194
2003	0	2	28	112	3,344	5,756
2004	0	2	33	110	5,479	7,613
2005	0	3	25	102	4,182	4,783
2006	0	3	27	129	3,607	7,816
2007	0	3	19	142	3,168	8,226
2008	0	5	13	72	2,573	10,400
2009	0	3	18	131	2,969	7,639
2010	0	2	31	184	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/sportfishingsurvey/ (Accessed September 2011).

Whitefish comprise the most significant portion of non-salmon fish harvested in the region. Five different types of whitefish: broad, humpback, round, and least and Bering cisco are harvested locally. Whitefish eggs are valued in many communities where they are made into "Caviar." Whitefish oil can also be rendered to make fat ice cream, also known as "snow ice cream." Historically, residents would dam portions of a creek or slough in the fall and dipnet whitefish from pools. Northern pike make up a significant portion of the annual non-salmon subsistence harvest in Anvik. They are highly accessible, and available throughout the year. Pike are also important figures in cultural life, and are an imbued with spiritual significance. Blackfish are known as "survival fish" in many Yukon River communities, as they often fed residents during times when food was scarce. Residents of Anvik report fishing for blackfish in lakes and sloughs near the village. Primary harvesting methods include dipnets and traps. Unlike most other non-salmon fish in the region, Arctic lamprey run at specific and often inconsistent times making it difficult to determine when harvests should occur. They are often boiled and rendered for oil, smoked, frozen, jarred, or used as dog food. Arctic grayling do not constitute a large portion of non-salmon subsistence harvests. Near Anvik, grayling can be found in the Anvik and Bonasila rivers, where they are typically harvested by hook and line or net. Burbot are harvested primarily in winter months while the fish are wintering outside of the Yukon River's main stem. Burbot livers are considered a delicacy, and fish are both consumed by residents, and used as dog food. Sheefish are important for their year-round availability and oil-rich flesh, and can be found

Game. Technical Paper No. 289. Retrieved March 7, 2013 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp289.pdf.

traveling up the Anvik River in search of spawning habitat. Sheefish are harvested in fish wheels and nets either set in-river during the summer, or under the ice during the winter and early spring. Spring is the preferred harvest time due to high oil and fat content. When prepared, sheefish are typically rendered for oil, although they can also be dried, smoked, boiled, or frozen. Sheefish eggs are typically fried or boiled. Longnose suckers are not harvested in significant amounts, and are primarily used as dog food. Suckers are mostly caught as by-catch in nets intended for chum salmon or whitefish harvests.[74]

Of the species listed by ADF&G in Table 13, chum salmon were harvested most by residents, followed by Chinook, coho, and pink salmon. In 2008, residents reported harvesting 2,153 salmon, compared to 835 in 2000. Reported salmon harvests peaked in 2007 at 7,807 fish. In that year, there was a significant increase in reported chum harvests. While chum harvests were variable between 2000 and 2008, reported Chinook harvests increased steadily from 205 to 1,433. In 2002, there was a reported 16,143 lbs of non-salmon fish harvested. Yukon River salmon are typically harvested between late May and early October. Chinook, chum, and coho salmon make up the majority of subsistence harvests on the Yukon, although Chinook are desired most for consumptive purposes. Declining Chinook returns prompted a region-wide disaster declaration in 2009. Depressed returns resulted in commercial and subsistence fishing restrictions each year between 2009 and 2012, ultimately leading to widespread commercial and subsistence closures in 2012.[75]

There is no documentation available on local subsistence marine mammal or halibut harvests between 2000 and 2010. Information regarding subsistence trends can be found in Tables 12 through 15.

[74] Ibid.
[75] Alaska Department of Fish and Game (2013). *Socioeconomic Effects of Chinook Salmon Declines.* Retrieved March 9, 2013 from: http://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2012-2013/ayk/rcs/rc014_adfg_socioeconomiceffects.pdf.

Table 12. Subsistence Participation by Household and Species, Anvik: 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	46%	174.23
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, Anvik: 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	42	17	205	600	n/a	30	n/a	n/a	n/a
2001	38	33	608	123	13	n/a	n/a	n/a	n/a
2002	33	30	708	1,490	n/a	n/a	n/a	n/a	16,143
2003	32	26	1,286	1,023	12	240	n/a	n/a	n/a
2004	31	26	1,588	646	288	n/a	n/a	n/a	n/a
2005	35	30	1,206	1,026	406	n/a	n/a	n/a	n/a
2006	37	32	958	505	n/a	n/a	n/a	n/a	n/a
2007	34	29	1,321	5,679	807	n/a	n/a	n/a	n/a
2008	32	26	1,433	657	40	23	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, Anvik: 2003-2010.

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

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

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

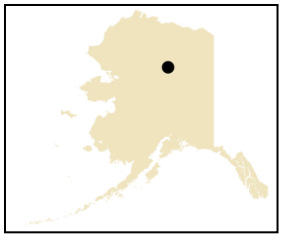
Note: n/a indicates that no data were reported for that year.

[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.

Coldfoot



People and Place

Location [76]

Coldfoot is located at the mouth of Slate Creek on the east bank of the Middle Fork Koyukuk River. It lies at mile 175 of the Dalton Highway, formerly known as the North Slope Haul Road. The area encompasses 37.0 sq mi of land. Coldfoot is unincorporated, is located in the Yukon-Koyukuk Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [77]

In 2010, there were 10 residents living in Coldfoot, ranking it 343rd of 352 Alaskan communities in terms of population size. While the population was 13 in both 2000 and 2009, the average annual growth rate was -0.32%, which was lower than the statewide average of 0.75% and indicative of a variable population. Information regarding population trends can be found in Table 1.

In 2010, the majority of residents identified themselves as White (90%), while 10% identified themselves as American Indian or Alaska Native, compared to 2000 when 100% of residents identified themselves as White. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 1.67, compared to 2.17 in 2000. In that year, there were a total of 11 housing units, compared to 12 in 2000. Of the households surveyed in 2010, 18% were owner-occupied, compared to 0% in 2000; 36% were renter-occupied, compared to 50% in 2000; 0% were vacant, compared to 0% in 2000; and 45% were occupied seasonally, compared to 50% in 2000.

The gender distribution in 2010 was skewed at 60% male and 40% female. This was significantly more skewed than the distribution statewide (52% male, 48% female), and more even than the distribution in 2000 (69.2% male, 30.7% female). The median age in 2010 was 43.0 years, which was significantly older than the statewide median of 33.8 years and somewhat older than the 2000 median of 39.5 years.

Population structures in both 2000 and 2010 were irregular due to the small and transient population in Coldfoot. Gender distribution along age cohorts in 2010 was equal with the exception of the 50 to 59 range, which had a complete male bias (30% male, 0% female) and the 70 to 79 range, which had a complete female bias (10% female, 0% male). Information regarding population structure can be found in Figure 2.

[76] 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.

[77] 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.

The U.S. Census' 2006-2010 American Community Survey (ACS) does not have information on Coldfoot; therefore, educational attainment estimates are not available for 2010.

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

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	n/a	-
2000	13	-
2001	-	14
2002	-	11
2003	-	15
2004	-	10
2005	-	11
2006	-	13
2007	-	11
2008	-	12
2009	-	13
2010	10	-

[1] U.S. Census, 1990, 2000 and 2010 decennial census.
[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, Coldfoot: 2000-2010 (U.S. Census).

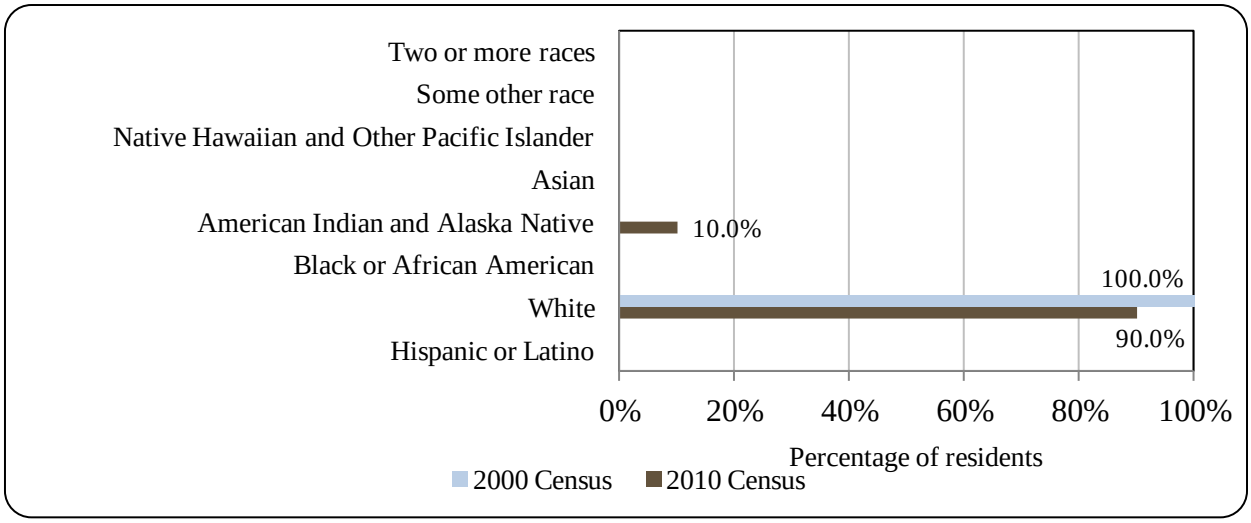
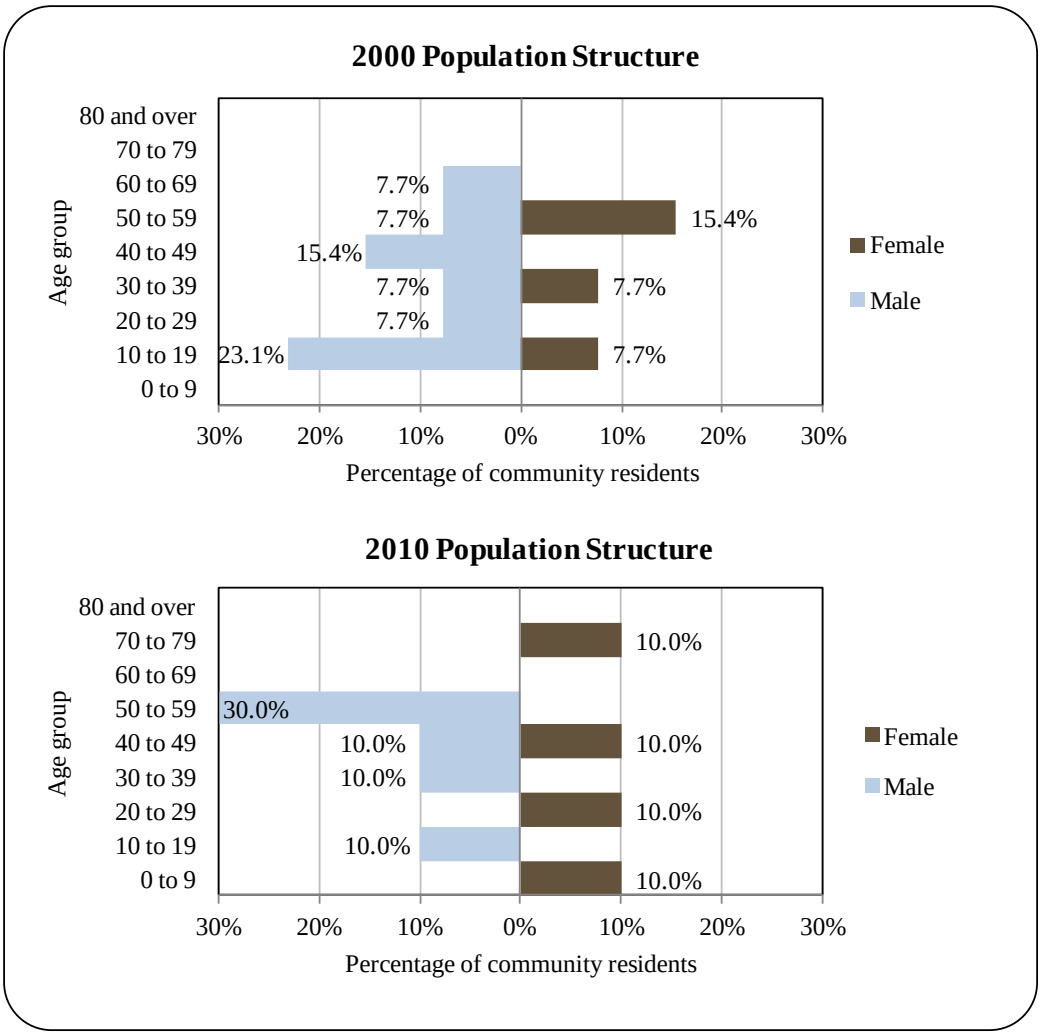


Figure 2. Population Age Structure in Coldfoot Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture[78]

Occupation of the Brooks Range and northern Alaska can be traced back at least 10,000 years. During the last glacial maximum, successive waves of immigrants arrived in the Arctic, either through an ice free corridor connecting North America and Siberia, coastal routes along the Bering Land Bridge, or both.

The earliest traces of human occupation can be dated to approximately 8,500 to 11,000 years ago; however, there is some disagreement over ages within the archaeological record. Evidence related to an early American Paleo-Arctic tradition have been found in the vicinity of Itkillik Lake, the upper Kobuk River, and near Anaktuvuk Pass.[79]

[78] 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.
[79] National Park Service. (1988). *Final Environmental Impact Statement: Wilderness Recommendation: Gates of the Arctic National Park and Preserve, Alaska.* Retrieved May 22, 2012 from: http://babel.hathitrust.org/.

The northern Archaic people arrived in northern Alaska from southern forested regions about 6,500 years ago. By around 1,000 years ago, the Western Thule culture appeared in the archaeological record. The Thule spread throughout the Arctic, eventually reaching as far east as Greenland and Labrador. The Nunamiut culture, which occupied much of the Brooks Range and surrounding tundra, descended from the Thule. The south slope of the Brooks Range was traditionally occupied by central Athabaskan groups. In historic times, there were many interactions between northern Eskimo groups and central Athabaskan groups throughout the Brooks Range area.[80]

In 1850, the central Brooks Range was still largely isolated from influences of European and American culture. The mountains were occupied by semi-nomadic bands of Nunamiut hunters. Kobuk Eskimos and Koyukon and Kutchin Athabaskans made seasonal journeys into the area as well. Principal activities during that time included hunting, fishing, and trading among coastal and interior groups. In the mid-1880s, American explorers began moving into the central Brooks Range. Around this time, waves of miners and trappers began occupying the area.[81]

Originally named Slate Creek, Coldfoot reportedly got its name in 1900 when gold prospectors traveled up the Koyukuk to this point, then got "cold feet," turned around, and departed. In 1902, Coldfoot had two roadhouses, two stores, seven saloons, and a gambling house. A post office was established in 1902 and was discontinued in 1912, when the mine and town were abandoned for mines in Nolan and Wiseman Creeks to the north.[82]

Natural Resources and Environment[83]

The climate of the area is strongly continental. Temperatures range from -14 to 50 °F (-26 to 10 °C). Annual precipitation averages 10 inches, and snowfall averages 63 inches per year.

Coldfoot is located in a valley within the southern portion of the Brooks Range and right outside the Gates of the Arctic National Park and Preserve (GANPP). The area is remote and rugged with ridges that reach elevations of 4,000 to 8,000 feet or more. The ridges are actually the northernmost expanse of the Rocky Mountain system. The geology of the region is shaped by tectonic uplift, deformation, folding, fracturing, and overlapping. Uplift, erosion, and heavy successive glaciations account for the landscape profile and U-shaped valleys. Subsurface geology consist of metamorphic quartz mica and chloritic schists which form belts along the south flanks of the Brooks Range.

Soils vary by location and are dependent on topography, aspect, fire history, drainage, permafrost, and parent material. Most mountainous areas in the region are characterized by thin, sandy soils. Hilly moraines and south-facing colluvial slopes consists of gravelly loams. There are also areas of thin peaty mat and occasional pockets of permafrost. Lower elevations are covered by a gray to brown silty loam overlain by a peaty organic layer. Soils often overlay continuous permafrost zones.

Regional vegetation is consistent with taiga (boreal forest), tundra, and shrub thicket types. Alpine tundra occurs in mountainous areas and may be populated with willows, dryas,

---

[80] Ibid.
[81] Ibid.
[82] 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.
[83] Ibid.

heather, lichens, grasses, sedges, and herbs. Moist tundra is found in moderately drained foothills and along valleys. Cottongrass dominates landscapes. Other plants include grasses, dwarf birch, willows, and Labrador tea. Taiga reaches its northern limit at around the southern border of the Brooks Range. As such, spruce stands are scattered and mixed with hardwoods such as birch or aspen. Other vegetation includes willows, blueberry, cranberry, bearberry, crowberry, lichens, mosses, Labrador tea, and poplar.

Mammals within the GANPP the include brown/grizzly bears, moose, lemmings, voles, ground squirrel, marmot, beaver, mink, otter, wolverine, fox, wolf, lynx, marten, snowshoe hare, moose, caribou, and Dall sheep. Freshwater fish include Arctic grayling, lake trout, northern pike, Arctic char, whitefish, sheefish, salmon, long-nosed sucker, burbot, nine-spined stickleback, and slimy sculpin.

Minerals found in the region include copper, gold, lead, and zinc. There are several polymetallic deposits located at Wiseman, Nolan Creek, and Michigan Creek.[84] Placer mines have operated historically around the Nolan-Hammond River areas outside of Wiseman.

Environmental hazards primarily come in the form of extreme cold events, permafrost melt, wildfire, and erosion. Solifluction, or soil creep, is common on moderate slopes and can be associated with permafrost thaw. Smoke and haze associated with forest and tundra fires can degrade local air quality and irritate sensitive respiratory systems.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Coldfoot as of 2010.[85]

Current Economy[86]

Most employment is in the form of government and services to road travelers. There are motels, a restaurant, a gas and service station, an RV park and dump station, a state trooper post, a State Fish & Wildlife officer, and a U.S. Bureau of Land Management field office.[87]

Coldfoot was not included in the 2006-2010 ACS and because of this; economic estimates are not available for 2010. However, the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD) reported on economic characteristics for that year.[88] In that year, $400,460 was reported in total wages,[89] which results in a per capita income of $40,046 when matched with the 2010 Census population. In 2000,[90] the per capita income in Coldfoot was $42,620 and the median household income was $61,250; however, after adjusting for inflation by converting

[84] Alaska Department of Commerce. (n.d.). *Mineral Resources of Alaska.* Retrieved May 22, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[85] Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program.* Retrieved March 9, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm.
[86] Unless otherwise noted, all monetary data are reported in nominal values.
[87] See footnote 82.
[88] 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/.
[89] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[90] 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). Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

2000 values to 2010 dollars,[91] per capita income and median household income totals $56,045 and $80,543, respectively. It should be noted that the number of employed residents estimated by ALARI in 2010 exceeds the total population recoded in the 2010 Census. Because of this, the 2010 per capita estimate should be considered with caution.

According to 2010 ALARI estimates, 61.5% of employed residents worked in leisure or hospitality sectors; 15.4% worked in natural resources or mining sectors; 7.7% worked in construction sectors; 7.7% worked in trade, transportation, or utilities sectors; and 7.7% worked in state government. In 2000,[92] 60% of employed residents worked in retail trade and 40% worked in construction. Information regarding employment can be found in Figures 3 and 4.

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

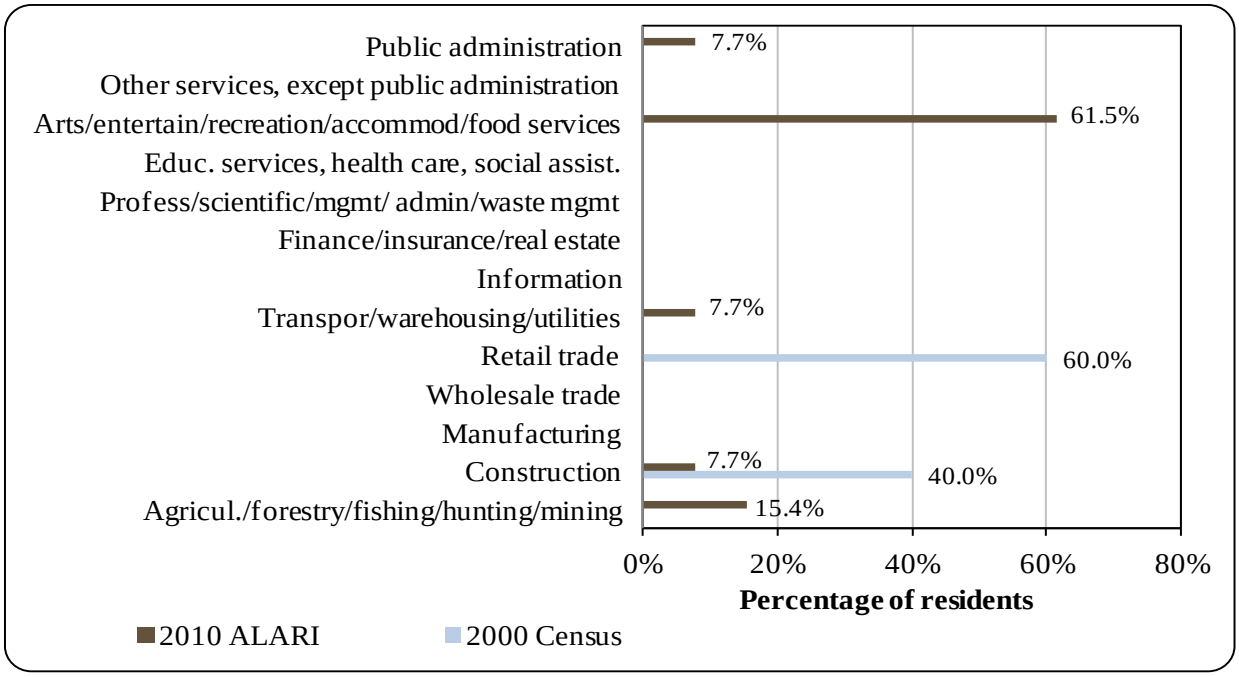
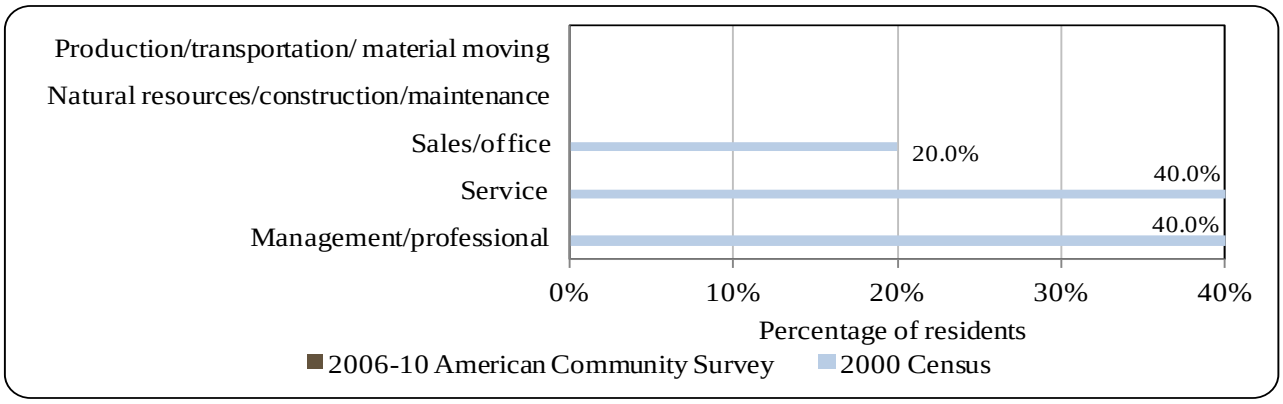


Figure 4. Local Employment by Occupation in 2000-2010, Coldfoot.



[91] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[92] See footnote 90.

Governance

Coldfoot is unincorporated and not under the jurisdiction of a borough. In addition, the community was not included in the Alaska Native Claims Settlement Act (ANCSA) of 1971 and is not represented by a federally recognized Native traditional council. Because of its unincorporated status, Coldfoot is unable to levy taxes or keep a municipal budget (Table 2).

The closest Alaska Department of Fish and Game (ADF&G) and U.S. Bureau of Citizenship and Immigration Services offices are located in Fairbanks, 183 mi southeast. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 419 mi south.

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

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska 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, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Infrastructure

Connectivity and Transportation[93]

Coldfoot is located on the Dalton Highway. There is a state-owned 4,000-ft long by 100-ft wide gravel runway. Air charter services are available by appointment from Fairbanks. Local air services include Wright Air, which provides air charter services by appointment.

[93] 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.

Facilities[94]

Residents use individual wells and septic tanks. There is no community-wide system. Visitor accommodations include Coldfoot Services and Arctic Acres Inn. Public safety services are provided by a local state trooper post. No other public services are available.

Medical Services[95]

No medical services are provided within Coldfoot. The closest medical facilities are located in Fairbanks.

Educational Opportunities[96]

No schools are located within Coldfoot.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Very little information is available regarding Coldfoot's historic participation in North Pacific fisheries. Several residents held sportfishing licenses in 2010. No residents held commercial fishing permits between 2000 and 2010.

Processing Plants

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

Fisheries-Related Revenue

Coldfoot did not collect any fisheries-related taxes or fees between 2000 and 2010 (Table 3).

Commercial Fishing

Data on commercial fishing permits, vessel ownership, and crew licenses suggest that no commercial fishing of any kind was conducted by residents of Coldfoot between 2000 and 2010. This lack of activity is reflected in the fact that no data are reported in Tables 4 through 10.

[94] Ibid.
[95] Ibid.
[96] Ibid.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

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

[1] Alaska 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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Total CFEC Permits[2]	*Permits*	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Permit holders	0	0	0	0	0	0	0	0	0	0	0

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

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

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

Year	Crew Licenses 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 Coldfoot[2]	Total Net Lbs Landed In Coldfoot[2,5]	Total Ex-Vessel Value Of Landings In Coldfoot[2,5]
2000	1	0	0	0	0	0	0	$0
2001	1	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	0	0	0	0	0	0	0	$0
2004	2	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	1	0	0	0	0	0	0	$0
2007	0	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	0	0	0	0	0	0	0	$0
2010	0	0	0	0	0	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[3] National Marine Fisheries Service. 2011. Alaska processors' Weekly Production Reports (WPR) data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[5] Totals only represent non-confidential data.

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

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

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

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

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

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

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

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

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

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

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

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

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

[2] Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is not a major contributor to Coldfoot's economy, and is practiced primarily by local residents. No sport fish guide businesses were active in the community between 2000 and 2010, and no residents held sport fish guide licenses. In addition, no sportfishing licenses were sold in the community during that time. In 2010, residents purchased six sportfishing licenses (irrespective of point of sale), compared to 17 in 2000 (Table 11).

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sportfishing Licenses to residents[2]	Sport Fishing Licenses Sold in Coldfoot[2]
2000	0	0	17	0
2001	0	0	14	0
2002	0	0	24	0
2003	0	0	25	0
2004	0	0	23	0
2005	0	0	19	0
2006	0	0	13	0
2007	0	0	12	0
2008	0	0	13	0
2009	0	0	10	0
2010	0	0	6	0

Year	Saltwater		Freshwater	
	Angler days fished – Non-residents[3]	Angler days fished – Alaska residents[3]	Angler days fished – Non-residents[3]	Angler days fished – Alaska residents[3]
2000	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Coldfoot is located in the Yukon River Drainage ADF&G Harvest Survey Area which includes all Yukon River drainages from the south side of the Brooks Range to the Bering Sea, from the Canadian border to the Bering Sea, and all drainages of the Koyukuk River and Alatna River. In 2010 there was a total of 9,134 freshwater angler days fished, compared to 11,223 in 2000 (Table 11). Of those, non-Alaska residents accounted for 43.6%, compared to 29.8% in 2000.

Subsistence Fishing

No information is available from management agencies regarding the extent of Coldfoot's participation in subsistence fisheries between 2000 and 2010 (Tables 12 to 15).

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

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

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

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

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

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

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

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

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

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

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

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

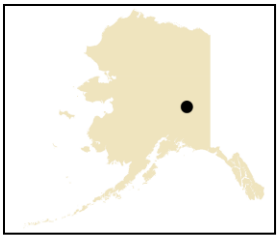
Year	# of Beluga Whales[1]	# of Sea Otters[2]	# of Walrus[2]	# of Polar Bears[2]	# of Steller Sea Lions[3]	# of Harbor Seals[3]	# of Spotted Seals[3]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	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.



Delta Junction

People and Place

Location [97]

Delta Junction is located at the convergence of the Richardson and Alaska Highways, approximately 95 mi southeast of Fairbanks and 236 mi northeast of Anchorage. The city developed along the east bank of the Delta River, south of its junction with the Tanana River. The area encompasses 17.3 sq mi of land and no water. Delta Junction was incorporated as a Second-class city in 1960, is part of the Southeast Fairbanks Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [98]

In 2010, there were 958 residents in Delta Junction, ranking it 68th of 352 Alaskan communities in terms of population size. Overall, between 1990 and 2010 the population grew by 46.9%. Between 2000 and 2009, the population grew by 34.3% with an average annual growth rate of 7.2%, which was significantly greater than the statewide average of 0.75% and indicative of rapid population growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there were 4,800 people living in Delta Junction in 2010, of which 800 were seasonal or transient according to state Permanent Fund Dividend (PFD) filings. This number vastly exceeds U.S. Census figures and could possibly include residents from nearby Fort Greely or the surrounding area. Employment brought to the area by the Pogo Mine and Fort Greely missile defense program may be driving this number as well. The population typically reaches its annual peak in August and is not at all driven by employment in fisheries sectors. Information about population trends can be found in Table 1.

The racial composition of Delta Junction is predominately White, with 88.1% of residents identifying themselves as such in 2010, compared to 91.4% in 2000. Also in that year, 3.2% of residents identified themselves as American Indian or Alaska Native, compared to 4% in 2000; 1.8% identified themselves as Black or African American, compared to 1.1% in 2000; 1.1% identified themselves as Asian, compared to 1% in 2000; and 4.2% identified themselves two or more races, compared to 2.4% in 2000. Residents identifying themselves as Native Hawaiian and Other Pacific Islander or some other race each made up less than 1% of the population in both 2000 and 2010. Hispanic or Latino residents made up 4.7% of the population in 2010 compared to 0.8% in 2000.

---

[97] 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.

[98] 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.

In 2010, the average household size was 2.83, compared to 2.69 in 2000 and 2.6 in 1990. In that year, there were 517 total housing units, compared to 422 in 2000 and 413 in 1990. Of the households surveyed in 2010, 40% were owner occupied, compared to 42% in 2000; 33% were renter-occupied, compared to 32% in 2000; 21% were vacant, compared to 19% in 2000; and 6% were occupied seasonally, compared to 7% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

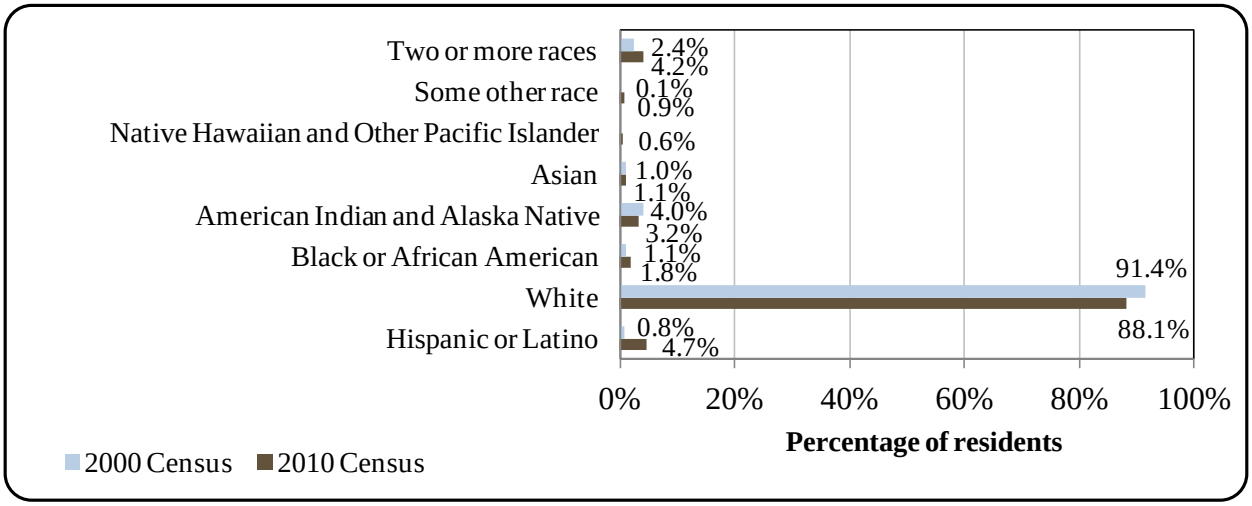
Table 1. Population in Delta Junction from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Department of Labor Estimate of Permanent Residents[2]
1990	652	-
2000	840	-
2001	-	876
2002	-	887
2003	-	961
2004	-	948
2005	-	989
2006	-	1,003
2007	-	999
2008	-	1,080
2009	-	1,128
2010	958	-

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

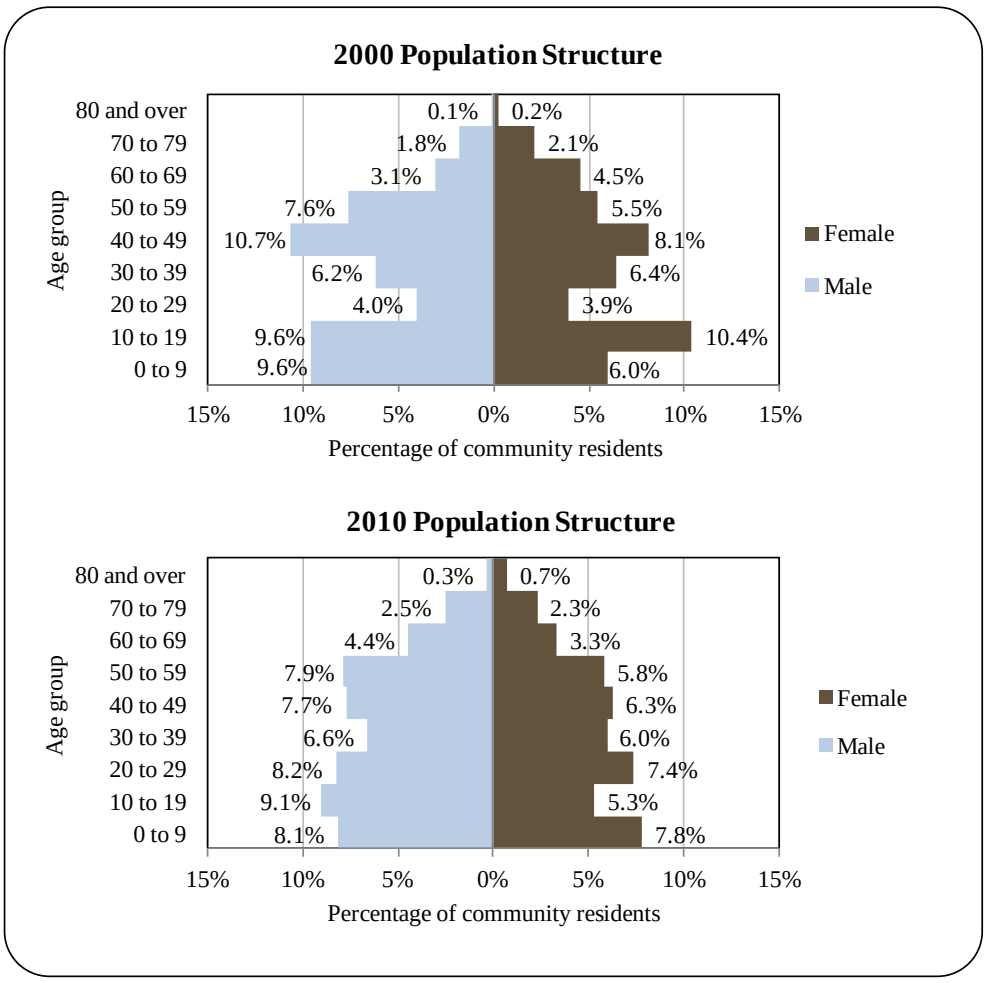


Compared with 2000, the population structure in 2010 was more stationary, with less variation among age cohorts. In that year, 30.3% of residents were under the age of 20, compared to 35.6% in 2000; 13.5% were over the age of 59, compared to 11.8% in 2000; 40.3% were between the ages of 30 and 59, compared to 44.5% in 2000; and 15.6% were between the ages of 20 and 29, compared to 7.9% in 2000.

The gender distribution of Delta Junction was somewhat skewed in 2010 at 54.9% male and 45.1% female (Figure 2). This was slightly less even than the statewide distribution that year (52% male, 48% female) as well as the 2000 distribution (52.9% male, 47.1% female). The median age in 2010 was 32.4, which was similar to the statewide median of 33.8 and younger than the 2000 median of 36.

Gender distribution by age cohort was slightly more even in 2010 than it was in 2000, with most cohorts reflecting male biases. In that year, the greatest absolute gender difference occurred in the 10 to 19 range (9.1% male, 5.3% female), followed by the 50 to 59 (7.9% male, 5.8% female) and 40 to 49 (7.7% male, 6.3% 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 Delta Junction Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the 2006-2010 American Community Survey (ACS)[99] estimated that in 2010, an estimated 94.9% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 2.2% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 2.9% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 36.5% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 10.3% held an Associate's degree, compared to an estimated 8.0% of Alaska residents overall; an estimated 11.2% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 8.3% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[100]

Tanana Athabascan Indians occupied this site throughout most of the nineteenth and early twentieth Centuries. In 1899, the U.S. Army sent parties to investigate the Susitna, Matanuska, and Copper River valleys to find the best route for a trail north from Valdez through the Copper River Valley. By 1901, the army had completed the Trans-Alaska Military Road, which extended from Valdez to Eagle. In 1902, gold was discovered in the Tanana Valley, and shortly after, a spur trail was created from Gulkana on the Valdez-Eagle route to the new mining camp in Fairbanks. This trail became the Valdez-Fairbanks Trail. The Sullivan Roadhouse was built in 1905 by John and Florence Sullivan on a part of the Valdez-Fairbanks Trail known as the Donnelly-Washburn Cut-Off. This section of the trail was considered by many to be too steep, so the Alaska Road Commission built a new road which was 4 mi from the Sullivan Roadhouse. The Sullivans tore the roadhouse apart and rebuilt it alongside the new road.

Ongoing mining activity just north of Delta Junction in the Tenderfoot area and the Chisana Gold Strike of 1913 brought many prospectors and other travelers through the area. The Delta Junction area soon became known as Buffalo Center for the American bison that were transplanted there from the National Bison Range in Montana in 1928. In 1942, construction of the Alaska Highway began, and the Fort Greely military base was completed 5 mi to the south. In 1946, a dairy farm was established and in 1953, beef cattle were brought in by homesteaders. Delta Junction was incorporated as a Second-class city in 1960. Construction of the Trans-Alaska Pipeline between 1974 and 1977 brought a dramatic upswing to the population and economy. In August 1978, the state initiated the Delta Agricultural Project I, a 60,000-acre demonstration agricultural project. Twenty-two parcels, averaging 2,700 acres in size were sold by lottery. Today, Delta Junction is largely centered on agriculture and the military.

[99] 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.

[100] 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

This area of Interior Alaska experiences seasonal extremes. The average low temperature in January is -11 °F (-24 °C). The average high during July is 69 °F (21 °C). Recorded temperature extremes range from a low of -63 °F (-53 °C) to a high of 92 °F (33 °C). Average annual liquid equivalent precipitation is 12 inches, with an average annual snowfall of 37 inches.[101]

Delta Junction lies in the Tanana subregion of the Yukon River system and is located on a level river terrace within the Tanana lowlands. Glacial deposits and alluvium cover tracts of gentle slopes with little relief aside from periodic dunes and moraine. Soils in the area are nutrient rich and suitable for crop cultivation. These soils are primarily derived from glaciers and are a composite of partially decomposed organic materials overlying sandy loams and gravel. In addition, a shallow permafrost table is present in several locations where soils are poorly drained. Vegetation generally consists of a mix of wooded areas and shrub-lands. Well drained areas support stands of paper birch, quaking aspen, and white spruce. Poorly drained soils support alder, black spruce, willow, mosses, and sedges. Shrub areas include American green alder, Sitka alder, rose, cranberry, bunchberry, dogwood, and Labrador tea. Horsetails, lichens, ferns, and grasses populate the undergrowth. Woodland areas are home to wildlife such as black and grizzly bears, and moose. Fur-bearers include fox, lynx, wolves, otter, mink, marten, weasel, beaver, muskrat, and snowshoe hare. Tanana Valley drainages support grayling, northern pike, and chum, coho, and Chinook salmon.[102]

Mineral resources in the region include deposits of silver, gold, tungsten, tin, molybdenum, zinc, and coal.[103] Sumitomo Metal Mining Pogo LLC operates the Pogo gold mine 38 mi northeast of Delta Junction.[104] Spruce and aspen provide ample timber resources for the region. The Tanana Valley 2011-2015 timber harvest schedule set aside 5,805 acres for timber sales for those years.[105] Agriculture is very important to the region. There is an estimated 150,000 acres of land suitable for agricultural development and crops such as potatoes, hardy vegetables, perennial grasses, oats, and barley are grown in the area. As of 2004, 102,000 acres of cropland were being cultivated in the area. Delta Junction also has one of four United States Department of Agriculture approved slaughterhouses in the state.

A range of outdoor activities are available to visitors including fishing, hunting, hiking, camping, and sightseeing. In addition, the community's location on the junction of the Richardson and Alaska Highways make it accessible to highway travelers.[106] Local attractions include Sullivan Road House, Rika's Roadhouse, Big Delta State Historical Park, the Alaska Pipeline, and several state recreation areas.

While Delta Junction is susceptible to most environmental hazards present in interior Alaska, threats from wildfire and crop damage resulting from invasive weeds and insects are of particular concern to the area. On average, 3,775 sq km burn in wildfires annually in Alaska,

---

[101] Ibid.
[102] Tryck, Nyman & Hayes. (1975). *Delta Junction Community Development Plan.* Retrieved March 6, 2012 from: http://www.commerce.state.ak.us/dca/plans/DeltaJunction-CP-1975.pdf.
[103] Ibid.
[104] Alaska Department of Natural Resources. (n.d.). *Pogo Mine.* Retrieved March 6, 2012 from: http://dnr.alaska.gov/mlw/mining/largemine/pogo/.
[105] Alaska Department of Natural Resources. (n.d.). *Five year schedule of timber sales*. Retrieved March 6, 2012 from: http://forestry.alaska.gov/timber/delta.htm#fiveyear.
[106] See footnote 102.

90% of which occur in interior Alaska.[107] These wildfires threaten timber stocks and population centers, as well as impact air quality in the area. There have been observations of over 35 invasive plant species in the Delta Junction area.[108] In 2003, cultivators reported no significant insect problems and only localized weed infestations.[109]

While the Alaska Department of Environmental Conservation reports that no significant environmental remediation sites were active in Delta Junction in 2010, cleanup efforts were underway in nearby Fort Greely for soil and ground water contaminantes. As of 2005, 59 sites throughout Fort Greely remained active.[110]

Current Economy[111]

The economy of the Delta Junction region is diversified among agriculture, tourism, military, logging, and mining sectors. In 2001, Fort Greely was designated as a site for a national missile defense system, which substantially boosted the local economy following the planned closure of the base in 1995. Construction jobs related to the project brought hundreds of workers to the area and construction of the Pogo Mine site in 2004 brought additional employment.[112] Other major employers include the Delta/Greely School District and Alyeska Pipeline Services. Several state and federal highway maintenance staff are located in Delta Junction. There are also a number of small businesses that provide a variety of services. Delta Junction's location at the junction of two major highways has brought development based on services to travelers. Local farms produce barley, other grains and forage, potatoes, dairy products, cattle, and hogs. Wild buffalo are hunted by lottery only. Some private businesses provide buffalo and elk hunts. Lynx, fox, coyote, mink, and beaver are trapped. Ice fishing, skiing, and snow machining are winter sports, as is dog sledding, which is used for recreational transportation and trapping.[113] Top employers[114] in 2010 included: Delta/Greely School District, Wolverine Services LLC, Boeing Service Company, Norcon Inc., State of Alaska, Bechtel Construction Company, IGA Food Cache LLC, First Student Management LLC, Alaska Home Care Inc., and The Boeing Company.

In 2010,[115] the estimated per capita income in Delta Junction was $33,716 and the estimated median household income was $85,139, compared to $19,171 and $43,500 in 2000,

---

[107] Wendler, G. et al. (2010). Climatology of Alaskan Wildfires with Special Emphasis on the extreme year of 2004. *Theories of Applied Climatology.* Retrieved March 7, 2012 from: http://climate.gi.alaska.edu/papers/Climatology_Alaskan_wildfires.pdf.

[108] University of Alaska Anchorage. (n.d.). *Alaska Exotic Plant Clearinghouse*. Retrieved March 7, 2012 from: http://aknhp.uaa.alaska.edu/maps/akepic/.

[109] Delta Regional Economic Development Council. (2004). *Delta Junction Region Comprehensive Economic Development Strategy.* Retrieved March 7, 2012 from: http://www.commerce.state.ak.us/dca/plans/DeltaJunction-EP-2004.pdf.

[110] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved from: http://www.dec.state.ak.us/spar/csp/sites/ftgreely.htm.

[111] Unless otherwise noted, all monetary data are reported in nominal values.

[112] See footnote 109.

[113] See footnote 100.

[114] Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network.* Retrieved January 20, 2012 from: http://live.laborstats.alaska.gov/alari/.

[115] 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.

respectively. After accounting for inflation by converting 2000 values with 2010 dollars,[116] the real per capita income ($25,210) and real median household income ($57,202) indicate a significant rise in both individual and household incomes. In that year, Delta Junction ranked 39th of 305 communities from which per capita income was estimated, and 23rd of 299 communities from which median household income was estimated.

Delta Junction's small population size may have prevented the ACS from accurately portraying economic conditions.[117] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD).[118] According to the ALARI database, residents earned $17.15 million in total wages in 2010.[119] When matched with the population in 2010, the per capita income equals $17,903, which is significantly lower than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Census figures.[120]

According to 2006-2010 ACS estimates,[121] 73.7% of residents aged 16 years and older were part of the civilian labor force and 3.2% were in the armed forces. In that year, unemployment was estimated at 10.4%, compared to an estimated 5.9% statewide; and 8.2% of residents were estimated to be living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Of those employed in the civilian labor force, an estimated 68.4% worked in the private sector, and estimated 21.4% worked in the public sector, and an estimated 10.2% were self-employed. By industry, Delta Junction's economy was relatively diverse. Most employed residents were estimated to be working in professional, scientific, management, administrative or waste management sectors (26.5%); followed by education services, health care and social assistance sectors (15.9%) and manufacturing sectors (10.2%). According to 2010 ALARI estimates, most (18.0%) employed residents worked in professional and business services; followed by local government (15.5%); trade, transportation, and utilities (14.8%); and construction sectors (9.7%).

In 2010,[122] 1.2% of employed residents were estimated to be working in agriculture, forestry, fishing, hunting, and mining sectors. By occupation type, an estimated 35.8% held management or professional potions, an estimated 27.7% held sales or office positions, an estimated 17.5% held natural resources, construction, or maintenance positions, an estimated 15.5% held service positions, and an estimated 3.5% held production, transportation, or material moving positions.

While there were only modest differences in employment by occupation type between 2000 and 2010, there were significant differences in employment by industry. In 2010, there were notable increases in estimated employment in professional, scientific, management,

---

[116] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[117] 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.
[118] See footnote 114.
[119] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[120] See footnote 114.
[121] See footnote 117.
[122] See footnote 115.

administrative, waste management, and manufacturing sectors. In that same year, there were also notable decreases in estimated employment in public administration, education services, health care, social assistance, and retail trade sectors. There is a possibility that these shifts resulted from jobs created by the Fort Greely missile defense program and Pogo mine; however, it should be noted that sampling techniques may not have captured the true scope of industry representation, particularly in resource based sectors. Information regarding employment trends can be found in Figures 3 and 4.

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

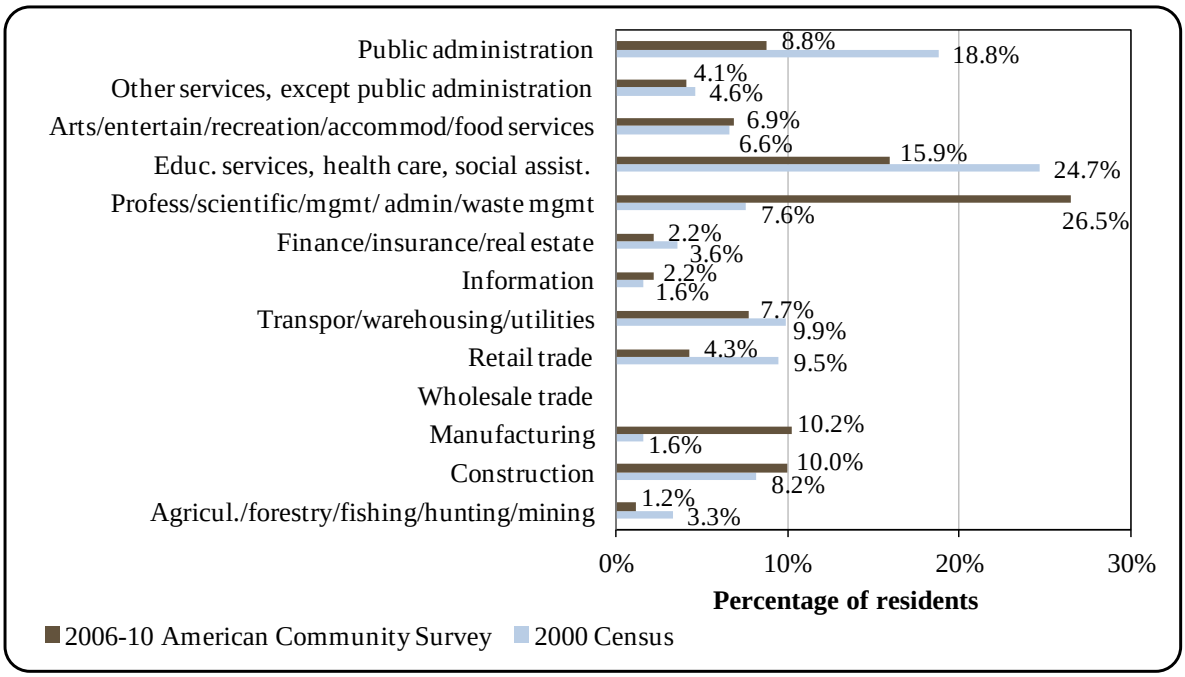
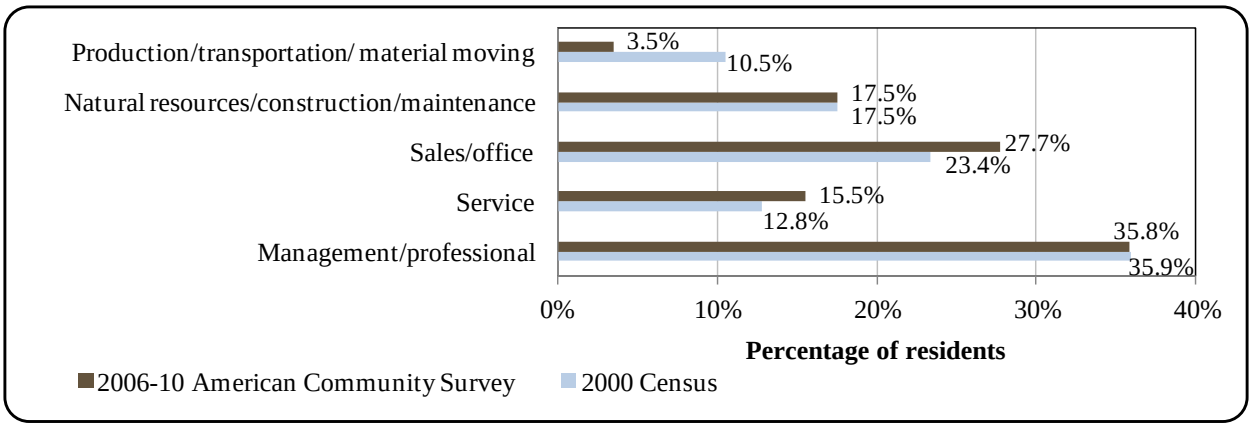


Figure 4. Local Employment by Occupation in 2000-2010, Delta Junction (U.S. Census).



Governance

Delta Junction is a Second-class city with a mayoral form of government. Delta Junction was not included in the Alaska Native Claims Settlement Act (ANCSA) and is not represented by a federally recognized Native traditional council. There is an Alaska Department of Fish and Game (ADF&G) office located in Delta Junction. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 236 mi southwest. The closest U.S. Bureau of Citizenship and Immigration Services (BCIS) office is located in Fairbanks, 95 mi northwest.

In 2010, Delta Junction did not administer any taxes. The total municipal budget that year was $1.54 million, compared to $573,517 in 2000; representing a 108% increase in revenues after accounting for inflation.[123] Most locally generated revenues were collected from landfill lease fees and various other municipal leases. Most outside revenues were collected from payments in lieu of taxes and Community Revenue Sharing.

In 2010, the city received $149,973 in state allocated Community Revenue Sharing, which accounted for 10% of the total municipal budget in 2010. In 2000, $25,923 in State Revenue Sharing accounted for 5% of the total municipal budget for that year. Between 2000 and 2010, Delta Junction did not receive any state or federal fisheries-related grants. Information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Delta Junction 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	$541,652	n/a	$25,923	n/a
2001	$499,082	n/a	$25,027	n/a
2002	$379.982	n/a	$25,027	n/a
2003	$507,686	n/a	$25,000	n/a
2004	$582,064	n/a	-	n/a
2005	$981,260	n/a	-	n/a
2006	$1,076,460	n/a	-	n/a
2007	$1,357,002	n/a	-	n/a
2008	$1,317,674	n/a	-	n/a
2009	$1,376,770	n/a	$146,247	n/a
2010	$1,543,300	n/a	$149,973	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska 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 Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

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

Infrastructure

Connectivity and Transportation

Delta Junction is accessible by the Alaska and Richardson Highways. Buses provide transportation to Fairbanks and Whitehorse. The city offers a 2,500-ft long by 60-ft wide gravel airstrip with a 1,600-ft long by 60-ft wide dirt crosswind strip. There are five other privately-owned airstrips in the vicinity. Plans are underway for joint use of the Allen Airfield on Fort Greely. Snowmobiles are used for recreation.[124] Roundtrip airfare between Anchorage and Fairbanks in June 2012 was $230.[125] Charter service to Delta Junction from Fairbanks is available by appointment, however rates vary.

Facilities

Households have individual septic systems, which range from 150 to 350 ft deep. Some residents use rain catchment systems. The Delta School has its own well-water system. Almost all homes are fully plumbed. Businesses and residences are dispersed over a large area, so a community system is not practical. Refuse is collected by a private firm, Delta Sanitation, and is deposited in the city-owned permitted landfill. The laundromat, Delta Laundry, is also operated privately. The city operates a sewage pit at the landfill site. Visitor accommodations are plentiful and include motels, lodges, campgrounds, and Recreational Vehicle parks. Public safety services are provided by the City Public Safety Office and a local state trooper post. Fire and rescue services are provided by the Delta Rescue Squad and Rural Deltana Volunteer Fire department. There is a gym pool, and movie theater at Fort Greely. There is one public library and three school libraries. Telephone, cable television, and broadband internet are all available.[126]

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed since 2000 or under development include a new landfill or solid waste site, a new community center, and improvements to schools and the fire department. Delta Junction is located inland and does not possess port or harbor facilities. For businesses and services not available in Delta Junction, residents go to Valdez, Homer, and Kenai.

Medical Services[127]

Basic health care is provided by the Delta Junction Family Medical Center and Delta Junction Public Health Center. The clinic is a qualified Emergency Care Center. Additional acute, long-term, or specialized services are provided by Fairbanks Memorial Hospital in Fairbanks.

[124] 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.
[125] Airfare was calculated using lowest fare from www.travelocity.com. (Retrieved November 22, 2011).
[126] See footnote 124.
[127] Ibid.

Educational Opportunities

Delta Cyber School offers kindergarten through 12th grade instruction remotely. As of 2011, there were 175 students in attendance and 4 teachers employed. Delta Junction Elementary offers preschool through 5th grade instruction. As of 2011, there were 283 students in attendance and 19 teachers employed. Delta Junction Senior High School offers 9th through 12th grade instruction. As of 2011, there were 205 students in attendance and 17 teachers employed. Gerstle River School offers preschool through 12th grade instruction. As of 2011, there were 22 students in attendance and 3 teachers employed. New Horizons High School offers grade instruction. As of 2011, there were 12 students in attendance and one teacher employed.[128] The University of Alaska Fairbanks (UAF) offers cooperative extension services in association with Partners for Progress in Delta, Inc. Programs focus on vocational training for positions in local mining and defense sectors.[129]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

History of participation in North Pacific Fisheries in the Tanana River Subregion is centered on subsistence harvesting. The original Tanana Athabascans in the area utilized a wide range of subsistence resources, including fish from the Tanana and Yukon Rivers. Until the twentieth century, Tananas would migrate throughout the region, taking advantage of seasonal resources. While the introduction of market economies in the area encouraged a more sedentary lifestyle, subsistence was still an important part of daily life. Today, grayling, whitefish, northern pike, and salmon are harvested for both subsistence and recreational purposes.[130] Chinook, chum, and coho salmon are caught as well. In a survey conducted by the AFSC in 2011, community leaders reported that Delta Junction participates in the fisheries management process in Alaska through a representative that sits on regional fisheries advisory and/or working groups run by ADF&G.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Delta Junction does not have a registered processing plant. Processing of recreational catch in the area is largely done by individual guide services. The closest registered seafood processing plant is located in Fairbanks. Santa's Smokehouse operates a family owned and operated plant in Fairbanks called Interior Alaska Fish Processors which processes halibut and all five species of salmon. Interior Alaska Fish Processors also processes sport-caught fish and game, and it smokes sport-caught salmon (all species but pink).[131]

---

[128] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[129] Partners for Progress in Delta, Inc. (n.d.). *Homepage.* Retrieved March 7, 2012 from: http://www.partnersforprogressindelta.org/.
[130] Kofinas, G. P. et al. (2010). Resilience of Athabascan Subsistence Systems to Inter Alaska's Changing Climate. *Canadian Journal of Forest Research, 40,* 1347-1359.
[131] Santa's Smokehouse (n.d.). *Homepage.* Retrieved from: http://santassmokehouse.com/.

Fisheries-Related Revenue

Between 2000 and 2010, Delta Junction did not report any fisheries-related revenue from taxes for fees with the exception of $1,610 collected in Shared Fisheries Business Taxes in 2006. Information regarding fisheries-related revenues can be found in Table 3.

It should be noted that a direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

Although the city itself is not involved in commercial fisheries, many of its residents are. In 2010, 22 residents, or 2.3% of the population, held 48 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Five residents, held six CFEC permits in 2000. Overall number of permits increased steadily between 2000 and 2010, as did the number of permit holders. Of the CFEC permits held in 2010, 38% were for salmon, compared to 50% in 2000; 21% were for groundfish, compared to 17% in 2000; 19% were for sablefish, compared to 0% in 2000; 2% were for herring, compared to 0% in 2000; 15% were for halibut, compared to 33% in 2000; 4% were for crab, compared to 0% in 2000; and 2% were for other shellfish, compared to 0% in 2000. Also in 2010, three residents held four License Limitation Program (LLP) groundfish permits, and four residents held five Federal Fisheries Permits (FFP). The amount of halibut quota share being held in the community grew significantly from 1,987 shares on 2 accounts in 2000, to 1.2 million shares on 6 accounts in 2010. Also in 2010, residents held 412,778 shares of sablefish quota on 5 accounts, compared to 43,752 shares on 2 accounts in 2001. No residents held crab quota between 2010 and when the program began.

There were 19 residents who held commercial crew licenses in 2010, compared to 4 in 2000. In addition, residents held majority ownership of 14 vessels that year, compared to 24 in 2000. Of the CFEC permits issued in 2010, 67% were actively fished, compared to 33% in 2000. This varied by fishery from 89% of sablefish permits, to 86% of halibut, 67% of salmon, 60% of groundfish, and 0% of herring, crab, and "other" shellfish permits. Also in that year, 100% of groundfish LLP and 80% of FFP were fished. Overall permit activity averaged 74.1% between 2001 and 2010. Fisheries prosecuted by residents of Delta Junction in 2010 included: statewide longline halibut; statewide longline miscellaneous saltwater finfish; Gulf of Alaska longline miscellaneous finfish; statewide longline sablefish; Prince William Sound drift gillnet salmon; Cook Inlet drift gillnet salmon; and Alaska Peninsula drift gillnet salmon.[132]

Between 2000 and 2010 there were no recorded landings in Delta Junction. However, there were landings made by residents of Delta Junction in other locations during that time. Based on non-confidential data provided in Table 9, the most profitable species landed by residents in 2010 was halibut. In that year, 316,546 lb was landed valued at $1.4 million, compared to 148,976 lb valued at $436,469 in 2003; an increase of $0.46 per pound landed after accounting for inflation.[133] Salmon was the next most profitable species landed in 2010. In that

[132] 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.]

[133] Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data.

year, 1.6 million lb valued at $1.3 million was landed, compared to 211,056 lb valued at $166,148 in 2001; a decrease of $0.22 per pound landed after accounting for inflation,[134] and without considering the species composition of landings. Sablefish landings totaled 71,888 lb valued at $405,351, compared to 9,492 lb valued at $34,893 in 2003; an increase of $0.51 per pound after accounting for inflation.[135] Pacific cod landings totaled 1.3 million lb valued at $404,549, compared to 544,781 lb valued at $185,603 in 2003; a decrease of $0.17 per pound after accounting for inflation.[136] Other groundfish landings totaled 200,560 lb valued at $65,860, compared to 58,140 lb valued at $15,158 in 2003. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[134] Ibid.
[135] Ibid.
[136] Ibid.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	$1,610	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*$1,610*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*$541,652*	*$499,082*	*$379,982*	*$507,686*	*$582,064*	*$981,260*	*$1.08 M*	*$1.36 M*	*$1.32 M*	*$1.38 M*	*$1.54 M*

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

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

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

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

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

[5] Total municipal revenue represents the total revenue that the city 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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	4	4	4	5	3	3	3	4	4	4
	Active permits	0	4	3	3	3	3	3	3	3	4	4
	% of permits fished	n/a	100%	75%	75%	60%	100%	100%	100%	75%	100%	100%
	Total permit holders	0	2	2	2	3	3	3	3	3	3	3
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	1	2	3	4	5	6	7	8	9	10
Federal Fisheries Permits[1]	Total permits	1	1	1	7	7	7	5	6	6	5	5
	Fished permits	0	0	0	4	4	4	5	6	6	5	4
	% of permits fished	0%	0%	0%	57%	57%	57%	100%	100%	100%	100%	80%
	Total permit holders	1	1	1	5	5	5	5	5	5	4	4
Crab (CFEC) [2]	Total permits	0	2	2	2	2	2	2	2	2	3	2
	Fished permits	0	1	1	0	0	2	1	0	0	0	0
	% of permits fished	n/a	50%	50%	0%	0%	100%	50%	0%	0%	0%	0%
	Total permit holders	0	2	2	2	2	2	2	3	2	3	2
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	1
Halibut (CFEC) [2]	Total permits	2	4	3	7	8	8	9	8	10	9	7
	Fished permits	0	3	3	6	7	7	8	8	7	7	6
	% of permits fished	0%	75%	100%	86%	88%	88%	89%	100%	70%	78%	86%
	Total permit holders	2	4	3	7	7	7	9	8	10	9	7
Herring (CFEC) [2]	Total permits	0	1	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	1	1	1	1	1	1	1	1	1	1

Table 4. Cont'd. Permits and Permit Holders by Species, Delta Junction: 2000-2010.

Species		**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Sablefish (CFEC) [2]	Total permits	0	4	4	7	7	7	8	9	8	10	9
	Fished permits	0	4	3	5	7	6	8	8	8	9	8
	% of permits fished	n/a	100%	75%	71%	100%	86%	100%	89%	100%	90%	89%
	Total permit holders	0	3	4	6	6	6	8	9	8	10	9
Groundfish (CFEC) [2]	Total permits	1	8	6	10	12	15	13	11	9	12	10
	Fished permits	0	5	4	7	6	7	9	8	7	9	6
	% of permits fished	0%	63%	67%	70%	50%	47%	69%	73%	78%	75%	60%
	Total permit holders	1	5	3	6	6	7	6	8	8	9	9
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	3	7	7	9	12	13	12	13	13	15	18
	Fished permits	2	6	6	8	10	12	10	12	10	12	12
	% of permits fished	67%	86%	86%	89%	83%	92%	83%	92%	77%	80%	67%
	Total permit holders	3	7	8	10	12	13	13	14	14	15	17
Total CFEC Permits[2]	*Permits*	*6*	*26*	*23*	*36*	*42*	*46*	*45*	*44*	*43*	*50*	*48*
	Fished permits	*2*	*19*	*17*	*26*	*30*	*34*	*36*	*36*	*32*	*37*	*32*
	% of permits fished	*33%*	*73%*	*74%*	*72%*	*71%*	*74%*	*80%*	*82%*	*74%*	*74%*	*67%*
	Permit holders	*5*	*9*	*8*	*12*	*14*	*15*	*18*	*18*	*20*	*19*	*22*

[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 Delta Junction: 2000-2010.

Year	Crew Licenses 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 Delta Junction[2]	Total Net Lb Landed In Delta Junction[2,5]	Total Ex-Vessel Value Of Landings In Delta Junction [2,5]
2000	4	0	0	24	18	0	0	$0
2001	3	0	0	27	17	0	0	$0
2002	8	0	0	20	14	0	0	$0
2003	15	0	0	24	13	0	0	$0
2004	12	0	0	13	11	0	0	$0
2005	13	0	0	11	0	0	0	$0
2006	16	0	0	9	0	0	0	$0
2007	13	0	0	12	0	0	0	$0
2008	11	0	0	14	1	0	0	$0
2009	10	0	0	12	0	0	0	$0
2010	19	0	0	14	0	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Delta Junction: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	2	1,987	196
2001	4	539,419	76,985
2002	5	836,319	120,933
2003	4	834,807	120,556
2004	5	977,696	146,957
2005	6	1,143,788	160,193
2006	9	1,433,226	201,388
2007	8	1,376,289	197,704
2008	6	1,376,289	186,929
2009	6	1,376,289	169,468
2010	6	1,185,591	133,366

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 Delta Junction: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	0	0	0
2001	2	43,752	3,735
2002	3	51,590	4,426
2003	3	37,751	3,839
2004	4	61,706	7,114
2005	5	244,694	27,972
2006	5	244,694	24,576
2007	5	242,622	23,715
2008	5	242,622	21,072
2009	6	420,616	41,839
2010	5	412,778	40,635

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 Delta Junction: 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 Delta Junction: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	148,976	136,040	181,482	208,167	308,276	284,501	306,879	316,546
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	58,140	188,901	77,178	220,840	126,911	178,276	239,852	200,560
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	544,781	916,157	915,114	1,499,621	1,350,603	1,542,341	1,656,591	1,331,021
Pollock	--	--	--	19,382	4,352	4,002	52,325	58,271	47,716	32,655	--
Sablefish	--	--	--	9,492	--	13,114	44,694	83,918	52,969	73,132	71,888
Salmon	--	221,056	517,789	482,416	507,193	462,912	346,371	649,006	826,540	776,936	1,564,887
Total[2]	*--*	*221,056*	*517,789*	*1,263,187*	*1,752,643*	*1,653,802*	*2,372,018*	*2,576,985*	*2,932,736*	*3,086,045*	*3,484,902*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	$436,469	$416,581	$575,234	$799,281	$1,386,910	$1,256,486	$946,873	$1,440,852
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	$15,158	$31,054	$14,098	$55,950	$38,457	$80,977	$85,537	$65,860
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	$185,603	$276,590	$295,715	$625,517	$704,862	$955,895	$566,467	$404,549
Pollock	--	--	--	$1,476	$261	$254	$4,223	$4,604	$5,106	$3,620	--
Sablefish	--	--	--	$34,893	--	$40,700	$128,723	$234,460	$173,925	$278,831	$405,351
Salmon	--	$166,148	$207,919	$272,258	$363,259	$432,226	$392,447	$573,523	$630,493	$643,506	$1,324,073
Total[2]	*--*	*$166,148*	*$207,919*	*$945,858*	*$1,087,745*	*$1,358,227*	*$2,006,140*	*$2,942,815*	*$3,103,143*	*$2,524,834*	*$3,640,685*

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 lb refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is an important industry in Delta Junction. However, only one registered sport fish guide business was active at a time between 2000 and 2010 (with the exception of 2003, when there were two). The number of sport fish guide licenses held in the community declined significantly during that time from 31 in 2000 and 3 in 2010. This was likely attributed with the fact that the total number of registered sport fish guide businesses (active and inactive) declined as well during that period. The number of sporfishing licenses held by residents increased steadily from 1,396 in 2000, to 1,729 in 2010, with an average of 1,502 (note that the number of sportfishing licenses sold to residents greatly exceeds total population estimates). The number of sportfishing licenses sold in the community averaged at 69 between 2000 and 2009, before jumping to 2,502 in 2010. No kept/released charter log data are available for Delta Junction.

Delta Junction is located in Tanana River Drainage ADF&G Harvest Survey Area which includes the entire Tanana River watershed. In 2010, there was a total of 96,859 freshwater angler days fished, compared to 121,763 in 2000. Non-Alaska resident anglers accounted for 9.3% of angler days fished that year, compared to 9.5% in 2000. Combined angler days fished peaked in 2000. According to ADF&G harvest survey data, local private anglers target all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, burbot, Arctic grayling, and northern pike. There is no kept/released charter information available for Delta Junction. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

In a survey conducted by the AFSC in 2011, community leaders reported that many residents participate in subsistence fishing on the Gulkana and Copper Rivers. Because of this, there is concern over management of Copper River salmon. Of chief concern is the level of salmon escapement related to Gulf of Alaska commercial fishing and Gulkana River fish wheels. Of the species reported by ADF&G in Table 13, residents reported sockeye salmon harvesting the most, followed by coho and Chinook. In 2008, 6,354 salmon were harvested, compared to 6,058 in 2000. In that year, 6,048 sockeye salmon were harvested, compared to 5,723 in 2000. Three residents were issued Subsistence Halibut Registration Certificates (SHARC) by NMFS in 2005; however, no halibut was harvested that year. No data is available regarding subsistence participation by household, or subsistence harvests of marine invertebrates, non-salmon/halibut fish, and marine mammals. Information regarding subsistence trends can be found in Tables 12 through 15.

Table 11. Sport Fishing Trends, Delta Junction: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Delta Junction[2]
2000	1	31	1,396	61
2001	1	22	1,322	42
2002	1	24	1,279	31
2003	2	21	1,338	53
2004	1	15	1,466	53
2005	1	5	1,562	65
2006	1	4	1,639	67
2007	1	5	1,531	112
2008	1	5	1,621	116
2009	1	9	1,646	93
2010	1	3	1,729	2,502

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]
2000	n/a	n/a	11,517	110,246
2001	n/a	n/a	10,744	80,391
2002	n/a	n/a	9,733	98,884
2003	n/a	n/a	7,502	92,432
2004	n/a	n/a	11,853	104,633
2005	n/a	n/a	11,335	82,063
2006	n/a	n/a	8,216	71,461
2007	n/a	n/a	9,327	91,629
2008	n/a	n/a	7,613	64,722
2009	n/a	n/a	7,415	85,082
2010	n/a	n/a	9,025	87,834

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

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

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

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

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

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Delta Junction: 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	333	312	140	2	193	n/a	5,723	n/a	n/a
2001	357	327	151	n/a	242	n/a	6,824	n/a	n/a
2002	268	237	127	n/a	36	n/a	4,539	n/a	n/a
2003	316	283	128	n/a	144	n/a	4,990	n/a	n/a
2004	362	309	145	n/a	173	n/a	6,055	n/a	n/a
2005	431	361	168	n/a	106	n/a	8,702	n/a	n/a
2006	445	384	208	n/a	183	n/a	8,165	n/a	n/a
2007	373	343	188	n/a	240	n/a	6,600	n/a	n/a
2008	423	360	131	n/a	175	n/a	6,048	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, Delta Junction: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	3	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2010. 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, Delta Junction: 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

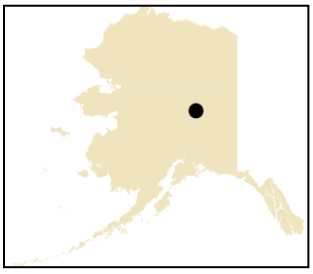
Note: n/a indicates that no data were reported for that year.

[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.

Fairbanks (*FAIR-banks*)



People and Place

Location[137]

Fairbanks is located in central Alaska. This centrality though, seems more geographical than social or economical. The city, which is part of the Fairbanks North Star Borough and located in the Fairbanks Recording District, was founded on the banks of the Chena River in the Tanana Valley and in the very heart of interior Alaska. Fairbanks is 45 minutes away by plane from Anchorage and three hours from Seattle. It lies 358 road mi north of Anchorage. The area encompasses 31.9 sq mi of land and 0.8 sq mi of water. The arctic daylight variations have an important impact on Fairbanks lifestyle: 21 hours of daylight between May 10th and August 2nd each summer, and less than four hours of daylight between November 18th and January 24th each winter.

Demographic Profile[138]

In 2010, there were 31,535 residents living in Fairbanks, ranking it the second largest city in Alaska. Between 1990 and 2010, the population increased by 2.2%. There was a slight decline in population from 2009 to 2010, but in general the population of Fairbanks remained unchanged. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that on average, there are seasonal workers living in Fairbanks from April through September. The population peaks between June and August; however, they are not thought to be driven by employment in fisheries sectors.

In 2010, the majority of Fairbanks residents identified themselves as White (66.1%), compared to 67.0% in 2000. Also in that year, 10.0% of residents identified themselves as American Indian or Alaska Native, compared to 10.0% in 2000; 9.0% identified themselves as Black or African American, compared to 11.0% in 2000; 3.6% identified themselves as Asian, compared to 3.0% in 2000; 0.8% identified themselves as Native Hawaiian and Other Pacific Islander, compared to 1.0% in 2000; 7.9% identified themselves as two or more races, compared to 7.0% in 2000; 2.6% identified themselves as some other race, compared to 2.0% in 2000. In addition, 9.0% of residents identified themselves as Hispanic or Latino, compared to 6.0% in 2000. Further information regarding trends in race and ethnicity can be found in Figure 1.

[137] Alaska Departmentof 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.

[138] 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.

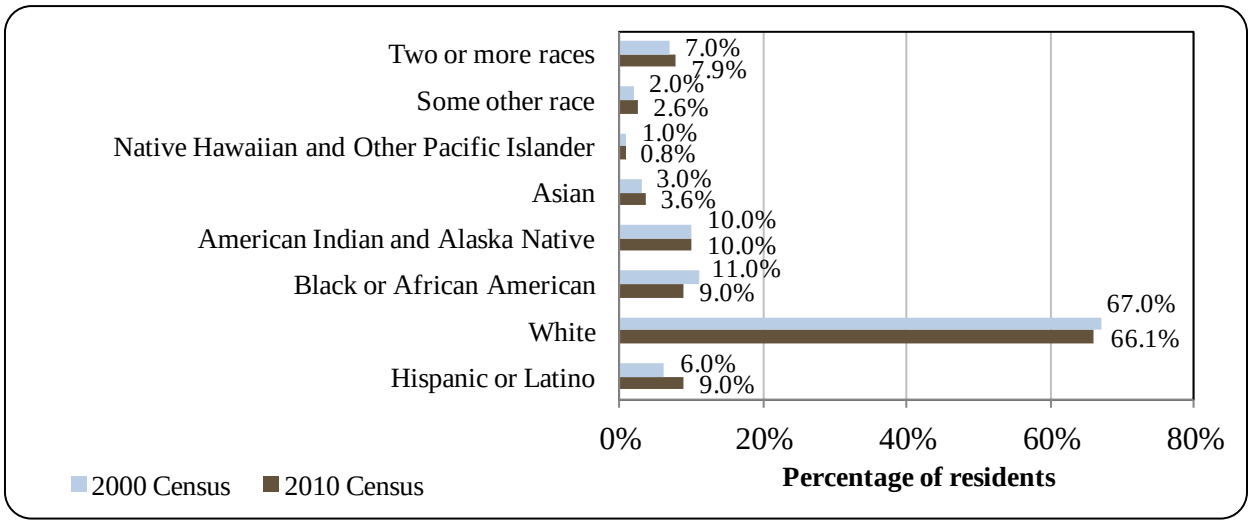
Table 1. Population in Fairbanks from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Departmentof Labor Estimate of Permanent Residents[2]
1990	30,843	-
2000	30,224	-
2001	-	29,521
2002	-	29,778
2003	-	28,929
2004	-	30,109
2005	-	31,115
2006	-	30,189
2007	-	31,801
2008	-	31,450
2009	-	32,506
2010	31,535	-

[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, Fairbanks: 2000-2010.



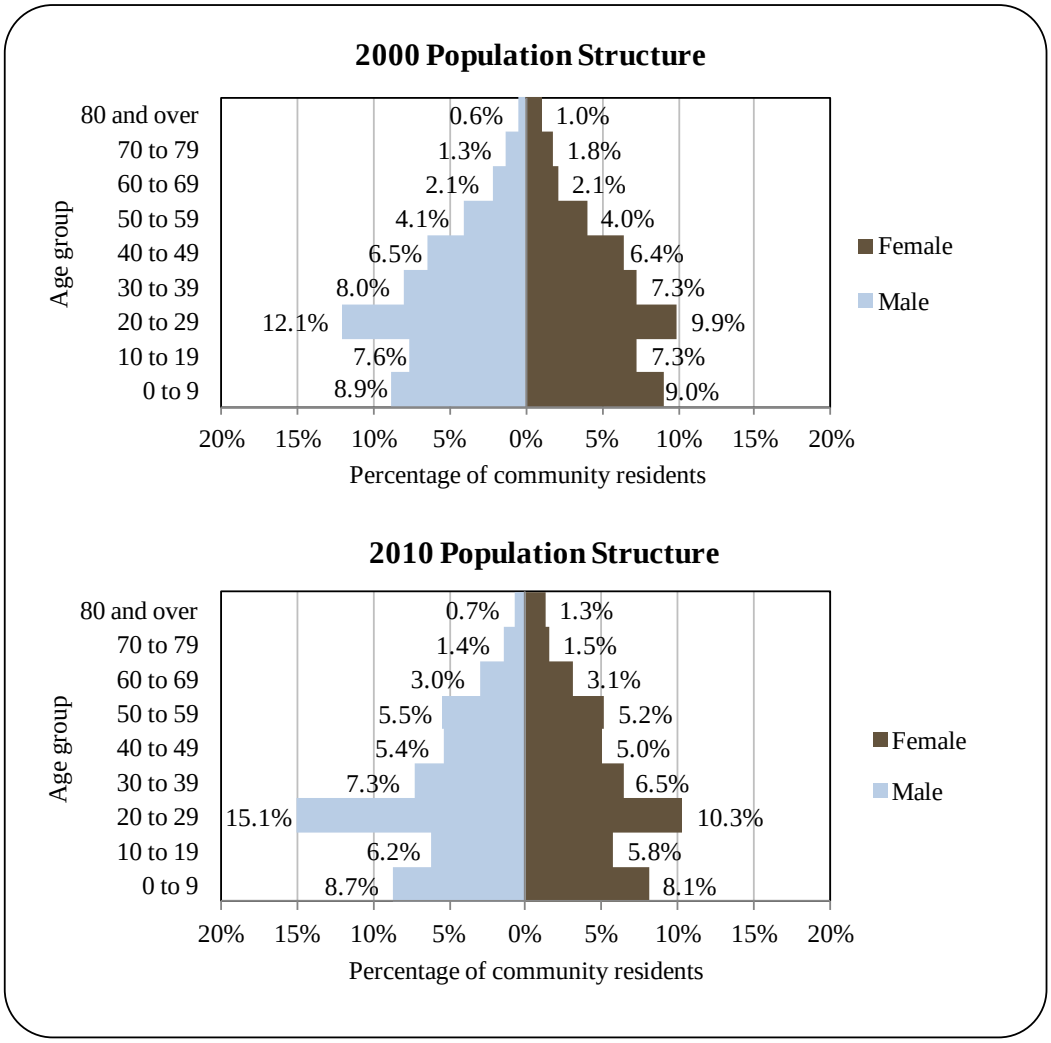
In 2010, the average household size was 2.52, a slight decline from 2.60 in 1990 and 2.56 in 2000. In that year, there were a total of 13,056 housing units, compared to 12,537 in 1990 and 12,357 in 2000. Of the households surveyed in 2010, 32% were owner-occupied, compared to 31% in 2000; 57% were renter-occupied, compared to 58% in 2000; 10% were vacant, compared to 9% in 2000; and 1% were occupied seasonally, compared to 1% in 2000. In addition, 2,518 residents lived in group quarters in 2010, compared to 1,899 in 2000.

In 2010, the gender makeup of Fairbanks was 53.2% male and 46.7% female. This was similar to the gender distribution statewide (52.0% male, 48.0% female) and less even than the distribution in 2000 (51.3% male, 48.7% female). The median age was 27.9 years, which was less than both state (33.8 years) and national (36.8 years) median age estimates.

Compared with 2000, the population structure in 2010 was somewhat more constricted. In that year, 28.8% of residents were under the age of 20, compared to 32.8% in 2000; 11.0% were over the age of 59, compared to 8.9% in 2000; 34.9% were between the ages of 30 and 59, compared to 36.3% in 2000; and 25.4% were between the ages of 20 and 29, compared to 22.0% in 2000.

Age distribution by age cohort was slightly less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 20 to 29 age range (15.1% male, 10.3% female), followed by the 30 to 39 (7.3% male, 6.5% female) and 0 to 9 (8.7% male, 8.1% female) ranges. Of those three, the greatest relative gender difference occurred in the 20 to 29 range. Further information regarding trends in Fairbanks' population structure can be found in Figure 2.

Figure 2. Population Age Structure in Fairbanks in 2000 and 2010 (U.S. Census).



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[139] estimated that 89.3% of residents aged 25 and over 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 3.3% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 7.4% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 30.8% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 11.8% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 6.7% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[140]

The Fairbanks region, the Tanana Valley, had been inhabited by Tanana Athabaskans for thousands of years prior to European interests. Tanana Athabaskans were strictly territorial and used hunting and gathering practices in their semi-nomadic way of life and dispersed habitation patterns. The boundaries of such systems of life were, presumably, fairly fluid and it may explain some references to the presence in the area of Koyukon Athabaskans, the northwest neighbors.

In 1901, E. T. Barnette established a trading post on the banks of the Tanana River, approximately seven miles from its confluence with the Yukon River. This trading post would later become the city of Fairbanks. Throughout its history, Fairbanks has been a boom and bust town. In 1902, rumors of gold in creeks around Fairbanks started to spread. Prospectors began to flood into Fairbanks, leading to the community's first population boom. Fairbanks was incorporated in 1903, and Barnette was elected as mayor. By 1908 there were 18,500 people living within the Fairbanks mining district. Mining prospects began to decline shortly after, and by 1920, the population had shrunk to 1,100. Advancements in mining led to a mining revival, and mining remained the region's most important industry until World War II. By the 1940s, a construction boom was underway as the military constructed airfields, roads, and communications systems. The 1968 Prudhoe Bay oil lease sale brought on an economic boom to Fairbanks, prompting the regional population to swell to over 74,000 people. Wages soared, and many oil workers received up to $1,500 per week. However, the oil recession of 1978 devastated the local economy and by 1979, local unemployment was at 20%. Oil revenues recovered between 1980 and 1986, resulting in yet another boom environment in Fairbanks. Today, the city remains heavily reliant on oil, construction, military, and government services. The continuing uncertainty of the oil industry has a particularly significant effect on the city, compared to other communities in Alaska.[141]

[139] 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.
[140] 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.
[141] Fairbanks Alaska Information Site (n.d.). *History of Fairbanks.* Retrieved March 12, 2013 from: http://fairbanks-alaska.com/fairbanks-history.htm

Natural Resources and Environment

Interior Alaska experiences seasonal temperature extremes. Average January temperatures range from -19 to -2 °F (-28 to -19 °C); average July temperatures range from 53 to 72 °F (12 to 22 °C). Annual precipitation averages 11.5 inches with 67.8 inches of snowfall. Temperatures have been recorded as low as -62 °F (-52 °C) in mid-winter and as high as 96 °F (36 °C) in summer. During the winter months, if the temperature drops below -20 °F (-29 °C), ice fog can occur. Fairbanks is known for its lingering summer days. When the solstice arrives, there are more than 22 hrs of daylight.[142]

Fairbanks is located within the Tanana River valley, between the Alaska Range to the south, and the Yukon-Tanana Uplands to the north/northwest. Lowlands consist of moraines and outwash fans deposited by glaciers from the Alaska Range. The mountainous region to the south consists of alpine glaciers, U-shaped valleys, moraines, and alluvial fans. The Yukon-Tanana Uplands rise up to 2,000 ft above the valley floors, and consist of rounded, even-topped, unglaciated ridges with gentle slopes. Soils include alluvial and active floodplain deposits of gravel, sand, and silt. Upland areas consist of glacial deposits. Organic soils include brown and black peat, and organic silts. Permafrost in the area is discontinuous and varies in depth.[143]

The broad outwash plain, south of Fairbanks, is populated by many drainages with small lakes occurring at blockages. The region provides habitat for animals relying on aquatic or riparian habitats including mink, marten, muskrat, beaver, and river otter. Streams are important spawning areas for Chinook, coho, and chum salmon. northern pike, whitefish, and burbot are common in larger lakes and rivers. Arctic grayling are common in smaller streams. Boreal forests dominate the landscape. Black spruce is found in bog environments, while white spruce and balsam poplar line rivers. Tall willow, resin birch, and alder shrub stands are scattered throughout the area. Permafrost flats support birch-heath shrubs and sedge tussocks. Low shrubs include resin birch, Labrador-tea, bog blueberry, and low-bush cranberry. There are over forty non-native plant species in the Tanana River Valley. Common invasive plant species include common dandelion, foxtail barley, and annual hawksbeard. Boreal forests in the area support moose, caribou, wolves, black bears, brown bears, weasel, lynx, marten, mink, red squirrels, and other rodents. Avian species in the area include black-capped and boreal chickadees, common redpolls, gray jays, ravens, black-backed and three-toed woodpeckers, northern flickers, hawk owls, horned owls, ptarmigan, and grouse.[144]

Fishery resources include Arctic char, broad whitefish, burbot, Chinook salmon, coho salmon, chum salmon, Dolly Varden, Arctic grayling, humpback whitefish, lake trout, least cisco, longnose sucker, northern pike, rainbow trout, round whitefish, and sheefish.

Mineral resources include Fort Knox Gold Mine, which produces about 363,000 ounces of gold per year. Pogo Gold development is located 115 mi east of Fairbanks. Placer mines exist in the area, although on a small scale. Fourteen known or prospective mineral deposits exist east

---

[142] Ibid.
[143] Alaska State Transportation Board (2008). *Draft Environmental Impact Statement: Alaska Railroad Corporation Construction and Operation of a Rail Line Between North Pole and Delta Junction, Alaska.* Retrieved July 18, 2012 from:
http://www.stb.dot.gov/decisions/readingroom.nsf/fc695db5bc7ebe2c852572b80040c45f/86e5013e455643d48525751a0071fde4?OpenDocument.
[144] Ibid.

of Fairbanks. The Tanana Valley State Forest contains approximately 1.8 million acres of forestland. In 2003, 1.77 million acres of lands were designated as harvestable.[145]

Flooding and wildfire are the most prevalent environmental hazards in the area, although permafrost melt and land subsidence hazards have been increasing. Fires are common, and are mostly caused by summer lightning strikes along the foothills. Frequent flooding across active floodplains of the Tanana results in erosion and alluvial bar formation.[146]

There are several notable environmental remediation sites located in and around Fairbanks according to the Alaska Department of Environmental Conservation (DEC).[147] The former Arctic Surplus Salvage Yard was treated for a wide range of surface soil and groundwater contaminants, including volatile and semi-volatile organic and inorganic compounds, polychlorinated biphenyls (PCBs), chlorinated pesticides, dioxins, lead, furans, and trichloroethylene (TCE). Cleanup was concluded in 2004, and the site is now available for industrial or commercial use. Contaminates do remain, and restrictions are in place to prevent people from coming into contact with hazardous materials.

Groundwater around Eielson Air Force Base has been contaminated with lead and volatile organic compounds such as trichloroethylene (TCE), benzene, and tetrachloroethylene (PCE). In addition, oils, solvents, and fuels have been discharged into the soils. Remediation efforts commenced in the 1990s, and contaminated soil was excavated and treated. Soil caps were put in place to limit human exposure. A fishing restriction was put in place for Garrison Slough, and people are advised against coming in contact with the water. As of 2012, most sites were in a long-term monitoring program to ensure that contaminate plumes are contained.

Petroleum contamination was first discovered at the derelict Universal Recycling Center in 1993 during a solid waste inspection. There was also evidence of possible dioxin contamination. Cleanup of the property commenced in 2005, and contaminated soils were removed. Groundwater monitoring was conducted in 2007, and no contaminates of concern were observed above cleanup levels.

In 2005, construction of a 54-acre housing project on Fort Wainwright unearthed an area with extensive polychlorinated biphenyl (PCB) contamination. As of 2009, all excavated materials from the construction site were tested for contamination and removed for treatment. Military related munitions were also found in the area and removed. Numerous groundwater monitoring wells were installed between 2005 and 2008.

Current Economy[148]

Gold mining and exploration figures strongly in Fairbanks' social and environmental history. In 1901, a trading post was established on the Chena River and soon afterwards gold was discovered in the area and a new wave of the gold rush was underway. Prospectors inundated the trading post and the city of Fairbanks emerged around the old steamboat landing banks. The town, named after Indiana Senator Charles Fairbanks, boomed along with many other mining field communities. The passage of a local government law in 1900, which regularized

[145] Fairbanks North Star Borough (2003). *Comprehensive Economic Development Strategy.* Retrieved July 18, 2012 from: http://www.commerce.state.ak.us/dca/plans/FairbanksNorthStarBorough-EDP-2003.pdf.
[146] See footnote 143.
[147] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved July 20, 2012 from: http://dec.alaska.gov/spar/csp/sites/arcticsurplus.htm.
[148] Unless otherwise noted, all monetary data are reported in nominal values.

incorporation procedures and authorized the use of certain fees by city councils and school districts, gave Fairbanks security and tools to avoid the collapse that other boom towns suffered after the gold rush.

During the twentieth century, two major events transformed Fairbanks and the rest of Alaska: the Second World War and the oil boom of the seventies. In both cases major flow of resources and infrastructure construction fueled the growth and consolidation of Fairbanks as one of the main urban centers of the state. In the 1940s, initiated by the war effort and concern about the Japanese threat, the Alaska-Canada (Alcan) Highway was built. In the 1970s, coinciding with a world's oil shortage, the Trans-Alaska oil pipeline was established.

Fairbanks provides supplies, as well as private and public services, to most of interior Alaska and thus plays a central role in the region. This centrality is fundamental to understanding the organization and composition of Fairbanks' economic system. By virtue of this centrality Fairbanks has a high density of public institutions: City, Borough, state and federal government services of all sorts. The Eielson Air Force Base and Fort Wainwright are both large government service employers.

On a more local basis, tourism is also a significant part of the economy. The recently developed tourism sector attracts an estimated 325,000 visitors to Fairbanks each summer. The Alaska Railroad brings a significant number of summer visitors to the Fairbanks area from Anchorage and southcentral Alaska. The Tanana Chiefs Conference opened the Chena River Convention Center, which provides space for attracting a variety of events to the area, and several organizations teamed together to construct the Morris Thompson Cultural and Visitor Center.[149]

The Tanana Valley is one of the most productive agriculture regions in the state. During the 1990s, Tanana Valley farmers planted 58.8% of the total acreage farmed in Alaska, which accounted for 33.1% of total crop production during that time. In addition, the number of farms in the Fairbanks North Star Borough increased by 4% between 1997 and 2002. Mining is a large contributor to the local economy. The amount of refined gold in the Eastern Interior Region of Alaska increased between 2000 and 2006, from 392,862 ounces to 474,900 ounces. Fairbanks functions as an important staging area for oil and gas exploration, development, and production in Alaska's northern and interior regions. The area is the midpoint of the 800-mi Trans-Alaska Pipeline System that runs south from Prudhoe Bay to Valdez. The pipeline also supplies refineries located within the Borough and the Alaska North Slope. In addition, oil and gas deposits comparable to those of Cook Inlet have been identified in the Yukon Flats region. The United States Geological Survey (USGS) reports that the region 200 mi from Fairbanks contains 5.5 trillion cubic feet of natural gas and 173 million barrels of oil.[150] Top employers in 2010[151] included: the Fairbanks North Star School District, University of Alaska, State of Alaska, Banner Health System, Fred Meyer Stores Inc., Tanana Chiefs Conference, Safeway Inc., Fairbanks North Star Borough, and Fairbanks Gold Mining Inc.

[149] See footnote 145.
[150] Fairbanks North Star Borough (2008). *Comprehensive Economic Development Strategy.* Retrieved July 20, 2012 from: http://www.commerce.state.ak.us/dca/plans/FairbanksNorthStarBorough-EDP-2008.pdf.
[151] 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/.

In 2010,[152] the estimated per capita income was $26,373 and the estimated median household income was $51,320, compared to $19,814 and $40,577 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[153] the real per capita income ($26,055) and real median household income ($53,358) indicate that while individual earnings remained relatively unchanged, household earnings increased. In 2010, Fairbanks ranked 92nd of 305 communities from which per capita income was estimated, and 124th of 299 communities from which median household income was estimated.

According to the 2006-2010 ACS, an estimated 59.9% of residents aged 16 and older were part of the civilian labor force in 2010 and an estimated 12.9% were in the employed in the Armed Forces. In that year, unemployment was estimated at 4.5%, compared to an estimated 5.9% statewide; and an estimated 11.0% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed in the civilian labor force, an estimated 73.1% worked in the private sector, an estimated 22.1% worked in the public sector, an estimated 4.7% were self-employed, and an estimated 0.1% were unpaid family workers.

By industry, most (20.2%) employed residents were estimated to work in education services, heath care, and social assistance sectors in 2010; followed by retail trade sectors (20.0%); arts, entertainment, recreation, accommodations, and food service sectors (11.7%); and construction sectors (10.2%) (Figure 3). Agriculture, forestry, fishing, and mining sectors made up 1.5% of sector employment in 2010. However, this may not accurately portray the importance of fisheries within the community, as is reflected in the *Commercial Fisheries* section.

By occupation type, most (30.4%) employed residents were estimated to hold sales or office positions in 2010; followed by management or professional positions (27.2%); service positions (19.6%); natural resources, construction, or maintenance positions (13.0%); and production, transportation, or material moving positions (9.8%) (Figure 4).

[152] 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.

[153] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

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

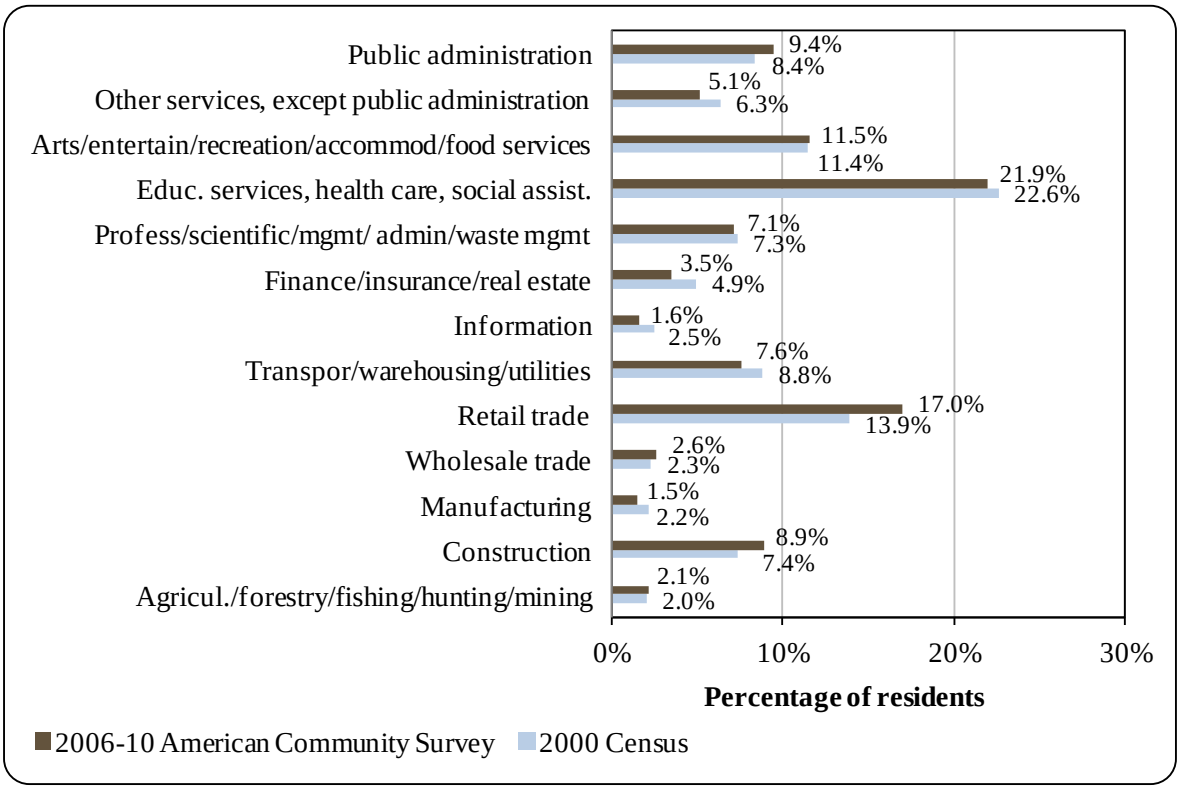
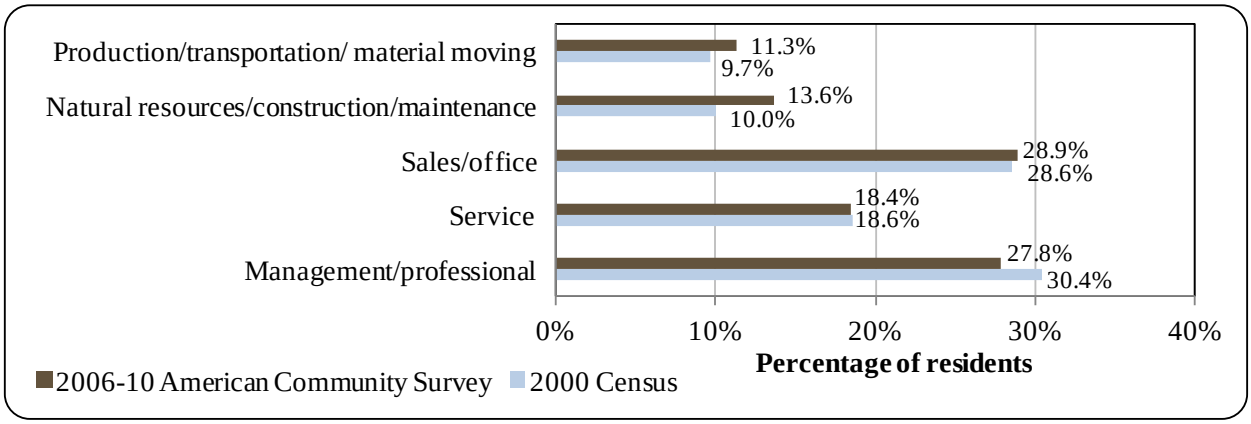


Figure 4. Local Employment by Occupation in 2000-2010, Fairbanks (U.S. Census).



Overall, there were areas of significant variation in sector and occupational employment between 2000 and 2010. Most notably, there were significant proportional declines in professional, scientific, management, administrative, and waste management sectors; while there were significant proportional increases in public administration and retail trade sectors. In addition, there were significant proportional declines in the number of service positions; while there were significant proportional increases in the number of management and professional positions.

Governance

Fairbanks was incorporated in 1903 and is a Home Rule City. The city imposes a 0.057% property tax and an 8% tax on tobacco. The Borough also implements property and tobacco taxes, 0.15% and 8%, respectively. In 2010, the City did not administer a sales tax. The total community revenue in 2010 was $30,218,824, which increased by $8,184,230 compared to 2000.[154] The state administered Community Revenue Sharing program allocated $1,726,227 to Fairbanks in 2010, which is more than five times the amount allocated in 2000 (Table 2).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Fairbanks 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	$22,140,114	n/a	$300,533	n/a
2001	$20,054,115	n/a	$265,458	n/a
2002	$22,548,441	n/a	$265,831	n/a
2003	$22,645,231	n/a	$265,423	n/a
2004	$21,170,164	n/a	n/a	n/a
2005	$26,242,790	n/a	n/a	n/a
2006	$29,420,482	n/a	n/a	n/a
2007	$35,633,332	n/a	n/a	n/a
2008	$37,384,876	n/a	n/a	n/a
2009	$33,753,147	n/a	$1,645,149	n/a
2010	$31,285,189	n/a	$1,726,227	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska 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, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

Fairbanks was not included in the Alaska Native Settlement Act (ANCSA) of 1971 and is not represented by a federally recognized Native traditional council. However, several Alaska Native institutions are based in Fairbanks. These include regional and local corporations as well as village councils: Denakkanaaga Inc. (regional Native non-profit.-Tribal Elders Council for Doyon Region), Doyon Limited (regional Native corporation), Fairbanks Native Association (regional Native non-profit providing social services) and the Tanana Chiefs Conference (regional health corporation-non-profit for Doyon Ltd.). Other local or regional institutions of the area are the Interior Regional Housing Authority (Housing Authority) the Alaska Sea Otter

[154] 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.

Commission and the Fairbanks Community Food Bank. Permanent offices of both Alaska Department of Fish and Game (ADF&G) and Bureau of Customs and Immigration Services are located in Fairbanks. The nearest National Marine Fisheries Service office is in Anchorage.

Federal agencies with offices located within the Borough include U.S. District Court, Appellate Court, U.S. Fish & Wildlife Service, Federal Aviation Administration, U.S. Customs Service, Internal Revenue Service, Bureau of Land Management, National Parks Service, U.S. Department of Agriculture, and the U.S. Postal Service.

Infrastructure

Connectivity and Transportation

Fairbanks connects Anchorage with the North, Interior Alaska and Canada. It lies at the confluence of the Richardson Highway, George Parks Highway, Steese Highway, and Elliott Highway. Another major route, the Dalton Highway (formerly the North Slope Haul road) to Prudhoe Bay, begins about 75 mi north of town. The Alaska Railroad connects Fairbanks to Anchorage and Seward at the shoreline of the Gulf of Alaska.

The city is also easily reachable by air. The state-owned Fairbanks International Airport is regularly serviced by Alaska Airlines, Air North, Warbelow's Air Ventures, Larry's Flying Service, Marina Air, Frontier Flying Service, Arctic Circle Adventure, Midnight Sun Aviation, Interior Alaska Adventures, Tanana Air Service, Tatonduck Outfitters and Wright Air Service. The facility has an 11,800-ft asphalt runway, a heliport and a seaplane landing strip. A public seaplane base is also located on the Chena River. In addition, there are several privately-owned airstrips and heliports in the vicinity. Roundtrip airfare between Fairbanks and Anchorage in June 2012 was $256.[155]

Due to its geographic and climatic features, Fairbanks must import most of the goods that its population consumes. Goods are transported to Fairbanks by air and truck along the Alaska Railroad. The Borough operates a public transportation system, and cab companies and rental car services are available. Each summer, this city receives more than 300,000 visitors and has a correspondingly wide variety of accommodation possibilities.

Facilities

Fifteen circulating pump stations distribute treated water throughout the greater Fairbanks area. City water, sewer, and electric systems are operated by private companies. The Chena power site has four steam turbines fueled by coal and one oil-fueled generator. Garbage collection services are provided by the city for a fee, and refuse is hauled to the Class 1 Borough landfill on South Cushman. Fort Wainwright operates its own landfill. Fairbanks offers a wide range of visitor accommodations and attractions, comparable with other cities its size. Public safety services include city police and local state troopers. Fire and rescue services are provided by local fire department and Emergency Medical Services (EMS); Fort Wainwright Fire and EMS, Fairbanks Northstar Borough Fire and EMS, and U.S. Bureau of Land Management (BLM) Alaska Fire Service. Legal services include State Superior Court, District Court,

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

Appellate Courts, and Fairbanks Correctional Center. Several community, youth, and senior service centers are available. Thirty-eight libraries are available, and five museums.[156]

There are three undersea fiber optic cable systems which connect Alaska to the contiguous United States. Two systems connect Fairbanks to this undersea network. Communications services are provided by Alaska Communications Systems (ACS), General Communications Inc. (GCI), and AT&T/Alascom. Services include local and long distance telephone, cable, and broadband internet.[157]

In a survey conducted by the AFSC in 2011, community leaders reported infrastructure projects completed between 2000 and 2010, or in progress as of 2010. These projects included new dock space, dock improvements, broadband internet improvements, road improvements, alternative energy projects, public safety improvements, fire service improvements, improvements to education services, and a state-run sport fish hatchery. As of 2010, there was 30 ft of dock space available for transient moorage at Fairbanks Northstar Borough Pioneer Park. Vessels up to 24 ft in length can use moorage in Fairbanks. Community leaders noted that there were less charter/party boats observed in Fairbanks in 2010 than in 2005. This was partially attributed to the Tanana Queen Riverboat halting service.

According to the 2011 AFSC survey, fisheries-related businesses and services available locally include fish processors, sportfishing gear sales, boat repair (welding and mechanical services), small vessel haul-out facilities, tackle sales, bait sales, commercial cold storage, vessel fuel sales, and air taxi services. Community leaders also noted that residents travel to Nenana, Valdez, and Seward for businesses and services not available locally. Additional public services include food banks, soup kitchens, job placement services, and publically subsidized housing.

Medical Services

Healthcare services in Fairbanks are provided by the Fairbanks Memorial Hospital, the Interior Neighborhood Health Clinic, Chief Andrew Isaac Health Center, Bassett Army Community Hospital/Fort Wainwright. In addition specialized care is provided by FNA Regional Center for Alcohol & Other Addictions, Fairbanks Pioneers' Home, and the Denali Center.

Educational Opportunities

As of 2011, the Fairbanks school district has 35 schools, a total of 872 teachers, and 14,285 students enrolled. The student-teacher ratio was 17.6.[158] The city is also home to the University of Alaska Fairbanks (UAF), which was founded in 1917 and as of 2010 had a total of 11,034 enrolled students.[159] UAF offers seven major research units including the Agricultural and Forestry Experiment Station, Arctic Region Supercomputing Center, the Geophysical Institute, the Institute of Marine Science, the Institute of Arctic Biology, the Institute of Northern Engineering, and the International Arctic Research Center. UAF offers 163 degree and 24

[156] Alaska Department of Community and Rural Affairs (n.d.). *Community Database Online*. Retrieved November 15, 2011 from http://www.dced.state.ak.us/dca/commdb/CF_BLOCK.htm
[157] Fairbanks North Star Borough (2003). *Comprehensive Economic Development Strategy.* Retrieved July 18, 2012 from: http://www.commerce.state.ak.us/dca/plans/FairbanksNorthStarBorough-EDP-2003.pdf.
[158] Alaska Department of Education and Early Development (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[159] See footnote 156.

certificates in 114 disciplines, and is the only doctoral degree granting institution in Alaska. UAF also encompasses eight regional campuses in rural and urban locations throughout the state. This includes campuses in Dillingham, Kotzebue, Bethel, Nome, the Interior-Aleutians Campus, and the Rural College.[160]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries[161]

Although the city of Fairbanks is over 300 mi from the Alaska coastline, it has historical 'long distance' involvement in the commercial fishing industry. The city is home to a substantial number of vessel owners, commercial permit holders, and registered crew members. There is also a commercial fish processing plant. In short, Fairbanks is proof that Alaska's commercial fishing industry is as much about networks and inter-community linkages as it is about location.

Much of the sportfishing effort in the area takes place within the Tanana River ADF&G Management Area. The Tanana River is the second largest tributary system of the Yukon River. The Chena, Salcha, Chatanika, and Delta Clearwater rivers, Minto Flats, Harding, Fielding, and Table lakes, and various stocked waters are all popular areas for recreational and subsistence fishing. The most commonly targeted species include Chinook and coho salmon, Arctic grayling, burbot, northern pike, lake trout, and stocked rainbow trout.

The Chena River supports one of the largest Chinook salmon populations in the Alaskan portion of the Yukon River drainage. Adult Chinook enter the Tanana River between late June and the second week of July. The run ends in late July or early August. Chum salmon are primarily available in July and August and are typically targeted or caught incidentally along with Chinook. The Salcha River supports the largest Chinook salmon population in the Tanana River drainage. Run characteristics are similar to those found in the Chena River. However, coho salmon are not found in the Salcha River drainage.

Coho salmon migrate into small tributaries on the south side of the Tanana River drainage, and tributaries near Delta Junction host some of the largest known coho spawning concentrations in the Yukon River drainage. The Delta Clearwater River supports the largest recreational coho fishery within the Tanana River drainage. Coho are the last of the salmon species to enter the Yukon River system. They typically enter around mid-September, and runs peak by mid-October. Some have even reported seeing coho spawning as late as January. Spring fed tributaries in the area provide ideal habitat for juvenile coho.

During the late 1970s and mid-1980s, the Chena River Arctic grayling fishery was the largest in the state. During the latter part of the 1980s, the bag limit for Arctic grayling decreased following poor stock levels, and the fishery began to decline somewhat. The fishery was further restricted to catch-and-release by the Alaska Board of Fisheries in 1994, and fishing effort dropped off considerably. Stock assessments in 2005 showed a stable population; however, it is unlikely that the population would be able to sustain a large annual harvest similar to historic levels. Other Arctic grayling fisheries within the Tanana River drainage are found within the Chatanika River, Nenana River, Salcha River, Fielding Lake, the Goodpaster River, the Tok River drainage, Shaw Creek, and the Richardson Clearwater River.

---

[160] See footnote 157.

[161] Brase, A. L. J., and B. Baker. 2011. *Fishery Management Report for Recreational Fisheries in the Tanana River Management Area, 2009.* Retrieved July 23, 2012 from: http://www.adfg.alaska.gov/FedAidpdfs/FMR11-17.

The Minto Flats, located about 35 mi west of Fairbanks, is a popular northern pike fishing and waterfowl hunting area. The Minto Lakes are thought to support the majority of the northern pike sport fishery within the Tolovana River drainage. During the winter, much of the waters within the Flats become anoxic, forcing fish to move to waters within the Chatanika and Tolovana rivers or other tributaries. From 1984 to 1986, the total harvest of northern pike from the Minto Flats area doubled, and many females were caught during the winter ice fishing season. After 1987, sportfishing for northern pike was closed between October 15 and May 31, and the bag limit was reduced. Estimated sport catch of northern pike peaked in 1994. Northern pike is also common in many smaller lakes, sloughs, and tributaries throughout the Tanana River drainage.

Burbot are commonly caught by set-line through ice during the winter. Prior to 1988, there was no bag limit for burbot if taken by hook and line. There was a 10 fish per day limit for fish taken by spear or bow and arrow. However, in 1988, bag limits of 15 fish per day in flowing waters, and 5 fish per day in lakes were established. Before regulations were established, burbot fishing primarily occurred in the Fielding and Tangle Lakes system. From 1981 to 1984, burbot harvests averaged 330 fish per year in those systems. Low recruitment eventually led to restrictions on catch.

The Chatanika River supports a large population of whitefish (humpback and least cisco). The only major whitefish sport fishery occurs on the Chatanika River. This fishery historically took place in September. Both humpback and least cisco were harvested, as were a small number of round whitefish. The fishery became very popular in the 1980s. Prior to 1988, the fishery was unregulated. However, as with many other recreational fisheries in the area, the implementation of regulations followed a decline in harvest levels in the late 1980s.

Lakes containing wild lake trout in the Tanana River Management Area include Harding, Fielding, Two Bit, Landmark Gap, Glacier, Sevenmile, and the Tangle lakes system. A new state-run hatchery began to produce a small number of lake trout in 2009.

While very little of Fairbanks' municipal revenue is fishing-related (Table 3), Fairbanks residents are engaged in North Pacific fisheries via their purchase and use of permits for a range of species (Table 4) and individual fishing quotas for halibut and sablefish (Tables 6 and 7). Salmon is the most targeted species, with 134 salmon permits issued to residents of Fairbanks in 2010.

Because Fairbanks is located more than 50 mi from the coast, the community is not located within a Federal Statistical and Reporting Area, a Pacific Halibut Fishery Regulatory Area, or a Sablefish Regulatory Area. Fairbanks is not eligible to participate in the Community Development Quota program or the Community Quota Entity program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, one shoreside processing facility was in operating in Fairbanks. Santa's Smokehouse operates a family owned and operated plant in Fairbanks called Interior Alaska Fish Processors, which processes halibut and all five species of Pacific salmon.[162] Interior Alaska Fish Processors also processes sport-caught fish and game, and it smokes sport-caught salmon (all species but pink).[163]

[162] Alaska Seafood Marketing Institute (2011). Directory of Alaska Seafood Suppliers. Retrieved December 12, 2011 from http://www.alaskaseafood.org/industry/suppliers/index.cfm.
[163] Santa's Smokehouse (n.d.). *Homepage*. Retrieved November 15, 2011from http://santassmokehouse.com.

Fisheries-Related Revenue

Fisheries-related revenue received by the City of Fairbanks is minimal, only including a small amount of revenue raised from the Shared Fisheries Business Tax (Table 3).

Commercial Fishing

In 2010, 146 residents, or less than 1% of the population, held 159 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 145 residents held 167 CFEC permits. Of the CFEC permits held in 2010, 85% were for salmon, compared to 77% in 2000; 7% were for herring, compared to 7% in 2000; 4% were for halibut, compared to 10% in 2000; 2% were for "other" shellfish, compared to 2% in 2000; and less than 1% were for sablefish, "other" groundfish, and crab. In addition, two residents held two Federal Fisheries Permits (FFP) and two residents held two License Limitation Program (LLP) groundfish permits. In 2010, residents held 376,376 shares of halibut quota on 15 accounts, compared to 457,129 shares on 22 accounts in 2000. Also in that year, residents held 283,873 shares of sablefish quota on one account, compared to 0 shares on one account in 2000. No residents held crab quota between 2010 and when the program began.

Residents held 79 commercial crew licenses in 2010, compared to 81 in 2000. In addition, residents held majority ownership of 30 vessels, compared to 102 in 2000. Of the CFEC permits held in 2010, 25% were actively fished, compared to 31% in 2000. This varied by fishery from 100% of halibut and sablefish permits, to 24% of salmon permits, 9% of herring permits, and 0% of "other" shellfish, "other" finfish, and groundfish permits. In addition, 50% of FFP and 0% of LLP were actively fished. Fisheries prosecuted by Fairbanks residents in 2010 included: statewide longline and mechanical jig halibut, statewide longline sablefish, southeast Alaska drift gillnet salmon, Bristol Bay drift gillnet salmon, Cook Inlet set gillnet salmon, Kodiak set gillnet salmon, Lower Yukon gillnet salmon, Norton Sound gillnet salmon, and statewide power troll salmon.

No landings were made in Fairbanks in 2000 and 2001, and landings between 2002 and 2010 are considered confidential. Landings made by Fairbanks residents in 2010 are considered confidential, with the exception of salmon. In that year, residents landed 1.09 million pounds of salmon valued at $1.41 million ex-vessel; compared to 578,459 lb valued at $347,747 ex-vessel in 2000; an increase of $0.47 per pound landed after adjusting for inflation[164] and without considering the species composition of landings. Revenue from salmon landings peaked in 2010. In 2009, residents landed 23,222 lb of halibut valued at $75,955 ex-vessel, compared to 13,455 lb valued at $35,207 ex-vessel in 2000; a decrease of $0.05 per pound landed after adjusting for inflation.[165] Information regarding commercial fishing trends can be found in Tables 4 through 10.

[164] Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, http://www.bls.gov/ppi/#data
[165] Ibid.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	$163	$279	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a			n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*$163*	*$279*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*$22.14 M*	*$20.05 M*	*$22.55 M*	*$22.65 M*	*$21.17 M*	*$26.24 M*	*$29.42 M*	*$35.63 M*	*$37.38 M*	*$33.75 M*	*$31.29 M*

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

[1] Alaska Departmentof 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 Departmentof 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 in its annual municipal budgets. Alaska Departmentof Community and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (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
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	3	3	3	4	4	4	2	2	2	2	2
	Fished permits	0	0	0	0	0	0	0	0	0	1	1
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%
	Total permit holders	3	3	3	4	4	4	2	2	2	2	2
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	1	4	2	1	1
	Fished permits	0	0	0	0	0	0	1	2	0	1	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	100%	50%	0%	100%	0%
	Total permit holders	0	0	0	0	0	0	1	4	2	1	1
Other shellfish (CFEC) [2]	Total permits	3	2	1	1	1	1	1	2	2	2	3
	Fished permits	1	0	0	0	0	0	0	1	1	0	0
	% of permits fished	33%	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%
	Total permit holders	3	2	1	1	1	1	1	2	2	2	3
Halibut (CFEC) [2]	Total permits	17	12	11	8	5	7	8	7	7	8	6
	Fished permits	7	9	8	6	5	7	6	7	5	8	6
	% of permits fished	41%	75%	73%	75%	100%	100%	75%	100%	71%	100%	100%
	Total permit holders	17	12	11	8	5	7	8	7	7	8	6
Herring (CFEC) [2]	Total permits	12	7	7	7	7	6	9	9	8	10	11
	Fished permits	2	3	3	3	1	1	1	1	0	0	1
	% of permits fished	17%	43%	43%	43%	14%	17%	11%	11%	0%	0%	9%
	Total permit holders	11	7	7	7	7	6	9	9	8	10	11

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	1	2	2	2	0	3	0	0	0	1	1
	Fished permits	0	1	1	2	0	3	0	0	0	1	1
	% of permits fished	0%	50%	50%	100%	n/a	100%	n/a	n/a	n/a	100%	100%
	Total permit holders	1	2	2	2	0	2	0	0	0	1	1
Groundfish (CFEC) [2]	Total permits	4	4	2	0	0	0	0	0	0	1	1
	Fished permits	2	0	1	0	0	0	0	0	0	1	0
	% of permits fished	50%	0%	50%	n/a	n/a	n/a	n/a	n/a	n/a	100%	%
	Total permit holders	4	3	2	0	0	0	0	0	0	1	1
Other Finfish (CFEC) [2]	Total permits	2	2	2	2	2	2	2	2	2	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	2	2	2	2	2	2	2	2	2	1	1
Salmon (CFEC) [2]	Total permits	128	124	124	130	130	134	135	135	140	140	135
	Fished permits	39	30	34	36	29	39	43	38	38	37	32
	% of permits fished	30%	24%	27%	28%	22%	29%	32%	28%	27%	26%	24%
	Total permit holders	121	116	117	124	128	129	130	129	132	132	131
Total CFEC Permits[2]	*Permits*	*167*	*153*	*149*	*150*	*145*	*153*	*156*	*159*	*161*	*164*	*159*
	Fished permits	*51*	*43*	*47*	*47*	*35*	*50*	*51*	*49*	*44*	*48*	*40*
	% of permits fished	*31%*	*28%*	*32%*	*31%*	*24%*	*33%*	*33%*	*31%*	*27%*	*29%*	*25%*
	Permit holders	*145*	*132*	*131*	*135*	*136*	*140*	*142*	*144*	*147*	*144*	*146*

[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 Fairbanks: 2000-2010.

Year	Crew Licenses 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 Fairbanks[2]	Total Net Pounds Landed In Fairbanks[2,5]	Total Ex-Vessel Value Of Landings In Fairbanks [2,5]
2000	81	0	3	102	41	0	0	$0
2001	93	0	1	90	31	0	0	$0
2002	55	5	2	88	35	0	--	--
2003	60	5	3	76	34	0	--	--
2004	53	4	3	87	34	0	--	--
2005	60	4	2	32	9	0	--	--
2006	52	5	2	40	10	0	--	--
2007	76	6	1	34	7	0	--	--
2008	70	2	2	34	7	0	--	--
2009	78	2	2	36	4	0	--	--
2010	79	1	1	30	5	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 in Fairbanks: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	22	457,129	84,887
2001	25	473,675	99,633
2002	24	479,198	100,302
2003	23	457,522	97,058
2004	21	391,163	81,409
2005	21	369,050	74,438
2006	19	350,745	66,568
2007	16	340,141	55,101
2008	13	335,627	53,962
2009	15	376,376	52,756
2010	15	376,376	48,643

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 in Fairbanks: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
2000	1	n/a	n/a
2001	1	263,141	27,250
2002	2	292,115	30,908
2003	2	312,847	39,892
2004	2	318,971	40,800
2005	2	374,254	41,287
2006	1	283,873	35,277
2007	1	283,873	33,043
2008	1	283,873	28,692
2009	1	283,873	25,869
2010	1	283,873	24,583

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 in Fairbanks: 2000-2010.

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

Note: n/a indicates that no data was reported for that year. Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	--	--	--	--	--	--	--	--	--
Finfish	0	0	--	--	--	--	--	--	--	--	--
Halibut	0	0	--	--	--	--	--	--	--	--	--
Herring	0	0	--	--	--	--	--	--	--	--	--
Other Groundfish	0	0	--	--	--	--	--	--	--	--	--
Other Shellfish	0	0	--	--	--	--	--	--	--	--	--
Pacific Cod	0	0	--	--	--	--	--	--	--	--	--
Pollock	0	0	--	--	--	--	--	--	--	--	--
Sablefish	0	0	--	--	--	--	--	--	--	--	--
Salmon	0	0	--	--	--	--	--	--	--	--	--
Total[2]	0	0	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	--	--	--	--	--	--	--	--	--
Finfish	$0	$0	--	--	--	--	--	--	--	--	--
Halibut	$0	$0	--	--	--	--	--	--	--	--	--
Herring	$0	$0	--	--	--	--	--	--	--	--	--
Other Groundfish	$0	$0	--	--	--	--	--	--	--	--	--
Other Shellfish	$0	$0	--	--	--	--	--	--	--	--	--
Pacific Cod	$0	$0	--	--	--	--	--	--	--	--	--
Pollock	$0	$0	--	--	--	--	--	--	--	--	--
Sablefish	$0	$0	--	--	--	--	--	--	--	--	--
Salmon	$0	$0	--	--	--	--	--	--	--	--	--
Total[2]	$0	$0	--	--	--	--	--	--	--	--	--

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

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Table 10. Landed Pounds And Ex-Vessel Revenue, by Species, by Fairbanks Residents: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	13,455	--	12,276	--	--	--	--	--	--	23,222	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	139	--	--	--	--	--	--	1,004	1,621	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	578,459	578,459	759,886	626,138	710,142	835,931	619,093	1,224,488	909,097	719,426	1,090,201
Total[2]	*591,914*	*578,598*	*772,162*	*626,138*	*710,142*	*835,931*	*619,093*	*1,224,488*	*910,101*	*744,269*	*1,090,201*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	$35,207	--	$26,015	--	--	--	--	--	--	$75,955	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	$55	--	--	--	--	--	--	$1,505	$1,360	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	$347,747	$377,673	$324,873	$342,695	$537,153	$461,665	$923,986	$686,925	$752,425	$911,759	$1,414,934
Total[2]	*$382,954*	*$377,728*	*$350,888*	*$342,695*	*$537,153*	*$461,665*	*$923,986*	*$686,925*	*$753,930*	*$989,074*	*$1,414,934*

Note: Cells showing "–" indicate that the data is 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] Confidential data not included in annual totals.

Recreational Fishing

Due to the inland geographic location of Fairbanks, saltwater sport fishermen must travel a great distance to the coast, making freshwater sportfishing a more common form of recreational fishing in Fairbanks. The Tanana River watershed is a popular destination for private anglers, and a description of recreational fisheries was provided in the *History and Evolution of Fisheries* section.

In 2010, around 19% of sport fish guide businesses registered in Fairbanks were active, compared to 21% in 2000. The number of sport fish guide licenses held in the community declined significantly during that period from 105 in 2000, to 32 in 2010. The number of sportfishing licenses issued to residents has steadily increased, from 16,969 licenses in 2000 to 18,729 licenses in 2010. The number of sportfishing licenses sold in the community has increased as well, with 25,854 licenses sold in 2010 compared to 9,589 in 2000 (Table 11). Fairbanks is located within Alaska Sport Fishing Survey Area U – Tanana River drainage. This area includes the entire Tanana River watershed. Information is available about freshwater sportfishing activity only at this regional scale. In 2010, there were a total of 96,859 freshwater angler days fished, compared to 121,763 in 2000. In that year, non-Alaska residents accounted for 9.3% of total angler-days fished, compared to 10.4% in 2000.

According to ADF&G Harvest Survey data, local private anglers target all five species of Pacific salmon, landlocked salmon, rainbow trout, Dolly Varden, cutthroat trout, whitefish, burbot, Arctic graying, northern pike, sheefish, Pacific halibut, rockfish, lingcod, Pacific cod, shark, smelt, steelhead trout, “other” finfish, Dungeness crab, Tanner crab, razor clams, hardshell clams, and shrimp.[166] No kept/released charter logbook data are available for Fairbanks. In a survey conducted by the AFSC in 2011, community leaders reported that local recreational fishing effort is done by charter boat, private boat, or by shore. Both residents and non-Alaska residents participate in recreational fisheries. Typically, Chinook salmon are the most popular species targeted. Information regarding recreational fishing trends can be found in Table 11.

[166] 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. Sportfishing trends, Fairbanks: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Fairbanks[2]	Freshwater Angler Days Fished – Non-residents[3]	Freshwater Angler Days Fished – Alaska Residents[3]
2000	12	105	16,969	9,589	11,517	110,246
2001	14	94	16,940	10,058	10,744	80,391
2002	12	98	16,960	10,231	9,733	98,884
2003	9	90	17,841	23,027	7,502	92,432
2004	13	101	18,438	25,244	11,853	104,633
2005	6	37	18,044	24,577	11,335	82,063
2006	11	38	16,746	23,610	8,216	71,461
2007	6	42	18,413	26,331	9,327	91,629
2008	8	41	17,456	24,637	7,613	64,722
2009	7	33	17,675	24,177	7,415	85,082
2010	3	32	18,729	25,854	9,025	87,834

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[2] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[3] Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sf/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Evidence of historic use of the Tanana River was documented by early Euro-American explorers. The subsistence fishery was essentially unrestricted until a regulatory system was put into place in 1964. In the beginning, permits were issued on an individual basis with no harvest limits or eligibility criteria. In 1971, the first harvest limits for salmon were imposed. These limits were 25 Chinook and 200 "other salmon" per person. Since then, restrictions on numbers of fish and fishing periods have been increased.[167]

Many Fairbanks area residents participate in personal use fisheries on the Tanana River. In a 1980 ADF&G survey of Tanana River fishermen, 76.9% of respondents indicated that they lived in the greater Fairbanks area. Of those surveyed that year, 58.5% reported that subsistence harvest activities account for "half" or "some" of their annual meat consumption. Only 7.8% reported that subsistence activities account for "all" of their annual meat consumption.[168]

In 2008, the city issued 3,077 subsistence salmon permits, which had grown slightly from 2,560 permits in 2000. Based on the subsistence salmon permits that were returned to ADF&G in 2008, sockeye salmon appeared to be by far the most common salmon species harvested for subsistence, with an estimated total of 35,765 harvested in 2008. Fairbanks residents also

[167] Caulfield, R. A. 1981. *Final Report of the Survey of Permit holders in the Tanana River Subsistence Salmon Permit Fishery.* Retrieved July 12, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp014.pdf.
[168] Caulfield, R. A. 1980. *Interim Report on the Survey of Permit holders in the Tanana Subsistence Permit Fishery*. Retrieved July 12, 2012 from: http://www.arlis.org/docs/vol1/10883183.pdf.

reported subsistence harvests of Chinook, chum and coho salmon. Pink salmon were estimated to be the least harvested salmon for subsistence, with 41 harvested in 2008 (Table 13).

Residents of Fairbanks also rely on the use Subsistence Halibut Registration Certificates (SHARC) for subsistence harvest of halibut. In 2010, 7 SHARC were issued and an estimated 140 lb of halibut was harvested using one SHARC, compared to an estimated 567 lb harvested using 4 SHARC in 2004. In terms of marine mammal harvests, a total estimate of nine sea otters were harvested by residents in 2006 and 2007. In addition, an estimated three walrus were harvested by residents in 2000; however, no reports of walrus harvests in subsequent years are available. No information is available about harvests of other marine mammal species. Further information regarding subsistence trends can be found in Tables 12 through 15.

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

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

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Fairbanks: 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	2,560	2,415	2,926	382	1,250	n/a	36,595	n/a	n/a
2001	2,825	2,496	2,407	408	808	2	42,183	n/a	n/a
2002	2,425	2,075	2,791	545	1,757	n/a	33,905	n/a	n/a
2003	2,404	2,074	2,841	2,492	2,290	n/a	31,241	n/a	n/a
2004	2,934	2,383	4,649	3,390	3,999	92	43,571	n/a	n/a
2005	3,208	2,666	4,680	9,501	3,940	9	51,915	n/a	n/a
2006	3,177	2,524	3,518	8,590	2,152	8	52,378	n/a	n/a
2007	3,291	2,811	4,319	6,566	1,549	n/a	54,854	n/a	n/a
2008	3,077	2,618	3,129	1,549	1,629	41	35,765	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, Fairbanks: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb Harvested
2003	6	1	n/a
2004	10	4	567
2005	9	2	340
2006	6	n/a	n/a
2007	11	n/a	n/a
2008	5	2	85
2009	4	n/a	n/a
2010	7	1	140

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

Source: Fall, J.A., and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2010. 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, Fairbanks: 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	3	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	5	n/a	n/a	n/a	n/a	n/a
2007	n/a	4	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

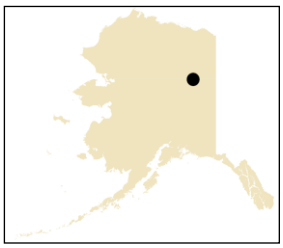
Note: n/a indicates that no data were reported for that year.

[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.

Fort Yukon



People and Place

Location [169]

Fort Yukon is located at the confluence of the Yukon and Porcupine Rivers, about 145 air miles northeast of Fairbanks. Fort Yukon is located in the Yukon-Koyukuk Census Area and the Fairbanks Recording District. The area encompasses 7.0 square miles of land and 0.4 square miles of water.

Demographic Profile [170]

In 2010, there were 583 residents in Fort Yukon, ranking it the 102nd largest community in Alaska. Overall, between 1990 and 2010, the population has increased by 0.52%. However, between 2000 and 2009, the population declined by 1.7% with an average annual growth rate of -0.02%, which was below the statewide average of 0.75% and indicative of an almost flat population trend. Information regarding population trends can be found in Table 1.

The majority of Fort Yukon residents are Gwich'in Athabascan. In 2010, the majority (89.2%) of Fort Yukon residents identified themselves as American Indian or Alaskan Native, compared to 86.0% in 2000. Also in that year,7.7% of residents identified themselves as White, compared to 11.0% in 2000; 0.5% identified themselves as Native Hawaiian and Other Pacific Islander, compared to 0.0% in 2000; 0.5% identified themselves as Black or African American, compared to 0.0% in 2000; 0.2% identified themselves as Asian, compared to 0.0% in 2000; 1.7% identified themselves as two or more races, compared to 3.0% in 2000; and 0.2% identified themselves as some other race, compared to 0.0% in 2000. In addition, 0.3% identified themselves as Hispanic or Latino, compared to 1.0% in 2000. As noted in Figure 1, even the most significant changes (increase in the Native population and decrease in the White population) are relatively minor overall. Further changes in racial and ethnic composition from 2000 to 2010 are shown in Figures 1.

In 2010, the average household size was 2.4, a slight decline from 2.8 in 1990 and 2.6 in 2000. There has been an increase of occupied households, from 205 in 1990 to 225 in 2000 to and 246. Of those occupied households surveyed in 2010, 72.7% were owner-occupied and of the 325 housing units reported in Fort Yukon, 24.3% were considered vacant. There were five residents living in group quarters in 2000, compared to two in 2010.

[169] 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.

[170] 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.

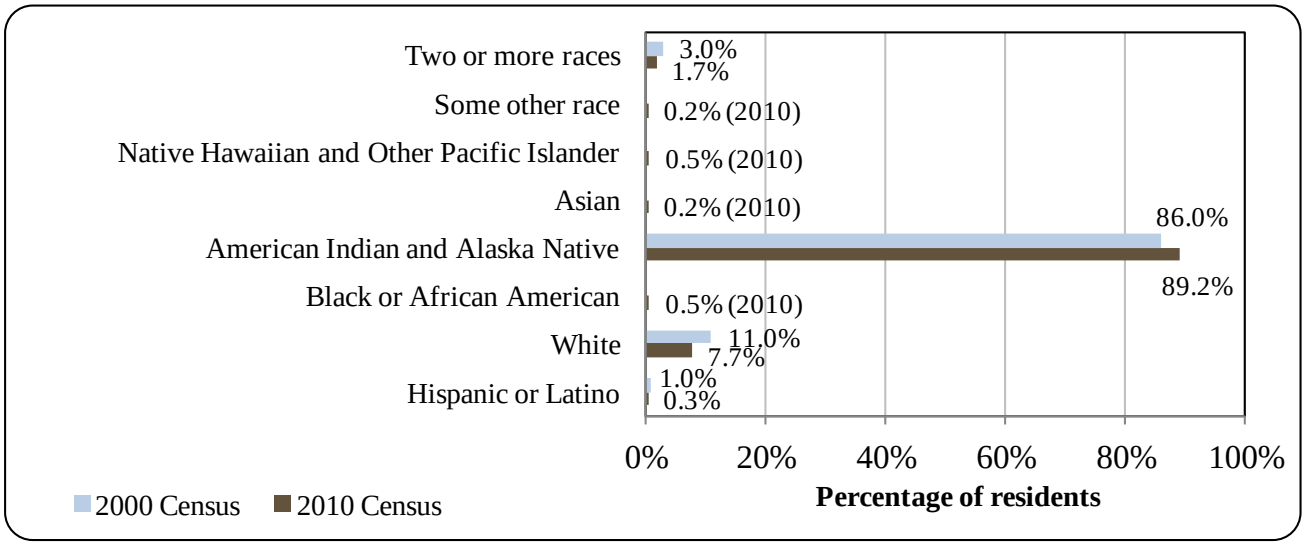
Table 1. Population in Fort Yukon from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	580	-
2000	595	-
2001	-	565
2002	-	569
2003	-	559
2004	-	593
2005	-	570
2006	-	595
2007	-	588
2008	-	585
2009	-	585
2010	583	-

[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.

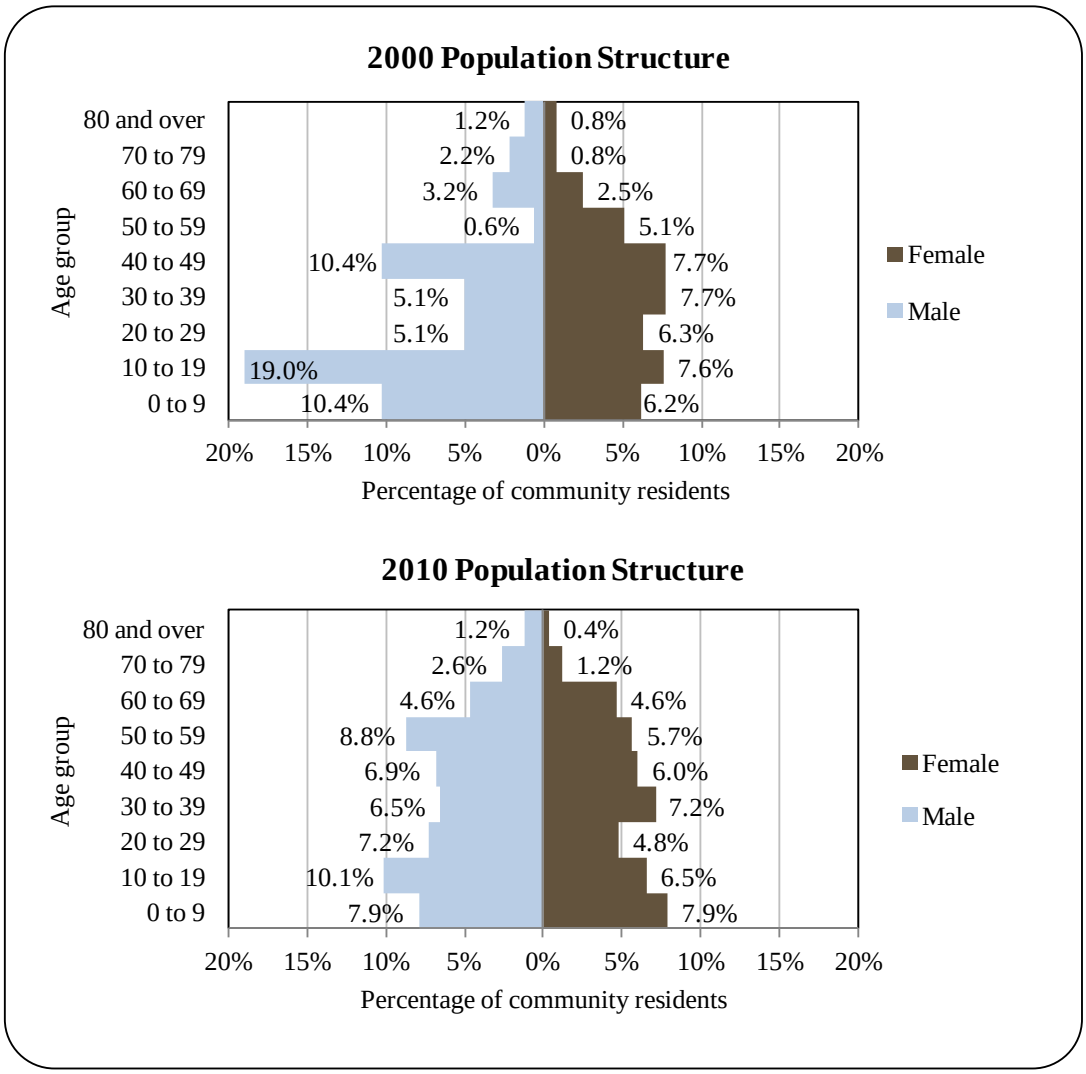
Figure 1. Racial and Ethnic Composition, Fort Yukon: 2000-2010 (U.S. Census).



In 2010, the gender makeup was 55.7% male and 44.2% female, and somewhat similar to the gender makeup of the state as a whole (52% male, 48% female; see Figure 2). In 2000, the gender makeup was 52.9% male and 47.1% female. The median age in 2010 was 33.7 years, which is slightly lower than both the U.S. national average of 36.8 years and the statewide average of 33.8 years.

The overall population structure of Fort Yukon in 2000 and 2010 is shown in Figure 1. In 2010, there was a relatively even spread of males and females across each age category, though the 10 to 19 and 50 to 59 age groups show the greatest difference in the spread of males and females. For example, in 2010, the 10 to 19 age group was 10.1% males and 6.5% females, and the 50 to 59 age group was 8.8% males and 5.7% females. This represents a significant change from the population structure in 2000, when there were a significantly disproportionate percentage of males in the population than females in the 0 to 9, 10 to 19, and 40 to 49 age categories. In addition, in 2000, there were relatively few residents in the male 50 to 59 age range (0.6%), whereas in 2010, 8.8% of the males were in this age category.

Figure 2. Population Age Structure in Fort Yukon 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)[171] estimated that 71% of residents aged 25 and over held a high school diploma or higher degree in 2010, slightly less than the 91% of Alaskan residents overall that held a high school diploma or higher degree. Also in 2010, 13% of the population had less than a 9th grade education, compared to 4% of Alaskan residents overall; 16% had a 9th to 12th grade education but no diploma, compared to 6% of Alaskan residents overall; 31% had some college but no degree, compared to 28% of Alaskan residents overall; 5% earned an Associate's degree, compared to 8% of Alaskan residents overall; 2% earned a Bachelor's degree, compared to 17% of Alaskan residents overall; and 2% earned a graduate or professional degree, compared to 10% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

The indigenous peoples of the territory surrounding Fort Yukon are primarily descendants of the Yukon Flats, Chandalar River, Birch Creek, Black River, and Porcupine River Gwich'in Athabascan tribes. Originally known as *Gwicyaa Zhee* or "house on the flats", the modern community of Fort Yukon took shape around a Hudson Bay Company outpost in Russian territory built by Alexander Murray in 1847. The Fort became an important trade center for the Gwich'in Indians, who inhabited the vast lowlands of the Yukon Flats and River valleys. By 1862, a mission school had been established.[172]

Following the 1867 purchase of Alaska by the United States, in 1869 an American trapper named Moses Mercer with the Alaska Commercial Company took over operation of Fort Yukon from the Hudson Bay Company. American missionaries and trappers passed through Fort Yukon in the early years of American ownership, and the gold rush brought prospectors in the 1870s. In addition, some local economic activity was generated by the fur trade of the 1800s and whaling off the Arctic coast in the late 1800s and early 1900s. A post office was established in 1898. The Native population of the community was also impacted by major disease epidemics during this period. The first hospital was constructed in 1914 by the Episcopal Church, and the first plane landed in Fort Yukon in 1921. Much of the original settlement was destroyed in a large flood in 1949, and many residents and community buildings were moved to a new site on higher ground, east of the original town site. The U.S. Air Force built an aircraft control and warning site in Fort Yukon in 1955. Today, most residents of Fort Yukon are Gwich'in Indians.[173] Subsistence harvest activities are important to the local culture.[174]

[171] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.
[172] City of Fort Yukon (1996). *Comprehensive Plan.* Retrieved November 1, 2012 from http://www.dced.state.ak.us/dca/plans/pub/FortYukonPlan.pdf.
[173] Ibid.
[174] 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.

Natural Resources and Environment

Fort Yukon lies above a large geologic basin, the Yukon Basin. Winters are long and harsh, and the summers short but warm. After freeze-up of the Yukon River, the plateau is a source of cold, continental arctic air. Daily minimum temperatures between November and March are usually below 0 °F, and extended periods of -50 to -60 °F are common. Summer high temperatures range from 65 to 72 °F, and a high of 97 °F has been recorded. Total annual precipitation averages 6.6 inches, with 43.4 inches of snowfall. The Yukon River is ice-free from the end of May through mid-September.[175]

Fort Yukon is located in the Yukon Flats, a 13,700-square-mile area of wetlands, forest, bog, and low-lying ground centered on the confluence of the Yukon River, Porcupine River, and Chandalar River in central Alaska. The area is characterized by meandering river channels, oxbow lakes, sloughs, alluvial fans, thaw lakes, sink holes, and sand dunes. Permafrost is present in the region, although discontinuous; the Yukon Flats region is a boundary zone between continuous permafrost to the north and areas of discontinuous permafrost to the south. The Yukon Flats lowland is bounded on the south by the Yukon-Tanana Upland Plateau, on the east by the Porcupine Plateau, on the north by the southern foothills of the Brooks Range, and on the northwest by the Hodzana Highland.[176]

Small deposits of gold were discovered between Fort Yukon and Fort Selkirk in the 1870s.[177] However, according to the Alaska Department of Natural Resources and Division of Geological and Geophysical Surveys, there are no significant mineral deposits or mining activity in the Fort Yukon area.[178,179]

According to the Alaska Department of Environmental Conservation (DEC), no notable environmental remediation sites were active in Fort Yukon as of 2012.[180] However, it is important to note that the U.S. Air Force Long Range Radar site in Fort Yukon was the focus of a remedial investigation in the early 1990s because of concern over contaminated groundwater and soil at the site. A human health assessment concluded that the level of toxins at the site posed no public health risk and the DEC determined no further action at the site was required.[181]

Current Economy[182]

City, state, and federal agencies and the Native corporation are the primary employers in Fort Yukon. Specifically, the top employers in 2010[183] included Yukon Flats School District, Council of Athabascan Tribal Governments, Native Village of Fort Yukon, City of Fort Yukon

---

[175] Ibid.
[176] See footnote 172.
[177] Ibid.
[178] Alaska Department of Natural Resources (2011). *Mineral Resources of Alaska*. Map produced by the Division of Mining, Land, and Water, Abandoned Mine Lands Program. November 11, 2011.
[179] Szumigala, D.J., L.A. Harbo, and J.N. Adleman (2011). *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[180] Alaska Dept. of Environmental Conservation (2012). *List of contaminated site summaries by region*. Retrieved July 31, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[181] See footnote 172.
[182] Unless otherwise noted, all monetary data are reported in nominal values.
[183] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved June 15, 2012 from http://live.laborstats.alaska.gov/alari/.

Public Health Facility, City of Fort Yukon, Alaska Commercial Company, Tanana Chiefs Conference, Cruz Construction Inc., Gwandak Public Broadcasting Inc., and the Gwitchyaa Zhee Native Corporation. The school district is the largest employer. Winter tourism is becoming increasingly popular. The Bureau of Land Management (BLM) operates an emergency firefighting base at the airport and the U.S. Air Force operates a White Alice Communications System in Fort Yukon. Trapping and Native handicrafts also provide income. Residents rely on subsistence foods – salmon, whitefish, moose, bear, caribou, and waterfowl provide most meat sources.

The 2006-2010 American Community Survey (ACS)[184] estimated 212 residents as employed in that time period. An estimated 68.0% of residents aged 16 years and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 14.6%, compared to 5.9% statewide; and an estimated 20.6% of residents were living below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. Of those employed in 2010, an estimated 28.8% worked in the private sector and an estimated 71.2% worked in the public sector.

In 2010, the estimated per capita income was $15,350 and the estimated median household income was $37,083, compared to $13,360 and $29,375 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[185] the real per capita income ($17,568) and real median household income ($38,628) indicate that both individual earnings and household earnings increased slightly. In 2010, Fort Yukon ranked 165th of 305 communities from which per capita income was estimated, and 243rd of 299 communities from which median household income was estimated.

Fort Yukon's small population size may have prevented the ACS from accurately portraying economic conditions.[186] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development.[187] According to the ALARI database, residents earned $6.96 million in total wages in 2010.[188] When paired with the 2010 Decennial Census population, the per capita income is $11,943, which was significantly less than the 2010 ACS estimate and suggests that caution is warranted when citing an increase in per capita income in Fort Yukon based on ACS data.

Fort Yukon's economy was relatively diverse in 2010. By industry, most (33.5%) employed residents were estimated to work in public administration sectors; followed by education services, health care, and social assistance sectors (26.9%); and construction sectors (10.8%) (Figure 3). Compared with 2000, significant proportional increases occurred in construction, transportation, warehousing, and utilities sectors. However, there was a significant

[184] 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.

[185] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

[186] 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.

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

[188] See footnote 183.

drop in the percentage of the workforce estimated to be employed in agriculture, forestry, fishing, hunting, and mining sectors from 4.2% in 2000, to an estimated 0.0% in 2010.

By occupation type, most (35.4%) employed residents were estimated to hold management or professional positions in 2010; followed by natural resources, construction, or maintenance positions (29.2%); sales or office positions (14.2%); service positions (13.7%); and production, transportation, and material moving positions (7.5%) (Figure 4). Compared to 2000, significant proportional decreases occurred in sales and office occupations, and significant proportional increases occurred in natural resource, construction, and maintenance occupations. According to ALARI estimates, in 2010, residents were mostly employed as construction workers (20.3%), laborers and freight, stock, and material movers (17.8%), and teachers (14.5%).[189]

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

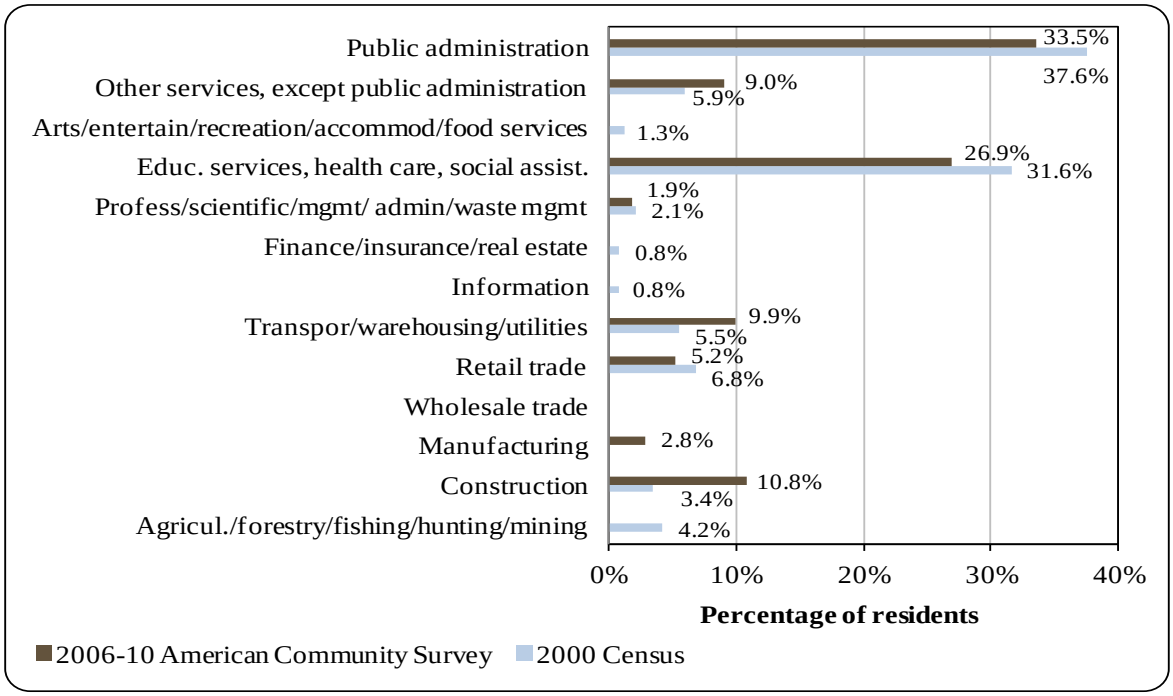
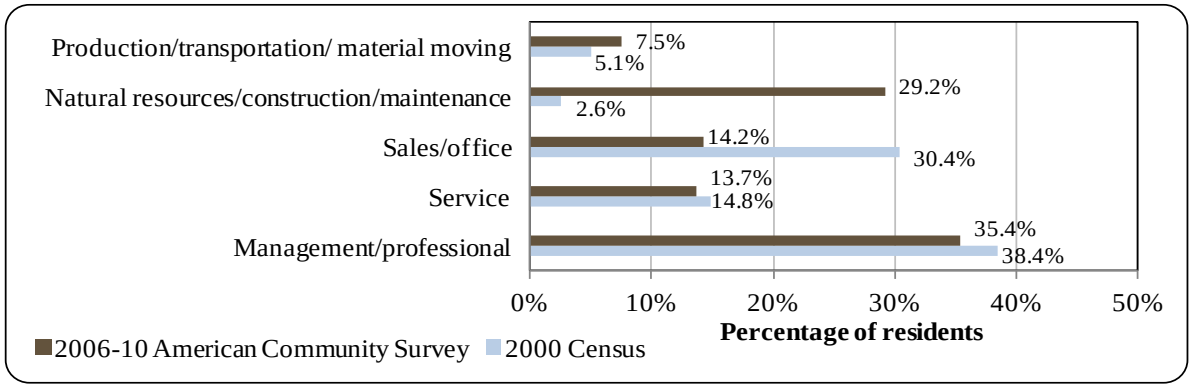


Figure 4. Local Employment by Occupation in 2000-2010, Fort Yukon (U.S. Census).



[189] Ibid.

Governance

Fort Yukon is a 2nd Class City governed by a manager, or "Strong Mayor", form of government. There are seven city council members including the Mayor, seven school board members, and five municipal employees. The City administers a 3% sales tax. It was incorporated in 1959 and is not located in an organized borough.[190] The total municipal revenue increased over the decade, from $1.8 million in 2000 to $2.6 million in 2010. In addition to sales tax revenues, other locally-generated income sources in Fort Yukon during the 2000-2010 period included charges for city services such as water and sewer, construction, and the liquor store, rental revenue, gaming proceeds, and investment earnings. Outside revenue sources included various sources of shared revenue from the State of Alaska as well as state and federal grants. Shared revenue programs State Revenue Sharing (2000-2003) and Community Revenue Sharing (2010 and 2009). Although sizeable intergovernmental grant funding was received in Fort Yukon each year, none were reported to be fisheries-related. See Table 2 below for more details on selected revenue streams for Fort Yukon from 2000 to 2010.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Fort Yukon 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	$1,753,370	$102,733	$16,220	n/a
2001	$1,740,886	$100,048	$19,768	n/a
2002	$1,669,725	$115,408	$19,825	n/a
2003	$1,630,250	$99,279	$10,000	n/a
2004	$1,605,794	$113,899	$40,000	n/a
2005	$2,106,972	$130,162	n/a	n/a
2006	$2,211,445	$131,094	n/a	n/a
2007	$2,590,947	$98,715	n/a	n/a
2008	$2,642,001	$104,104	n/a	n/a
2009	$2,446,426	$140,318	$126,457	n/a
2010	$2,556,682	$143,316	$125,945	n/a

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

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

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

[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.

[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

[190] 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.

Fort Yukon was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Gwichyaa Zhee Gwitch'in Tribe (formerly known as the Gwichyaa Zhee Gwitch'in Tribe).[191] The local village Native corporation is Gwichyaa Zhee Corporation, which manages 214,479 acres of land. The regional Native corporation to which Fort Yukon belongs is Doyon, Limited. In addition, offices of the Canyon Village Traditional Council and the Council of Athabascan Tribal Governments, Incorporated are located in Fort Yukon. The Canyon Village Traditional Council was included under ANSCA, but has not yet received a land conveyance.[192]

The Gwichyaa Zhee Gwitch'in Tribe and Canyon Village Traditional Council are both members of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit profides health and tribal development services, as well as educational and employment services to individuals of member tribes.[193] The Tanana Chiefs Conference is one of the 12 regional Alaska Native non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[194] In addition, Both Gwichyaa Zhee and Canyon Village Tribal Councils are members of the Council of Athabascan Tribal Governments (CATG), a grassroots organization founded in 1985 to promote tribal self-governance. CATG provides health and education services to communities, and its Natural Resources Department manages "self-governance Annual Funding Agreements" with the U.S. Fish and Wildlife Service and U.S. Bureau of Land Management.[195]

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

Infrastructure

Connectivity and Transportation

Fort Yukon is accessible by air year-round and by barge on the Yukon and Porcupine Rivers during the summer months. Heavy cargo is brought in by barge from the end of May through mid-September. There is a barge off-loading area but no dock. Riverboats and skiffs are used for recreation, hunting, fishing, and other subsistence activities. A state-owned 5,810 foot

[191] Gwichyaa Zhee Gwitch'in Tribal Government (2010). *Welcome to the Gwichyaa Zhee Gwitch'in Tribal Government*. Retrieved November 1, 2012 from http://www.fortyukon.org/index.html.
[192] See footnote 190.
[193] Tanana Chiefs Conference (2007). *History*. Retrieved January 9, 2012 from http://www.tananachiefs.org/.
[194] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[195] Council of Athabascan Tribal Governments (Spring 2012). *Unity Newsletter*. Retrieved November 1, 2012 from http://www.catg.org/UNITY/Unity-2012-Spring.pdf.

long by 150 foot wide lighted gravel airstrip is available.[196] As of June 2012, roundtrip airfare from Anchorage to Fort Yukon costs $599.[197] Hospital Lake, adjacent to the airport, is used by floatplanes. There are 17 miles of local roads and over 100 automobiles and trucks. The city transit bus system provides transport throughout the town. Snowmobiles and dog sleds are used on area trails or the frozen river, which becomes an ice road to nearby villages during winter.[198]

Facilities

Electricity in Fort Yukon is provided by Gwitchyaa Zhee Utilities, which is operated by the Village corporation. Water is derived from two wells and is treated and stored in a 110,000-gallon tank. A combination of piped water, water delivery, and individual wells serve households. A flush/haul system, septic tanks, honey buckets, and outhouses are used for sewage disposal. Approximately half of all homes are plumbed. The piped water system and household septic tanks were installed in 1984. The Bureau of Land Management (BLM) operates an emergency firefighting base at the airport and the U.S. Air Force operates a White Alice Communications System in Fort Yukon. The City also has a youth center and a community center gym. In addition, a tribal council hall is under construction. The City maintains its own police force, fire department, and has an Emergency Medical Services (EMS) and Rescue Squad.[199]

Medical Services

Medical services in Fort Yukon include the Fort Yukon Public Health Office and the Yukon Flats Health Center, both of which are operated by the Council of Athabascan Tribal Governments. The Yukon Flats Health Center is a qualified emergency care center. As an isolated town/sub-regional center, Fort Yukon is part of the Interior Emergency Medical Services Region. Emergency Services include river and air access and are within 30 minutes of a higher-level satellite health care facility. Emergency service is provided by 911 telephone service volunteers and a health aide. The nearest hospital is located in Fairbanks.

Educational Opportunities

The city of Fort Yukon has one school, which offers a pre-school through 12th grade education. As of 2011, the Fort Yukon School had 117 students and 14 teachers. In that same year, the Yukon Flats School District had a total of 7 schools, 31 teachers, and 264 students. The student/teacher ratio was 9.6, and 95% of students were Alaska Native.[200]

---

[196] 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.
[197] Airfare was calculated using lowest fare. http://www.travelocity.com (retrieved November 22, 2011).
[198] See footnote 196.
[199] Ibid.
[200] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Fishing in Fort Yukon is shaped by a deep history of salmon fishing along the Yukon River. Historically, salmon was harvested for subsistence purposes by indigenous people living along the Yukon and Tanana Rivers, as well as for food for sled dogs. The first recorded commercial harvest of salmon in the Yukon River fishery took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon River. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[201] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but low returns required restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009. A fishery disaster was declared that year.[202] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[203]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[204]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 subdistricts, and 28 statistical areas. Fort Yukon is located in the Upper Yukon Area of the Yukon Salmon Fishery, in Subdistrict 5d. Chinook, chum, and coho are the three species of salmon that have significant runs far into Interior Alaska and Canada. Fishing in the Upper Yukon Area takes place using drift gillnets and fish weirs.[205] Participation

[201] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[202] Upton, Harold F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.
[203] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster.
[204] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[205] See footnote 201.

rates by commercial fishermen on the middle and upper Yukon River have been much lower and more variable than on the lower Yukon River.[206]

The history and present involvement of Fort Yukon in commercial fishing is minimal, yet residents do engage in recreational and subsistence fishing. For example, in 2010, residents held a total of 176 sportfishing licenses and many residents were engaged in subsistence fishing, with salmon species being the most targeted for subsistence fishing, with 174 subsistence salmon permits issued in 2007 (see the *Recreational Fishing* and *Subsistence Fishing* sections of this profile). In 2010, one commercial salmon permit was issued, with one permit holder (see the *Commercial Fishing* section). In short, Fort Yukon is proof that communities of Alaska's interior rely on fishing, especially salmon resources, to thrive, even if their engagement in the commercial fishing sector is minimal.

Given that Fort Yukon is more than 400 miles from the coast, no federal fisheries regulatory areas are located within the immediate vicinity. Fort Yukon is not eligible for the Community Quota Entity program or the Community Development Quota program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Fort Yukon does not have a registered shore-side processing plant. The nearest processing plant is in Fairbanks.

Fisheries-Related Revenue

Based on the best available data and reporting system, Fort Yukon yielded no fisheries-related revenue between 2000 and 2010 (Table 3).

Commercial Fishing

While commercial salmon fishing is allowed along the entire 1,200-mile length of the mainstem Yukon River, Fort Yukon's involvement in commercial fishing is minimal. Between 2000 and 2010, one resident held one Upper Yukon salmon permit issued by the Commercial Fisheries Entry Commission (CFEC). However, that permit was not actively fished during those years. No residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits between 2000 and 2010. In addition, no residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab between 2000 and 2010. No commercial landings were reported in Fort Yukon between 2000 and 2010, nor did any residents of Fort Yukon report any commercial landings during this time period. Information regarding commercial fishing trends can be found in Tables 4 through 10.

[206] Alaska Department of Fish and Game. (n.d.). *Commercial Fisheries Overview: Yukon Management Area.* Retrieved July 31, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=commercialbyareayukon.main.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total municipal revenue[5]	*$1,753,370*	*$1,740,886*	*$1,669,725*	*$1,630,250*	*$1,605,794*	*$2,106,972*	*$2,211,445*	*$2,590,947*	*$2,642,001*	*$2,446,426*	*$2,556,682*

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

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

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

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

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

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

Table 4. Permits and Permit Holders by Species in Fort Yukon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species in Fort Yukon: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Total CFEC Permits[2]	*Permits*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
	Fished permits	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	% of permits fished	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
	Permit holders	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*

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

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

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

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

Year	Crew Licenses 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 Fort Yukon[2]	Total Net Pounds Landed in Fort Yukon[2,5]	Total Ex-Vessel Value of Landings in Fort Yukon[2,5]
2000	1	0	0	0	0	0	0	$0
2001	1	0	0	0	0	0	0	$0
2002	0	0	0	0	0	0	0	$0
2003	1	0	0	0	0	0	0	$0
2004	0	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	0	0	0	0	0	0	0	$0
2010	0	0	0	0	0	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

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

Year	Number of Halibut Quota Share 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 Fort Yukon: 2000-2010.

Year	Number of Sablefish Quota Share 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 Fort Yukon: 2000-2010.

Year	Number of Crab Quota Share 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 Fort Yukon: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, there were no active sport fish guide businesses or licensed sport fish guides present in Fort Yukon. However, a large number of Fort Yukon residents participated in sportfishing activities during this period. In 2010, a total of 176 Fort Yukon residents were issued sportfishing licenses (irrespective of point of sale), which represents approximately 30% of the population in that year. In most years between 2000 and 2010, fewer sportfishing licenses were sold in Fort Yukon than were issued to Fort Yukon residents, suggesting that some local residents travel elsewhere to undertake recreational fishing activities. Between 2000 and 2010, the number of sportfishing permits issued to Fort Yukon residents has ranged from 21 to 176, and the number of sportfishing licenses sold in the community during this same ranged from 0 to 155.

Fort Yukon is located within the Yukon River Drainage Alaska Sport Fishing Survey Area. Saltwater fishing in the region was minimal. There were no saltwater angler days fished reported in this survey area between 2004 and 2010. Between 2000 and 2004, the number of saltwater angler days fished by non-Alaska residents decreased from 81 in 2000 to 17 in 2004, but was minimal nonetheless. The number of saltwater angler days fished by Alaska residents was also minimal and was highly variable between 2000 and 2003, and there were no saltwater angler days fished by Alaska residents between 2004 and 2010. Freshwater fishing in the region was much more significant. Between 2000 and 2010, freshwater angler days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region between 2000 and 2010, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. Further information about the sportfishing sector in and near Fort Yukon is presented in Table 11.

Table 11. Sport Fishing Trends, Fort Yukon: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Fort Yukon[2]
2000	0	0	21	0
2001	0	0	96	109
2002	0	0	107	93
2003	0	0	122	103
2004	0	0	69	72
2005	0	0	74	82
2006	0	0	85	69
2007	0	0	153	120
2008	0	0	158	127
2009	0	0	164	155
2010	0	0	176	148

Table 11. Cont. Sport Fishing Trends, Fort Yukon: 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	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence fishing by residents of Fort Yukon is heavily focused on salmon on the Yukon River, and non-salmon fish also play an important role. Summer salmon subsistence activities are usually in full swing by June and early July as Chinook salmon begin to arrive and are harvested using set gill nets and fish wheels. The Chinook salmon run is followed by the chum salmon in mid-August. Northern pike and Arctic grayling are harvested with rod and reel, while sheefish are harvested in nets along with salmon. Fish wheels are used mainly in the late summer and fall for the late chum run, whereas nets are preferred for Chinook salmon. Freshwater fish species continue to be harvested throughout the winter. Along with the species noted above, common freshwater fish species utilized by Fort Yukon residents include several species of whitefish, cisco, burbot, and longnose sucker.[207]

Limited information is available from ADF&G regarding the participation of Fort Yukon households in subsistence harvest: 29% of households were estimated to participate in subsistence harvest of non-salmon fish in 2005, but no estimates were available regarding other

[207] Sumida, V. A., and D. B. Anderson,. (1990). P*atterns of Fish and Wildlife Harvest for Subsistence in Fort Yukon, Alaska.* Alaska Dept. of Fish and Game Technical Paper No. 179. Retrieved November 1, 2012 from http://www.arlis.org/docs/vol1/A/31109074.pdf.

subsistence resources (Table 12). However, detailed information is available regarding subsistence harvest of salmon. Between 2000 and 2008, the number of subsistence salmon permits issued to Fort Yukon households ranged from 151 to 174. In 2008, the year for which the most recent data were available, Fort Yukon residents were estimated to have harvested 1,991 Chinook salmon, 14,482 chum salmon, 1,618 coho salmon, and 196 pink salmon, compared to 2000 when 976 Chinook salmon, 331 chum salmon, 120 coho salmon, and four sockeye salmon were harvested (Table 13).

According to ADF&G *Community Subsistence Information System* (CSIS) data, Fort Yukon residents have historically harvested or used non-salmon fish species including burbot, cisco, Dolly Varden, Arctic grayling, whitefish, trout, lamprey, northern pike, sheefish, and longnose sucker. The only official documentation of harvests of these species between 2000 and 2010, however, was in 2005, when harvest of almost 16,000 lbs of non-salmon fish was reported (Table 13).

No data were reported by management agencies regarding subsistence harvest of halibut (Table 14) or marine mammal species (Table 15) during the 2000-2010 period.

Additional Information

Fort Yukon is situated 8 miles north of the Arctic Circle, and is home to the largest Athabascan Village in the Interior. Many Native residents belong to the Gwich'in Indian Tribe. Fort Yukon rests on the most northern point of the Yukon River and visitors can find air services and tours to the Arctic Circle.

Table 12. Subsistence Participation by Household and Species, Fort Yukon: 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	29%	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, Fort Yukon: 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	171	28	976	331	120	n/a	4	n/a	n/a
2001	174	46	2,361	2,498	972	n/a	69	n/a	n/a
2002	166	47	2,348	5,355	14	n/a	n/a	n/a	n/a
2003	164	56	4,004	10,137	244	n/a	n/a	n/a	n/a
2004	161	45	4,430	8,489	19	n/a	n/a	n/a	n/a
2005	151	57	3,591	8,155	394	n/a	n/a	n/a	15,954
2006	152	47	3,144	7,343	35	n/a	n/a	n/a	n/a
2007	152	47	3,144	7,343	35	n/a	n/a	n/a	n/a
2008	174	71	1,991	14,482	1,618	196	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, Fort Yukon: 2003-2010.

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

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

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

Table 15. Subsistence Harvests of Marine Mammal Resources, Fort Yukon: 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

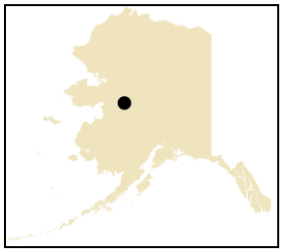
Note: n/a indicates that no data were reported for that year.

[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.

Galena (guh-LEE-nuh)



People and Place

Location[208]

Galena is located on the north bank of the Yukon River, 45 miles east of Nulato and 270 air miles west of Fairbanks. It lies northeast of the Innoko National Wildlife Refuge. Galena is located in the Yukon-Koyukuk Census Area and the Nulato Recording District. The City encompasses 17.9 square miles of land and 6.1 square miles of water.

Demographic Profile[209]

In 2010, there were 470 residents in Galena, ranking it the 126th largest community in Alaska. Overall, between 1990 and 2000, the population has decreased by 43.6%. Between 2000 and 2009, the population decreased by 16.4% with an average annual growth rate of -2.36%, which was well under the statewide average of 0.75% growth. Information regarding population trends can be found in Table 1. In 2010, the majority of Galena residents identified themselves as American Indian and Alaska Native (63.6%), with 29.4% identifying themselves as White, 6.2% identifying themselves as of two or more races, 2.3% identified themselves as Hispanic or Latino, 0.6% identified themselves as Asian, and 0.2% identified themselves as of some other race. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Galena was 2.47. Also in 2010, there were a total of 190 occupied housing units, a slight decrease compared to 216 in 2000. Of those households surveyed in 2010, 51.1% were owner-occupied and 20.8% were renter-occupied. In that same year, 28.0% were vacant, compared to 16.6% in 2000. There were no residents living in group quarters in 2010, compared to 63 in 2000.

In 2010, the gender makeup in Galena was 51.2% male and 48.7% female, very similar to the state as a whole (52% male, 48% female). The median age was estimated to be 36.8 years, the same as the U.S. national average of 36.8 years and higher than the median age for Alaska, 33.8 years. The overall population structure of Galena in 2000 and 2010 is shown in Figure 2. In 2010, there was a relatively even spread of males and females across each age category, though the 50 to 59 age groups show the greatest difference in the spread of males and females. For example, in 2010, the 50 to 59 age group was 5.5% males and 8.7% females. This represents a significant change from the population structure in 2000, when there were more males in the population than females in all age categories. In addition, the percentage of the population that was age 60 or older more than doubled between 2000 (6.4%) and 2010 (14.8%).

---

[208] 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.

[209] 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.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[210] estimated that 86.8% of Galena 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, 5.3% of residents aged 25 and older were estimated to have less than a 9th grade education, compared to 3.5% of Alaska residents overall; 7.9% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaska residents overall; 25.7% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 3.9% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 10.2% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 12.2% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	833	-
2000	675	-
2001	-	674
2002	-	698
2003	-	717
2004	-	691
2005	-	654
2006	-	636
2007	-	607
2008	-	581
2009	-	564
2010	470	-

[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.

[210] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

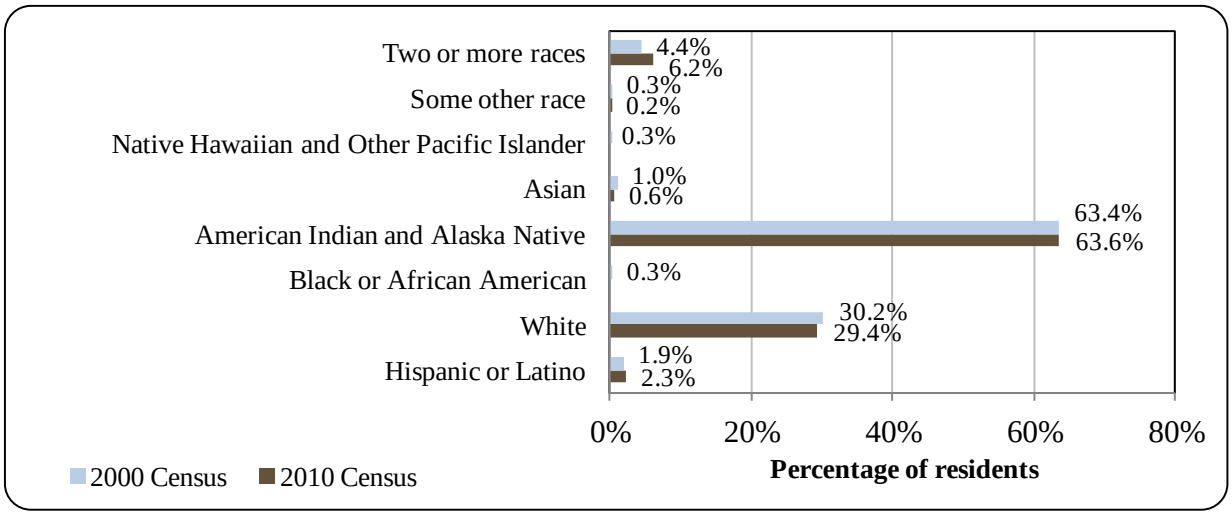
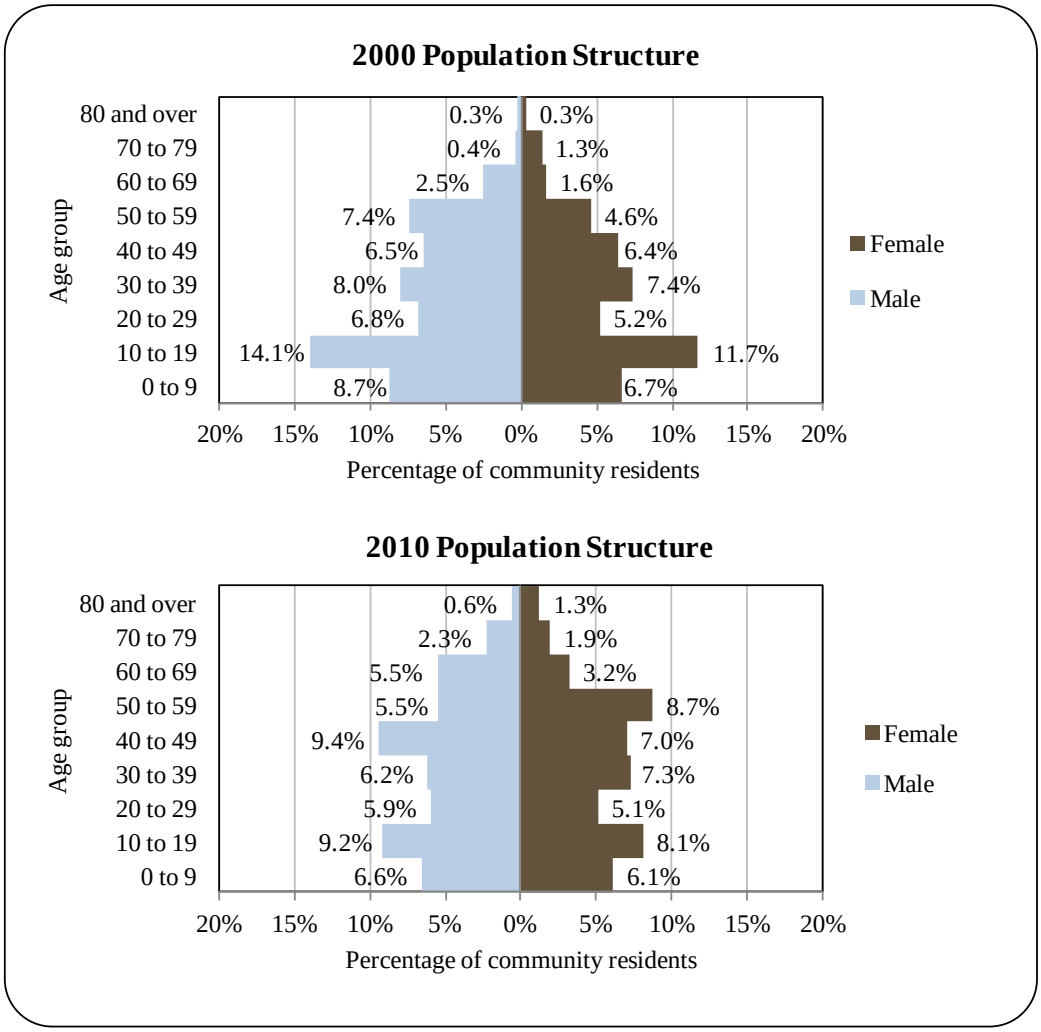


Figure 2. Population Age Structure in Galena Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture[211]

The Native peoples who have occupied the interior areas of Alaska have historically been the Athabascan peoples whose prototype language was likely present in interior Alaska and the Yukon by at least 6000 B.C.[212] The Koyukon Athabascans had spring, summer, fall, and winter camps throughout the Galena area as they followed wild game migrations. Twelve distinct summer fish camps have historically been situated on the Yukon River between the Koyukuk River and the Nowitna River. In 1918, Galena was established near an Athabascan fish camp named Henry's Point. Lead ore mines were located nearby the community and Galena became a supply and trans-shipment point for the mines. Athabascans from the nearby community of Louden, located 14 miles north, began moving to Galena in 1920 to work hauling freight for the mines or to sell wood. Many of Galena's current residents were originally from Louden or are descendants of Louden inhabitants.

In the mid-1920s a school was built in Galena, and a post office opened in 1932. In 1941-1942, during World War II, a military air field was built adjacent to the civilian airport, and the two facilities shared the runway and flight line facilities. This air field was designated Galena Air Force Station shortly after the split of the U. S. Air Force from the U. S. Army, which occurred as a result of the National Security Act of 1947. During the 1950s, the construction of additional military facilities at Galena and the nearby Campion Air Force Station, in support of Galena's mission as a forward operating base under the auspices of the 5072nd Air Base Group, headquartered at Elmendorf Air Force Base, near Anchorage, provided improvements to the airport and the local infrastructure, causing economic growth for the area.

In 1971, the year Galena was incorporated, another severe flood occurred which caused the community to move to Alexander Lake, approximately 1.5 miles east of the original site. At "New Town," the name for the new location, a city government was formed and new houses, schools, and facilities were built. During the mid 1970s the City established the Alexander Lake Subdivision and sold lots to the public. By 1978, a number of homes, a new medical clinic and high school were constructed in the new subdivision.

In the 1980s, the City installed a piped water and sewer system, cable television became available, and the State began a major river bank erosion project. It was also during this time that the U.S. Fish and Wildlife Service located refuge management staff in the community.[213]

In 1993, the Air Force Station in Galena closed and the former military facilities are currently used by the Galena School District as a boarding school. These facilities are maintained under contract by Chugach Development Corporation.

Today, Galena's population is mixed Athabascan and other non-Native Alaskan. Traditional festivals attract visitors from other river villages.

[211] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved March 26, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[212] National Park Service (n.d.). *Archaeology of the Tundra and Arctic Alaska.* Retrieved March 17, 2012, from http://www.nps.gov/akso/akarc/arctiv.htm
[213] City of Galena (1999). *Galena Comprehensive Plan, 1998 Update*. Prepared by University of Washington, Department of Urban Design and Planning, January 1999.

Natural Resources and Environment

The community of Galena is located on the north bank of the Yukon River in an area known as the Koyukuk flats region, an extensive lowland covering about 4,000 square miles at the conflux of the Yukon and Koyukuk Rivers. One characteristic of these lowlands is the numerous thaw lakes, or lakes formed by water that melts on top of permafrost, and dry lakes. The dry lakes are well drained soils, without permafrost. The vegetation of the region is, for the most part, a typical boreal forest, which includes black spruce bogs that have poorly drained soils, low brush bog comprised of tamarack, rose, grasses, sedges, rushes, fireweed, berries, mosses, and lichens, and stands of cottonwood and white spruce. This diversity has resulted in intermittent permafrost. [214]

The Northern Unit of the Innoko National Wildlife Refuge (NWR; known locally as the Kaiyuh Flats) encompasses 750,800 acres. Located south of the Yukon River, its northeastern boundary is directly across the river from Galena. Established by the Alaska National Interest Lands Conservation Act in 1980, the Innoko NWR is meant to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, waterfowl, peregrine falcons, other migratory birds, black bear, moose, furbearers, and other mammals and salmon.[215] Galena is also headquarters for the Koyukuk NWR, which was also established in 1980. The Koyukuk NWR is home to a wide variety of birds, mammals and fish of the boreal forest. Thousands of waterfowl, primarily wigeon, pintail, scaup, white-fronted geese and Canada geese are joined by both trumpeter and tundra swan on the Koyukuk's lush breeding grounds each spring. Streams and lakes in the Koyukuk NWR also sustain large fish populations that support subsistence, commercial and sport fisheries. Chinook, coho and chum salmon migrate up the waters of the Yukon River and its tributaries, including the Koyukuk River. Resident fish, such as the predatory northern pike, spend their entire lives in refuge waters. The Koyukuk NWR's mosaic of forests, woodlands, tundra and grasslands are home to many northern mammals, from majestic moose to tiny shrews and voles. More than 140 bird species, 30 mammal species, and 14 fish species occur within the Koyukuk NWR.[216]

Lead and gold mining has played a signiciant role in Galena's social and environmental history. In fact, some residents of Galena worked at the Illinois Creek gold mine, which opened in 1997 and is 50 miles southwest of Galena, until it closed in 2005. According to the Alaska Department of Natural Resources and Division of Geological and Geophysical Surveys, there are no mineral deposits currently being mined in Galena.[217]

The area around Galena experiences a cold, continental climate with extreme temperature differences. The average daily high temperature during July is in the low 70s; the average daily low temperature during January ranges from 10 to below 0 °F. Sustained temperatures of -40 °F are common during winter. Extreme temperatures have been measured from -64 to 92 °F. Annual precipitation averages 12.7 inches, with 60 inches of snowfall. The Yukon River is ice-free from

[214] Ibid.
[215] U.S. Fish and Wildlife Service (n.d.) *Innoko National Wildlife Refuge.* Retrieved August 23, 2012 from http://innoko.fws.gov/management_wilderness.htm.
[216] U.S. Fish and Wildlife Service (n.d.) *Koykuk National Wildlife Refuge.* Retrieved September 17, 2013 from http://www.fws.gov/alaska/nwr/koyukuk/wildlife.htm.
[217] Alaska Department of Natural Resources and Division of Geological and Geophysical Surveys (n.d.). *Alaska Division of Geological and Geophysical Surveys Homepage.* Retrieved August 1, 2012 from http://wwwdggs.dnr.state.ak.us/.

mid-May through mid-October. Erosion and flooding have long been environmental risks present in the community of Galena.[218]

According to the Alaska Department of Environmental Conservation, there were no notable environmental remediation sites active in 2010.[219]

Current Economy[220]

Galena serves as the transportation, government, and commercial center for the western Interior. Federal, state, city, school, and village government jobs dominate, but Galena has many other jobs in air transportation and retail businesses. In 2010, 12 residents held commercial fishing permits. Other seasonal employment, such as construction work and Bureau of Land Management firefighting, provide some income.

The 2006-2010 American Community Survey (ACS)[221] estimated that 258 residents were employed in 2010, with 72.1% of residents aged 16 years in civilian labor force in 2010. In that year, unemployment was estimated at 5.1%, compared to 5.9% statewide; and an estimated 11.2% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed in 2010, an estimated 64.0% worked in the private sector and an estimated 19.0% worked in the public sector and 0.0% of residents were self-employed.

In 2010, the estimated per capita income was $25,994 and the estimated median household income was $56,250, compared to $22,143 and $61,125 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,[222] the real per capita income ($29,118) and real median household income ($80,379) indicate that both individual earnings and household earnings increased. In 2010, Galena ranked 96th of 305 communities for which per capita income was estimated, and 94th of 299 communities for which median household income was estimated.

However, Galena's small population size may have prevented the ACS from accurately portraying economic conditions.[223] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development.[224]

---

[218] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved March 26, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[219] Alaska Dept. of Environmental Conservation (n.d.) Retrieved July 31, 2012 from http://dec.alaska.gov/spar/csp/list.htm.

[220] Unless otherwise noted, all monetary data are reported in nominal values.

[221] 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.

[222] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).

[223] 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.

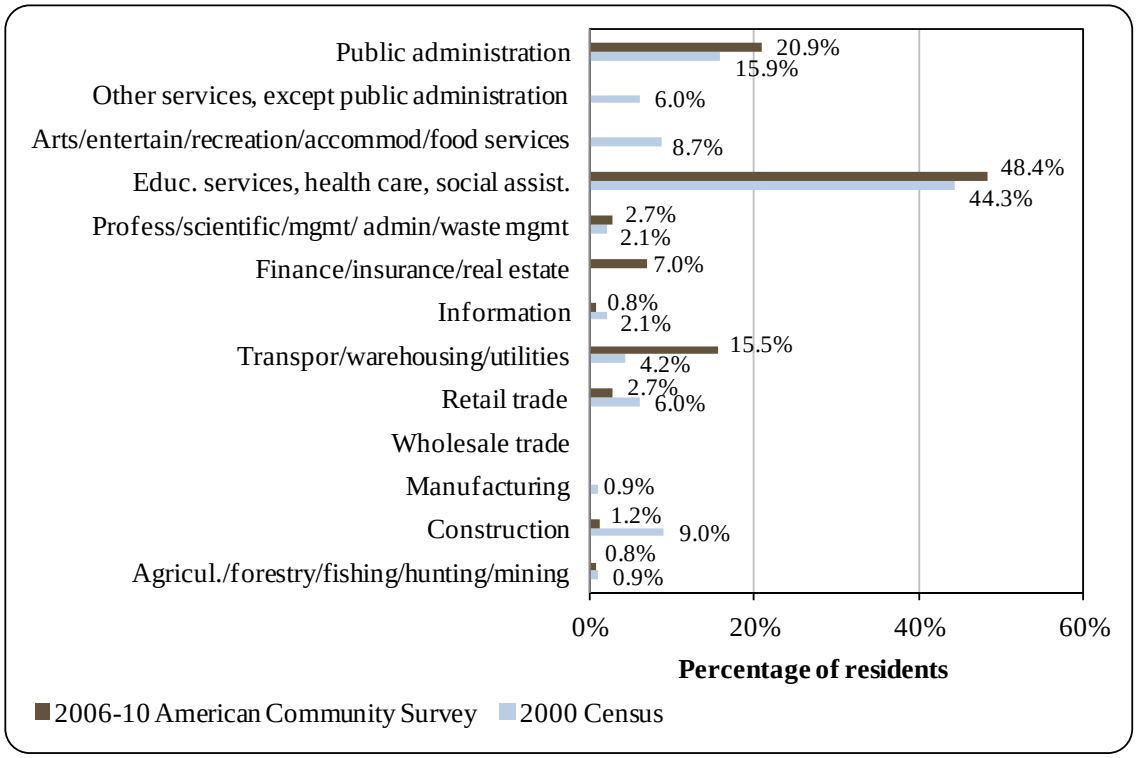
[224] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

According to the ALARI database, residents earned $8,992,335 million in total wages in 2010.[225] When paired with the 2010 Decennial Census population, the per capita income is $15,424 which was significantly less than the 2006-2010 ACS estimate and suggests that caution should be used when using ACS data.

Based on the 2006-2010 American Community Survey, by industry, most (48.4%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration sectors (20.9) and transportation, warehousing and utility sectors (15.5%) (Figure 3). Compared with 2000, significant proportional increases occurred in finance, insurance, and real estate sectors, public administration sectors, construction, transportation, warehousing, and utilities sectors, and education services, health care, and social assistance sectors. However, there was a significant drop in the percentage of those estimated to be employed in arts, entertainment, recreation, accommodation, and food service sectors from 8.7% in 2000, to an estimated 0.0% in 2010.

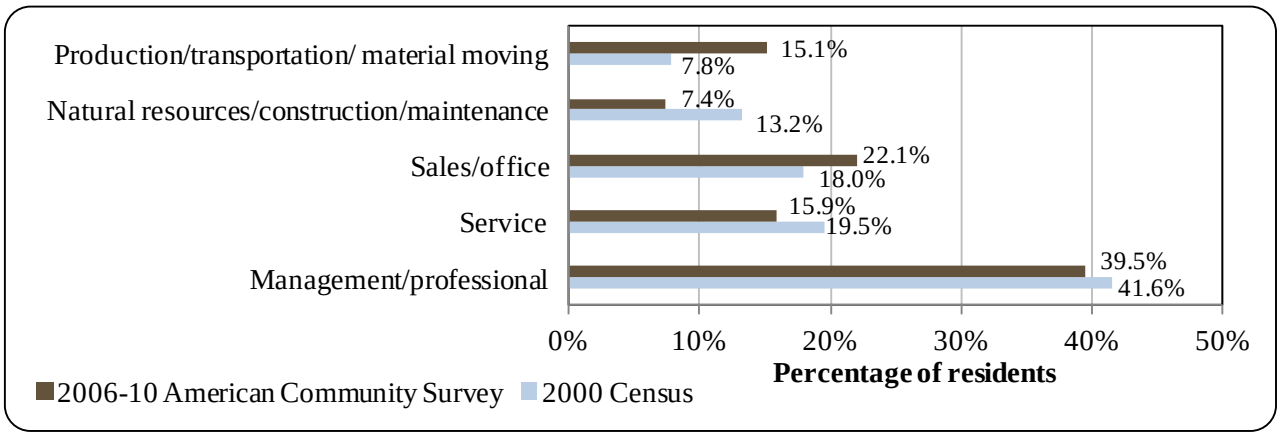
By occupation type, most (39.5%) employed residents were estimated to hold management or professional positions in 2010; followed by sales or office positions (22.1%); service positions (15.9%); production, transportation, and material moving positions (15.1%); and natural resources, construction, or maintenance positions (7.4%). Compared to 2000, significant proportional decreases occurred in natural resources, construction, or maintenance positions, and significant proportional increases occurred in production, transportation, and material moving positions. According to ALARI estimates, in 2010, trade workers, construction, workers, and state government workers made up the majority of occupations.[226]

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



[225] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database.* Retrieved August 4, 2012 from http://live.laborstats.alaska.gov/alari/
[226] Ibid.

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



Governance

Galena is a 1st Class City and was incorporated in 1971. The City has a Manager form of government with a six-person city council including the Mayor, a five-person school board, and various municipal employees. Galena is not located within an organized borough. As of 2010, the City administered a 3% sales tax and did not levy a property tax.[227] In addition to local tax revenues, locally-generated income sources in Galena between 2000 and 2010 included charges for city public utilities and other services, fines, investment income, and land sales. Outside revenue sources included various sources of shared revenue as well as state and federal grants. In the early half of the decade (2000-2003), the City received some revenue from the State Revenue Sharing program. The State Revenue Sharing program ceased in 2004 and was replaced in 2008 by the Community Revenue Sharing program. Other shared revenues came from the SAFE Communities program (utilities, infrastructure, public safety, etc.), federal Payment In Lieu of Taxes dollars, and state raw fish tax refund dollars in 2001 only (see the *Fisheries-Related Revenue* section). Municipal revenues were higher than average in 2002 as a result of over $6 Million in capital project grant funding for projects including water and sewer upgrades, a swimming pool, shop, and utilidor, the Galena Health Center, and a regional Vocational Education Center. The City also received $1.99 total fisheries-related grant funding in 2005, 2007, and 2009 to design and construct a barge dock. See Table 2 below for more details on selected municipal, state or federal revenue streams for Galena from 2000 to 2010.

Galena was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Galena Village, also known as Louden Tribal Council. The local village Native corporation is Gana-A'Yoo, which manages 115,200 acres of land. The regional Native corporation to which Galena belongs is Doyon, Limited.[228]

The Galena Village is a member of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior

[227] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved March 26, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[228] Ibid.

Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit provides health and tribal development services, as well as educational and employment services to individuals of member tribes.[229] The Tanana Chiefs Conference is one of the 12 regional Alaska Native non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.[230]

The closest office of the Alaska Department of Fish and Game (ADF&G) is located within the city of Galena. The nearest Bureau of Citizenship and Immigration Services office is located in either Anchorage or Nome. Anchorage is also home to the nearest National Marine Fisheries Service (NMFS) office.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Galena 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	$2,745,273	$104,407	$29,996	n/a
2001	$3,821,777	$156,337	$28,962	n/a
2002	$9,401,962	$150,914	$28,952	n/a
2003	$3,040,321	$123,142	$29,056	n/a
2004	$3,711,206	$140,445	n/a	n/a
2005	$3,090,406	$175,970	n/a	$300,000
2006	$3,818,030	$175,422	n/a	n/a
2007	$3,353,592	$178,361	n/a	$71,077
2008	$4,393,786	$140,755	n/a	n/a
2009	$3,814,531	$198,039	$125,588	$1,624,062
2010	$1,438,136	$187,186	$124,285	n/a

Note: n/a indicates that no data were reported for that year.
[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm. Data retrieved April 15, 2011.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at www.tax.state.ak.us. Data retrieved April 15, 2011.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved at http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm. Data retrieved April 15, 2011.

[229] Tanana Chiefs Conference (2007). *History*. Retrieved January 9, 2012 from http://www.tananachiefs.org/.
[230] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Infrastructure

Connectivity and Transportation

Galena is reachable by air, water, and land. The community functions as a regional transport center for neighboring villages. A 7,254 foot paved and lighted runway, as well as a 2,786 foot gravel ski strip next to the main runway are present in the community. The state-owned Edward G. Pitka Sr. Airport provides the only year-round access.[231] As of June 2012, roundtrip airfare from Anchorage to Galena costs $585.[232] Cargo barges are able to access the community on the river from mid-May through mid-October. A boat launch was recently completed. Locals use pickups, cars, snowmobiles, skiffs, and ATVs for transportation. The frozen rivers are used for travel during the winter to Ruby, Koyukuk, Kaltag, and Nulato. There is a winter trail to Huslia.[233]

Facilities

Electricity in Galena is provided by the City of Galena and water is derived from wells and is treated. Twenty-eight residences and the school are connected to a piped water and sewer system. One-hundred-ten households use a flush/haul system. Twenty households use honeybuckets, and others have individual septic tanks. Refuse collection and a landfill are provided by the City. The City began operating the landfill, located on the former Campion Air Force Station grounds, in 1997. There is a 200,000 gallon reservoir and a community leach field.

Medical Services

The primary medical clinic in Galena is the Edgar Nollner Health Center/Galena Public Health Office. The clinic is a qualified Emergency Care Center. X-Ray Laboratory Dental X-Ray and Dark Room are available. Galena is an isolated town/Sub-Regional Center it is found in the Interior Emergency Management Services Region. Emergency Services include limited highway river and airport access. Emergency service is provided by volunteers and a health aide. Telephone 911 service is available for response to fire only.[234]

Educational Opportunities[235]

As of 2012, the Galena City School district consisted of four schools, the Galena Interior Learning Academy (9th thru 12th grades, 183 students and 13 teachers), Interior Distance Education of Alaska (pre-school thru 12th grade, 3,626 students and 31 teachers), Sidney C. Huntington Elementary (pre-school thru 6th grade, 61 students and 8 teachers), and the Sidney C. Huntington Jr./Sr. High School (7th thru 12th grades, 50 students and 13 teachers).

---

[231] Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved March 26, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[232] Airfare was calculated using lowest fare. http://www.travelocity.com (retrieved November 22, 2011).
[233] See footnote 231.
[234] Ibid.
[235] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Galena's fishing history is tied to a deep history of salmon fishing along the Yukon River. Indigenous people living along the Yukon and Tanana Rivers have long harvested salmon for subsistence purposes. Salmon was used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon in the Alaskan portion of the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[236] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but low returns required restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009. A fishery disaster was declared that year.[237] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[238]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[239]

Some Yukon River communities have witnessed declining salmon runs and blame bycatch trends in the Bering Sea commercial fisheries. In 2008, the Yukon River Drainage Fisheries Association united key stakeholders in western Alaska to work through the North Pacific Fishery Management Council (NPFMC) toward the common goal of getting a hard cap put into place that would limit salmon bycatch in the Bering Sea/Aleutian Islands pollock fishery.[240] For several years, the Bering Sea pollock industry has been working on developing a Chinook salmon excluder device for trawl gear, which allows salmon to escape from the trawl

---

[236] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.

[237] Upton, Harold F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.

[238] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster.

[239] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.

[240] Yukon River Drainage Fisheries Association (n.d.). *What we do: Accomplishments.* Retrieved August 10, 2012 from http://www.yukonsalmon.org/whatwedo/accomplishments.htm.

net underwater, while retaining pollock. The success of such devices relies on the different swimming behaviors of pollock and Chinook salmon. Through experimental fishery permits authorized by the NPFMC and NOAA Fisheries, various iterations have been tested, and their voluntary use by pollock skippers is increasing. Recently, the Gulf of Alaska (GOA) pollock industry has begun to consider how the Bering Sea Chinook salmon excluder might be adapted for the smaller GOA pollock fleet.[241]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts and 28 statistical areas. Galena is located in the Upper Yukon Area of the Yukon salmon fishery, in District 4. Chinook, chum, and coho are the three species of salmon that have significant runs far into Interior Alaska and Canada. Fishing on the Upper Yukon takes place using drift gillnets and fish weirs.[242]

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

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, the only known fisheries-related revenue for the community of Galena was $153 from Shared Fisheries Business Tax collections (Table 3).[243]

Commercial Fishing

Between 2000 and 2010, residents held a minimal number of permits issued by the Commercial Fisheries Entry Commission (CFEC). Of those permits issued, a majority were held in the Yukon River salmon fishery. In that time period, the number of salmon CFEC permit holders ranged from 25 to 31 and there was one herring CFEC permit holder each year between 2000 and 2010. Of the salmon CFEC permits issued in 2010, the majority were using fishwheels on the upper Yukon, with the remainder using gillnets on the upper Yukon and in Kotzebue. Of the herring CFEC permits issued in 2010, residents participated in gill net fishing in Norton Sounds. No residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits between 2000 and 2010. In addition, no CFEC permits were fished between 2000 and 2004, 2007, and 2009 to 2010. Also no residents held halibut, sablefish, or crab quota shares between 2000 and 2010 (Tables 6 to 8). Finally, between 2000 and 2010, no Galena residents made commercial landings, nor earned any ex-vessel revenue (Tables 9 and 10). All data on ex-vessel revenue earned by Galena residents between 2000 and 2004, as well as 2006, is confidential, so reporting trends for these time periods is not possible.

---

[241] North Pacific Fisheries Management Council (n.d.). *Salmon Bycatch*. Retrieved August 16, 2012 from http://www.fakr.noaa.gov/npfmc/bycatch-controls/SalmonBycatch.html.
[242] See footnote 236.
[243] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Between 2000 and 2010, the number of vessels homeported has ranged from zero to five, with five in 2003, and zero in 2010. The number of vessels primarily owned by Galena residents has followed a similar trend, with five in 2003 and zero in 2010. Between 2000 and 2010 the number of crew license holders has ranged from zero to two. As of 2010, there are no fish buyers or shoreside processors in Galena. Since no fish buyers were located in Galena, there were no fish landed and no revenue earned (Table 5).

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	$153	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	n/a	*$153*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total municipal revenue[5]	*$2.7 M*	*$3.8 M*	*$9.4 M*	*$3 M*	*$3.7 M*	*$3.1 M*	*$3.8 M*	*$3.4 M*	*$4.4 M*	*$3.8 M*	*$1.4 M*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	30	30	30	29	27	26	25	25	26	26	26
	Fished permits	0	0	0	0	0	1	2	0	1	0	0
	% of permits fished	0%	0%	0%	0%	0%	4%	8%	0%	4%	0%	0%
	Total permit holders	31	31	30	29	27	26	26	25	26	26	26
Total CFEC Permits[2]	*Permits*	*31*	*31*	*31*	*30*	*28*	*27*	*26*	*26*	*27*	*27*	*27*
	Fished permits	*1*	*0*	*0*	*0*	*0*	*1*	*2*	*0*	*1*	*0*	*0*
	% of permits fished	*3%*	*0%*	*0%*	*0%*	*0%*	*4%*	*8%*	*0%*	*4%*	*0%*	*0%*
	Permit holders	*32*	*32*	*31*	*30*	*28*	*27*	*27*	*26*	*27*	*27*	*27*

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

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

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

Year	Crew Licenses 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 Galena[2]	Total Net Pounds Landed in Galena[2,5]	Total Ex-Vessel Value of Landings in Galena[2,5]
2000	2	0	0	2	3	0	0	$0
2001	0	0	0	2	3	0	0	$0
2002	0	0	0	2	3	0	0	$0
2003	1	0	0	5	5	0	0	$0
2004	1	0	0	1	2	0	0	$0
2005	1	0	0	0	1	0	0	$0
2006	1	0	0	1	1	0	0	$0
2007	0	0	0	0	1	0	0	$0
2008	2	0	0	0	1	0	0	$0
2009	0	0	0	0	1	0	0	$0
2010	0	0	0	0	0	0	0	$0

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

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

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

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

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

[5] Totals only represent non-confidential data.

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

Year	Number of Halibut Quota Share 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 Galena: 2000-2010.

Year	Number of Sablefish Quota Share 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 Galena: 2000-2010.

Year	Number of Crab Quota Share 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 Galena: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	–	–	–	–	–	0	–	0	0	0	0
Finfish	–	–	–	–	–	0	–	0	0	0	0
Halibut	–	–	–	–	–	0	–	0	0	0	0
Herring	–	–	–	–	–	0	–	0	0	0	0
Other Groundfish	–	–	–	–	–	0	–	0	0	0	0
Other Shellfish	–	–	–	–	–	0	–	0	0	0	0
Pacific Cod	–	–	–	–	–	0	–	0	0	0	0
Pollock	–	–	–	–	–	0	–	0	0	0	0
Sablefish	–	–	–	–	–	0	–	0	0	0	0
Salmon	–	–	–	–	–	0	–	0	0	0	0
Total[2]	–	–	–	–	–	*0*	–	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	–	–	–	–	–	$0	–	$0	$0	$0	$0
Finfish	–	–	–	–	–	$0	–	$0	$0	$0	$0
Halibut	–	–	–	–	–	$0	–	$0	$0	$0	$0
Herring	–	–	–	–	–	$0	–	$0	$0	$0	$0
Other Groundfish	–	–	–	–	–	$0	–	$0	$0	$0	$0
Other Shellfish	–	–	–	–	–	$0	–	$0	$0	$0	$0
Pacific Cod	–	–	–	–	–	$0	–	$0	$0	$0	$0
Pollock	–	–	–	–	–	$0	–	$0	$0	$0	$0
Sablefish	–	–	–	–	–	$0	–	$0	$0	$0	$0
Salmon	–	–	–	–	–	$0	–	$0	$0	$0	$0
Total[2]	–	–	–	–	–	*$0*	–	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses were registered in Galena. Over the same period, the number of licensed sport fish guides present in the community declined from 10 to 2. The number of sportfishing licenses sold to Galena residents (irrespective of point of sale) varied from 117 to 208 per year. Only a small number of licenses was sold in the community of Galena (zero to seven sold per year), indicating that most Galena residents travel to other communities to prepare for sportfishing activity. This may also indicate that sportfishing does not draw a large number of visitors to Galena.

Galena is located within Alaska Sport Fishing Survey Area Y – Yukon River drainages. Information is available about freshwater sportfishing activity only at this regional scale and saltwater fishing in the region was minimal given the distance of most of the Survey Area from the Bering Sea. In fact, from 2005 to 2010 no saltwater angler days were reported fished by either Alaska resident or non-Alaska resident anglers. Freshwater fishing in the region was much more significant. During the 2000-2010 period, freshwater angler days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region than non-Alaska residents, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. This information about the sportfishing sector in and near Galena is presented in Table 11.

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Galena[2]
2000	0	10	195	7
2001	0	4	186	3
2002	0	8	205	4
2003	0	8	203	4
2004	0	7	208	3
2005	0	2	166	1
2006	0	2	183	1
2007	0	3	172	1
2008	0	1	163	1
2009	0	0	138	0
2010	0	2	117	2

Table 11 cont'd. Sport Fishing Trends, Galena: 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	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Residents of Galena have been largely involved in subsistence salmon fisheries on the Yukon River. In addition to the salmon resource that is available during summer months,[244] Galena residents have historically harvested or used non-salmon species including burbot, cisco, Dolly Varden char, Arctic grayling, whitefish, trout, lamprey, northern pike, sheefish, and sucker.[245]

Based on a household subsistence survey conducted by ADF&G, in 2010, 45% of Galena households were estimated to participate in salmon subsistence, along with 20% participating in halibut subsistence, 4% in marine invertebrate subsistence, and 52% in non-salmon fish (not including halibut) subsistence. No estimate was reported that year regarding participation in marine mammal subsistence. Additional estimates were available for 2006, when 6% of Galena households participated in halibut subsistence and 16% in non-salmon fish subsistence. In 2010, per capita subsistence harvest of land and sea-based resources by Galena residents was estimated

[244] Alaska Department of Fish and Game (n.d.). *Yukon River Management: Fishing Information.* Retrieved August 8, 2010 from http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaSubsistenceYukon.fishingInfo.

[245] 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).

to be over 1,000 pounds (Table 12). Total harvest estimates of marine invertebrates and non-salmon fish in 2010 were estimated be 208 pounds and 108,780 pounds, respectively. An estimate of total non-salmon fish harvest was also available for 2006, when Galena residents reported harvest of 110,216 pounds of non-salmon fish (Table 13). It is of note that much of the subsistence harvest of whitefish is often used for dog food. As with the community of Tanana, approximately 200 miles to the east of Galena, the patterns of non-salmon fish harvest and use appear to reflect the community's focus on harvesting large quantities of fish for dog food. Whitefish species usually make up the majority of these harvests, and that these harvests are not exclusively used to feed dogs, but also provide a food source for households.[246]

Details are also available from 2000-2008 regarding subsistence salmon permits. During this period, the number of households that were issued salmon permits declined from 217 to 186, while the total number of permits returned varied between 44 and 64 per year. The primary salmon species targeted by Galena residents for subsistence were Chinook, chum, and coho. Pink and sockeye salmon were also harvested in some years during the period in small quantities. The highest volume Chinook harvest occurred in 2004, and coho salmon harvests were greatest in 2003 and 2004. The highest volume chum harvests during the 2000-2010 period occurred in 2005 (Table 13).

No Subsistence Halibut Registration Certificates (SHARC) were issued to residents of Galena between 2003 and 2010 (Table 14). In addition, no data were available from management agencies regarding marine mammal harvest was (Table 15).

[246] Brown, C., D. Koster, and P. Koontz (2010). Traditional Ecological Knowledge and the Harvest Survey of Non-salmon Fish in the Middle Yukon River Region, Alaska, 2005-2008. Technical Paper No. 358. Alaska Department of Fish and Game. Division of Subsistence.

Table 12. Subsistence Participation by Household and Species, Galena: 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	6%	n/a	n/a	16%	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	45%	20%	n/a	4%	52%	1,086

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, Galena: 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	217	59	789	1,384	71	n/a	21	n/a	n/a
2001	201	53	1,755	473	142	n/a	n/a	n/a	n/a
2002	171	54	1,525	1,061	169	50	60	n/a	n/a
2003	168	44	3,112	1,799	1,507	n/a	n/a	n/a	n/a
2004	160	45	3,296	2,369	1,307	n/a	n/a	n/a	n/a
2005	151	47	2,864	3,708	607	n/a	11	n/a	n/a
2006	155	48	2,380	2,837	137	n/a	n/a	n/a	110,216
2007	149	44	2,511	2,042	425	n/a	n/a	n/a	n/a
2008	186	64	2,233	2,122	558	31	29	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	208	108,780

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, Galena: 2003-2010.

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

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

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

Grayling (*GRAY-leeng*)

People and Place

Location [247]

Grayling is located in Interior Alaska on the west bank of the Yukon River, east of the Nulato Hills. It is 18 air miles north of Anvik. Grayling is located in the Yukon-Koyukuk Census Area and the Kuskokwim Recording District. The area encompasses 10.9 square miles of land and 0.1 square miles of water.

Demographic Profile [248]

In 2010, there were 194 residents in Grayling, making it the 195th largest of 352 communities in Alaska with recorded populations that year. Between 1990 and 2000, the population decreased by 6.7%. According to Alaska Department of Labor estimates, the population continued to decline after 2000, with a low of 152 permanent residents recorded in 2008. However, the population appeared to increase again after 2008, returning to 2000 levels by 2010 (Table 1). According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that a small number of seasonal workers or transients are present each year in Grayling (10 individuals) during summer months. They also indicated that the annual population peak in June and July is mostly driven by employment in commercial and subsistence fishing.

In 2010, the majority of Grayling residents identified themselves as American Indian and Alaska Native (87.1%), compared to 88.1% in 2000; 6.7% identified themselves as White in 2010, compared to 7.2% in 2000; 6.2% identified themselves as of two or more races in 2010, compared to 4.1% in 2000; 0.0% identified themselves as Hispanic or Latino, compared to 1.0% in 2000; and for both 2000 and 2010, 0.0% of residents identified themselves as Asian, Native Hawaiian and Other Pacific Islander, Black or African American, or of some other race. Further information regarding trends in racial and ethnic composition from 2000 to 2010 can be found in Figure 1.

The number of households in Grayling increased between 1990 and 2010, from 51 occupied housing units in 1990 and 2000 to 55 in 2010. The population decline can be observed in the declining size of these households, from 4 persons per household in 1990 to 3.8 in 2000, and 3.53 in 2010. Of the 63 housing units surveyed in 2010, 57.1% were owner-occupied, 30.2% were rented, and 12.7% were vacant. No Grayling residents were reported to be living in group quarters between 1990 and 2010.

[247] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved January 17, 2012 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

[248] 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.

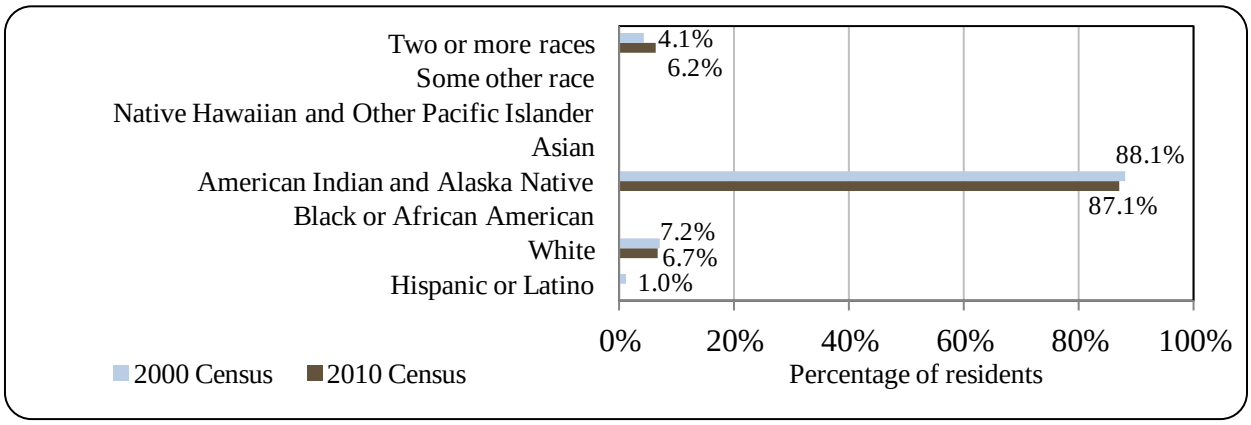
Table 1. Population in Grayling from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	208	-
2000	194	-
2001	-	202
2002	-	188
2003	-	162
2004	-	182
2005	-	171
2006	-	173
2007	-	164
2008	-	152
2009	-	177
2010	194	-

[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.

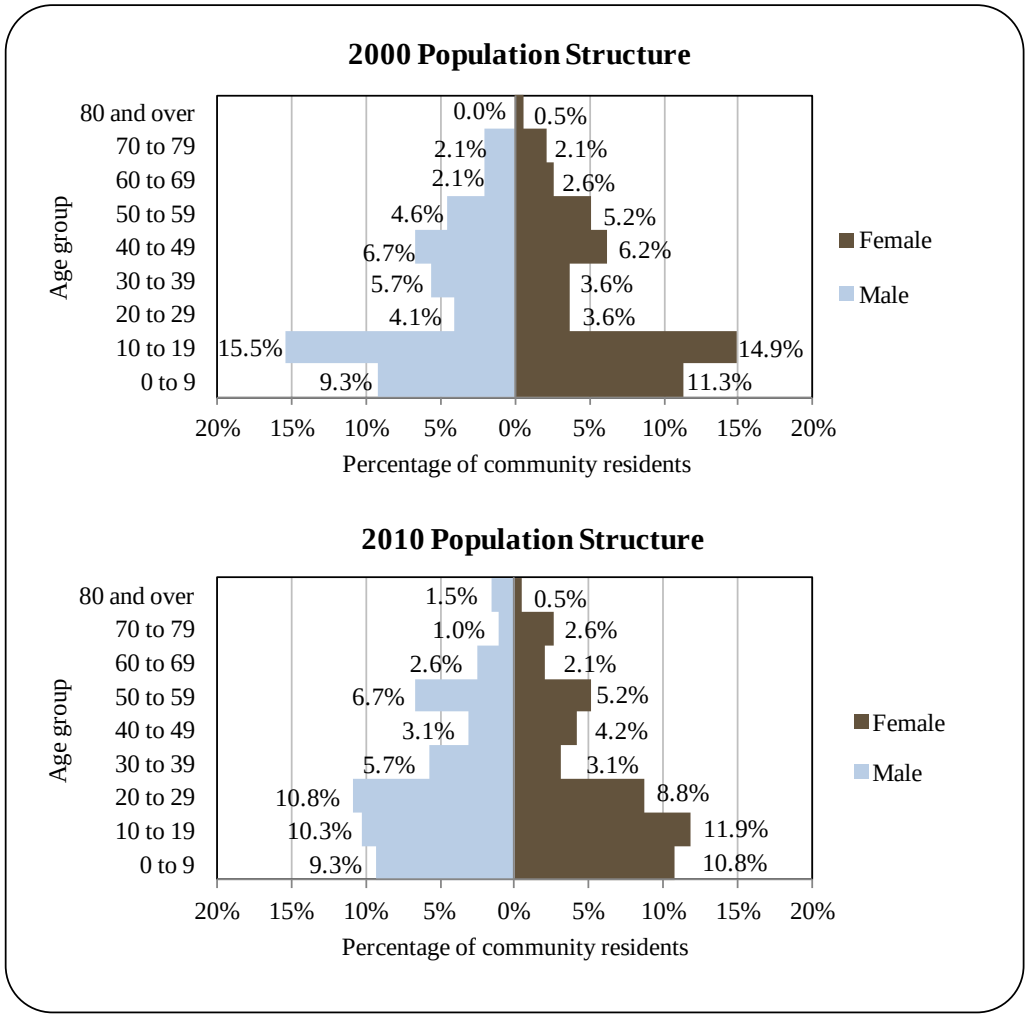
[2] Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

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



In 2010, the gender makeup in Grayling was 51% male and 48.9% female, similar to the gender distribution of the State as a whole (52% male, 48% female). That year, the median age was estimated to be 23.4 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, a smaller percentage of Grayling residents were under the age of 20 (42.3%) compared to 51% in 2000, and a higher percentage was age 60 or older (10.3%) compared to 9.3% in 2000. The overall population structure of Grayling in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Grayling 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)[249] estimated that 54.4% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 26.7% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 18.9% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 10% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; no resident held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 3.3% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

[249] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

The Grayling area was historically used for summer fish camps by the Deg Hit'an Athabascan people of the Anvik-Shageluk area (Ingalik) as well as the Doy Hit'an Athabascan (Holikachuk) who inhabited winter villages on the Innoko River north of Shageluk.[250,251] During the summer of 1900, the steamer Nunivak stopped at Grayling and recorded 65 Native people living there. At that time, the people were suffering from epidemics of measles and influenza.[252] According to reports from the visit of the Nunivak, Grayling also had a store and a large wood yard to supply steamers at that time. Between 1962 and 1966, the inhabitants of the village of Holikachuk relocated to Grayling. Holikachuk was susceptible to spring flooding, and low water levels in the fall made the return trip from Yukon Fish camps to the winter village difficult. Today, the population of Grayling is made up of both Ingalik and Holikachuk Athabascan people. The village of Grayling is a contemporary subsistence community that maintains strong ties to its traditions. The sale of alcohol is prohibited in the community.[253]

Natural Resources and Environment

The climate of Grayling is continental, with long, cold winters and relatively warm summers. Temperature extremes range between -60 to 87 °F. Annual snowfall averages 110 inches, with 21 inches of total precipitation. The Yukon River is ice-free from June through October.[254] Low-lands along the Yukon and Innoko rivers are made up of vast marshy flatland, with some forest cover of balsam poplar, willow, and alder within active floodplains. Well drained, south-facing upland slopes host forests of white spruce, paper birch, and quaking aspen, while permafrost, stunted black spruce, and tundra is typical of the poorly drained cold soils of north-facing slopes.[255] Since Grayling is located in the Yukon River Basin, it is in a zone at risk of melting permafrost, which is expected to accelerate in the next 20 to 30 years if present warming trends continue, leading to large-scale environmental changes in the hydrology and water quality of the Yukon River and its major tributaries.[256]

Grayling is within the boundaries of the Innoko National Wildlife Refuge (NWR). One of the primary motivations for creation of the NWR was its importance as a waterfowl area in interior Alaska, noted for its wetlands that provide nesting, resting and staging areas. In addition, the NWR offers excellent raptor and moose habitat. The Innoko Refuge is made up of two units, totaling 4.6 million acres. The area was also established to fulfill treaty obligations and provide the opportunity for continued subsistence uses. Refuge lands are open to sport and subsistence hunting and fishing, as well as trapping.

---

[250] VanStone, J. (1979). "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[251] City of Anvik. (2004). *Anvik Comprehensive Community Plan*. Retrieved December 23, 2011 from: http://www.commerce.state.ak.us/dca/plans/Anvik-CP-2004.pdf.
[252] See footnote 250.
[253] 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.
[254] Ibid.
[255] Interior Rivers Resource Conservation and Development Council. (1997). *Area Plan*. Retrieved October 24, 2012 from http://www.commerce.state.ak.us/oed/.
[256] Hooper, R. P. (2003). Introduction. *Water and Sediment Quality in the Yukon River Basin, Alaska During Water Year 2001*. Paul F. Schuster , ed. U.S. Geological Survey. Open-File Report 03-427.

Local terrestrial wildlife includes moose, bear, wolves, lynx, wolverine, river otter, beaver, porcupine, caribou, snowshoe hare, red fox, red squirrel, marten, muskrat, weasel, mink, shrews, voles, and mice.[257] Anadromous fish species found in the Grayling area include all five Pacific salmon species, Arctic lamprey, smelt, Arctic cisco, and additional freshwater species include northern pike, blackfish, stickleback, burbot and five species of whitefish.[258] Edible and useful plants include cranberries, blueberries, salmon or cloud berries, rose hips, Indian potatoes, wild celery, wild onion, wild rhubarb, and sour dock.[259]

The Yukon-Kuskokwim delta is rich in mineral deposits. Gold was discovered in the Klondike area of the upper Yukon River in 1896, and prospectors began searching closer to Grayling – along the Innoko River – in 1898. Commercial quantities of gold were discovered in the Innoko Valley in 1906.[260] As of 2010, the Iditarod and Innoko mining districts have produced more than 2.3 million ounces of gold.[261] Currently, a large-scale gold operation is being developed by Donlin Gold north of Crooked Creek, to the southeast of Grayling. The mine is projected to operate for 25 years, with over 33 million ounces of gold speculated to be in the area.[262] Additional mineral deposits in the region include Wolf Creek Mountain mercury/antimony deposit and Stuyahok and Arnold Kako gold deposits to the southwest, and McLeod copper/molybdenum deposits to the northeast.[263]

Natural hazard risks in the Yukon-Koyukuk Census Area include flooding, wildfire, earthquakes, snow and avalanche, severe weather, landslides and erosion. Shallow earthquakes in the region would be considered 'intraplate' earthquakes, which can have a magnitude of up to 7.0 on the Richter scale.[264]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Grayling as of October, 2012.[265]

Current Economy[266]

Grayling has a mixed cash and subsistence economy. Subsistence is the dominant livelihood for many residents, including subsistence fishing, hunting, trapping, and berry picking. Important subsistence resources for Grayling residents include salmon, moose, black bear, small game, and waterfowl. Most wage employment is found through seasonal work.[267] Some residents are also involved in commercial fisheries. According to the 2011 AFSC survey,

---

[257] U.S. Fish and Wildlife Service. (2010). *Innoko National Wildlife Refuge*. Retrieved October 4, 2011 from http://innoko.fws.gov/.
[258] See footnote 255.
[259] See footnote 251.
[260] See footnote 250.
[261] Szumigala, D.J., L.A. Harbo, and J.N. Adleman. (2010). *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[262] Donlin Gold. (n.d.) *Homepage.* Retrieved December 27, 2011 from: http://www.donlingold.com/
[263] Alaska Dept. of Comm. (n.d.). *Mineral Resources of Alaska.* Retrieved December 21, 2011 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm
[264] 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.
[265] Alaska Dept. of Environmental Conservation. (2012). *List of Contaminated Site Summaries By Region*. Retrieved October 24, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[266] Unless otherwise noted, all monetary data are reported in nominal values.
[267] See footnote 253.

community leaders reported that commercial and subsistence fishing are the most important natural resource-based industries in Grayling. They indicated that a new commercial fishery for Arctic lamprey (eel) began in 2003, and also expressed the hope that new commercial fishing opportunities will be developed in the region (see *History and Evolution of Fisheries* section).

Based on household surveys for the 2006-2010 ACS,[268] in 2010, the per capita income in Grayling was estimated to be $8,138 and the median household income was estimated to be $32,656. This represents an increase from the per capita and median household incomes reported in the year 2000 ($7,049 and $21,875, respectively). However, if inflation is taken into account by converting the 2000 values to 2010 dollars,[269] the real per capita income estimate in 2010 is shown to be $9,269, slightly lower than the 2000 figure. The real median household income estimate is $28,765, still lower than the 2006-2010 ACS estimates for 2010. In 2010, Grayling ranked 293rd of 305 Alaskan communities with per capita income data that year, and 231st in median household income, out of 299 Alaskan communities with household income data.

Grayling's small population size may have prevented the ACS from accurately portraying economic conditions.[270] However, additional evidence for a decrease in per capita income between 2000 and 2010 is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Grayling in 2010 is $5,369.[271,272] The relatively low per capita income estimates for Grayling in 2010 from both data sources are reflected in the fact that the community was recognized as "distressed" by the Denali Commission,[273] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It is important to note that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of personal use and subsistence within the local economy.

In 2010, a much smaller percentage of Grayling residents was estimated to be in the civilian labor force (36.1%) compared to the civilian labor force statewide (68.8%). In the same year, 13% of local residents were estimated to be living below the poverty line, higher than the statewide poverty rate estimate of 9.5%, and the unemployment rate was estimated to be 14.3%, more than twice the statewide unemployment rate of 5.9%.[274] An additional estimate of

---

[268] 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.

[269] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

[270] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[271] 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/.

[272] U.S. Census Bureau (2010). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

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

[274] See footnote 272.

unemployment is based on the ALARI database, which shows a local unemployment rate of 24.3%, more than twice the state rate estimate of 11.5%.[275]

Also based on the 2006-2010 ACS, three-quarters of the employed civilian workforce in Grayling was estimated to be employed in the public sector (75%), while the remaining 25% was estimated to be employed in the private sector. Out of 32 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the 62.5% worked in educational services, health care and social services, 12.5% in public administration, 9.4% in retail trade, 9.4% in finance and insurance, and real estate and rental and leasing, and 6.3% in transportation, warehousing, and utilities industries (Figure 3). Compared to employment statistics in 2000, the most notable shifts in the distribution of employment by industry included an increased concentration of employment in education services, health care, and social services and public administration industries, and an apparent disappearance of arts, entertainment, recreation, accommodation, and food services (from 11.5% of the workforce in 2000 to 0% in 2010), and agriculture, forestry, fishing, hunting, and mining industries (from 3.8% of the workforce in 2000 to 0% in 2010). It is important to note that the number of individuals employed in the fishing industry is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly.

ALARI industry employment statistics differ slightly from ACS estimates, showing the highest percentage of employed residents (66.3%), and the next highest percentage working in education and health services (10.9%). In addition, ALARI estimates show a greater diversity of employment than ACS estimates, with 8.7% of the local workforce employed in trade, transportation, and utilities industries, 3.3% in manufacturing, 3.3% in financial activities, 2.2% in natural resources and mining, 2.2% in construction, 1.1% in professional and business services, 1.1% in state government, and 1.1% in other industries.[276]

Viewing employment from the perspective of occupation, 2006-2010 ACS estimates indicate that the highest percentages of the Grayling workforce were employed in service occupations in 2010 (50%). This represents a large increase from 15.4% of the total workforce employed in service occupations in 2000. The increase in employment in natural resource/construction/maintenance occupations was also substantial, from 0% in 2000 to 15.2% in 2010. These increases were balanced by decreased percentages of the workforce employed in other occupations in 2010 compared to 2000 (Figure 4).

[275] See footnote 271.
[276] Ibid.

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

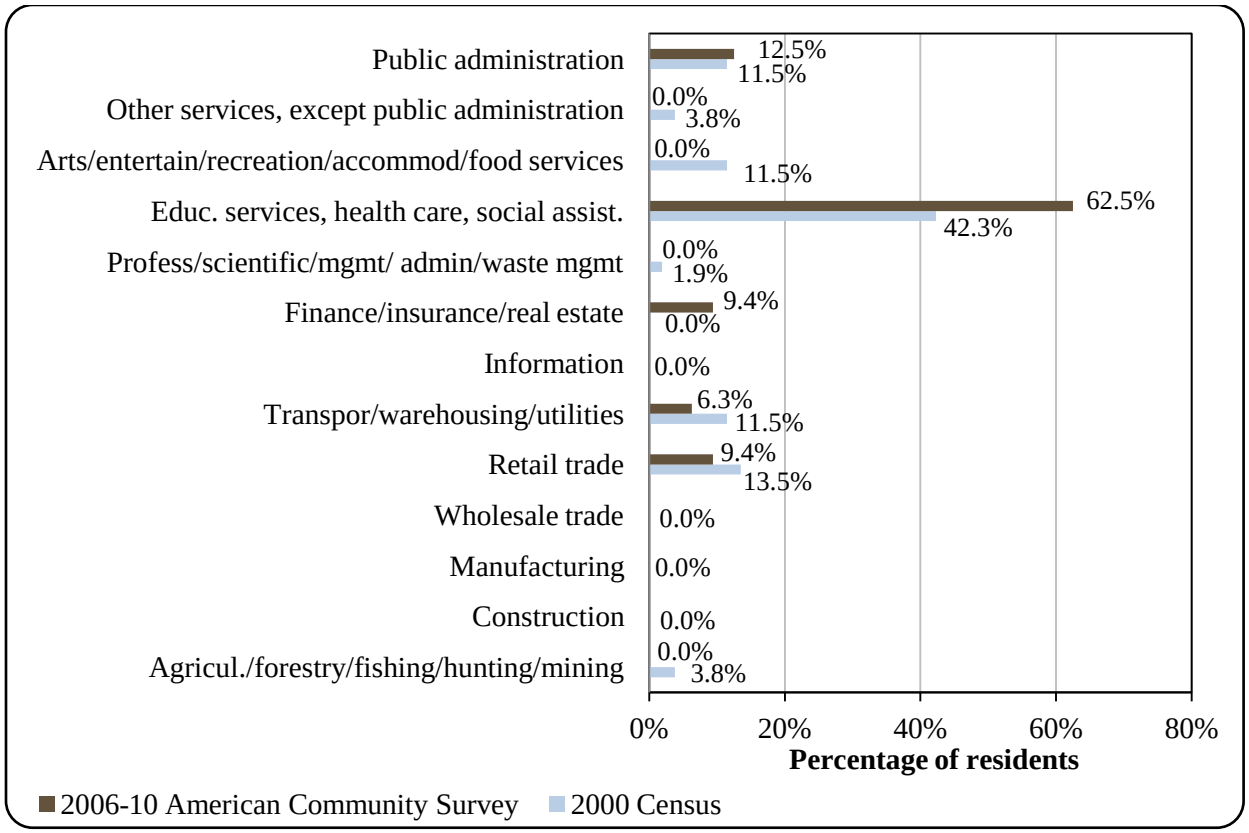
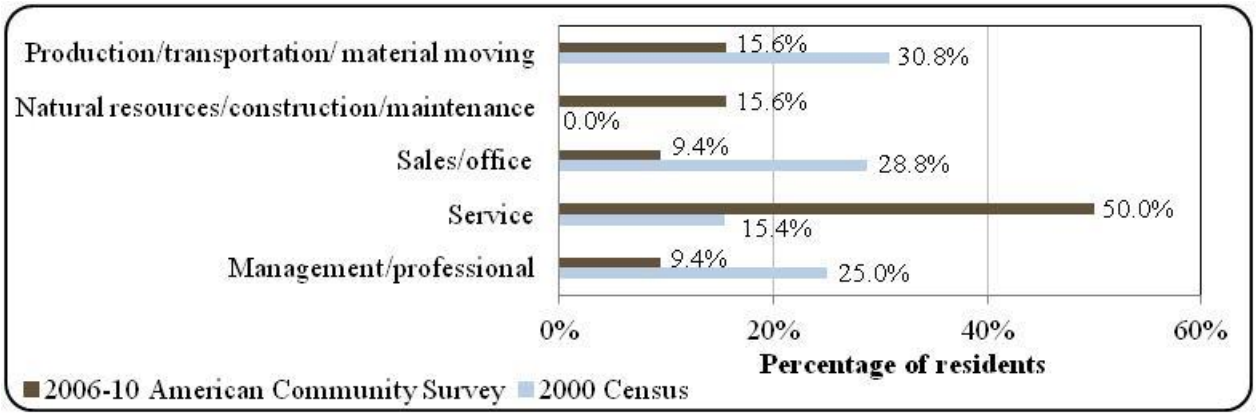


Figure 4. Local Employment by Occupation in 2000-2010, Grayling (U.S. Census).



Governance

Grayling is a 2nd Class City and is not located within and organized borough. The City was incorporated in 1969, and has a manager, or "Strong Mayor," form of government, with a seven-person city council including the Mayor, a seven-person school board, and several municipal employees. No sales or property taxes are administered by the City.[277] Locally-generated income sources during the 2000-2010 period included facilities leases, room and equipment rentals, and water, sewer, and washeteria service fees. Outside revenue sources included various shared revenues from state and federal programs, as well as capital project grants. The City received state contributions from the State Revenue Sharing program from 2000 to 2003 (approximately $25,000 per year), and contributions from the Community Revenue Sharing program in 2009 and 2010 (just over $100,000 per year), as well as telephone/electric co-op refunds and funds from the SAFE Communities program (local police, public safety, fire, and utilities funding). Grayling also received shared funds from both the state and federal Payment In Lieu of Taxes programs in some years during the 2000-2010 period. Capital/special projects grants were received toward upgrades to community facilities such as the washeteria and community hall, purchase and repair of heavy equipment, road maintenance, and other community projects. Between 2000 and 2010, no fisheries-related grants were received by the City of Grayling. This information about selected revenue streams is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Grayling 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	$107,418	n/a	$23,948	n/a
2001	$208,198	n/a	$28,000	n/a
2002	$210,440	n/a	$27,761	n/a
2003	$150,224	n/a	$27,000	n/a
2004	$124,663	n/a	n/a	n/a
2005	$72,485	n/a	n/a	n/a
2006	$128,347	n/a	n/a	n/a
2007	$123,688	n/a	n/a	n/a
2008	$202,852	n/a	n/a	n/a
2009	$145,623	n/a	$107,478	n/a
2010	$143,613	n/a	$107,886	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[277] 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.

Grayling was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Organized Village of Grayling. The Native village corporation is the Hee-Yea-Lingde Corporation, which manages 92,160 acres of land. The regional Native corporation to which Grayling belongs is Doyon, Limited.[278]

Grayling is also a member village of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit provides health and tribal development services, as well as educational and employment services to individuals of member tribes.[279] The Tanana Chiefs Conference is one of the 12 regional Alaska Native nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[280]

The closest offices of the Alaska Department of Fish and Game (ADF&G) are located in Emmonak and Bethel, although the Emmonak office is only open during the summer season. The closest office of the Alaska Department of Commerce, Community and Economic Development is also in Bethel. However, the Anchorage and Fairbanks offices of these agencies may be more accessible to people living in Grayling than the coastal villages. Anchorage has the nearest offices of the National Marine Fisheries Service (NMFS), Alaska Department of Natural Resources, and U.S. Bureau of Citizenship and Immigration Services.

Infrastructure

Connectivity and Transportation

Grayling is accessible year-round by air. The State owns and operates a 2,315 ft long by 60 ft wide gravel runway.[281] According to the 2011 AFSC survey, community leaders reported that improvements to the airport were completed within the last 10 years. As of fall, 2012, roundtrip airfare between Grayling and Anchorage was $640.[282] During summer months, the community is also accessible by water, and receives both riverboat and barge service. Residents travel between Grayling and other area villages by skiff during summer, and ATVs, snowmobiles, and dog teams are common modes of overland transportation in the region. Currently there are no roads in Grayling.[283] However, in the 2011 AFSC survey, community leaders noted that some roads are expected to be completed in the next 10 years.

[278] Ibid.
[279] Tanana Chiefs Conference. (2007). *History*. Retrieved January 9, 2012 from http://www.tananachiefs.org/.
[280] U.S. Government Accountability Office. (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[281] See footnote 277.
[282] Airfare retrieved October 24, 2012 from Era Aviation, http://www.flyera.com/.
[283] See footnote 277.

Facilities

Water in Grayling is derived from an infiltration gallery[284] at Grayling Creek, and is treated and stored before being distributed to homes via a city-operated pipe system. The piped water system serves all households in the village, and all but three residences are connected to the piped sewer system. The City maintains a sewage lagoon for collection and treatment of sewage. A landfill is also maintained by the City, but public refuse collection services are not provided. Individuals must haul their own garbage. Electricity in Grayling is provided by a diesel powerhouse operated by the Alaska Village Electric Cooperative.[285] In the 2011 AFSC survey, community leaders indicated that improvements to the diesel powerhouse and the landfill have been completed in the last 10 years, and improvements to water and sewer treatment and pipe systems are planned to be completed within the next 10 years. In addition, community leaders indicated that alternative energy sources are expected to be added within the next 10 years.

Police service is provided by state troopers stationed in Aniak. Fire and rescue services are provided by the City Volunteer Fire Department. Additional community facilities include the Native village corporation building, and a teen center. Telephone service is available throughout the village, and internet is currently available at the school building only. No cable providers offer service locally.[286] In the 2011 AFSC survey, community leaders also noted the presence of a U.S. post office, and indicated that broadband internet is expected within the next 10 years.

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available in Grayling. However, there is a barge landing area in the village, and community leaders indicated that vessels of up to 150 feet in length can be accommodated. Fuel barges are the primary vessel type that utilizes the barge landing area, and they indicated that the number of fuel barges visiting Grayling has increased over the past five years. Community leaders also reported that both boat fuel and fishing tackle are available for sale in Grayling, and indicated that residents most commonly travel to Emmonak, Galena, or Fairbanks to access fisheries-related businesses and services not available locally.

Medical Services

Medical services are provided locally at the Grayling Clinic. The clinic is owned by the City and operated by the Yukon-Kuskokwim Health Corporation. It is a Community Health Aid Program site. Emergency services have river and air access to Grayling, and local emergency service is provided by the health aide.[287] The nearest hospital is located in Bethel.

[284] Infiltration galleries are a type of well constructed near rivers or ponds to collect infiltrated surface waters. Since the water infiltrates through a layer of soil/sand, it is significantly free from suspended impurities including microorganisms usually present in surface water. (Definition retrieved February 22, 2012 from http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze_Ahmed/Sec_3.htm.)
[285] 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.
[286] Ibid.
[287] Ibid.

Educational Opportunities

One school is located in Grayling. The David Louis Memorial School offers preschool through 12th grade, and as of 2011 had 45 student and 5 teachers. Grayling is located in the Iditarod Area School District.[288]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Deg Hit'an (Ingalik) and Doy Hit'an (Holikachuk) people have long fished the waters in and around Grayling for subsistence purposes. Historically, the Grayling area was utilized for summer fish camps by residents of the winter village sites of Shageluk and Holikachuk. Chinook salmon was the most important food fish, while chum and coho salmon were processed into dried fish, and chum salmon was an important food for sled dogs. The Deg Hit'an primarily used large basket traps for salmon harvest. They also used dip nets, which they would hold in the water as they drifted down river with the current in canoes. Coho fishing commonly continued into September, and some Deg Hit'an and Doy Hit'an people made fall trips to the coast to trade dried fish. In October, people returned to winter villages and began to focus on ice-gillnet fishing for whitefish, as well as harvest of northern pike, burbot, and Arctic lamprey.[289]

The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s. Poor returns of Chinook salmon in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[290] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009 led to declaration of a fishery disaster that year.[291] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[292]

---

[288] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[289] VanStone, James. (1979). "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[290] Clark, McGregor, Mecum, Krasnowski and Carroll. (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[291] Upton, Harold F. (2010). *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.
[292] Alaska Dept. of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=hottopics.federalChinookdisaster.

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[293]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 subdistricts, and 28 statistical areas. Fishing takes place with set and drift gillnets, and fish wheels are also allowed in Upper Yukon districts (Districts 4, 5, and 6). Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.[294]

In addition to salmon fishing, a commercial fishery for Arctic lamprey (also referred to as 'eel') began in November 2003 in the Grayling region. The annual lamprey run is brief, and the fishery lasts for only a few days each year. Eels are caught using dip nets or 'eeling sticks', and are brought to Grayling to be sold to the fish buyer, Kwik'pak Fisheries, LLC.[295] Kwik'pak Fisheries is a subsidiary of the Community Development Quota (CDQ) group for the Yukon region, the Yukon Delta Fisheries Development Association (YDFDA).

Grayling is located in District 4 of the Upper Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Grayling is a member of the YDFDA, the CDQ group for the Yukon Delta. Grayling is not eligible to participate in the Community Quota Entity program.

In the 2011 AFSC survey, community leaders indicated that Grayling does not actively participate in fisheries management processes in Alaska. However, Grayling is represented regionally through the Western Interior Regional Advisory Council on subsistence issues, as well as through the G.A.S.H. (Grayling, Anvik, Shageluk, Holy Cross) advisory committee to ADF&G. Community leaders reported in the 2011 AFSC survey that a decline in commercial fishing activity in Grayling since the 1980s and 1990s has had a negative impact on the community, and expressed the hope that additional commercial fishing activity and job opportunities will be developed in Grayling.

Processing Plants

According to the ADF&G's 2010 Intent to Operate list, Grayling does not have a registered processing plant. The nearest shore-side processing facility is a salmon roe processing facility in Anvik operated by Bonasila, Inc.[296]

In the 2011 AFSC community survey, community leaders reported that Kwik'pak Fisheries, LLC purchases eels harvested in the winter freshwater commercial fishery near Grayling. Kwik'pak Fisheries offers employment, training, and educational opportunities to area

[293] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[294] See footnote 290.
[295] City of Anvik. (2004). *Anvik Comprehensive Community Plan*. Retrieved December 23, 2011 from: http://www.commerce.state.ak.us/dca/plans/Anvik-CP-2004.pdf.
[296] Ibid.

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."[297]

Fisheries-Related Revenue

Between 2000 and 2010, no known fisheries-related revenue was generated in Grayling (Table 3).

Commercial Fishing

Between 2000 and 2010, Grayling residents participated in commercial fisheries as state permit holders, crew license holders, and vessel owners. The number of crew license holders declined over the period, from six in 2000 to one in 2010, while the number of Grayling residents that were the primary owner of a fishing vessel remained stable at one per year (with zero vessel owners reported in 2004). There was also one vessel homeported in Grayling in all years except 2004 (Table 5). In the 2011 AFSC survey, community leaders indicated that the only fishing vessels that base out of Grayling are under 35 feet in length, and typically use gillnet or beach seine gear. Community leaders also noted that the number of commercial fishing boats has remained stable over the past 5 years, although they reported that there are more boats under 35 feet in length than 5 years ago.

During the 2000-2010 period, Grayling residents held state-issued Commercial Fisheries Entry Commission (CFEC) permits in Upper Yukon salmon fisheries, including gillnet and fish wheel permits. The number of salmon permit holders and total salmon permits held both remained relatively stable over this period, with between 10 and 12 salmon permit holders and between 10 and 11 total permits held. However, few salmon permits were actively fished during the 2000-2010 period. In 2007, one Upper Yukon fish wheel permit was active, and in 2009, one Upper Yukon fish wheel and one Upper Yukon gillnet permit were actively fished. Beginning in 2003 with the start of the Arctic lamprey fishery, between 9 and 25 Grayling residents held 'other finfish' permits per year. In 2003 and 2010, 80% of total 'other fishfish' permits were actively fished, while 58% of other finfish permits were actively fished on average between 2003 and 2010. Information about CFEC permits in Grayling is presented in Table 4.

No Grayling residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits from 2000 to 2010 (Table 4). In addition, no residents participated in federal catch share fisheries for halibut, sablefish, or crab during this period (Tables 6, 7, and 8).

According to data reported by ADF&G and NMFS, no fish buyers or shore-side processing facilities were reported in Grayling during the 2000-2010 period, and no landings or revenue were recorded in the community (Table 5). However, this information conflicts with reports that Kwik'pak Fisheries, LLC has been purchasing Arctic lamprey in Grayling since 2003.[298] However, given the lack of fish buyers reported in Grayling, landings or ex-vessel revenue information was also not lacking in the community during the 2000-2010 period (Table 9). Information about landings and revenue earned by vessel owners residing in Grayling, including all delivery locations, is considered confidential in most years due to the small number of participants (Table 10).

[297] Kwikpak Fisheries. (n.d.). *Homepage.* Retrieved from: http://kwikpakfisheries.com/.
[298] See footnote 295.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total municipal revenue[5]	*$107,418*	*$208,198*	*$210,440*	*$150,224*	*$124,663*	*$72,485*	*$128,347*	*$123,688*	*$202,852*	*$145,623*	*$143,613*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	16	12	9	11	14	17	18	25
	Fished permits	0	0	0	13	0	0	8	1	9	10	20
	% of permits fished	-	-	-	81%	0%	0%	73%	7%	53%	56%	80%
	Total permit holders	0	0	0	16	12	9	11	14	17	18	25
Salmon (CFEC) [2]	Total permits	10	10	10	11	11	11	11	11	11	11	11
	Fished permits	0	0	0	0	0	0	0	1	0	2	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	9%	0%	18%	0%
	Total permit holders	10	10	10	11	11	11	11	12	12	12	11
Total CFEC Permits[2]	*Permits*	*10*	*10*	*10*	*27*	*23*	*20*	*22*	*25*	*28*	*29*	*36*
	Fished permits	*0*	*0*	*0*	*13*	*0*	*0*	*8*	*2*	*9*	*12*	*20*
	% of permits fished	*0%*	*0%*	*0%*	*48%*	*0%*	*0%*	*36%*	*8%*	*32%*	*41%*	*56%*
	Permit holders	*10*	*10*	*10*	*22*	*19*	*16*	*19*	*24*	*26*	*27*	*34*

[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 Grayling: 2000-2010.

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

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	0	-	-	-	-	-	-
Finfish	-	-	-	-	0	-	-	-	-	-	-
Halibut	-	-	-	-	0	-	-	-	-	-	-
Herring	-	-	-	-	0	-	-	-	-	-	-
Other Groundfish	-	-	-	-	0	-	-	-	-	-	-
Other Shellfish	-	-	-	-	0	-	-	-	-	-	-
Pacific Cod	-	-	-	-	0	-	-	-	-	-	-
Pollock	-	-	-	-	0	-	-	-	-	-	-
Sablefish	-	-	-	-	0	-	-	-	-	-	-
Salmon	-	-	-	-	0	-	-	-	-	-	-
Total[2]	-	-	-	-	*0*	-	-	-	-	-	-
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	$0	-	-	-	-	-	-
Finfish	-	-	-	-	$0	-	-	-	-	-	-
Halibut	-	-	-	-	$0	-	-	-	-	-	-
Herring	-	-	-	-	$0	-	-	-	-	-	-
Other Groundfish	-	-	-	-	$0	-	-	-	-	-	-
Other Shellfish	-	-	-	-	$0	-	-	-	-	-	-
Pacific Cod	-	-	-	-	$0	-	-	-	-	-	-
Pollock	-	-	-	-	$0	-	-	-	-	-	-
Sablefish	-	-	-	-	$0	-	-	-	-	-	-
Salmon	-	-	-	-	$0	-	-	-	-	-	-
Total[2]	-	-	-	-	*$0*	-	-	-	-	-	-

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

According to results of the 2011 AFSC survey, sportfishing in Grayling primarily occurs using private boats, and a majority of activity is by local residents. Between 2000 and 2010, no active sport fish guide businesses or licensed sport fish guides were present in Grayling. Until 2007, sportfishing licenses were not sold in the community, but between 2008 and 2010, an average of 37 licenses were sold per year. A greater number of licenses were sold in Grayling than were sold to Grayling residents in those years, indicating that despite the lack of active guide businesses, some non-resident private anglers may participate in sportfishing near Grayling (Table 11).

A number of guide business offer sportfishing trips in the Innoko River targeting northern pike, although these guide businesses are not based in Grayling. Sport fishermen often catch pike weighing more than 20 pounds in the area. Local residents in Grayling and other area

communities are concerned about the impact of increased recreational fishing activity on pike stocks.[299,300]

The Alaska Statewide Harvest Survey,[301] conducted by ADF&G between 2000 and 2010, noted sport harvest of Arctic grayling in Grayling. No kept/release log book data were reported for fishing charters out of Grayling between 2000 and 2010.[302]

Grayling is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale (Table 11). Between 2000 and 2010, saltwater sportfishing activity was minimal, with between 0 and 81 non-Alaska resident angler days fished per year, and between 0 and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sportfishing make sense given that a majority of residents in Yukon drainage communities live a great distance from the ocean, and fishing activities take place primarily in fresh water. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 –10,400 angler days per year) than non-resident anglers (2,573–5,761 angler days per year).

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Grayling[2]
2000	0	0	39	0
2001	0	0	9	0
2002	0	0	9	0
2003	0	0	19	0
2004	0	0	22	0
2005	0	0	8	0
2006	0	0	19	0
2007	0	0	2	0
2008	0	0	23	17
2009	0	0	8	39
2010	0	0	11	55

[299] U.S. Fish and Wildlife Service, Office of Subsistence Management. (2003). *Subsistence and Recreational Use Issues and Information Meetings*. Final Report FIS-01-238. Retrieved October 24, 2012 from http://alaska.fws.gov/asm/pdf/fisheries/reports/01-238final.pdf.

[300] Brown, C, J. Burr,, K. Elkin,, and R. Walker,. (2005). *Contemporary Subsistence Uses and Population Distribution of Non-Salmon Fish in Grayling, Anvik, Shageluk, and Holy Cross*. Retrieved October 24, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp289.pdf .

[301] 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).

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

Table 11 cont'd. Sport Fishing Trends, Grayling: 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	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

In the 2011 AFSC survey, community leaders indicated that Chinook, chum, and coho salmon are three of the most important subsistence fishing resources in Grayling. Non-salmon fish are also essential subsistence resources. Local fishers harvest Arctic lamprey and burbot in the Yukon River near Grayling, and travel further upstream to fish for pike, whitefish, and sheefish. Grayling residents also still travel to areas near the old village of Holikachuk to fish for pike, sheefish, whitefish, and blackfish in the lakes systems of the upper Innoko River.[303] Northern pike has been identified as a particularly important subsistence species, and increased attention has been paid to management of pike stocks given poor returns of salmon to the Yukon River in recent years.[304]

According to data reported in ADF&G's Community Subsistence Information System, 68% of Grayling households were estimated to participate in harvest or use of non-salmon fish in

[303] Brown, Caroline, Burr, John, Elkin, Kim, and Walker, Robert. (2005). *Contemporary Subsistence Uses and Population Distribution of Non-Salmon Fish in Grayling, Anvik, Shageluk, and Holy Cross*. Retrieved October 24, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp289.pdf .

[304] U.S. Fish and Wildlife Service, Office of Subsistence Management. (2003). *Subsistence and Recreational Use Issues and Information Meetings.* Final Report FIS-01-238. Retrieved October 24, 2012 from http://alaska.fws.gov/asm/pdf/fisheries/reports/01-238final.pdf.

2002, while no estimates were reported regarding the percentage of households participating in subsistence harvest of salmon, halibut, marine mammals, or marine invertebrates, or the per capita subsistence harvest in Grayling between 2000 and 2010 (Table 12). In 2002, total estimated non-salmon fish harvest was reported to be 46,379 lbs (Table 13).

ADF&G also reported information regarding subsistence salmon permits issued to Grayling households between 2000 and 2008. During this period, the number of permits issued was relatively stable from year to year, varying between 46 and 50 per year, while the number of permits returned varied from 14 to 24 per year. Chinook and chum salmon were the two most heavily harvested salmon species during this period, averaging 1,610 Chinook and 1,244 chum harvested per year. Several hundred coho were also harvested in most years, and some pink and sockeye salmon harvest was reported in some years as well (Table 13).

No information was reported by management agencies regarding subsistence harvest of halibut (Table 14) or marine mammal species (Table 15) by residents of Grayling between 2000 and 2010.

Table 12. Subsistence Participation by Household and Species, Grayling: 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	68%	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, Grayling: 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	49	24	840	758	372	n/a	18	n/a	n/a
2001	48	21	1,077	406	144	n/a	n/a	n/a	n/a
2002	46	16	2,249	1,363	30	30	n/a	n/a	46,379
2003	44	14	1,613	1,513	559	3	n/a	n/a	n/a
2004	44	22	1,869	1,396	233	n/a	n/a	n/a	n/a
2005	45	18	1,878	1,792	234	3	n/a	n/a	n/a
2006	49	14	1,702	1,335	224	n/a	n/a	n/a	n/a
2007	48	14	1,500	958	271	n/a	n/a	n/a	n/a
2008	50	15	1,761	1,672	25	200	6	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, Grayling: 2003-2010.

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

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

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

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

Holy Cross

People and Place

Location [305]

Holy Cross is located in Interior Alaska on the west bank of Ghost Creek Slough off the Yukon River. It is 40 miles northwest of Aniak, 420 miles southwest of Fairbanks, and 330 miles northwest of Anchorage. Holy Cross is located in the Yukon-Koyukuk Census Area and the Kuskokwim Recording District. The area encompasses 31.3 square miles of land and 6.2 square miles of water.

Demographic Profile [306]

In 2010, there were 178 residents in Holy Cross, making it the 206th largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population decreased by 35.7%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 17.6% (Table 1). The average annual growth rate during this period was -0.80%, representing a steady decline over time. According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported a slightly higher year-round population in Holy Cross in 2010 (250 year-round residents) than the U.S. Census figure, and indicated that no seasonal workers or transients are present in the community at any point during the year. They also indicated that Holy Cross reaches an annual population peak when subsistence fishermen return from subsistence harvest activities in late summer or fall.

In 2010, a majority of Holy Cross residents identified themselves as American Indian and Alaska Native (91.6%), while 4.5% identified themselves as White, and 3.9% identified as two or more races (Figure 1). Compared to 2000, the percentage of the population that identified as American Indian and Alaska Native decreased by approximately 5%, while the percentages of the population identifying as either White or mixed race increased proportionally.

With the decline in population between 1990 and 2010, the total number of households declined from 86 to 64, and the average number of persons per household also decreased from 3.2 to 2.78 over the period. It is of note that the total number of occupied households in 2000 was the same as the number in 2010 (64), while household sizes were higher in 2000, with an average of 4 occupants per housing unit. Of the 93 housing units surveyed for the 2010 Decennial Census, 57% were owner-occupied, 35.5% were renter-occupied, and 7.5% were vacant. No Holy Cross residents were reported to be living in group quarters between 1990 and 2010.

[305] 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.

[306] 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.

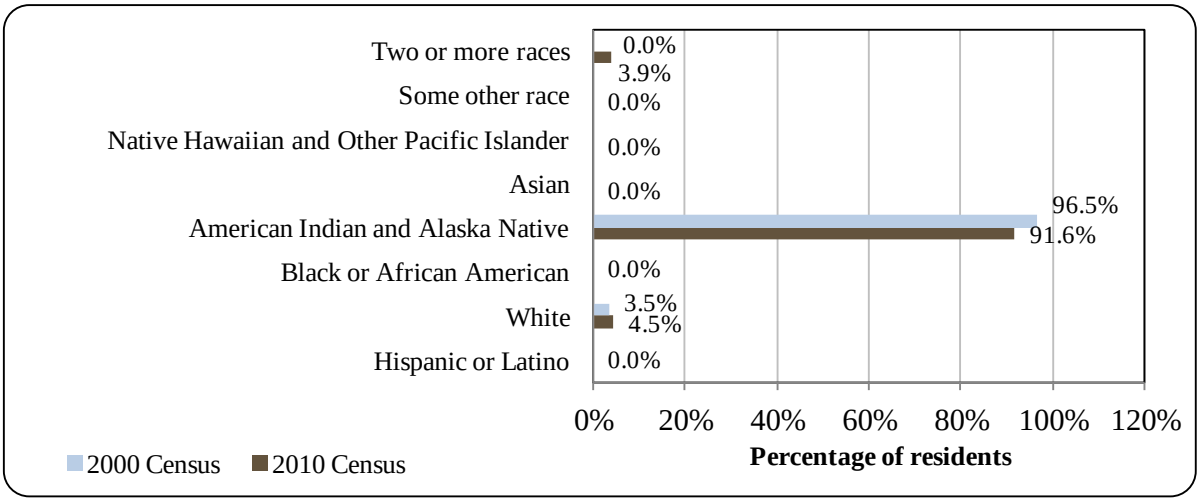
Table 1. Population in Holy Cross from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	277	-
2000	227	-
2001	-	227
2002	-	225
2003	-	203
2004	-	206
2005	-	206
2006	-	204
2007	-	199
2008	-	194
2009	-	187
2010	178	-

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

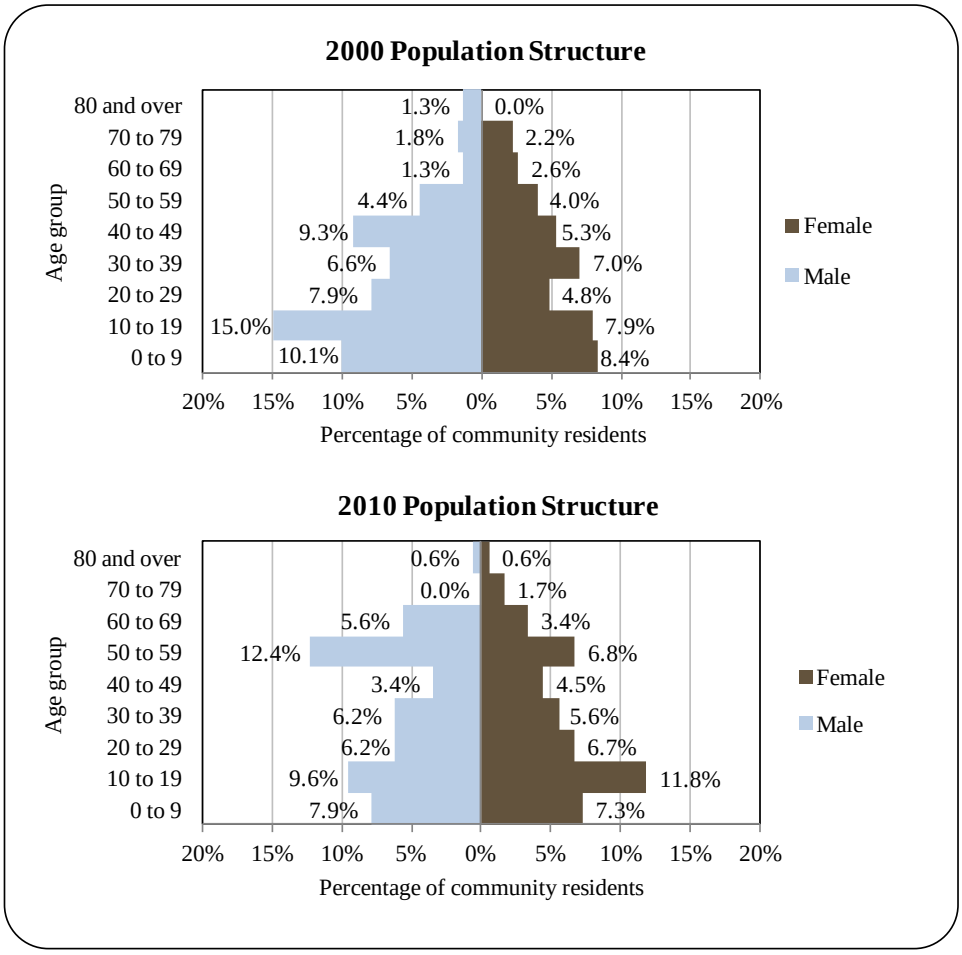


In 2010, the gender makeup in Holy Cross was 51.6% male and 48.3% female, similar to the population of the State as a whole, which was 52% male and 48% female. The median age was estimated to be 31 years in 2010, slightly lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 36.6% of the population was under the age of 20, and 11.8% of the Holy Cross population was age 60 or older. The population of Holy Cross was older on average in 2010 than in 2000, when 41.4% of the population had been under the age of 20 and 9.3% had been aged 60 or older. The slight decline in the percentage of the

population under the age of 20 could account for some of the decrease in household size observed between 2000 and 2010. The overall population structure of Holy Cross in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)[307] estimated that 85.8% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 6.7% of residents had less than a 9th grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 7.5% had a 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 22.5% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 2.5% of resident were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and no Holy Cross residents were estimated to have a graduate or professional degree, compared to 9.6% of Alaskans overall.

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



[307] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture

Holy Cross is an Deg Hit'an Athabascan village, within the Ingalik language group.[308] The culture of the Lower Yukon Deg Hit'an people was heavily influenced by the neighboring Kwikpagmiut Eskimos, whose territory began just downriver from Holy Cross. The mouth of the Innoko River is thought to have been one of the primary locations of trade exchanges between the Yukon Eskimos and the Deg Hit'an.[309] With regard to material culture, the Deg Hit'an Athabascan people's reliance of salmon fishing more closely resembled Eskimo tradition than that of Athabascan people living further inland.[310]

First contact with Europeans in the Holy Cross region took place during an 1840s expedition led by Lt. Lavrentiy A. Zagoskin of the Russian-American Company, who was directed to explore the Yukon, Kuskokwim, and Innoko Rivers to locate possible portages in the Yukon-Kuskokwim delta.[311,312] At the time of European contact, the communities of 'Anilukhtakpak' and 'Koserefsky' were located near the present site of Holy Cross.[313] Several decades later, during an expedition through the Yukon delta during the winter of 1878-1879, American Edward Nelson reported a village called 'Askhomute' near the present site of Holy Cross, with a population at that time of 30 residents.[314,315]

In 1888, a Roman Catholic missionary named Father Aloysius Robaut established a mission and boarding school at Holy Cross in 1888. Ingalik Indians from the surrounding area migrated to Holy Cross to be near the mission.[316,317] The U.S. Postal Service opened a post office there in 1899 under the name of Koserefsky. The name of the village was changed to Holy Cross in 1912 after the mission.[318] The Yukon gold rush of the late 1800s brought a flood of American prospectors passing through the Holy Cross area. Gold was discovered in the Innoko Valley in 1906, increasing the importance of Holy Cross as a waystation during the early 1900s.[319]

In the 1930s the Yukon River changed course, and an extensive sandbar began to form in front of the village of Holy Cross. By the mid-1940s, Holy Cross was only accessible via a narrow, shallow slough.[320,321] Today, the slough is known as 'Ghost Creek Slough'.[322] The mission boarding school was closed in 1956, and the original mission and several other original

---

[308] Alaska Native Knowledge Network. (2006). *Appendix A: Brief Description of Alaskan Athabascan Culture*. Retrieved March 22, 2013 from http://www.ankn.uaf.edu/curriculum/athabascan/athabascans/appendix_a.html.
[309] VanStone, James. 1979. "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[310] VanStone, James. 1976. "The Yukon River Ingalik: Subsistence and the Fur Trade, and a Changing Resource Base." *Ethnohistory*. 23(3), pp. 199-212.
[311] 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.
[312] See footnote 309.
[313] Ibid.
[314] Baker, Marcus. 1906. *Geographic Dictionary of Alaska. Second Edition*. Prepared by James McCormick. Dept. of the Interior, U.S. Geological Survey.
[315] See footnote311.
[316] Ibid.
[317] See footnote 309.
[318] Holy Cross Tribal Council. 2009. *History of the Council.* Retrieved October 1, 2012 from http://www.holycrosstribe.org/history.html.
[319] See footnote 309.
[320] Ibid.
[321] See footnote 318.
[322] See footnote311.

buildings were torn down at that time.[323] The City of Holy Cross was incorporated in 1968. Today, subsistence and commercial fishing-related activities remain important to residents. The sale of alcohol is banned in the village.[324]

Natural Resources and Environment

Holy Cross is located in the Innoko Lowlands, an area of low tundra plains that extends from the Yukon-Kuskokwim Delta northeast between the Kaiyuh and Kuskokwim mountain ranges. Many navigable rivers run through the lowlands, including the Innoko River itself, which enters the Yukon River near Holy Cross.[325] The tundra is covered by many sloughs and small lakes. The climate of Holy Cross is continental. Temperature extremes range from -62 and 93 °F. Annual snowfall averages 79 inches, with 19 inches of total precipitation per year. The Yukon River is ice-free from June through October.[326]

The diversity of animal species present in the Innoko Lowlands is typical of interior Alaska, including black and brown bear, moose, caribou, beaver, mink, lynx, fox, porcupine, river otter, muskrat, wolf, wolverine, marten, hare, squirrel, and weasel. The three species of salmon most common in the Yukon and its tributaries are Chinook, chum, and coho. Other freshwater fish found in area rivers and lakes include Arctic grayling, Dolly Varden, northern pike, blackfish, and burbot. The area provides nesting grounds for many bird species, including a variety of ducks, geese, swans, cranes, and loons. Bird species that overwinter include grouse and rock and willow ptarmigan.[327]

Protected areas near Holy Cross include the Yukon Delta and Innoko National Wildlife Refuges (NWR). The eastern boundary of the Yukon Delta NWR is located less than 20 miles south of Holy Cross and the Innoko NWR is located just to the north, along the eastern bank of the Yukon River between Grayling and Koykuk. Both areas were established in 1980 with the passage of the Alaska National Interest Lands Conservation Act. The 22-million acre Yukon Delta NWR provides essential habitat for waterfowl and migratory birds, including some of the most productive subarctic goose habitat. In addition, the refuge supports muskox, caribou, brown and black bear, wolves, and moose, salmon, and marine mammals.[328] One of the primary motivations for creation of the Innoko NWR was its importance as a waterfowl area in interior Alaska, noted for its wetlands that provide nesting, resting and staging areas. In addition, this NWR offers excellent raptor and moose habitat. The Innoko NWR is made up of two units, totaling 4.6 million acres.[329] These areas were also established to fulfill treaty obligations and provide the opportunity for continued subsistence uses. NWR lands are open to sport and subsistence hunting and fishing, as well as trapping.[330] In addition to these NWR, Holy Cross is

[323] See footnote 318.
[324] See footnote 311.
[325] See footnote 309.
[326] See footnote 324.
[327] See footnote 325.
[328] U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from http://yukondelta.fws.gov/.
[329] U.S. Fish and Wildlife Service. 2010. *Innoko National Wildlife Refuge*. Retrieved October 4, 2011 from http://innoko.fws.gov/.
[330] See footnotes 328 and 329.

located approximately 80 miles east of the eastern boundary of the Andreafsky Wilderness Area, which covers slightly more than 5% of the Yukon Delta NWR.[331]

The Yukon-Kuskokwim delta is rich in mineral deposits. Gold was discovered in the Klondike area of the upper Yukon River in 1896, and prospectors began searching closer to Holy Cross – along the Innoko River – in 1898. Commercial quantities of gold were discovered in the Innoko Valley in 1906.[332] As of 2010, the Iditarod and Innoko mining districts have produced more than 2.3 million ounces of gold.[333]

Natural hazard risks in the Yukon-Koyukuk Census Area include flooding, wildfire, earthquakes, snow and avalanche, severe weather, landslides and erosion. Shallow earthquakes in the region would be considered 'intraplate' earthquakes, which can have a magnitude of up to 7.0 on the Richter scale.[334]

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Holy Cross as of September 2012.[335]

Current Economy[336]

According to the 2011 AFSC survey, community leaders indicated that commercial and subsistence fishing are the primary economic activities in Holy Cross. The summer fishing season is the peak of the seasonal economy, along with construction and local capital improvement projects. There are also approximately 50 full-time jobs in the community.[337]

Based on household surveys for the 2006-2010 ACS,[338] in 2010, the per capita income in Holy Cross was estimated to be $12,358 and the median household income was estimated to be $25,833. This represents an increase from the per capita and median household incomes reported in the year 2000 ($8,542 and $21,875, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,[339] 2010 per capita income estimate remains slightly higher than the real 2000 per capita income of $11,233. In contrast, the 2010 median household income estimate is revealed to be a decrease from the real 2000 median household income of $28,765. In 2010, Holy Cross ranked 258th of 305 Alaskan communities with per capita income data that year, and 258th in median household income, out of 299 Alaskan communities with household income data.

---

[331] Wilderness.net (n.d). *Andreafsky Wilderness*. Retrieved December 8, 2011 from http://www.wilderness.net.
[332] See footnote 325.
[333] Szumigala, D.J., L.A. Harbo, and J.N. Adleman. *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[334] 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.
[335] Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved October 3, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[336] Unless otherwise noted, all monetary data are reported in nominal values.
[337] Holy Cross Tribe. 2009. *History*. Retrieved October 1, 2012 from http://www.holycrosstribe.org/history.html.
[338] 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.
[339] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

However, Holy Cross's small population size may have prevented the ACS from accurately portraying economic conditions.[340] The slight increase in per capita income suggested by the 2006-2010 ACS is not supported by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Holy Cross in 2010 is $6,861.[341,342] This discrepancy suggests that caution is warranted when citing an increase in per capita income in Holy Cross between 2000 and 2010. The relatively low per capita income estimates for Holy Cross in 2010 from both data sources are reflected in the fact that the community was recognized as "distressed" by the Denali Commission,[343] indicating that over 70% of residents aged 16 and older earned less than $16,120 in 2010. It is important to note that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of personal use and subsistence within the local economy.

In 2010, a much smaller percentage of Holy Cross residents was estimated to be in the civilian labor force (43.8%) compared to the civilian labor force statewide (68.8%). In the same year, 40.6% of local residents were estimated to be living below the poverty line, more than four times the statewide poverty rate of 9.5%, and the unemployment rate was estimated to be 16.1%, more than twice the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which shows a local unemployment rate of 24.3%, more than twice the state rate estimate of 11.5%.[344]

Also based on the 2006-2010 ACS, just over half of the employed civilian workforce in Holy Cross was estimated to be employed in the public sector (50.9%), while 43.4% were employed in the private sector, and the remaining 5.7% were estimated to be self-employed. Out of 53 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in educational services, health care and social services (45.3%), construction (15.1%), transportation, warehousing and utilities (13.2%), public administration (9.4%), professional, scientific, management, and administrative and waste management services (5.7%), and agriculture, forestry, and fishing industries (5.7%) (Figure 3). The number of individuals employed in the fishing industry is probably underestimated in Census statistics; fishermen may hold another job and characterize their employment accordingly. Compared to employment statistics in 2000, the most notable shifts in the distribution of employment by industry included a decline in careers categorized as 'other services' and an increase in retail trade, construction, and agriculture, forestry, fishing, hunting, and mining industry employment.

---

[340] While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

[341] 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/.

[342] 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.

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

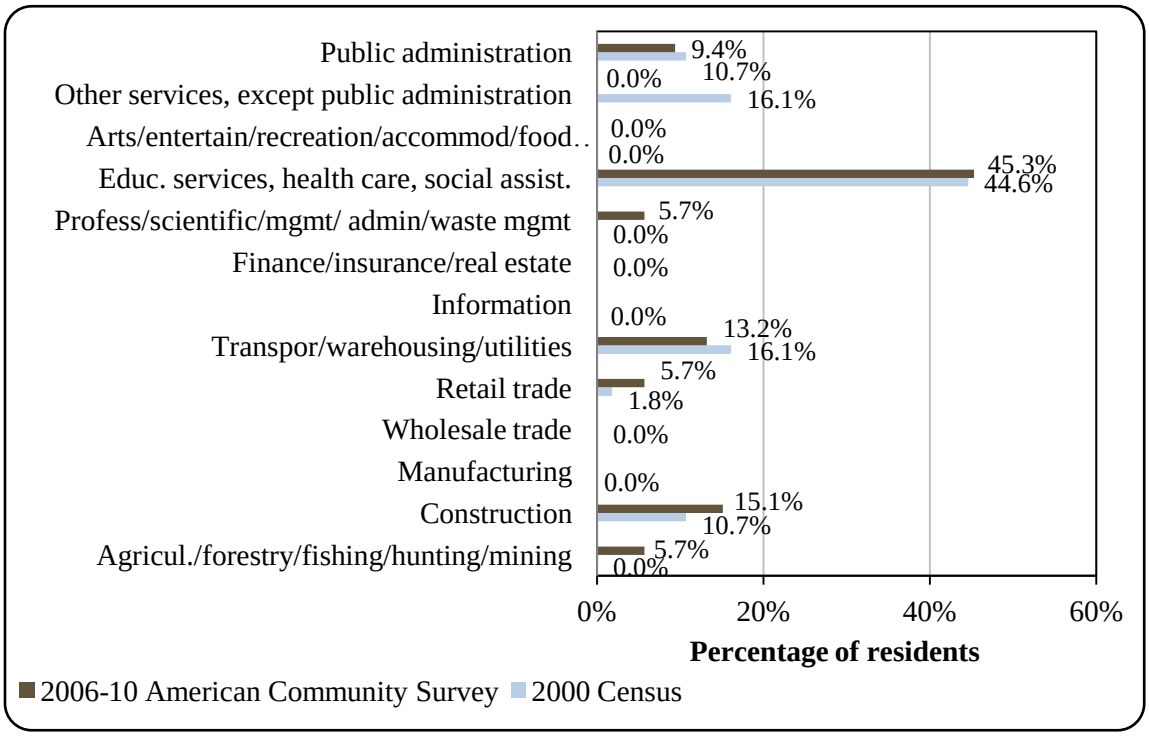
[344] See footnote 341.

ALARI industry employment statistics differ from ACS estimates, with the highest percentage of employed residents (59.3%) reported to be working in local government in 2010, along with 24.7% employed in education and health services, 4.9% working in trade, transportation, and utilities, 3.7% in natural resources and mining, 2.5% in construction, 1.2% in financial activities, 1.2% in professional and business services, 1.2% in state government, and 1.2% in other industries.[345]

Viewing employment from the perspective of occupation, 2006-2010 ACS estimates indicate that the highest percentages of the Holy Cross workforce were employed in sales and office occupations (32.1%) and service occupations (30.2%), along with 22.6% employed in natural resources, construction, and maintenance occupations, 15.1% in management, business, science, and arts occupations, and 0% in production, transportation, and material moving service occupations (Figure 4). Between 2000 and 2010, the percentage of the workforce employed in sales and office occupations increased by approximately 50%, and the percentages employed in service occupations and natural resources, construction, and maintenance occupations also increased notably. There was a 100% decline in the number of individuals estimated to be working in production, transportation, and material moving occupations between 2000 and 2010.

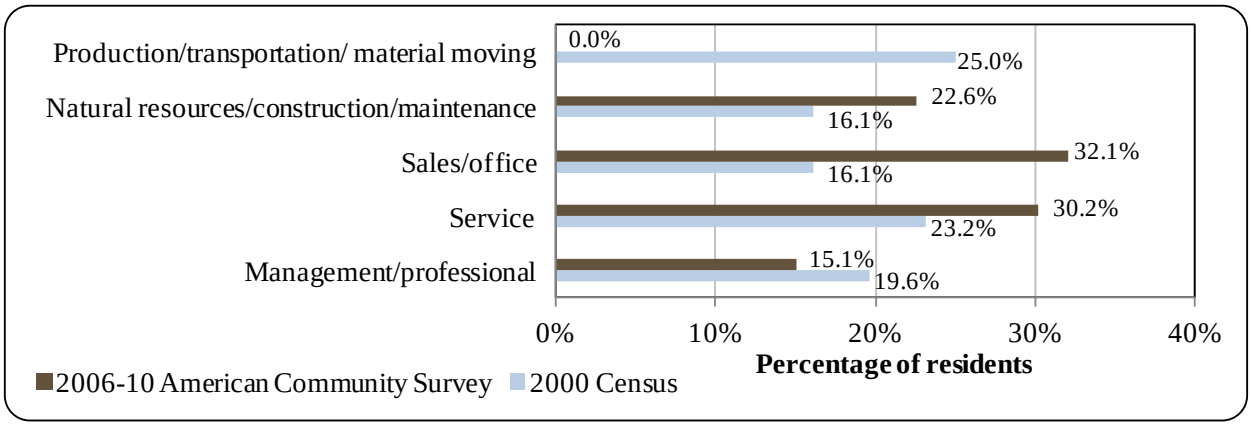
According to the ALARI database, top occupations in Holy Cross in 2010 were laborers and freight, stock, and material movers (16 workers), and community and social service specialists (6 workers).[346] Discrepancies between 2006-2010 ACS and ALARI statistics can be explained in part by different category definitions. It is also important to note that, as with income statistics, ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

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



[345] Ibid.
[346] Ibid.

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



Governance

Holy Cross is a 2nd Class City located in an unorganized borough. The City was incorporated in 1698, and has a manager or "Strong Mayor" form of government, with a seven-person city council including the Mayor, a seven-person school board, and several municipal employees. No sales or property taxes are administered by the City.[347] Locally-generated revenue sources during the 2000-2010 period included state-contracted services, building and equipment rentals, water, sewer, and washeteria service fees, land leases, concessions, and bingo and pull tab receipts. The City also received shared revenues from the state and federal government. State shared funds included contributions from the State Revenue Sharing program from 2000 to 2003 and from the Community Revenue Sharing program in 2009 and 2010, as well as Municipal Energy Assistance, Telephone / Electric Co-op tax refunds, and the SAFE Communities program (funding for public safety, fire, utilities, infrastructure, etc.). Federal revenue sharing dollars came from the Payment In Lieu of Taxes program. Holy Cross also received capital/special project grants in some years during the 2000-2010 period. Between 2000 and 2010, no fisheries-related grants were received by the City of Holy Cross. This information about selected revenue streams is presented in Table 2.

Holy Cross was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is Holy Cross Village. The Native village corporation is Deloycheet, Incorporated, which manages 138,727 acres of land. The regional Native corporation to which Holy Cross belongs is Doyon, Limited.[348]

Holy Cross is also a member village of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit provides health and tribal development services, as well as educational and employment services

[347] 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.
[348] Ibid.

to individuals of member tribes.[349] The Tanana Chiefs Conference is one of the 12 regional Alaska Native nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[350]

The closest offices of the Alaska Department of Fish and Game (ADF&G) are located in Emmonak and Bethel, although the Emmonak office is only open during the summer season. The closest office of the Alaska Department of Commerce, Community and Economic Development is also in Bethel. However, the Anchorage and Fairbanks offices of these agencies may be more accessible to people living in Holy Cross than the coastal villages. Anchorage has the nearest offices of the National Marine Fisheries Service (NMFS), Alaska Department of Natural Resources, and U.S. Bureau of Citizenship and Immigration Services.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Holy Cross 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	$207,339	n/a	$29,823	n/a
2001	$197,252	n/a	$28,789	n/a
2002	$272,173	n/a	$26,014	n/a
2003	$160,431	n/a	$28,000	n/a
2004	$137,123	n/a	n/a	n/a
2005	$114,055	n/a	n/a	n/a
2006	$189,204	n/a	n/a	n/a
2007	$189,303	n/a	n/a	n/a
2008	$228,948	n/a	n/a	n/a
2009	$366,540	n/a	$106,307	n/a
2010	$391,070	n/a	$105,897	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[349] Tanana Chiefs Conference website.2007. *History.* Retrieved January 9, 2012 from http://www.tananachiefs.org/.
[350] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Infrastructure

Connectivity and Transportation

Holy Cross can be accessed by air and water. The State owns and operates a 4,000 feet long by 100 feet wide gravel airstrip.[351] As of early June, 2012, roundtrip airfare between Holy Cross and Anchorage was $584.[352] Residents use private boats for fishing, subsistence, and recreation.[353] According to a survey conducted by the AFSC in 2011, community leaders reported that all vessels used in Holy Cross are under 35 feet in length. Holy Cross is serviced by barge during the summer months.[354] Plans are currently being developed for relocation of the barge landing site due to sediment fill slowly making the existing landing site inaccessible.[355] In addition to air and water access, local residents have access to 7.5 miles of local roads. Motor bikes, 3-wheelers, snowmobiles, and dog teams are common modes of overland transportation.[356]

Facilities

The City of Holy Cross operates a piped water and sewer system which serves 71 housing units and the local school. Water is sourced from a deep well and chlorinated before it is distributed. Residents of housing units not connected to the piped system haul water from the washeteria. The City operates a sewage lagoon for piped sewage, and some households use individual septic tanks or outhouses, or haul honeybuckets. The City operates a landfill, but does not provide refuse collection services. Individuals are responsible for hauling their own garbage. Electricity in Holy Cross is provided by an Alaska Village Electric Cooperative diesel powerhouse, operated by the REA Coop.[357] Police services in Holy Cross are provided by state troopers stationed 40 miles upriver in Aniak. The City operates a jail. Fire and rescue services are provided by the City Volunteer Fire Department. Additional community facilities include the Holy Cross Community Hall, a school gymnasium, and a school/community library. Community services include an elder nutrition program. Local and long-distance telephone service is available in Holy Cross. Internet service is available at the school only. No cable providers offer service locally.[358]

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available in Holy Cross. However, smaller vessels (up to 24 feet in length) are in use in Holy Cross, and fuel barges can also be accommodated at the barge landing site. Community leaders reported that no fisheries-related businesses and services are

---

[351] 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.
[352] Airfare was calculated using lowest fare. http://www.travelocity.com (retrieved November 22, 2011).
[353] See footnote 351.
[354] Ibid.
[355] U.S. Army Engineer District. 2011. *Trip Report to the Denali Commission*. Retrieved October 2, 2012 from https://www.denali.gov/dcpdb/index.cfm?fuseAction=Project.ProjectAtAGlance&project_id=6739.
[356] See footnote 351.
[357] Today, the Rural Electric Administration has transformed into the Rural Utilities Service, and is part of the U.S. Department of Agriculture. (Source: National Rural Electric Cooperative Association. 2012. *History of Electric Co-ops*. Retrieved October 2, 2012 from http://www.nreca.coop/members/history/pages/default.aspx.)
[358] See footnote 351.

available in Holy Cross, with the exception of fishing gear repair and storage, which local residents do themselves.

Medical Services

Basic medical services are provided in Holy Cross at the Theresa Demientieff Health Clinic. The clinic is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. It is part of the Community Health Aid Program. Emergency services have river and air access in Holy Cross. Emergency services are provided by the health aide.[359] The nearest hospital is located in Bethel.

Educational Opportunities

There is one school in Holy Cross which offers a preschool through 12th grade education. As of 2011, the Holy Cross School had 41 students and 4 teachers.[360]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence salmon fishing has long provided a basis for life in Deg Hit'an communities of the Lower Yukon River. Chinook salmon were the most important food fish, while chum and coho salmon were processed into dried fish, and chum salmon was an important food for sled dogs. The Deg Hit'an primarily used large basket traps for salmon harvest. They also used dipnets, which they would hold in the water as they drifted down river with the current in canoes. Villagers from Koserefsky and Anilukhtakpuk (formerly located near Holy Cross) most often had fish camps on the eastern bank of the Yukon River.[361]

The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s.[362]

Poor returns of Chinook salmon in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[363] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but restricted commercial harvest in 2008 and complete

[359] Ibid.
[360] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[361] VanStone, James. 1979. "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[362] Clark, McGregor, Mecum, Krasnowski, and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[363] Ibid.

closure of Chinook harvest in 2009 led to declaration of a fishery disaster that year.[364] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundant species, including gear and other management restrictions.[365]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[366]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 subdistricts, and 28 statistical areas. Fishing takes place with set and drift gillnets, and fish wheels are also allowed in Upper Yukon districts (Districts 4, 5, and 6). Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.[367]

Some commercial fishing also takes place in the area for "freshwater fish", which may target species such as Arctic char, northern pike, rainbow trout, Dolly Varden char, and sheefish.[368]

Holy Cross is located in District 3 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Holy Cross is not eligible to participate in the Community Quota Entity program or the Community Development Quota program.

In the 2011 AFSC survey, community leaders reported that Holy Cross actively participates in fisheries management processes in Alaska through sending a representative to sit on a regional fisheries advisory and/or working group run by ADF&G. When asked to report challenges faced by the fishing economy, community leaders indicated that Holy Cross has been negatively impacted by reduced fishing hours, outlawing fish wheels, the reduction of legal mesh size in the salmon gillnet fishery, and the lack of a processing facility in District 3 of the Lower Yukon River salmon fishery. Without a processing facility, local fishermen have difficulty making money in the commercial salmon fishery. Community leaders also indicated that Holy Cross has been negatively impacted by salmon by-catch in the high seas pollock fishery, and expressed the opinion that the high seas harvest should be shut down for several years as an experiment to find out whether Chinook salmon begin to come back in higher numbers.

---

[364] Upton, H.F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.
[365] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=hottopics.federalChinookdisaster.
[366] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[367] See footnote 362.
[368] Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Holy Cross does not have a registered processing plant. In the 2011 AFSC survey, community leaders indicated that there hasn't been a processing plant in District 3 of the Lower Yukon River salmon fisher for many years, and expressed the desire for a processing facility to be developed in District 3 to provide greater economic opportunity in the region.

According to the 2010 Intent to Operate list, the nearest processing facilities were located in Anvik (approximately 40 miles upriver in District 4) and Saint Mary's (approximately 180 miles downriver in District 2). In Anvik, Bonasila, Inc. operates a salmon roe processing facility, and Boreal Seafoods, Inc. is a registered processing plant in Saint Mary's that purchases salmon from local fishermen, with processing focused on Chinook, chum, and coho.[369]

Fisheries-Related Revenue

Between 2000 and 2010, there was little known fisheries-related revenue generated in Holy Cross. The only known source was the Shared Fisheries Business Tax, which generated a total of $329 between 2000 and 2010. No other known fisheries-related revenue was reported during this period (Table 3).[370]

Commercial Fishing

Holy Cross is a river fishing community, located approximately 275 miles up the Yukon River. The primary fisheries resource available to Holy Cross fishermen is salmon. Between 2000 and 2010, Holy Cross residents participated in commercial salmon fishery as permit holders, crew license holders, and vessel owners. The number of vessels homeported in Holy Cross each year was typically slightly higher than the number of vessels reported to be primarily owned by Holy Cross residents. According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing boats using Holy Cross as a base of fishing operations were all under 35 feet in length and were mostly gillnetters. No fish buyers or processing facilities were located in the community, and no landings were delivered locally. Information about the commercial fishing sector in Holy Cross is presented in Table 5.

During the 2000-2010 period, all but one Commercial Fisheries Entry Commission (CFEC) permit held in Holy Cross were for Yukon River salmon gillnet fisheries. In 2008, one permit was also held permits for freshwater fish ('other finfish'), but was not actively fished that year. In all years during the decade, a majority of salmon permits were held in the Lower Yukon River gillnet fishery, with a smaller number held in the Upper Yukon River gillnet fishery. The only salmon permits that were actively fished between 2000 and 2010 were for the Lower Yukon River. The total number of salmon permit holders and number of permits held remained stable through the decade. However, the number of permits that were actively fished showed a declining trend. No permits were actively fished in 2001-2002 and 2008-2010. The lack of permit activity in these years is explained by complete closures of the commercial Chinook

[369] Boreal Fisheries. 2009. *Homepage.* Retrieved May 31, 2012 from http://www.borealfish.com/.
[370] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

fishery in 2001 and 2009, and restricted commercial fishing effort in other years (see *History and Evolutions of Fisheries* section). This information about CFEC permits is presented in Table 4.

Between 2000 and 2010, no residents of Holy Cross held Federal Fisheries Permits (FFP), License Limitation Program permits (LLP), or participated in federal halibut, sablefish, or crab catch share fisheries. Information about federal permits held by Holy Cross residents is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

Given the lack of fish buyers and shore-side processing facilities in Holy Cross between 2000 and 2010, no landings or revenue information is reported in the community (Table 9). Information about landings and ex-vessel revenue earned by Holy Cross vessel owners between 2000 and 2010 is considered confidential due to the small number of participants (Table 10).

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	$45	n/a	$72	n/a	n/a	n/a	$47	$49	$58	$61
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*$45*	*n/a*	*$72*	*n/a*	*n/a*	*n/a*	*$47*	*$49*	*$58*	*$61*
Total municipal revenue[5]	*$207,339*	*$197,252*	*$272,173*	*$160,431*	*$137,123*	*$114,055*	*$189,204*	*$189,303*	*$228,948*	*$366,540*	*$391,070*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

Table 4. Cont. Permits and Permit Holders by Species, Holy Cross: 2000-2010.

Species		**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	1	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	0%	-	-
	Total permit holders	0	0	0	0	0	0	0	0	1	0	0
Salmon (CFEC) [2]	Total permits	9	10	10	11	11	11	10	11	10	10	10
	Fished permits	5	0	0	4	2	4	3	1	0	0	0
	% of permits fished	56%	0%	0%	36%	18%	36%	30%	9%	0%	0%	0%
	Total permit holders	9	10	10	11	11	12	11	11	10	10	10
Total CFEC Permits[2]	*Permits*	*9*	*10*	*10*	*11*	*11*	*11*	*10*	*11*	*11*	*10*	*10*
	Fished permits	*5*	*0*	*0*	*4*	*2*	*4*	*3*	*1*	*0*	*0*	*0*
	% of permits fished	*56%*	*0%*	*0%*	*36%*	*18%*	*36%*	*30%*	*9%*	*0%*	*0%*	*0%*
	Permit holders	*9*	*10*	*10*	*11*	*11*	*12*	*11*	*11*	*11*	*10*	*10*

[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 Holy Cross: 2000-2010.

Year	Crew licenses 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 Holy Cross[2]	Total net pounds landed in Holy Cross[2,5]	Total ex-vessel value of landings in Holy Cross[2,5]
2000	6	0	0	13	15	0	0	$0
2001	0	0	0	17	19	0	0	$0
2002	2	0	0	17	18	0	0	$0
2003	7	0	0	19	21	0	0	$0
2004	6	0	0	23	24	0	0	$0
2005	9	0	0	1	2	0	0	$0
2006	4	0	0	18	19	0	0	$0
2007	5	0	0	18	19	0	0	$0
2008	0	0	0	18	19	0	0	$0
2009	1	0	0	19	20	0	0	$0
2010	0	0	0	17	18	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, no active sport fish guide businesses were registered in Holy Cross. However, several licensed sport fish guides were present in the community each year. The number of licensed guides varied between four and one per year, with a declining trend over the period. The number of sportfishing licenses purchased by Holy Cross residents (irrespective of point of sale) ranged from 48 to 71 per year. The number of licenses purchased by residents each year was slightly higher than the total number of licenses sold in Holy Cross, with the exception of 2009 and 2010 (Table 11).

In a survey conducted by the AFSC in 2011, community leaders reported that sport fishermen in Holy Cross primarily target chum, Chinook, and coho salmon. The Alaska Statewide Harvest Survey,[371] conducted by ADF&G between 2000 and 2010, also noted sport harvest of sockeye salmon in Holy Cross, as well as harvest of razor clams by Holy Cross recreational fishers. No kept/release log book data were reported for sportfishing charters out of Holy Cross between 2000 and 2010.[372]

Holy Cross is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sportfishing activity at this regional scale (Table 11). Between 2000 and 2010, saltwater sportfishing activity was minimal, with between 0 and 81 non-resident angler days fished per year, and between 0 and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sportfishing make sense given that a majority of residents in Yukon drainage communities live a great distance from the ocean, and fishing activities take place primarily in fresh water. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-resident anglers (2,573 – 5,761 angler days per year).

Table 11. Sport Fishing Trends, Holy Cross: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Holy Cross[2]
2000	0	4	60	16
2001	0	4	48	0
2002	0	4	66	38
2003	0	3	57	47
2004	0	3	57	49
2005	0	2	69	30
2006	0	2	63	38
2007	0	1	57	48
2008	0	2	68	67
2009	0	2	71	84
2010	0	2	60	61

[371] 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).

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

Table 11 Cont. Sport Fishing Trends, Holy Cross: 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	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Historically, subsistence harvest has been foundational to the economy and culture of the Deg Hit'an Athabascan people. Salmon were of primary importance, as well as a secondary dependence on large and small game animals.[373] Today, subsistence and fishing-related activities remain important to the economy and way of life of Holy Cross residents.[374] Fish are the most reliable subsistence resource in the lower-middle Yukon River region. In addition to salmon, non-salmon fish are a vital component of the subsistence fish harvest, partly due to their year-round availability. Non-salmon fish species harvested by residents of Holy Cross include whitefish, sheefish, northern pike, Arctic grayling, longnose sucker, burbot, Alaska blackfish, and Arctic lamprey.[375]

[373] VanStone, J.. 1976. "The Yukon River Ingalik: Subsistence and the Fur Trade, and a Changing Resource Base." *Ethnohistory*. 23(3), pp. 199-212.

[374] 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.

[375] Brown, C, Burr, J., Elkin, K., and Walker, R. 2005. *Contemporary Subsistence Use and Population Distribution of Non-Salmon Fish in Grayling, Anvik, Shageluk, and Holy Cross.* Alaska Dept. of Fish and Game, Tech. Paper No. 289. Retrieved October 4, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp289.pdf.

According to data reported in ADF&G's Community Subsistence Information System, in 2002, 21% of Holy Cross households were estimated to participate in harvest or use of non-salmon fish, while estimates were not reported regarding the percentage of households participating in salmon, halibut, marine mammal, or marine invertebrate subsistence, or the per capita subsistence harvest in Holy Cross between 2000 and 2010 (Table 12). In 2002, total estimated non-salmon fish harvest was reported to be 5,310 pounds (Table 13).

ADF&G also reported information regarding subsistence salmon permits issued to Holy Cross households between 2000 and 2008. During this period, the number of permits issued was relatively stable from year to year, varying between 48 and 65 per year, while the number of permits returned varied from 21 to 36 per year. Chinook were by far the most heavily harvested salmon species during this time period, averaging 2,395 Chinook taken per year. Chum and coho were the next most heavily harvested species, averaging 803 and 135 fish harvested per year, respectively. A small number of pink and sockeye salmon were also reported as harvested in some years during the period (Table 13).

No information was reported by management agencies regarding subsistence harvest of halibut (Table 14) or marine mammal species (Table 15) by residents of Holy Cross between 2000 and 2010.

Table 12. Subsistence Participation by Household and Species, Holy Cross: 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	21%	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, Holy Cross: 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	62	26	1,249	1,092	70	20	n/a	n/a	n/a
2001	63	28	2,711	1,084	n/a	n/a	60	n/a	n/a
2002	60	23	1,813	155	n/a	n/a	n/a	n/a	5,310
2003	55	21	2,395	223	498	n/a	n/a	n/a	n/a
2004	48	29	1,993	352	27	n/a	n/a	n/a	n/a
2005	51	31	2,817	1,342	84	n/a	n/a	n/a	n/a
2006	65	32	3,165	1,049	16	17	n/a	n/a	n/a
2007	60	36	2,902	568	213	n/a	n/a	n/a	n/a
2008	55	34	2,509	1,361	38	20	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, Holy Cross: 2003-2010.

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

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

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

Table 15. Subsistence Harvests of Marine Mammal Resources, Holy Cross: 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

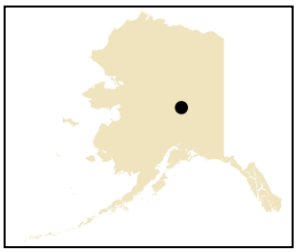
Note: n/a indicates that no data were reported for that year.

[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.

Nenana (*nuh-NAN-uh*)



People and Place

Location [376]

Nenana is located in Interior Alaska, 55 road miles southwest of Fairbanks on the George Parks Highway. Nenana is located at mile 412 of the Alaska Railroad, on the south bank of the Tanana River, just east of the mouth of the Nenana River. It lies 304 road miles northeast of Anchorage. The City encompasses 6.0 square miles of land and 0.1 square miles of water. Nenana is in the Yukon-Koyukuk Census Area and the Nenana Recording District.

Demographic Profile [377]

In 2010, there were 378 inhabitants in Nenana, making it the 141st largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population of Nenana decreased by 3.8%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 12.2%, with an average annual growth rate of -0.74%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that approximately 24 individuals were present in Nenana as seasonal or transient workers between March and October. They indicated that the yearly population peak in Nenana occurs between June and August each year, and that population fluctuations are slightly driven by employment in fishing sectors.

In 2010, a majority of Nenana residents identified themselves as White (56.1%), while 37.6% identified themselves as American Indian or Alaska Native, 0.3% as Asian, 0.3% as Black or African Americans, and 5.6% of residents identified with two or more races. In addition, 0.5% of Nenana residents identified themselves as Hispanic in 2010. Compared to 2000, residents identifying as American Indians and Alaska Natives made up 3.4% less of the population in 2010, while those identifying as White made up 5.4% more of the population. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Nenana was 2.21. Overall, this represents a slight decrease from the 1990 average of 2.8 persons per household, but an increase from 1.99 persons per household in 2000. The number of households in Nenana has increased over time, from 140 households in 1990 and 159 in 2000, to 171 occupied housing units in 2010. Of the 215 total housing units surveyed for the 2010 U.S. Decennial Census, 53% were owner-occupied, 26.5% were rented, and 20.5% were vacant or used only seasonally. From 1990 to 2010, no residents of Nenana lived in group quarters.

---

[376] 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.

[377] 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.

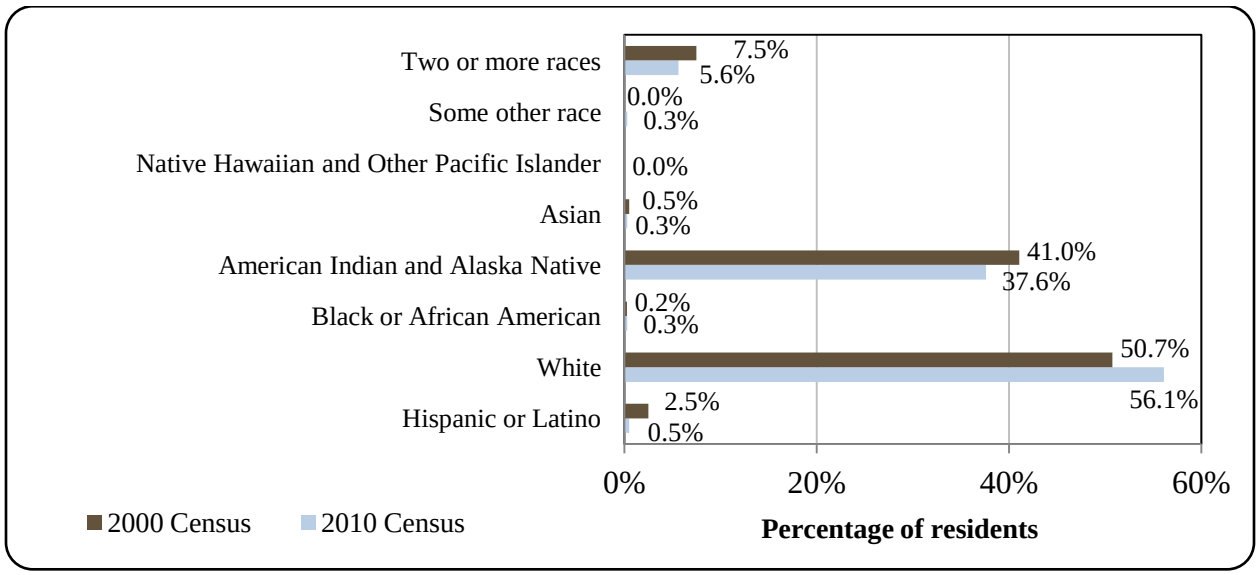
Table 1. Population in Nenana from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	393	-
2000	402	-
2001	-	392
2002	-	401
2003	-	371
2004	-	370
2005	-	353
2006	-	355
2007	-	366
2008	-	354
2009	-	353
2010	378	-

[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.

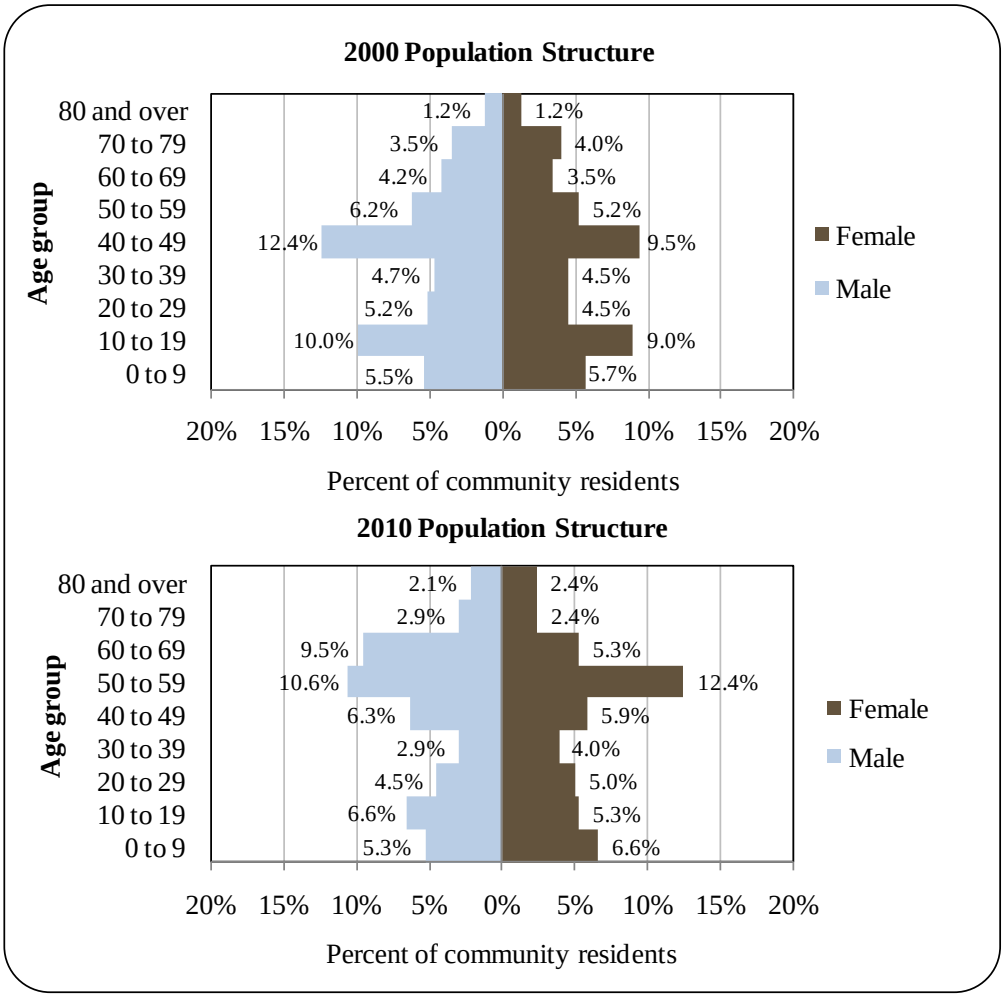
[2] Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from http://labor.alaska.gov/research/pop/popest.htm.

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



In 2010, the gender makeup of Nenana's population (50.8% male and 49.2% female) was more gender balanced than the population of the State as a whole, which was 52% male and 48% female. That year, the median age of Nenana residents was 48 years, much older than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 24.7% of Nenana's population was age 60 or older. The overall population structure of Nenana in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[378] 85.3% of Nenana residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 4.7% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 10% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 31.3% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 6.9% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 8.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 3.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

[378] While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

History, Traditional Knowledge, and Culture[379]

Nenana is in the western-most portion of Tanana Athabascan territory. It was first known as Tortella, an interpretation of the word "Toghotthele," which means "mountain that parallels the river." The Nenana Valley of Central Alaska is the site of one of the earliest archaeological sites in North America, dating between about 11,000 and 12,000 years old.[380] The site of the City of Nenana was historically used by Athabascan Indians for summer subsistence and mid-winter ceremonial activities.[381] Interpretations of the name Nenana in the Athabascan language include, "easy place to camp," or "camp between the rivers."[382] By the late 1800s, the Native people had established a small village with permanent dwellings there.[383]

Contact between Europeans and residents of the Tanana Valley began around 1850, following the establishment of a fort at Fort Yukon in 1847 by Russian fur traders. Another fort was established at "Nuklukayet," at the confluence of the Yukon and Tanana Rivers, in 1860.[384] The first non-Native explorers to enter the Tanana Valley were Allen, Harper, and Bates in 1875 and 1885. The discovery of gold in Fairbanks in 1902 brought intense activity to the region.[385] The juncture of river and railroad transportation made Nenana a center for commerce in the region during the gold rush and railroad construction period.[386]

Because of available transportation, Nenana became the headquarters for St. Mark's Episcopal Mission,[387] which was built upriver in 1905, followed by a mission school in 1907.[388] Native children from other communities, such as Minto, attended school in Nenana. A post office opened in 1908. By 1909, there were about 12,000 residents in the Fairbanks area, most drawn by gold mining activities.[389] Settlement of a non-Native population in Nenana occurred with the construction of the Alaska Railroad between 1916 and 1923,[390] doubling the town's population.[391] The community incorporated as a City in 1921. The railroad depot was completed in 1923, when President Warren Harding drove the golden spike at the north end of the 700-foot steel bridge over the Tanana River, which created a transportation link to Fairbanks and Seward.[392]

During the 1925 diphtheria epidemic in Nome, serum from Anchorage was transported to Nenana by train before being sent by dogsled to Nome. According to local records, 5,000

---

[379] 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.
[380] Ibid.
[381] Shinkwin, A. and M. Case (1984). Modern Foragers: Wild Resource Use in Nenana Village, Alaska. Technical Paper 91, *Alaska Department of Fish and Game, Division of Subsistence*. Retrieved January 9, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp091.pdf.
[382] Lutes and Amundson Community Planners and Alaska State Housing Authority (1968). *Nenana – Comprehensive Planning Study.* Retrieved January 6, 2012 from http://www.commerce.state.ak.us/dca/plans/Nenana-CP-1968.pdf.
[383] See footnote 381.
[384] Ibid.
[385] See footnote 379.
[386] See footnote 382.
[387] Ibid.
[388] See footnote 381.
[389] See footnote 379.
[390] See footnote 381.
[391] See footnote 379.
[392] Ibid.

residents lived in Nenana during this time.[393] A dramatic decline in population followed the completion of the railroad, primarily due to the departure of non-Natives, and also due to an influenza epidemic in 1920 in which one fourth of the Indian population perished.[394] Completion of the railroad was also followed by an economic slump. The population in 1930 was recorded at 291.[395]

Today, the City attracts independent travelers in search of fuel and supplies, the Alaska Railroad Museum, the Golden Railroad Spike Historic Park and Interpretive Center, the historical St. Mark's Episcopal Church, Iditarod dog kennels, and the Alfred Starr Museum & Cultural Center. The Nenana Ice Classic, a contest established in 1917 to guess when the ice will break in the Nenana River each year, is a statewide event.[396]

Natural Resources and Environment

Nenana has a cold, continental climate with an extreme temperature range. The average daily maximum during summer months is 65 to 70 °F; the daily minimum during winter is well below 0 °F. The highest temperature ever recorded was 98 °F, and the lowest was -69 °F. Average annual precipitation is 11.4 inches, with 48.9 inches of snowfall. Nenana is located on the Tanana River, which is ice-free from mid-May to mid-October.[397] The Tanana River, meaning "river trail" in Athabascan, is an important tributary of the Yukon River.[398] Runs of Chinook, chum, and coho salmon return to the Yukon and Tanana Rivers each year, spawning as far inland as the headwaters of the Yukon River in Canada.[399]

Nenana is located one mile west of the border of a western segment of Tanana Valley State Forest, and four miles south of the border of the Minto Flats State Game Refuge. The Game Refuge is nestled among scattered segments of the State Forest, which totals 1.78 million acres and stretches along the Tanana River from near the Canadian border to Manley Hot Springs. Almost 90% of the State Forest is covered by hardwood and hardwood-spruce type forests, with high representation of paper birch, quaking aspen, balsam poplar, black and white spruce, and tamarac. Almost 7% of the forest is shrub land, covered primarily in willow.[400]

The Minto Flats State Game Refuge encompasses 500,000 acres. It was established in 1988 for the protection and enhancement of fish and wildlife, and to guarantee hunting, fishing, and trapping opportunities. The landscape is a mosaic of ponds, oxbows, stream channels, and wetland and upland vegetation, providing habitat for waterfowl, big game, and furbearers, as well as anadromous and resident freshwater fish species. The area has traditionally been and

[393] Ibid.
[394] See footnote 381.
[395] See footnote 379.
[396] Ibid.
[397] Ibid.
[398] Encyclopedia Britannica Online (2012). Tanana River. *Encyclopedia Britannica*. Retrieved January 12, 2012 from http://www.britannica.com/.
[399] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[400] Alaska Dept. of Natural Resources, Division of Forestry (2001). *Introduction*. In: *Tanana Valley State Forest Management Plan: 2001 Update.* Retrieved January 12, 2012 from http://forestry.alaska.gov/management/tvsf_final_plan.htm.

remains an important area for harvesting fish, wildlife, and other resources for Athabascan Indians and others living in the Nenana area.[401]

Natural hazard risks in the Nenana area include flooding, wildfire, earthquakes, snow and avalanche, severe weather, landslides and erosion. Shallow earthquakes in the area of Nenena would be considered 'intraplate' earthquakes, which can have a magnitude of up to 7 on the Richter scale. There have been three magnitude 7 earthquakes in the Fairbanks area in the past 90 years.[402] In late July, 2008, the Tanana River flooded, damaging residential septic, water systems and basements, washing out culverts, and temporarily shutting down Alaska RailRoad train service.[403]

Interior Alaska is dotted with mineral deposits. No mining projects are located directly in Nenana, but the greater Tanana-Fairbanks region has deposits of gold, copper, silver, tin, tungsten, and antimony.[404] To the south of Nenana, Usibelli Coal Mine, Inc. has been producing coal since the 1940s.[405]

According to the Alaska Department of Environmental Conservation (DEC), one active environmental cleanup site was located in Nenana as of May 2012. In 1991, petroleum contamination was identified in the soil and groundwater near an underground storage tank (UST) system at A-Frame Services in Nenana. In 1993, the UST system was removed and soils were excavated and treated. Ongoing groundwater monitoring indicates that the contaminated plume is stable and decreasing in concentration. To date, contaminants have not been detected above Maximum Contaminant Levels in a drinking water well located at the facility.[406]

Current Economy[407]

Over 40% of year-round jobs in Nenana are government-funded, including employment with the City, Tribe, Nenana School District, Yukon-Koyukuk School District, and Department of Transportation highway maintenance. As the center of rail-to-river barge transportation for Interior Alaska, Nenana has a strong seasonal private-sector economy. Crowley Marine is the major private employer in Nenana, providing supplies and fuel to over 40 villages along the Tanana and Yukon Rivers each summer. Subsistence foods, such as salmon, moose, caribou (by permit), bear, waterfowl, and berries play an important role. A number of Nenana residents are also involved in commercial salmon fisheries.[408,409] Between 2000 and 2010, the percentage of

---

[401] Alaska Dept. of Fish and Game (2012). Minto Flats State Game Refuge. *Protected Areas website*. Retrieved January 12, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=mintoflats.main.
[402] 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.
[403] State Emergency Coordinating Center (2008). *Situation Report – 2008 Tanana Basin Flooding*. Retrieved February 10, 2012 from http://fc.ak-prepared.com/dailysitrep/I00F90219/__OpenNdx.
[404] Szumigala, D.J., L.A. Harbo, and J.N. Adleman (2011). *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[405] Usibelli Coal Mine, Inc. (n.d.). *UCM History*. Retrieved January 10, 2012 from http://www.usibelli.com/History_KD.asp.
[406] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[407] Unless otherwise noted, all monetary data are reported in nominal values.
[408] 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.

Nenana residents holding state Commercial Fisheries Entry Commission (CFEC) permits was equivalent to between 6% and 7% of the population per year, although a smaller percentage were actively fished each year (see *Commercial Fishing* section).

Based on household surveys conducted for the 2006-2010 ACS,[410] in 2010, the per capita income in Nenana was estimated to be $25,479 and the median household income was estimated to be $56,250. This represents an increase from the per capita and median household incomes reported in the year 2000 ($17,334 and $33,333, respectively). Income levels in 2010 remain slightly higher than 2000 levels even when inflation is taken into account by converting the 2000 values to 2010 dollars,[411] revealing a real 2000 per capita income of $22,794 and real 2000 median household income of $43,832. In 2010, Nenana ranked 101st of 307 Alaskan communities with per capita income data that year, and 96th in median household income, out of 305 Alaskan communities with household income data.

Nenana's small population size may have prevented the ACS from accurately portraying economic conditions.[412] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Nenana in 2010 is $17,455,[413] similar to the per capita income reported for the year 2000. This suggests that caution is warranted when citing an increase in per capita income in Nenana between 2000 and 2010, but provides additional evidence for income stability in the community during this period. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

This evidence of income stability is reflected in the fact that Nenana did not meet the Denali Commission's primary criteria for a "distressed community" in 2010. However, Nenana did make a list of additional communities that meet the distressed classification when a plus/minus 3% formula is used.[414]

Based on the 2006-2010 ACS, in 2010, a slightly lower percentage of Nenana residents were estimated to be in the civilian labor force (64.4%) than in the civilian labor force statewide (68.8%). In the same year, 20.9% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 15.2%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the

---

[409] 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/.

[410] 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.

[411] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

[412] 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.

[413] See footnotes 409 and 410.

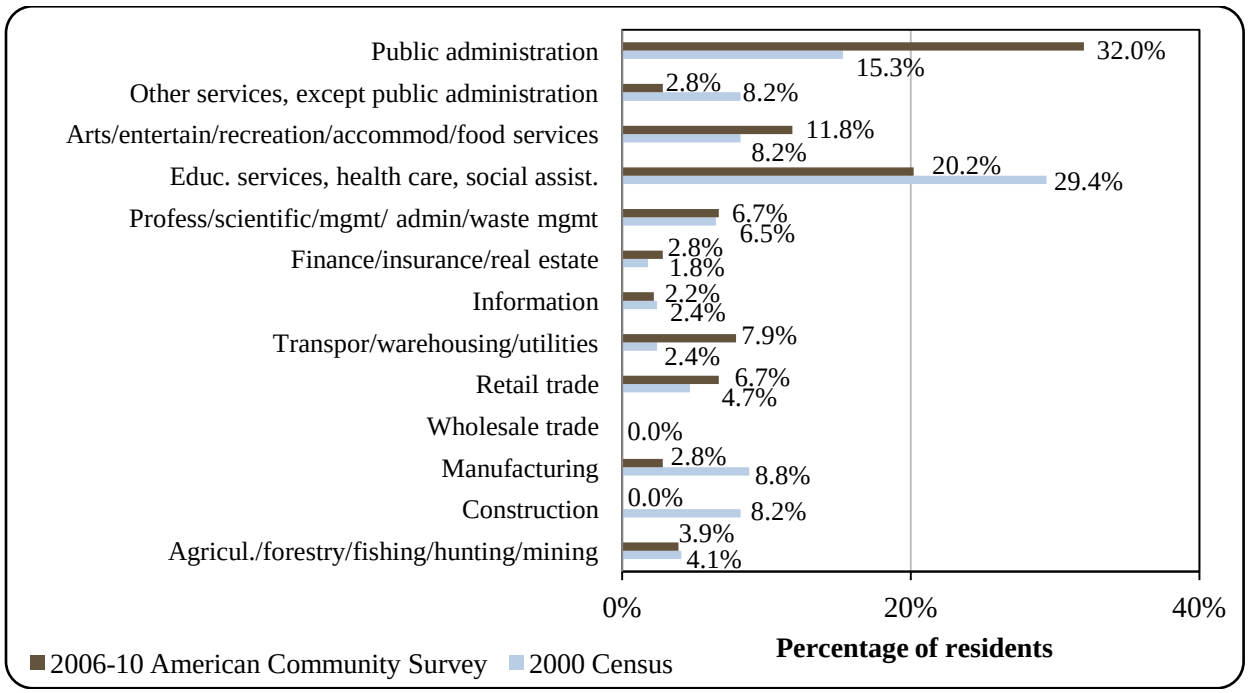
[414] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.

unemployment rate in 2010 was 19.9%, compared to a statewide unemployment rate estimate of 11.5%.[415]

Also based on the 2006-2010 ACS, the greatest number of workers was estimated to be employed in the private and public sectors (47.8% and 46.6%, respectively). Of the remaining 5.6%, 1.7% were estimated to be self-employed and 3.9% to be unpaid family workers. Of the 178 people aged 16 and over that were employed in the civilian labor force, the majority was estimated to be working in the public administration (32%) and educational services, health care, and social assistance (20.2%). Only 3.9% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. However, the number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

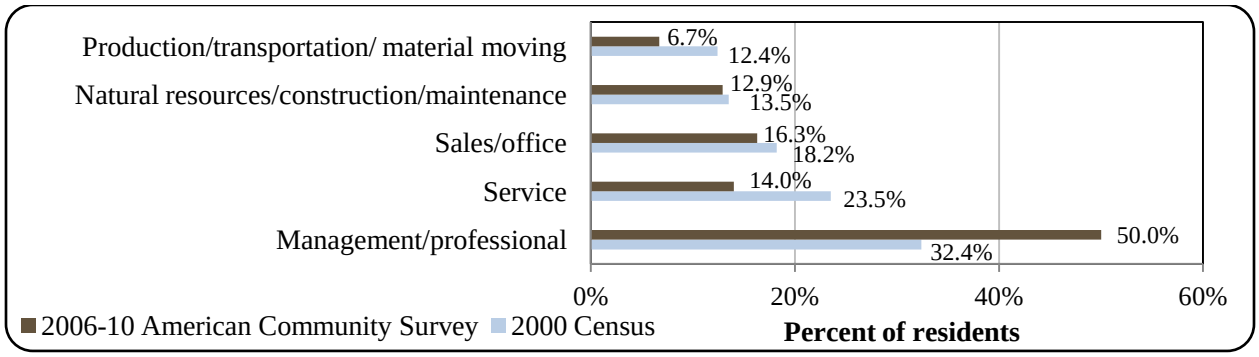
An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 224 employed residents in 2010, of which 25.4% were employed in local government, 21% in leisure and hospitality, 15.6% in trade, transportation, and utilities industries, 12.9% in educational and health services, 8.9% in construction, 4.5% in professional and businesses services, 4.5% in natural resources and mining, 4.5% in financial activities, 1.3% in state government, 0.4% in information, and 0.9% in other industries.[416] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Figure 3. Local Employment by Industry in 2000-2010, Nenana.



[415] See footnote 409.
[416] Ibid.

Figure 4. Local Employment by Occupation in 2000-2010, Nenana.



Governance

Nenana is a Home Rule City which was incorporated in 1921. It is not included in an organized borough. The City has a Strong Mayor form of government, with a seven-person city council including the mayor, a seven-person advisory school board, and four municipal employees. The City administers a 4% sales tax and a 12.0 mills property tax.[417] Annual municipal revenue totals generally increased over the 2000-2010 period. In addition to sales and property tax revenues, locally-generated revenue sources in Nenana include building rentals and leases, traffic fines, and charges for local services and events. Outside revenue sources include a variety of revenue sharing programs and grants. Nenana received contributions from the State Revenue Sharing program each year from 2000 to 2004, ranging from $27,540 to $40,000 per year, and Community Revenue Sharing contributions of approximately $120,000 per year in 2009 and 2010. Revenues were also received from the federal Payment in Lieu of Taxes program. It is also important to note that Nenana received an $850,000 grant from the Denali Commission in 2007 for upgrades to the Nenana Tug and Barge Port.[418] Information about selected aspects of Nenana's municipal revenue is presented in Table 2.

Nenana was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is the Nenana Native Association. The Native village corporation is Toghotthele Corporation, which manages 138,240 acres of land. The regional Native corporation to which Nenana belongs is Doyon, Limited.[419]

Nenana is also a member of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit provides health and tribal development services, as well as educational and employment services to individuals of member tribes.[420] The Tanana Chiefs Conference is one of the 12 regional Alaska

[417] 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.
[418] Denali Commission Project Database System (2008). *Nenana Tug and Barge Port Construction Project* Detail. Retrieved January 6, 2012 from https://www.denali.gov/dcpdb/.
[419] See footnote 417.
[420] Tanana Chiefs Conference (2007). *History*. Retrieved January 9, 2012 from http://www.tananachiefs.org/.

Native nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[421]

The closest offices of the Alaska Department of Natural Resources, Alaska Department of Fish and Game (ADF&G), Alaska Department of Commerce, Community, and Economic Development, and U.S. Bureau of Citizenship and Immigration Services are located in Fairbanks, 55 miles northeast of Nenana by road. Anchorage hosts the nearest office of the National Marine Fisheries Service (NMFS).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nenana 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	$493,165	$104,312	$27,540	n/a
2001	$494,727	$86,691	$28,900	n/a
2002	$709,024	$126,684	$28,000	n/a
2003	$657,588	$130,674	$28,000	n/a
2004	$716,589	$141,277	$40,000	n/a
2005	$883,076	$145,361	n/a	n/a
2006	$794,367	$129,687	n/a	n/a
2007	$800,647	$127,376	n/a	$850,000
2008	$926,309	$190,889	n/a	n/a
2009	$1,171,265	$149,010	$124,499	n/a
2010	$1,017,707	$149,078	$120,436	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm. Data retrieved April 15, 2011.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[421] U.S. Government Accountability Office (2005). *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.

Infrastructure

Connectivity and Transportation

Nenana is accessible by road, railroad, river, and air. The community is located on the George Parks Highway, the road connecting Wasilla and Fairbanks. The railroad provides daily freight service. The Nenana Municipal Airport offers a 4,600 feet long by 100 feet wide lighted asphalt runway and a gravel runway that doubles as a ski strip in the winter, which measures 2,520 feet by 60 feet. There is also a float pond with parking basins for float planes.[422] The airport receives air taxis and is open to transient and local general aviation. No scheduled commercial flights serve Nenana.[423] Fairbanks is located 55 miles away by road, and the price of a roundtrip ticket by plane from Fairbanks to Anchorage in early June of 2012 was $247.[424] Daily buses to Fairbanks and Anchorage are available year-round.[425]

The Nenana Port Authority operates the dry cargo loading and unloading facilities, dock, bulkhead, and warehouse. The Tanana River is shallow, with a maximum draft for loaded river barges of 4.5 feet. There is a public boat launch with a recreational area to provide access to the Nenana and Tanana rivers.[426]

Facilities

The City of Nenana operates a piped water and sewer system. Water is derived from a deep well, treated, and then distributed throughout the community via circulating loops. A piped gravity system collects sewage, which is treated at a secondary treatment plant. Most of the City is connected to the piped water and sewer system, which serves a total of 215 homes as well as the school. The remaining homes have individual wells and septic systems, and some use outhouses. Refuse is collected by a private firm and hauled to the Denali Borough regional landfill, located approximately 30 miles south along the George Parks Highway. A diesel powerhouse, operated by Golden Valley Electric Association, provides electricity to the City. Telephone and internet service is available in Nenana, but no cable company provides service locally.[427]

Public safety services are provided by state troopers stationed in Nenana, and fire/rescue services are provided by the Nenana Volunteer Fire Department and Emergency Medical Services (EMS). Nenana is home to the Nenana District Court system. Other community facilities include a youth/recreation center, a community center, senior housing, a small exercise room, a museum (the Alfred Starr Nenana Cultural Center) and both a public and a school library.[428] According to a survey conducted by the AFSC in 2011, community leaders reported additional public services available in Nenana, including a food bank and publicly subsidized housing.

---

[422] 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.
[423] Airport information retrieved January 9, 2012 from http://www.airnav.com.
[424] This price was calculated on November 21, 2011 using kayak.com.
[425] See footnote 422.
[426] Ibid.
[427] Ibid.
[428] Ibid.

With regard to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that 1,400 feet of dock space is available for permanent vessel moorage, and 800 feet of dock space is available for transient vessel moorage, with dock facilities served by both road access and water. They said the harbor is dredged and a jetty is in place, and that vessels up to 120 feet in length can use moorage at Nenana. Community leaders also indicated that haulout and dry dock services are available for vessels less than 60 tons, and that boat fuel, bait, and tackle are for sale in Nenana. According to the survey, Fairbanks is the primary destination for access to fisheries-related businesses and services not provided in Nenana.

Medical Services

Local health care is provided by the Nenana Clinic, which is owned by the Village Council non-profit and operated by the Tanana Chiefs Conference. The Nenana Clinic is a Community Health Aide Program (CHAP) site. Nenana also has a mental health clinic. Emergency Services have highway, river and airport access. Emergency service is provided by 911 Telephone Service volunteers and a health aide. Auxiliary health care is provided by the Nenana Volunteer Fire/EMS Department.[429] A number of hospitals are located 55 miles away in Fairbanks.

Educational Opportunities

The Nenana City School District operates one local school and a correspondence program. The Nenana City School and the CyberLynx Correspondence Program both serve preschool through 12th grade. As of 2011, the Nenana City School had 200 students and 18 teachers.[430] The CyberLynx Correspondence Program had 951 students and seven teachers that same year.[431] The Nenana Student Living Center, one of three statewide boarding facilities for high school students, provides housing to up to 88 students from around Alaska.[432]

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Indigenous people living along the Yukon and Tanana Rivers have long harvested salmon for subsistence purposes. Salmon was used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon in the Alaskan portion of the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon. Poor returns in the late 1990s and early 2000s

[429] Ibid.
[430] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[431] See footnote 422.
[432] Nenana School District (2010). *Nenana Student Living Center*. Retrieved January 9, 2012 from http://nenanalynx.org/nslc/.

resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[433] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but low returns required restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009. A fishery disaster was declared that year.[434] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[435]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[436]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts and 28 statistical areas. Nenana is located in the Upper Yukon Area of the Yukon salmon fishery, in Subdistrict 6B. Chinook, chum, and coho are the three species of salmon that have significant runs far into Interior Alaska and Canada. Fishing on the Upper Yukon takes place using drift gillnets and fish weirs.[437]

According to a survey conducted by the AFSC in 2011, community leaders indicated that Nenana residents are involved in the fisheries management process in Alaska by sending a representative to participate in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process. Nenana is not eligible to participate in the Community Development Quota or the Community Quota Entity programs.

Processing Plants

ADF&G's 2010 Intent to Operate list did not list a registered processing plant in Nenana. One nearby processing facility was listed in Fairbanks.

---

[433] Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[434] Upton, Harold F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.
[435] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster.
[436] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[437] See footnote 433.

Fisheries-Related Revenue

According to information provided in Nenana's annual municipal budget between 2000 and 2010, a majority of fisheries-related revenue came from harbor usage fees, along with $100 from a raw fish tax in both 2001 and 2002. Refer to Table 3 for details on selected aspects of fisheries-related revenue during this period.[438]

Commercial Fishing

Between 2000 and 2010, Nenana residents participated in commercial fisheries as crew members, vessel owners, and state permit holders. In 2010, there were 23 Nenana residents holding a total of 26 Commercial Fisheries Entry Commission (CFEC) permits, all for salmon fisheries. Of these, only six were actively fished in 2010. A majority of these permits, including all six active permits, were for the upper Yukon River fish wheel fishery, with the remainder issued for the upper Yukon drift gillnet fishery. Until 2002, one Nenana resident also held a permit in the lower Yukon drift gillnet fishery. Salmon CFEC permit numbers were relatively stable between 2000 and 2010, declining from 29 total permits in 2000 to 25 in 2010. No permits were fished in 2000 or 2001, reflecting the closure of the Chinook fishery in 2001 (see *History and Evolution of Fisheries* section above.) The highest number of permits was fished in 2006, with nine active permits that year. Between 2000 and 2010, no Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were held by Nenana residents, and no quota share accounts were held in federal catch share fisheries for halibut, sablefish, or crab. Information about permits held by Nenana residents is presented in Table 4, and information about federal quota is presented in Tables 6 through 8.

In 2010, one Nenana resident held a commercial crew license and no residents were the primary owner of a fishing vessel (Table 5). Between 2000 and 2010, the number of crew license holders fluctuated between zero in 2001-2002 and five in 2006. The number of Nenana residents that were primary owners of a fishing vessel fluctuated between zero and two during the 2000-2010 period. According to a survey conducted by the AFSC in 2011, community leaders indicated that the only vessels using Nenana as a base of operations during the fishing season were gillnet boats under 35 feet in length. In 2010, no fish buyers or processors were present in Nenana (Table 5) and no landings or ex-vessel revenue were recorded in the community (Table 9). Information about landings and ex-vessel revenue generated by vessels owned by Nenana residents is considered confidential between 2000 and 2009 due to the small number of participants. No vessels were primarily owned by Nenana residents in 2010 (Table 10).

[438] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	$100	$100	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	3	49	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	$271,250	$215,750	$219,940	$219,040	$260,250	$255,750	$250,974	$248,474	$263,500	$274,692	$249,750
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$271,253*	*$215,899*	*$220,040*	*$219,040*	*$260,250*	*$255,750*	*$250,974*	*$248,474*	*$263,500*	*$274,692*	*$249,750*
Total municipal revenue[5]	*$493,165*	*$494,727*	*$709,024*	*$657,588*	*$716,589*	*$883,076*	*$794,367*	*$800,647*	*$926,309*	*$1.17M*	*$1.02M*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	29	27	27	28	26	26	28	27	26	26	25
	Fished permits	0	0	4	6	7	5	9	9	6	2	6
	% of permits fished	0%	0%	15%	21%	27%	19%	32%	33%	23%	8%	24%
	Total permit holders	28	25	25	27	25	24	26	25	25	24	23
Total CFEC Permits[2]	*Permits*	*29*	*27*	*27*	*28*	*26*	*26*	*28*	*27*	*26*	*26*	*25*
	Fished permits	*0*	*0*	*4*	*6*	*7*	*5*	*9*	*9*	*6*	*2*	*6*
	% of permits fished	*0%*	*0%*	*15%*	*21%*	*27%*	*19%*	*32%*	*33%*	*23%*	*8%*	*24%*
	Permit holders	*28*	*25*	*25*	*27*	*25*	*24*	*26*	*25*	*25*	*24*	*23*

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

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

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

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

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	0
Finfish	-	-	-	-	-	-	-	-	-	-	0
Halibut	-	-	-	-	-	-	-	-	-	-	0
Herring	-	-	-	-	-	-	-	-	-	-	0
Other Groundfish	-	-	-	-	-	-	-	-	-	-	0
Other Shellfish	-	-	-	-	-	-	-	-	-	-	0
Pacific Cod	-	-	-	-	-	-	-	-	-	-	0
Pollock	-	-	-	-	-	-	-	-	-	-	0
Sablefish	-	-	-	-	-	-	-	-	-	-	0
Salmon	-	-	-	-	-	-	-	-	-	-	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	$0
Finfish	-	-	-	-	-	-	-	-	-	-	$0
Halibut	-	-	-	-	-	-	-	-	-	-	$0
Herring	-	-	-	-	-	-	-	-	-	-	$0
Other Groundfish	-	-	-	-	-	-	-	-	-	-	$0
Other Shellfish	-	-	-	-	-	-	-	-	-	-	$0
Pacific Cod	-	-	-	-	-	-	-	-	-	-	$0
Pollock	-	-	-	-	-	-	-	-	-	-	$0
Sablefish	-	-	-	-	-	-	-	-	-	-	$0
Salmon	-	-	-	-	-	-	-	-	-	-	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders indicated that sportfishing activity occurs near Nenana using private boats owned by both Alaska residents and non-Alaska residents, as well as charter boats. According to ADF&G, no active sport fish guide businesses were present in Nenana between 2000 and 2010. However, between one and eight licensed sport fish guides per year resided in Nenana from 2000 to 2006. Very few sport fish licenses were sold in Nenana (between 0 and 17 per year over the period), although Nenana residents purchased over 250 licenses each year, irrespective of point of sale. According to the 2011 AFSC survey, community leaders noted that bait and fishing tackle is available for purchase in Nenana. However, the fact that a majority of Nenana residents purchase sportfishing licenses elsewhere indicates that Nenana may not be the primary launching point for sportfishing in the area. Sport fishermen may purchase licenses and gear in nearby Fairbanks or other surrounding communities.

In the 2011 AFSC survey, community leaders indicated that the primary target of sportfishing activity is Nenana is salmon. The Alaska Statewide Harvest Survey,[439] conducted by ADF&G between 2000 and 2010, confirmed this and noted the following species as targeted by private anglers in Nenana: coho, sockeye, and Chinook salmon, rainbow trout, Dolly Varden char, whitefish, burbot, and Arctic grayling in fresh water, and coho and pink salmon, Pacific halibut, and rockfish in salt water. The Harvest Survey also noted harvest of razor and hardshell clams by residents of Nenana. No kept/release log book data were reported for fishing charter businesses out of Nenana between 2000 and 2010.[440]

Nenana is located within Alaska Sport Fishing Survey Area U – Tanana River Drainage. This Survey Area does not include saltwater areas, reflected in the lack of saltwater angler days reported in Table 11. Freshwater fishing activity was very high in the region between 2000 and 2010. Alaska resident anglers fished significantly more angler days in the Tanana River drainage (71,461 - 110,256 angler days per year) than non-Alaska resident anglers (7,415 – 11,853 per year). This information about fishing trends in Nenana is presented in Table 11.

[439] 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).

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

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Nenana[2]
2000	0	3	263	0
2001	0	8	268	0
2002	0	7	264	1
2003	0	7	267	0
2004	0	3	275	6
2005	0	1	275	12
2006	0	1	244	10
2007	0	0	258	16
2008	0	0	251	17
2009	0	0	256	8
2010	0	0	285	11

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]
2000	0	0	11,517	110,246
2001	0	0	10,744	80,391
2002	0	0	9,733	98,884
2003	0	0	7,502	92,432
2004	0	0	11,853	104,633
2005	0	0	11,335	82,063
2006	0	0	8,216	71,461
2007	0	0	9,327	91,629
2008	0	0	7,613	64,722
2009	0	0	7,415	85,082
2010	0	0	9,025	87,834

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

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

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

Subsistence Fishing

Subsistence harvest of salmon, along with moose, caribou, bear, waterfowl, and berries, play an important role in the culture and lifestyle of Nenana.[441] The Minto Flats State Game Preserve, located north of Nenana, is an important area for harvesting fish, wildlife, and other resources.[442] In a survey conducted by the AFSC in 2011, Nenana community leaders said that all five salmon species are important subsistence resources utilized by local residents.

Results of a 2004 subsistence survey conducted by ADF&G did not report information about the number of households participating in subsistence for salmon, halibut, marine mammals, or marine invertebrates in Nenana. The survey did find that 17% of Nenana households participated in non-salmon fish subsistence (not including halibut) in 2004 (Table 12). That year, a total of 4,732 pounds of non-salmon fish was harvested by Nenana residents, and no information was reported regarding total harvest of marine invertebrates (Table 13). Species of non-salmon fish harvested in by Nenana residents included Bering and least cisco, broad, humpback, and round whitefish, lake and rainbow trout, Dolly Varden char, blackfish, sheefish, burbot, Arctic grayling, herring, northern pike, and sucker. Of these species, grayling, pike, and broad whitefish were the most heavily utilized for subsistence purposes in 2004.[443]

Information was also available between 2000 and 2010 regarding subsistence harvest of salmon. The number of Nenana households that were issued subsistence salmon permits varied from 45 to 66 per year between 2000 and 2008, and the number of permits returned each year varied from 32 and 59. On average, 8,560 chum and 5,858 coho salmon were harvested per year, along with 816 Chinook and 702 sockeye per year. No pink salmon were reported as harvested by Nenana residents between 2000 and 2008. This information about subsistence salmon harvest is presented in Table 13.

No information was reported by management agencies regarding participation by Nenana residents in the Subsistence Halibut Registration Certificate (SHARC) program (Table 14) or subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

Additional Information

According to elders interviewed in Nenana in the 1980s, Nenana is a place where people and animals could talk to one another a long time ago. The site was used as a mid-winter ceremonial gathering place, in addition to a summer fish camp.[444]

---

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

[442] Alaska Dept. of Fish and Game (2012). Minto Flats State Game Refuge. *Protected Areas website*. Retrieved January 12, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=mintoflats.main.

[443] 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).

[444] Shinkwin, A. and M. Case (1984). Modern Foragers: Wild Resource Use in Nenana Village, Alaska. Technical Paper 91, *Alaska Department of Fish and Game*, *Division of Subsistence*. Retrieved January 9, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp091.pdf.

Table 12. Subsistence Participation by Household and Species, Nenana: 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	17%	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, Nenana: 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	52	50	597	823	1,828	n/a	210	n/a	n/a
2001	66	59	1,610	1,173	5,143	n/a	602	n/a	n/a
2002	59	53	707	2,169	4,499	n/a	671	n/a	n/a
2003	63	54	1,315	10,370	5,619	n/a	685	n/a	n/a
2004	49	32	608	8,280	8,906	n/a	648	n/a	4,732
2005	45	41	541	12,365	12,395	n/a	1,005	n/a	n/a
2006	53	49	720	10,918	7,065	n/a	986	n/a	n/a
2007	60	57	911	23,292	4,495	n/a	1,028	n/a	n/a
2008	56	53	331	7,646	2,775	n/a	482	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, Nenana: 2003-2010.

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

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

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

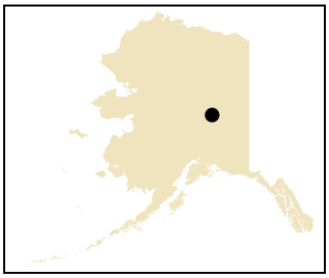
Note: n/a indicates that no data were reported for that year.

[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.

North Pole



People and Place

Location [445]

North Pole is located on the banks of the Tanana River, 14 miles southeast of Fairbanks on the Richardson Highway. It lies 386 miles north of Anchorage and 2,347 miles northwest of Seattle. North Pole is located in the Fairbanks Recording District and the Fairbanks North Star Borough Census Area. The City encompasses 4.2 square miles of land and 0.1 square miles of water.

Demographic Profile [446]

In 2010, there were 2,117 inhabitants in North Pole, making it the 44th largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population of North Pole increased by 45.4%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 40.1%, with an average annual growth rate of 2.79% (Table 1).

In 2010, a majority of North Pole residents identified themselves as White (79.6%), while 5.4% identified themselves as Black or African American, 4% as Asian, 3.4% as American Indian or Alaska Native, 0.1% as Native Hawaiian and Other Pacific Islander, 1% as 'some other race', and 6.4% identified with two or more races. In addition, 6.1% of North Pole residents identified themselves as Hispanic in 2010. The percentages of residents identifying as White and as American Indian or Alaska Native stayed relatively stable from 2000 to 2010. The percentage residents identifying as Asian in 2010 was 1.4% higher than in 2000, and the percentage of residents identifying as Hispanic was 2.3% higher (Figure 1).

Between 1990 and 2010, the average household size in North Pole remained stable with 2.58 persons per household in 1990, 2.5 in 2000, and 2.54 in 2010. The number of households in North Pole increased over time, from 564 households in 1990 and 605 in 2000, to 828 occupied housing units in 2010. Of the 916 total housing units surveyed for the 2010 U.S. Decennial Census, 50% were owner-occupied, 40.4% were rented, and 9.6% were vacant or used only seasonally. In 1990, no residents were reported to be living in group quarters in North Pole. However, by 2000, 9 residents lived in group quarters, and 10 were reported to be living in group quarters in 2010.

In 2010, the gender makeup of North Pole's population (50.6% male and 49.4% female) was more gender balanced than in the population of the State as a whole, which was 52% male and 48% female. The median age of North Pole residents was 30 years in 2010, slightly younger

[445] 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.

[446] 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.

than the national average of 36.8 years and the median age for Alaska, 33.8 years. That same year, 9.2% of North Pole's population was age 60 or older. The overall population structure of North Pole in 2000 and 2010 is shown in Figure 2.

Table 1. Population in North Pole from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	1,456	-
2000	1,570	-
2001	-	1,469
2002	-	1,601
2003	-	1,602
2004	-	1,530
2005	-	1,601
2006	-	1,648
2007	-	1,977
2008	-	2,207
2009	-	2,200
2010	2,117	-

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

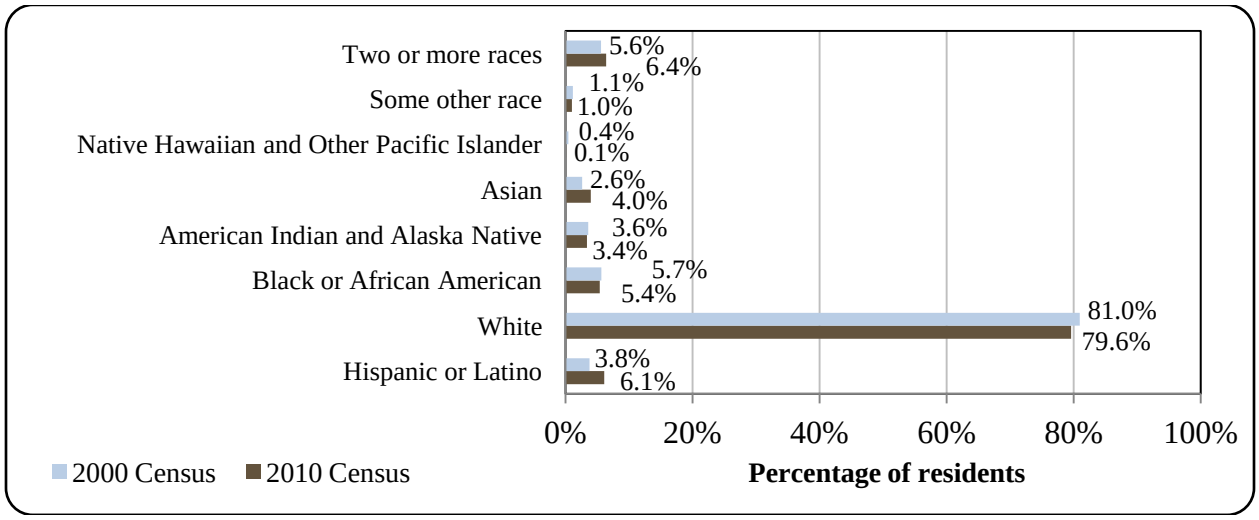
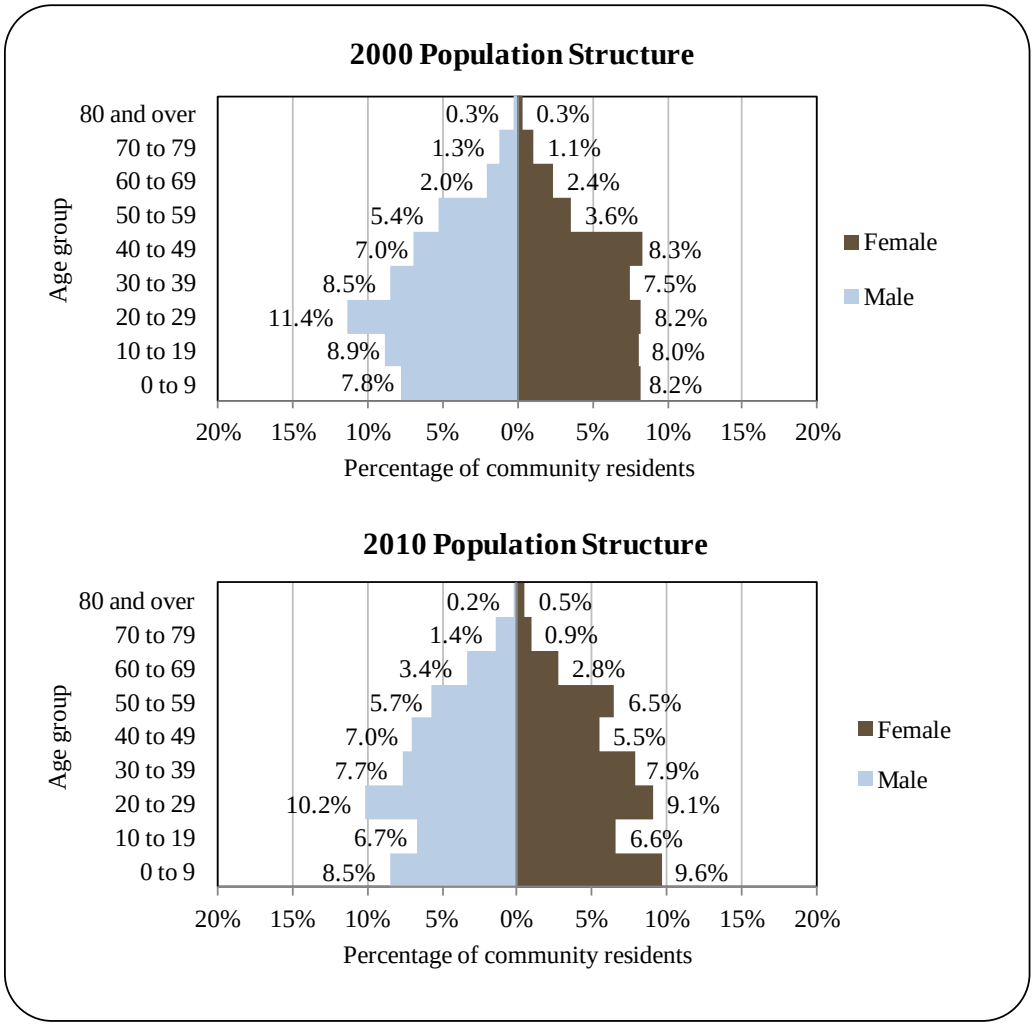


Figure 2. Population Age Structure in North Pole Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[447] 90.8% of North Pole residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 2.5% of the population was estimated to have less than a 9th grade education, compared to 3.5% of Alaskan residents overall; 6.7% were estimated to have a 9th to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 34.8% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 9.8% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and

[447] 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.

6.4% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture

In 1944, Bon Davis homesteaded this area. Dahl and Gaske Development Company later bought the Davis homestead, subdivided it, and named it North Pole, hoping to attract a toy manufacturer that would advertise products as being made in North Pole.[448] Although no toy manufacturers came to the City, the spirit of Christmas is alive in North Pole through street names, decorations, and community events. In addition, in the 1950s, Con Miller named his trading post the Santa Claus House, and developed a reputation for playing Santa Claus to Native children in Alaskan villages during his bush trading trips.[449] The City was incorporated in 1953. Growth from Fairbanks and the nearby Eielson Air Force Base has increased development in North Pole over the years. Today, North Pole is renowned as the "home of Santa Claus." Letters from children all over the world are mailed to North Pole at Christmas each year. The Santa Claus House is a year-round attraction.[450]

Natural Resources and Environment

North Pole has a sub-arctic interior climate, characterized by extreme seasonal temperatures. Average January temperatures range from -19 to -2 °F, and average July temperatures range from 49 to 71 °F. Located at 64.75° N. latitude, North Pole also experiences extreme variation in daylight hours between summer and winter. North Pole receives moderate rainfall, and the air is dry. Annual precipitation averages 11.5 inches, with 68 inches of snowfall.[451]

North Pole is located less than 20 miles west of the Chena River State Recreation Area. The Area contains 397 square miles of forests, rivers, and alpine tundra, and offers opportunities for camping, backpacking, boating, swimming, and sportfishing. In winter months, ice fishing is a popular activity in the Recreation Area, along with ski touring and snow machining. Several dogsled races pass through the area. Wildlife in the Recreation Area includes moose, black and grizzly bears, and beavers. The Alaska Department of Fish and Game (ADF&G) stocks Chena Lake annually with rainbow trout, coho salmon, and Arctic char. The Chena River is home to Arctic grayling, northern pike, whitefish, burbot, and an annual run of Chinook salmon.[452,453]

Segments of the Tanana Valley State Forest are located both southeast and west of the Fairbanks-North Pole area. In combination, these segments of the forest total 1.78 million acres and stretch along the Tanana River from near the Canadian border to Manley Hot Springs, approximately 100 miles west of North Pole. Almost 90% of the forest is covered by hardwood and hardwood-spruce type forests, with high representation of paper birch, quaking aspen,

---

[448] 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.
[449] North Pole Chamber of Commerce. (n.d.). *North Pole History & Economy*. Retrieved February 28, 2012 from Retrieved February 28, 2012 from http://www.northpolechamber.us/NP-history.html.
[450] See footnote 448.
[451] Ibid.
[452] Alaska Dept. of Natural Resources, Division of Parks and Outdoor Recreation. 2011. *Chena River State Recreation Area*. Retrieved February 28, 2012 from http://dnr.alaska.gov/parks/units/chena/.
[453] Chena Lake Recreation Area. 2008. *Homepage.* Retrieved February 28, 2012 from http://www.chenalake.com/.

balsam poplar, black and white spruce, and tamarac. Almost 7% of the forest is shrub land, covered primarily in willow.[454]

Natural hazards in the vicinity of North Pole include flooding, wildfire, earthquakes and volcanic activity, severe weather, and erosion. Shallow earthquakes in the Fairbanks area would be considered 'intraplate' earthquakes, which can have a magnitude of up to 7.0 on the Richter scale. There have been three magnitude 7.0 earthquakes in the Fairbanks area in the past 90 years.[455]

Interior Alaska is dotted with mineral deposits. The Fairbanks area historically had world-class gold deposits. Today, the greater Tanana-Fairbanks region has deposits of gold, copper, silver, tin, tungsten and antimony. As of 2010, the Fairbanks North Star Borough reported an average of between 400 and 500 mining and support activity jobs. The Usibelli Coal Mine, Inc. was the third-largest private employer in the Borough that year.[456] Usibelli Coal Mine has been producing coal since the 1940s.[457]

According to the Alaska Department of Environmental Conservation, one active environmental cleanup site was located in the vicinity of North Pole as of May 2012. Between 1954 and 1973, the Haines-Fairbanks pipeline was used to transport petroleum products from a deep-water port in Haines to various military facilities, including Eielson Air Force Base, which is located approximately 10 miles southeast of North Pole. Between 2001 and 2005, investigations were carried out into possible ground contamination from petroleum products, as well as possible dioxin residues from pesticide application along the pipeline. Results of dioxin sampling found no evidence of contamination in soils, and the Army Corps of Engineers (COE) does not currently plan to conduct further testing. As of 2005, a petroleum sampling plan was being developed, and the COE intended to identify areas of contamination and work with landowners to resolve issues of concern.[458]

Current Economy[459]

Given North Pole's close proximity to Fairbanks, residents have access to employment in the greater Fairbanks area. Employment is diverse.[460] In 2010, top employers of local residents included the Fairbanks North Star School District, the State of Alaska, the University of Alaska, health services, retail businesses, Borough government, and an investment company.[461] In addition, some residents are employed by the military or the oil industry. Flint Hills Resources

---

[454] Alaska Dept. of Natural Resources, Division of Forestry. 2001. "Introduction." *Tanana Valley State Forest Management Plan: 2001 Update.* Retrieved January 12, 2012 from http://forestry.alaska.gov/management/tvsf_final_plan.htm.
[455] 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.
[456] Szumigala, D.J., L.A. Harbo, and J.N. Adleman. *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[457] Usibelli Coal Mine, Inc. website. (n.d.). *UCM History*. Retrieved January 10, 2012 from http://www.usibelli.com/History_KD.asp.
[458] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from http://dec.alaska.gov/spar/csp/list.htm.
[459] Unless otherwise noted, all monetary data are reported in nominal values.
[460] See footnote 448.
[461] 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/.

oil refinery, located in North Pole, produces jet fuel, heating oil, gasoline and diesel from North Slope crude oil. Another company, Petro Star, also operates a small distillery. Several North Pole residents also participate in commercial fishing activities. It is also important to note that every Christmas season Santa's helpers are hired to respond to the thousands of letters mailed to North Pole.[462]

Based on household surveys conducted for the 2006-2010 ACS,[463] in 2010, the per capita income in North Pole was estimated to be $26,596 and the median household income was estimated to be $61,225. This represents an increase from the per capita and median household incomes reported in the year 2000 ($21,426 and $44,583, respectively). When inflation is taken into account by converting the 2000 values to 2010 dollars,[464] a real increase is still observed in median household income, from real median household income of $58,626 in 2000. However, a real decrease is revealed in per capita income, from a real per capita income of $28,175 in 2000. In 2010, North Pole ranked 90th of 307 Alaskan communities with per capita income data that year, and 73rd in median household income, out of 305 Alaskan communities with household income data.

North Pole's small population size may have prevented the ACS from accurately portraying economic conditions.[465] An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for North Pole in 2010 is $12,796.[466] This estimate is lower than the 2000 per capita income reported in by the U.S. Census, This supporting the decreasing per capita income trend suggested by the 2010 ACS estimate. Despite decreases in per capita income, North Pole was not recognized as a "distressed" community by the Denali Commission in 2011.[467] It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a similar percentage of North Pole residents were estimated to be in the civilian labor force (68.2%) compared to population in the civilian labor force statewide (68.8%). In the same year, 9.2% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 6.7%, slightly higher than the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the

---

[462] 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.

[463] 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.

[464] Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gov/research/cpi/inflationcalc.htm).

[465] 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.

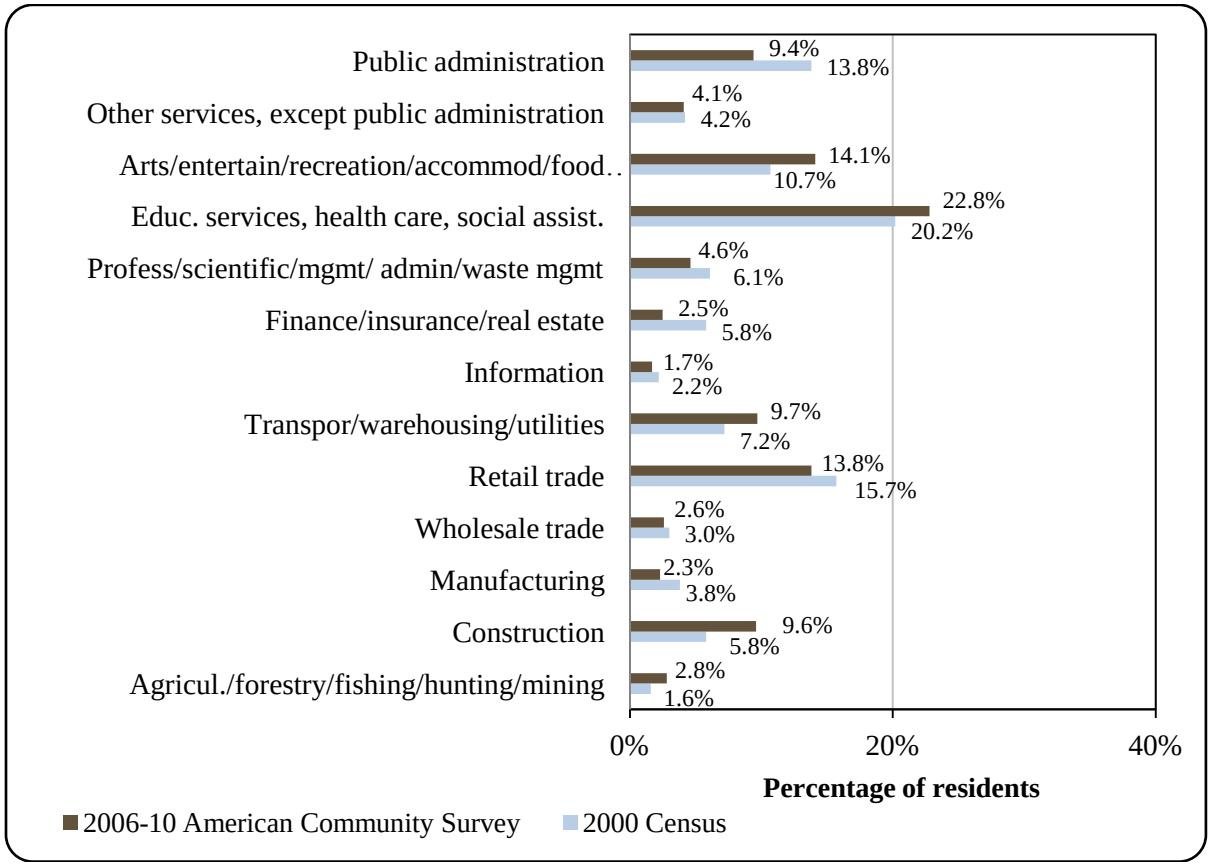
[466] See footnotes 461 and 463.

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

unemployment rate in 2010 was 9.3%, compared to a statewide unemployment rate estimate of 11.5%.[468]

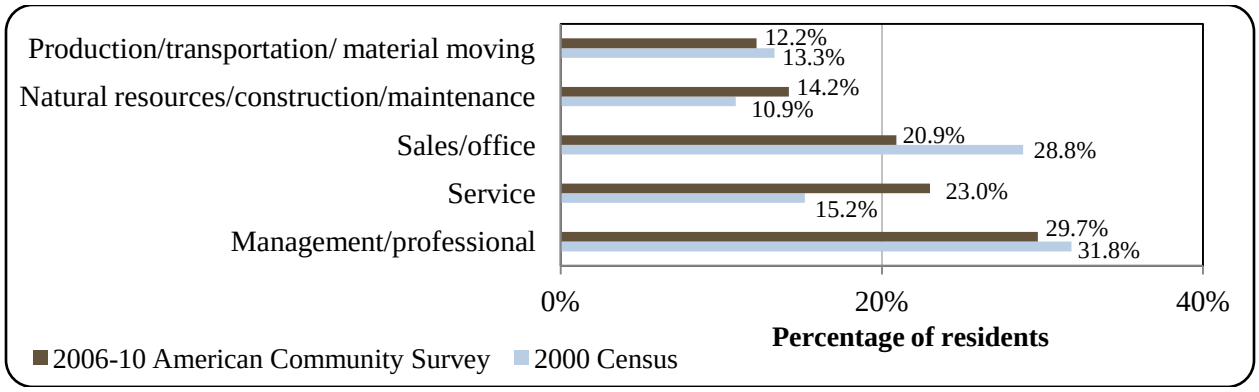
Also based on the 2006-2010 ACS, the greatest number of workers was estimated to be employed in the private sector (68.1%), along with 27.4% in the public sector, and 4.5% estimated to be self-employed. Of the 1,089 people aged 16 and over that were estimated to be employed in the civilian labor force, the majority was estimated to be working in educational services, health care, and social assistance (20.2%), retail trade (15.7%), public administration (13.8%), and arts, entertainment, accommodation, and food services (10.7%). Only 1.6% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. However, the number of individuals employed in farming, fishing, and forestry industries is potentially underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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



[468] Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from http://live.laborstats.alaska.gov/alari/.

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



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 797 employed residents in North Pole in 2010, of which 25% were employed in trade, transportation, and utilities, 12.2% in leisure and hospitality, 11.5% in education and health services, 10.9% in local government, 8.3% in professional and business services, 8.3% in state government, 7.7% in construction, 5.3% in financial activities, 3.5% in natural resources and mining, 2.5% in manufacturing, 0.8% in information, 0.4% in unknown industries, and 3.8% in other industries.[469] As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

Governance

North Pole is a Home Rule City which was incorporated in 1953. It is located in the Fairbanks North Star Borough. The City has a Strong Mayor form of government, with a seven-person city council including the Mayor, a seven-person advisory school board, and five municipal employees. The City administers a 4% sales tax, 8% bed tax, 5% alcohol tax, and 8% tobacco tax. Together, the City and Borough administer a 15.445 mills property tax.[470]

In addition to tax revenues, other locally-generated revenue sources in North Pole between 2000 and 2010 included permit and business license fees, charges for services such as ambulance, and investment income. Outside revenue sources included various shared revenue programs as well as state and federal grant funding. North Pole received contributions from the State Revenue Sharing program from 2000 to 2003 of between $14,000 and $34,000 per year and Community Revenue Sharing program contributions of approximately $200,000 per year in 2009 and 2010. Other sources of shared revenue included state telephone and electric co-op tax refunds and fish tax refunds in some years (see the *Fisheries-Related Revenue* section). No information was reported regarding fisheries-related grants received by North Pole between 2000 and 2010. Information about selected aspects of North Pole's municipal revenue is presented in Table 2.

[469] Ibid.
[470] 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.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of North Pole 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	$2,801,117	$1,219,624	$14,000	n/a
2001	$5,115,286	$1,388,770	$23,612	n/a
2002	$3,468,594	$1,344,710	$23,612	n/a
2003	$5,195,843	$1,563,306	$23,715	n/a
2004	$3,999,341	$1,589,859	n/a	n/a
2005	$5,111,667	$2,182,822	n/a	n/a
2006	$4,333,161	$2,666,932	n/a	n/a
2007	$5,157,034	$2,351,143	n/a	n/a
2008	$5,227,035	$2,432,917	n/a	n/a
2009	$5,067,738	$2,398,544*	$196,287	n/a
2010	$5,367,772	$2,793,448*	$203,079	n/a

* Note: Sales tax revenue was not reported separate from alcohol and bed taxes this year. This number includes total revenue from alcohol and bed taxes in addition to local sales tax.
[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

North Pole was not included under the Alaska Native Claims Settlement Act (ANCSA), and is not federally recognized as a Native village. The closest offices of the ADF&G, the Alaska Department of Natural Resources (DNR), Alaska Department of Commerce, Community, and Economic Development, and Bureau of Citizenship and Immigration Services are located in Fairbanks, 14 miles from North Pole by road. Anchorage has the nearest office of the National Marine Fisheries Service (NMFS).

Infrastructure

Connectivity and Transportation

North Pole is connected to nearby communities via the Alaska Railroad, which runs through the city center, and via the interior Alaska highway system. Fairbanks International airport is located approximately 19 miles away by road, on the far side of the City of Fairbanks. The price of a roundtrip ticket by plane from Fairbanks to Anchorage in early June of 2012 was $247.[471] In addition, one public and six private airstrips are present in North Pole, although these

[471] This price was calculated on November 21, 2011 using kayak.com.

facilities are not served by scheduled commercial flights.[472]

Facilities

Water in North Pole is derived from community and private wells. Water is filtered and chlorinated before entering the City-operated piped water system. The City also operates a piped sewer system, and collected sewage is treated in an aerated lagoon. Some homes use private septic tanks. The City does not operate its own landfill. Refuse collection services are provided by a private company, Drake's Refuse. The Golden Valley Electric Association provides electricity is in North Pole using natural gas. Police services are provided by the North Pole City Police Department.[473] The nearest state trooper post is located in Fairbanks.[474] Fire and rescue services are provided by the North Pole Fire Department and ambulance, as well as the North Star and Moose Creek Volunteer Fire Departments and ambulance services. Additional community facilities include a Boys and Girls Club, a City Hall Annex, senior housing, one public and three school libraries, and a swimming pool. An RV park and campground is available for North Pole visitors. Several taxis are based in the City, and car rentals are available in Fairbanks. Telephone, internet, and cable services are available in North Pole.[475]

Medical Services

Health care is provided for North Pole residents at the Fairbanks Hospital, 15 miles away by road, as well as several local health clinics. Emergency Services include highway, airport, and floatplane access, and are provided by 911 telephone service volunteers and paid emergency medical services. Alternate health care is provided by the North Pole Fire Department ambulance and North Star Volunteer Fire Department.[476]

Educational Opportunities

Six schools are located in North Pole, including three elementary schools (preschool through 6th grade), one middle school (grades 6 through 8), one high school (grades 9 through 12) and one additional secondary school (grades 7 through 12). As of 2011, Badger Road Elementary School had 592 students and 32 teachers, North Pole Elementary School had 484 students and 26 teachers, and Ticasuk Brown Elementary School had 548 students and 31 teachers. That year, North Pole Middle School had 582 students and 40 teachers, North Pole High School (grades 9 through 12) had 783 students and 45 teachers, and Star of the North Secondary School (grades 7 through 12) had 192 students and 12 teachers.[477]

---

[472] Airport information retrieved February 27, 2012 from www.airnav.com.
[473] 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.
[474] Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from http://www.dps.state.ak.us/ast/detachments.aspx.
[475] See footnote 473.
[476] Ibid.
[477] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

North Pole is located along a portion of the Tanana River included in District 6 of the Yukon Commercial Salmon Fishery. Several North Pole residents held permits in the Upper Yukon gillnet and fish wheel fisheries between 2002 and 2010, although a majority of salmon permits were held in fisheries executed elsewhere in the state (see *Commercial Fishing* section).

Historically, salmon was harvested for subsistence purposes by indigenous people living along the Yukon and Tanana Rivers, as well as for food for sled dogs. The first recorded commercial harvest of salmon in the Yukon River fishery took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon River. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[478] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but low returns required restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009. A fishery disaster was declared that year.[479] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.[480]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run was not large enough to provide for commercial opportunity. From 2008 to 2010, management actions were taken to delay commercial fishing to provide for escapement and subsistence use.[481]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 subdistricts, and 28 statistical areas. Chinook, chum, and coho are the three species of salmon that have significant runs far into Interior Alaska and Canada. Fishing in the Upper Yukon Area takes place using drift gillnets and fish weirs.[482]

---

[478] Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[479] Upton, Harold F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.
[480] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster.
[481] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[482] See footnote 478.

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

Processing Plants

The 2010 Alaska Department of Fish and Game's Intent to Operate list does not list a registered processing plant in North Pole. However, Fairbanks-based Interior Alaska Fish Processors, also known as "Santa's Smokehouse" has an additional processing facility in North Pole. The Fairbanks plant processes commercially-caught halibut and all five species of salmon. In addition, Interior Alaska Fish Processors provides custom processing services on sport-caught fish and meats.[483]

Fisheries-Related Revenue

According to information provided in North Pole's annual municipal budget between 2000 and 2010, fisheries-related revenue was not an important source of income for the City. Between $48 and $319 were reported in earnings from the Shared Fisheries Business Tax in 5 years during the 2000-2010 period. Refer to Table 3 for details on selected aspects of fisheries-related revenue during this period.[484]

Commercial Fishing

Between 2000 and 2010, North Pole residents participated in commercial fisheries as crew members, vessel owners, permit holders, and quota share account holders. In 2010, 20 North Pole residents held a total of 25 Commercial Fisheries Entry Commission (CFEC) salmon permits (Table 4). Of these, 10 were actively fished in 2010. A majority of these permits, including 9 of the 10 active permits, were held in a variety of salmon fisheries around the state. Salmon fisheries in which North Pole residents held permits in 2010 included: Kodiak purse seine (two held, zero active in 2010); Bristol Bay drift gillnet (three held, three active); Bristol Bay set gillnet (seven held, six active); Upper Yukon gillnet (two held, zero active); Kotzebue gillnet (one held, zero active); statewide hand troll (two held, zero active); and Upper Yukon fish wheel (three held, zero active). The number of salmon CFEC permits held in North Pole increased between 2000 and 2010, although the percentage of salmon permits fished declined slightly.

Also in 2010, three CFEC permits were held in 'other shellfish' fisheries and two were held in herring fisheries (Table 4). All three 'other shellfish' permits were held in Prince William Sound shrimp fisheries, including two for use of pot gear on vessels under 60 feet (one permit active in 2010), and one for pot gear on vessels over 60 feet (not active in 2010). 2010 was the first year between 2000 and 2010 that 'other shellfish' CFEC permits were held by residents of North Pole. Regarding herring CFEC permits, in 2010, one was held in the Goodnews Bay roe herring, spawn on kelp fishery, and the other in the Bristol Bay spawn on kelp, hand-picking fishery. Neither of these herring permits was actively fished in 2010. During the 2000-2010 period, North Pole residents held herring permits from 2005 to 2010, and the percentage of

[483] Santa's Smokehouse. (n.d.). *Homepage*. Retrieved June 20, 2012 from http://santassmokehouse.com/.
[484] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

permits actively fished declined over time. Although no other CFEC permits were held in North Pole in 2010, it is important to mention that CFEC permits were held by earlier in the decade in fisheries for crab, halibut, sablefish, and groundfish. In addition, one Federal Fisheries Permit (FFP) was held in North Pole between 2000 and 2002, but was not actively fished.

Between 2000 and 2010, the number of quota share accounts held by North Pole residents in the federal halibut catch share fishery decreased from four in 2000-2003 to one in 2008-2010. The number of quota shares held increased from 17,573 to 18,151, before declining to 99 shares held in 2008-2010. The annual halibut individual fishing quota (IFQ) allotment increased slightly between 2000 and 2006, when the pounds allotted per quota share was 4% higher than 2000 levels. Between 2008 and 2010, however, IFQ allotment had fallen to 11% below 2000 levels. Also between 2000 and 2010, no quota share accounts or quota shares were held by North Pole residents in federal catch share fisheries for sablefish or crab. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, 15 North Pole residents held commercial crew licenses, 6 residents were the primary owner of a fishing vessel, and one fishing vessel was recorded as homeported in North Pole. Crew license numbers stayed stable between 2000 and 2010, although the number of vessels owned by residents and the number of vessels homeported declined substantially over the period. Additionally, since no fish buyers or shore-side processing facilities were located in North Pole between 2000 and 2010, no landings or ex-vessel revenue were generated in the community. This information about the commercial fishing sector is presented in Table 5.

Although no landings or ex-vessel revenue were reported in North Pole between 2000 and 2010 (Table 9), some information is available regarding landings and ex-vessel revenue generated by North Pole fishermen, irrespective of the location of their deliveries (Tables 9 and 10). Most of this information is considered confidential between 2000 and 2010 due to the small number of participants, although salmon landings and ex-vessel revenue could be reported between 2004 and 2007. In 2007, the last year for which data are reported regarding salmon landings, North Pole vessel owners landed 88,663 net pounds of salmon, valued at $67,697, a decrease in both landings and ex-vessel revenue from the previous 3 years.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	$48	$319	n/a	n/a	n/a	$82	n/a	n/a	n/a	$266	$96
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*$48*	*$319*	*$0*	*$0*	*$0*	*$82*	*$0*	*$0*	*$0*	*$266*	*$96*
Total municipal revenue[5]	*$2,801,117*	*$5,115,286*	*$3,468,594*	*$5,195,843*	*$3,999,341*	*$5,111,667*	*$4,333,161*	*$5,157,034*	*$5,227,035*	*$5,067,738*	*$5,367,772*

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

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

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

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

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

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

Table 4. Permits and Permit Holders by Species, North Pole: 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	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%	-	-	-	-	-	-	-	-
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	2	0	0	0	0	0	0	0
	Fished permits	0	0	0	1	0	0	0	0	0	0	0
	% of permits fished	-	-	-	50%	-	-	-	-	-	-	-
	Total permit holders	0	0	0	2	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	3
	Fished permits	0	0	0	0	0	0	0	0	0	0	1
	% of permits fished	-	-	-	-	-	-	-	-	-	-	33%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	2
Halibut (CFEC) [2]	Total permits	3	2	2	2	2	3	3	2	1	0	0
	Fished permits	1	1	1	1	2	2	2	2	1	0	0
	% of permits fished	33%	50%	50%	50%	100%	67%	67%	100%	100%	-	-
	Total permit holders	3	2	2	2	2	3	3	2	1	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	2	2	2	2	1	3	2
	Fished permits	0	0	0	0	2	1	1	0	0	1	0
	% of permits fished	-	-	-	-	100%	50%	50%	0%	0%	33%	0%
	Total permit holders	0	0	0	0	1	1	1	1	1	2	1

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	1	2	1	1	0	0	0	0
	Fished permits	0	0	0	1	2	1	1	0	0	0	0
	% of permits fished	-	-	-	100%	100%	100%	100%	-	-	-	-
	Total permit holders	0	0	0	1	2	1	1	0	0	0	0
Groundfish (CFEC) [2]	Total permits	1	0	0	1	1	1	0	1	1	0	0
	Fished permits	0	0	0	1	1	0	0	0	0	0	0
	% of permits fished	0%	-	-	100%	100%	0%	-	0%	0%	-	-
	Total permit holders	1	0	0	1	1	1	0	1	1	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	11	11	13	14	17	19	22	23	18	14	20
	Fished permits	7	8	5	6	10	10	11	11	6	2	9
	% of permits fished	64%	73%	38%	43%	59%	53%	50%	48%	33%	14%	45%
	Total permit holders	11	11	13	13	17	19	23	22	17	13	17
Total CFEC Permits[2]	*Permits*	*15*	*13*	*15*	*20*	*24*	*26*	*28*	*28*	*21*	*17*	*25*
	Fished permits	*8*	*9*	*6*	*10*	*17*	*14*	*15*	*13*	*7*	*3*	*10*
	% of permits fished	*53%*	*69%*	*40%*	*50%*	*71%*	*54%*	*54%*	*46%*	*33%*	*18%*	*40%*
	Permit holders	*12*	*11*	*13*	*17*	*19*	*21*	*25*	*24*	*19*	*15*	*20*

[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 North Pole: 2000-2010.

Year	Crew Licenses 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 North Pole[2]	Total Net Pounds Landed in North Pole[2,5]	Total Ex-Vessel Value of Landings in North Pole [2,5]
2000	13	0	0	24	10	0	0	$0
2001	12	0	0	19	9	0	0	$0
2002	9	0	0	23	11	0	0	$0
2003	9	0	0	21	9	0	0	$0
2004	9	0	0	21	7	0	0	$0
2005	11	0	0	7	2	0	0	$0
2006	10	0	0	6	1	0	0	$0
2007	12	0	0	6	1	0	0	$0
2008	11	0	0	4	1	0	0	$0
2009	6	0	0	2	1	0	0	$0
2010	15	0	0	6	1	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

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

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	4	17,573	1,947
2001	4	17,573	2,222
2002	4	17,573	2,250
2003	4	17,573	2,249
2004	3	17,255	2,539
2005	3	17,255	2,602
2006	4	18,151	2,682
2007	4	18,151	2,577
2008	1	99	12
2009	1	99	11
2010	1	99	10

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 North Pole: 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 North Pole: 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 North Pole: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	121,864	183,645	202,752	88,663	-	-	-
Total[2]	*0*	*0*	*0*	*0*	*121,864*	*183,645*	*202,752*	*88,663*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	$72,348	$126,284	$133,772	$67,697	-	-	-
Total[2]	*$0*	*$0*	*$0*	*$0*	*$72,348*	*$126,284*	*$133,772*	*$67,697*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Between 2000 and 2010, the number of active sport fish guide businesses present in North Pole varied between 8 and 5, with a slight decreasing trend over time. The number of licensed sport fish guides residing in North Pole also decreased over the period, from 27 in 2000 to 9 in 2010. An increasing number of sportfishing licenses were sold in North Pole each year, from 2,427 in 2000 to 3,449 in 2010. North Pole residents purchased between two and three times as many sportfishing licenses as were sold locally, totaling between 5,047 and 6,508 per year between 2000 and 2010.

The Alaska Statewide Harvest Survey,[485] conducted by ADF&G between 2000 and 2010, noted the following species as targeted by private anglers in North Pole. In freshwater, anglers

[485] 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).

targeted Arctic grayling, burbot, all five Pacific salmon species, Dolly Varden, rainbow trout, northern pike, and whitefish. The survey specifically noted that North Pole anglers targeted stocks of landlocked salmon. In saltwater, anglers targeted all five salmon species, Dolly Varden, lingcod, Pacific cod, Pacific halibut, rockfish, shark, and smelt. The survey also noted harvest of hardshell clams and shrimp by residents of North Pole. No kept/release log book data were reported for fishing charters out of North Pole between 2000 and 2010.[486]

North Pole is located within Alaska Sport Fishing Survey Area U – Tanana River Drainage. This Survey Area does not include saltwater areas, reflected in the lack of saltwater angler days reported in Table 11. Freshwater fishing activity was very high in the region between 2000 and 2010. Alaska resident anglers fished significantly more angler days in the Tanana River drainage (71,461 - 110,256 angler days per year) than non-Alaska resident anglers (7,415 – 11,853 per year). This information about fishing trends in North Pole is presented in Table 11.

Subsistence Fishing

Residents of North Pole were active in subsistence fisheries for salmon and halibut between 2000 and 2008. The number of subsistence salmon permits issued to North Pole households varied between 655 and 837 per year over the period. Sockeye salmon were the most heavily harvested species in all years, averaging 12,287 fish per year between 2000 and 2008. Chinook and coho were the next most important salmon species, averaging 447 and 388 fish harvested per year, respectively. Information about subsistence harvest of chum and pink salmon was also reported in some years during the period. A relatively high number of chum salmon were reported harvested in one year during the period (932 fish in 2004). Information about subsistence salmon harvest is presented in Table 13.

Table 11. Sport Fishing Trends, North Pole: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in North Pole[2]
2000	8	27	5,047	2,427
2001	8	26	5,089	2,662
2002	8	30	5,104	2,765
2003	7	30	5,413	3,349
2004	6	33	5,466	3,333
2005	6	17	5,666	3,369
2006	5	14	5,514	3,337
2007	7	20	6,046	3,300
2008	6	15	5,764	3,124
2009	5	9	6,048	3,284
2010	6	9	6,508	3,449

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

Table 11. Cont'd. Sport Fishing Trends, North Pole: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	0	0	11,517	110,246
2001	0	0	10,744	80,391
2002	0	0	9,733	98,884
2003	0	0	7,502	92,432
2004	0	0	11,853	104,633
2005	0	0	11,335	82,063
2006	0	0	8,216	71,461
2007	0	0	9,327	91,629
2008	0	0	7,613	64,722
2009	0	0	7,415	85,082
2010	0	0	9,025	87,834

[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).

Between 2003 and 2010, for years in which information was reported, the number of Subsistence Halibut Registration Certificates (SHARC) issued to North Pole residents varied between three and four. No additional information was reported regarding the number of SHARC cards fished or the poundage of halibut harvested for subsistence purposes in those years. This information is presented in Table 14.

No information is reported by ADF&G regarding the percentage of households in North Pole participating in subsistence harvest or use of various resources or per capita subsistence harvest in the community between 2000 and 2010 (Table 12). Neither is information reported regarding subsistence use of marine invertebrates and non-salmon fish (not including halibut) (Table 13). Likewise, no information is available from management agencies regarding marine mammal subsistence harvest by residents of North Pole between 2000 and 2010 (Table 15).

Additional Information

The Santa Claus House in North Pole offers a 'Letters from Santa' service. "These personalized letters are filled with more than good wishes from Saint Nick: they're filled with the promise of Christmas, and all its secrets and magic. And, a Santa letter can set many a worried mind at ease, as each reader learns that he or she is, indeed, on Santa's 'good list'!" [487]

[487] Santaclausehouse.com. 2010. *The Original Letter from Santa*. Retrieved February 28, 2012 from http://www.santaclaushouse.com/santaletters.asp.

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

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

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, North Pole: 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	693	651	496	n/a	204	5	9,682	n/a	n/a
2001	773	688	455	26	183	n/a	12,835	n/a	n/a
2002	655	562	453	40	202	n/a	9,201	n/a	n/a
2003	689	596	486	20	569	n/a	9,429	n/a	n/a
2004	781	636	717	932	1,655	n/a	12,884	n/a	n/a
2005	828	675	323	1	143	5	16,027	n/a	n/a
2006	837	635	352	2	192	1	14,727	n/a	n/a
2007	837	712	421	n/a	109	n/a	16,182	n/a	n/a
2008	757	630	320	n/a	236	n/a	9,614	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, North Pole: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	4	n/a	n/a
2005	4	n/a	n/a
2006	3	n/a	n/a
2007	3	n/a	n/a
2008	4	n/a	n/a
2009	4	n/a	n/a
2010	4	n/a	n/a

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

Table 15. Subsistence Harvests of Marine Mammal Resources, North Pole: 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.

Shageluk (*SHAG-uh-look*)

People and Place

Location [488]

Shageluk is located on the east bank of the Innoko River, approximately 20 miles east of Anvik and 34 miles northeast of Holy Cross. The Innoko is a tributary of the Yukon River. Shageluk is located in the Mt. McKinley Recording District, the Yukon-Koyukuk Census Area, and is not located within an organized borough. The city boundaries encompass 10.6 square miles of land and 1.4 square miles of water.

Demographic Profile [489]

In 2010, there were 83 residents in Shageluk, making it the 265th largest of 352 total Alaskan communities with recorded populations that year. According to Alaska Department of Labor estimates, between 2000 and 2009, the population or permanent residents fell by 24.81%. The average annual growth rate during this period was -2.42%, indicating a steady population decline. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, almost all of Shageluk residents identified themselves as American Indian or Alaska Native (90.4%), with small percentages of the population identifying themselves as White (3.6%) and two or more races (6%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian or Alaska Native decreased by 6.5%, with corresponding increases in the percentages of the population identifying themselves as White and as two or more races. Changes in racial and ethnic composition between 2000 and 2010 are shown in Figure 1.

In 2010, the average household size in Shageluk was 2.31, a decrease from 3.3 persons per household in 1990 and 3.58 in 2000. The total number of households in Shageluk decreased from 42 in 1990 to 36 in both 2000 and 2010. Of the 53 total housing units surveyed for the 2010 Decennial Census, 20 were owner-occupied, 16 were renter-occupied, and 17 units were vacant. Throughout this period no residents of Shageluk were reported to be living in group quarters.

In 2010, the gender makeup of Shageluk was fairly even, at 50.6% male and 49.4% female, less skewed than the state as a whole (52% male, 48% female). However, the population is skewed towards males in the 0 to 9, 10 to 19 and 50 to 59 age groups. The median age was estimated to be 37.8 years, higher 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 residents fell within the age group 40 to 59 years old, with the next largest percentage of residents in the age group 0 to 19 years old. The overall population structure of Shageluk in 2000 and 2010 is shown in Figure 2.

---

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

[489] 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 Shageluk from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	139	-
2000	129	-
2001	-	144
2002	-	141
2003	-	141
2004	-	131
2005	-	129
2006	-	124
2007	-	118
2008	-	102
2009	-	97
2010	83	-

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

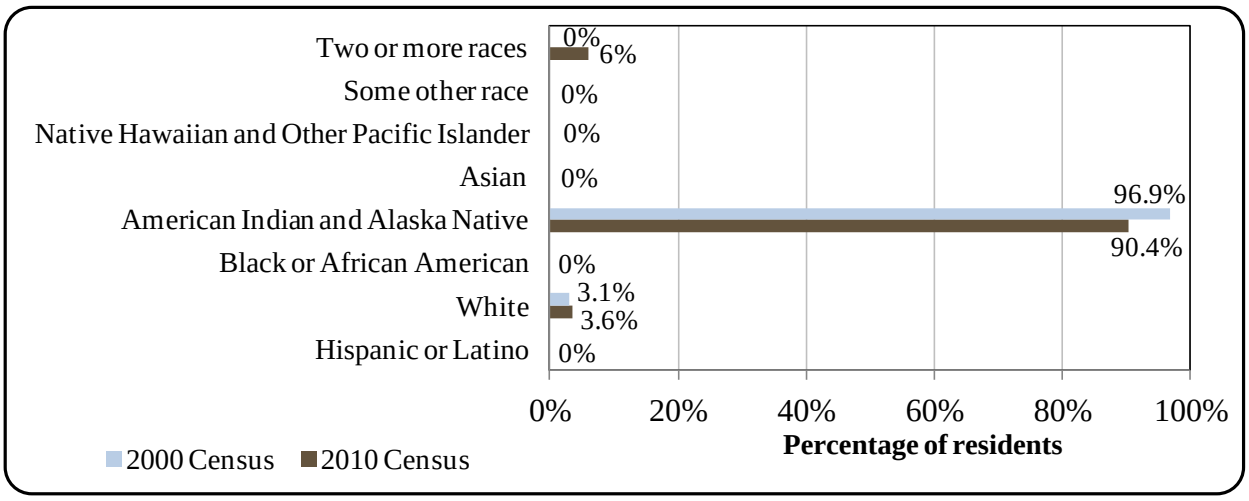
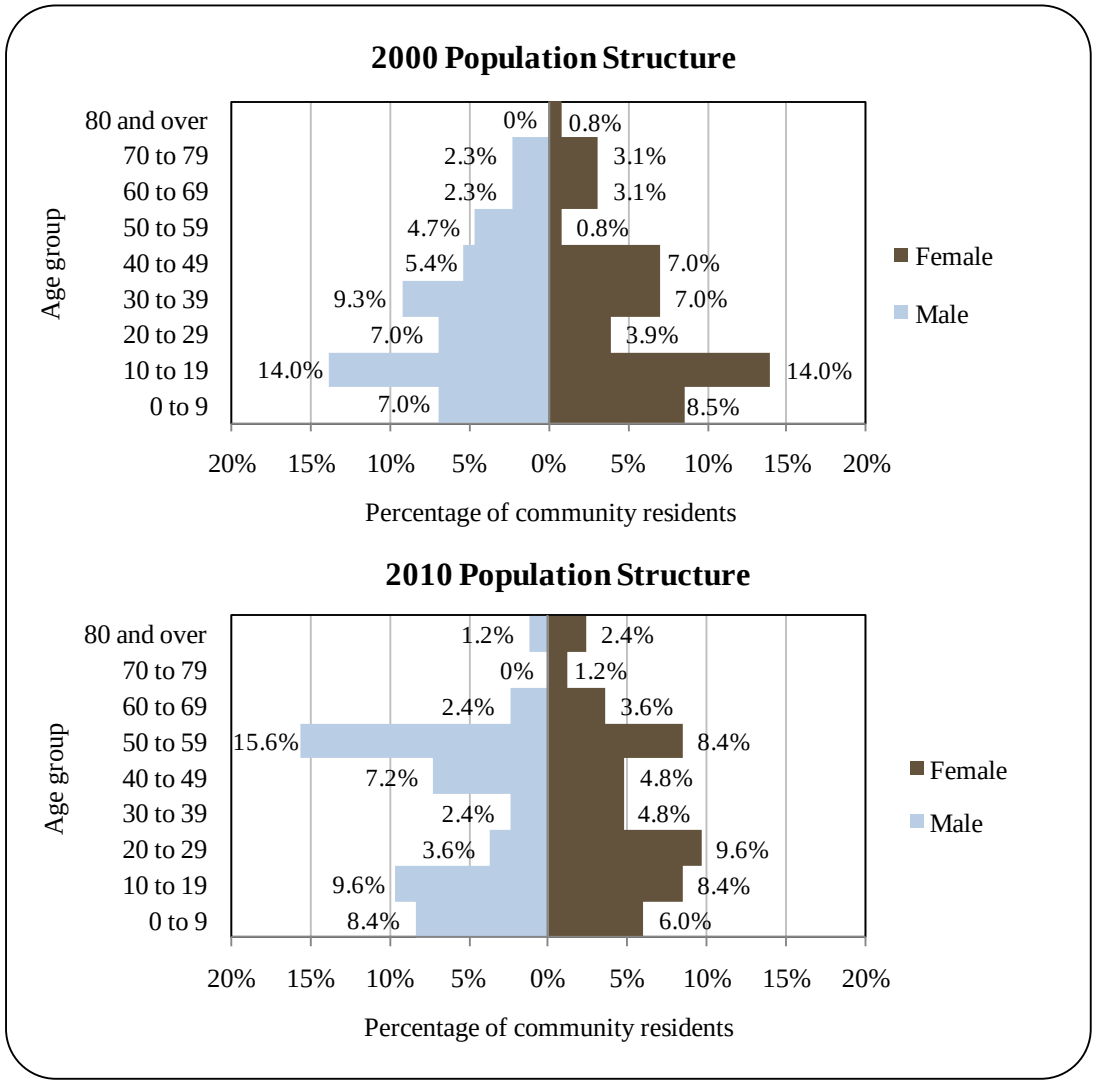


Figure 2. Population Age Structure in Shageluk Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),[490] 73.1% of Shageluk residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 11.5% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 15.4% were estimated to have a ninth to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 55.8% were estimated to hold a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 11.5% were estimated to have some college but no degree, compared to 28.3%

[490] 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.

of Alaskan residents overall; and 5.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall. There were no residents of Shageluk estimated to hold an Associate's degree or a graduate or professional degree in 2010.

History, Traditional Knowledge, and Culture

Shageluk is a Deg Hit'an Athabascan village, within the Ingalik language group.[491] Early ethnographic studies of Ingalik speakers identified several subdivisions, including a group of people known as the Anvik-Shageluk group, centered around the village of Anvik on the Yukon and settlements along the Innoko River including Shageluk. The culture of the Lower Yukon Deg Hit'an people was heavily influenced by the neighboring Kwikpagmiut Eskimos, whose territory began just downriver from Holy Cross. The mouth of the Innoko River is thought to have been one of the primary locations of trade exchanges between the Yukon Eskimos and the Deg Hit'an.[492] With regard to material culture, the Deg Hit'an Athabascan people's reliance of salmon fishing more closely resembled Eskimo tradition than that of Athabascan people living further inland.[493]

The Russian explorer Andrey Glazunov provided the first population estimate of the Anvik-Shageluk area following his 1833-34 explorations in region, when approximately 1,000 people resided in villages he visited or was told about. A later explorer, Lt. Alekseevich Zagoskin of the Russian Navy, counted 699 people in the Anvik-Shageluk area, and reported that the population had been reduced following smallpox epidemics in 1838 and 1839.[494] In 1850, Lt. Zagoskin recorded the name of the village at Shageluk as "Tie'goschitno," while the group of villages on the Innoko River were collectively referred to as the "Chageluk settlements" by the Russian Navy in 1861.[495]

Of the various settlements along the Innoko River, Shageluk became one of the permanent communities in the area. The U.S. government established a post office in the community 1924. In 1966, the community was forced to relocate to a less flood-prone location two miles southeast of the original village site. Following the Indian Reorganization Act, the Bureau of Indian Affairs (BIA) constructed 20 homes and a school at the new site, and the City of Shageluk was incorporated in 1970. Today, Shageluk remains a Deg Hit'an Athabascan community. Subsistence harvest of wild resources is of primary importance in the local culture and economy. The sale of alcohol is banned in the village.[496]

---

[491] Alaska Native Knowledge Network. (2006). *Appendix A: Brief Description of Alaskan Athabascan Culture*. Retrieved March 22, 2013 from http://www.ankn.uaf.edu/curriculum/athabascan/athabascans/appendix_a.html.
[492] VanStone, James. 1979. "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[493] VanStone, James. 1976. "The Yukon River Ingalik: Subsistence and the Fur Trade, and a Changing Resource Base." *Ethnohistory*. 23(3), pp. 199-212.
[494] See footnote 492.
[495] 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.
[496] Ibid.

Natural Resources and Environment

Shageluk has a cold, continental climate. Summer temperatures average from 42 to 80 °F (5.6 to 26.7 °C), and winters can range from -62 to 0 °F (-52.2 to -17.8 °C). Annual precipitation averages 67 inches, with average snowfall of 110 inches. The Innoko River is generally ice-free from June through October.[497] Lowlands along the Yukon and Innoko river are made up of vast marshy flatland, with some forest cover of balsam poplar, willow, and alder within active floodplains. Well drained, south-facing upland slopes host forests of white spruce, paper birch, and quaking aspen, while permafrost, stunted black spruce, and tundra is typical of the poorly drained cold soils of north-facing slopes.[498]

Shageluk is located several miles south of the southern boundary of the Innoko National Wildlife Refuge (NWR). One of the primary motivations for creation of the NWR was its importance as a waterfowl area in interior Alaska, noted for its wetlands that provide nesting, resting and staging areas. In addition, the NWR offers excellent raptor and moose habitat. The Innoko Refuge is made up of two units, totaling 4.6 million acres. The area was also established to fulfill treaty obligations and provide the opportunity for continued subsistence uses. NWR lands are open to sport and subsistence hunting and fishing, as well as trapping.[499]

Local terrestrial wildlife includes moose, bear, wolves, lynx, wolverine, river otter, beaver, porcupine, caribou, snowshoe hare, red fox, red squirrel, marten, muskrat, weasel, mink, shrews, voles, and mice.[500] Anadromous fish species found in the Shageluk area include all five salmon species, Arctic lamprey, smelt, Arctic cisco, and additional freshwater species include northern pike, blackfish, stickleback, burbot and five species of whitefish.[501] Edible and useful plants include cranberries, blueberries, salmon or cloud berries, rose hips, Indian potatoes, wild celery, wild onion, wild rhubarb, and sour dock.[502]

The Yukon-Kuskokwim delta is rich in mineral deposits. Gold was discovered in the Klondike area of the upper Yukon River in 1896, and prospectors began searching closer to Grayling – along the Innoko River – in 1898. Commercial quantities of gold were discovered in the Innoko Valley in 1906.[503] As of 2010, the Iditarod and Innoko mining districts have produced more than 2.3 million ounces of gold.[504] Currently, a large-scale gold operation is being developed by Donlin Gold north of Crooked Creek, to the southeast of Grayling. The mine is projected to operate for 25 years, with over 33 million ounces of gold speculated to be in the area.[505] Additional mineral deposits in the region include Wolf Creek Mountain

---

[497] Ibid.
[498] Interior Rivers Resource Conservation and Development Council. (1997). *Area Plan*. Retrieved October 24, 2012 from http://www.commerce.state.ak.us/oed/.
[499] U.S. Fish and Wildlife Service. (2010). *Innoko National Wildlife Refuge*. Retrieved October 4, 2011 from http://innoko.fws.gov/.
[500] Ibid.
[501] See footnote 498.
[502] City of Anvik. (2004). *Anvik Comprehensive Community Plan*. Retrieved December 23, 2011 from: http://www.commerce.state.ak.us/dca/plans/Anvik-CP-2004.pdf.
[503] VanStone, James. (1979). "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[504] Szumigala, D.J., L.A. Harbo, and J.N. Adleman. (2010). *Alaska's Mineral Industry 2010.* Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.
[505] Donlin Gold. (n.d.) *Homepage.* Retrieved December 27, 2011 from: http://www.donlingold.com/

mercury/antimony deposit and Stuyahok and Arnold Kako gold deposits to the southwest, and McLeod copper/molybdenum deposits to the northeast.[506]

Natural hazard risks in the Yukon-Koyukuk Census Area include flooding, wildfire, earthquakes, snow and avalanche, severe weather, landslides and erosion. Shallow earthquakes in the region would be considered 'intraplate' earthquakes, which can have a magnitude of up to 7.0 on the Richter scale.[507]

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Shageluk area as of March 2013.[508]

Current Economy[509]

Wage employment in Shageluk is generally limited to the City and the school. In addition, summer construction projects often provide seasonal employment. Residents rely upon subsistence activities, as well as trapping and gardening. Salmon, moose, bear, small game, and waterfowl are important food sources. In 2010, one resident held a commercial fishing permit. There is also a village store.[510]

According to the 2006-2010 ACS, [511] the per capita income in Shageluk in 2010 was estimated to be $10,703 and the median household income was estimated to be $28,281, compared to $7,587 and $26,667 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[512] the real per capita income in 2000 was $9,977 and the real median 2000 household income was $35,067. This shows that per capita income increased between 2000 and 2010, while household income decreased. However, Shageluk's small population size may have prevented the ACS from accurately portraying economic conditions.[513] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for

[506] Alaska Dept. of Comm. (n.d.). *Mineral Resources of Alaska.* Retrieved December 21, 2011 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm
[507] 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.
[508] Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from http://dec.alaska.gov/spar/csp/list.htm.
[509] Unless otherwise noted, all monetary data are reported in nominal values.
[510] 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.
[511] 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.
[512] 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).
[513] 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.

Shageluk in 2010 is $8,665.[514,515] This alternative 2010 per capita estimate is lower than the 2000 Census per capita income estimate, suggesting that caution is warranted when citing an increase in per capita income in Shageluk between 2000 and 2010.

Both the U.S. Census and alternative ALARI per capita estimates are relatively low, reflected in the fact that the community was recognized as "distressed" by the Denali Commission. This designation indicates that over 70% of residents aged 16 and older earned less than $16,120 in 2010.[516] However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Shageluk ranked 262nd out of 305 Alaskan communities with per capita income that year, and 254th out of 299 Alaskan communities with household income data. In that same year, 64.6% 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 16.7%, compared to the statewide unemployment rate of 5.9%. Approximately 22.1% of local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Shageluk are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Shageluk. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 22.9%.[517]

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (77.1%), along with 22.9% in the private sector. Out of 35 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage was estimated to work in educational services, health care, and social assistance (37.1%), along with 25.7% working in transportation, warehousing, and utilities, 22.9% in public administration, and 14.3% in retail trade. Compared to 2000, the percentage of the workforce employed in retail trade and in transportation, warehousing and utilities both increased by more than 50%, while there were declines in the percentage employed in public administration and in educational services, health care, and social assistance industries. Information about employment by industry is presented in Figure 3.

When viewing employment in terms of occupation, in 2010, the greatest percentages of the labor force were employed in management/professional (48.6%) and (28.6%) service occupations. Compared to 2000, shifts included an 82% increase in the percentage of the workforce employed in management/professional occupations, and a 100% decrease in employment in natural resource, construction, and maintenance occupations. Employment information is broken down by occupation in Figure 4.

No individuals characterized themselves as working in fishing-related occupations or industries in Shageluk in either 2000 or 2010. However, it is important to note that employment in the fishing industry may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

---

[514] 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/.
[515] See footnote 511.
[516] Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from www.denali.gov.
[517] See footnote 514.

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

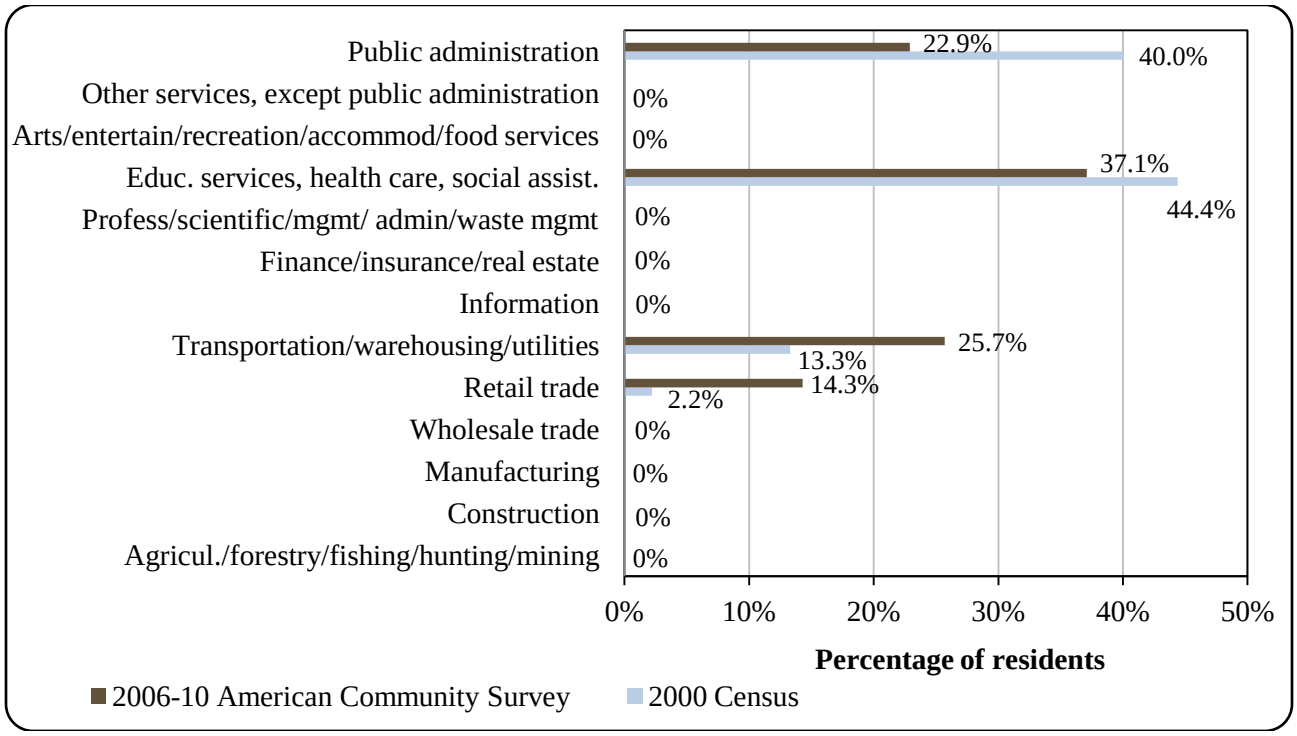
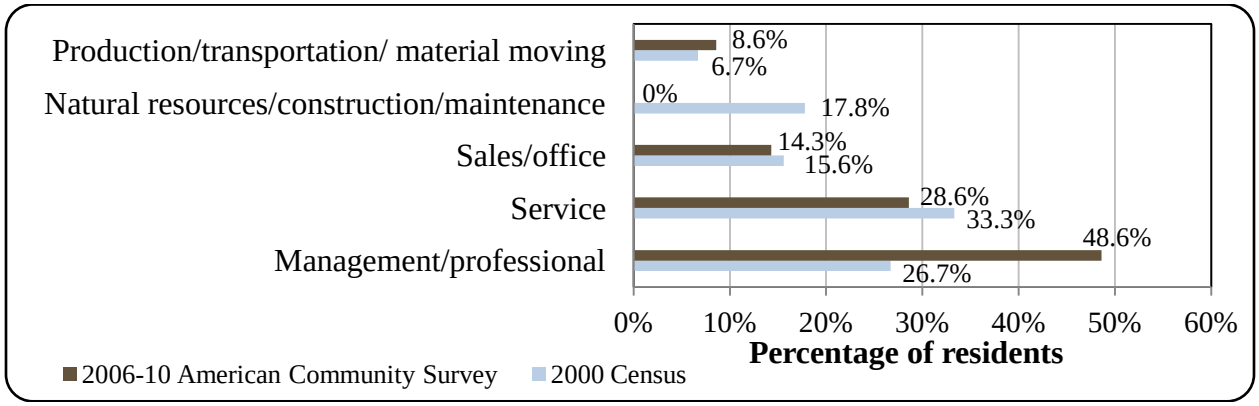


Figure 4. Local Employment by Occupation in 2000-2010, Shageluk (U.S. Census).



Governance[518]

Shageluk is a 2nd Class City that is not located within an organized borough. Annual municipal revenue received by the City of Shageluk varied between $100,000 and just over $300,000 per year during the 2000-2010 period. No sales tax was collected in any year during the decade. Locally-generated income sources in Shageluk between 2000 and 2010 included contracted services, enterprise revenues, building and equipment rentals, and a land lease to Bush

[518] 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.

Tell, Inc., a telephone company. Contracts included operation of the electric utility, health clinic, and U.S. post office. Enterprise revenues were received from washeteria/sauna, garbage collection, and internet café use fees. Outside revenue sources included revenue sharing and grants. Sources of shared funds from the State of Alaska included the State Revenue Sharing program from 2000 to 2003 (over $25,000 per year), the Community Revenue Sharing program in 2009 and 2010 (approximately $100,000 each year), the SAFE Communities program (public safety, utilities, infrastructure, etc.), and telephone / electric co-op refunds. Some federal revenue sharing was also received from the Payment In Lieu of Taxes program. State of Alaska capital project grants were received in some years for projects such as landfill fencing, bridge repair, design of water and sewer improvements, heavy equipment purchase and repair, and a recreation center. A State Municipal Energy Assistance Program grant was also received. No fisheries-related grants were reported during the 2000-2010 period. Information on selected municipal, state, or federal revenue streams for Shageluk from 2000 to 2010 is shown in Table 2.

Shageluk was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native Village. The authorized traditional entity, recognized by the BIA, is the Shageluk Native Village. The Native village corporation is the Zho-Tse, Incorporated, which manages 92,160 acres of land. The regional Native corporation to which Shageluk belongs is the Doyon, Limited.[519]

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Shageluk 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	$266,840	n/a	$27,661	n/a
2001	$128,538	n/a	$26,393	n/a
2002	$233,501	n/a	$26,502	n/a
2003	$245,099	n/a	$26,503	n/a
2004	$146,653	n/a	n/a	n/a
2005	$108,897	n/a	n/a	n/a
2006	$183,334	n/a	n/a	n/a
2007	$198,134	n/a	n/a	n/a
2008	$253,879	n/a	n/a	n/a
2009	$259,782	n/a	$102,081	n/a
2010	$322,288	n/a	$101,203	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

[519] Ibid.

Shageluk is also a member village of the Tanana Chiefs Conference, a tribal 501(c)(3) non-profit organization headquartered in Fairbanks. It is a consortium of 42 villages of Interior Alaska that works to meet "the health and social service challenges for more than 10,000 Alaska Natives spread across a region of 235,000 square miles in Interior Alaska." The non-profit provides health and tribal development services, as well as educational and employment services to individuals of member tribes.[520] The Tanana Chiefs Conference is one of the 12 regional Alaska Native nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.[521]

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

Infrastructure

Connectivity and Transportation

Access to Shageluk is by air or water only. A state-owned 3,400 ft long by 75 ft wide gravel airstrip and a seaplane base are available. Locals use all-terrain vehicles, snowmobiles, and dog sleds for local transportation. Every other year, Shageluk is a checkpoint for the Iditarod dogsled race.[522] In June of 2012, round-trip airfare to Anchorage was $646.[523]

Facilities[524]

Residents haul treated well-water and dispose of honeybuckets[525] in pit privies or bunkers. Residents are dependent upon the washeteria[526] for bathing, laundry, and water, since no homes are fully plumbed. The City provides water to the school and the washeteria. Law enforcement services are provided by state troopers in Aniak, and fire and rescue services are provided by a city volunteer fire department. Shageluk has a youth center and a community hall, as well as a school/community library.

---

[520] Tanana Chiefs Conference website.2007. *History.* Retrieved January 9, 2012 from http://www.tananachiefs.org/.
[521] U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from http://www.gao.gov/new.items/d05719.pdf.
[522] 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.
[523] Airfare was obtained on the travel website http://www.travelocity.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.
[524] See footnote 522.
[525] A "honeybucket" is an indoor bucket used as a toilet in houses without plumbing.
[526] "Washeteria" is another word for laundromat. In Alaska, washeterias often include shower facilities.

Medical Services[527]

Medical services are provided by the Shageluk Clinic, which is owned by the City and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have river, floatplane, and air access and are provided by a health aide. The nearest clinic with a qualified Emergency Care Center is located in Unalakleet.

Educational Opportunities[528]

The Innoko River School provides instruction to students from pre-school through 12th grade. In 2011, the school had 20 students and 2 teachers.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Subsistence salmon fishing has long provided a basis for life in Deg Hit'an communities of the Lower Yukon River. Chinook salmon were the most important food fish, while chum and coho salmon were processed into dried fish, and chum salmon was an important food for sled dogs. The Deg Hit'an primarily used large basket traps for salmon harvest. They also used dipnets, which they would hold in the water as they drifted down river with the current in canoes. Villagers from Koserefsky and Anilukhtakpuk (formerly located near Holy Cross) most often had fish camps on the eastern bank of the Yukon River.[529]

The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s.[530]

Poor returns of Chinook salmon in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.[531] Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009 led to declaration of a fishery disaster that year.[532] A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of

---

[527] See footnote 522.
[528] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[529] VanStone, James. 1979. "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[530] Clark, McGregor, Mecum, Krasnowski, and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[531] Ibid.
[532] Upton, H.F. 2010. *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from http://www.fas.org/sgp/crs/misc/RL34209.pdf.

Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundant species, including gear and other management restrictions.[533]

Like Yukon Chinook salmon runs, chum salmon runs have seen poor returns since 1998. A relatively strong run in 2007 led to some effort to redevelop the Yukon chum fishery, but this process is challenged by the need to reduce incidental harvest of co-migrating Chinook salmon. Further, beginning in 2008, the fall chum salmon run has not been large enough to provide for commercial opportunity. From 2008 to 2010, management actions have been taken to delay commercial fishing to provide for escapement and subsistence use.[534]

In years when commercial salmon fishing is open, fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 subdistricts, and 28 statistical areas. Fishing takes place with set and drift gillnets, and fish wheels are also allowed in Upper Yukon districts (Districts 4, 5, and 6). Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.[535]

In addition to salmon, one permit was held by a Shageluk resident in a 'freshwater fish' fishery in some years during the 2000-2010 period. Commercial freshwater fish fisheries may target species such as Arctic char, pike, rainbow trout, Dolly Varden, and sheefish.[536]

Shageluk is located on the Innoko River, which joins the Yukon River within District 3 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Because Shageluk is located more than 50 miles from the coast, the community is not eligible for the Community Development Quota. In addition, Shageluk is not eligible to participate in the Community Quota Entity program.

Processing Plants

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

Fisheries-Related Revenue

Shageluk received a very small amount of fisheries related revenue from 2007 to 2010, from the Shared Fisheries Business Tax. In each of those years, the revenue received from fisheries-related sources was minimal compared to the total municipal revenue received by the

[533] Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=hottopics.federalChinookdisaster.
[534] Wolfe, R.J. and C. Scott. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.
[535] See footnote 530.
[536] Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview.

City.[537] Information on known fisheries-related revenue received by Shageluk is presented in Table 3.

Commercial Fishing

From 2000 to 2010, was one permit holder in Shageluk held one Commercial Fisheries Entry Commission (CFEC) salmon permit in the Lower Yukon gillnet fishery. However, the permit was only reported as actively fished in 2000 and 2003. In 2004 and 2006, there was one permit holder with a CFEC permit for other finfish, and that permit was reported as fished in 2006. Information regarding permits and permit holders by species in Shageluk between 2000 and 2010 is presented in Table 4.

There was one crew license holder in Shageluk in 2010, and prior to that one crew license holder in 2002, 2003, and 2004. However for the other years between 2000 and 2010, there were no crew license holders in Shageluk. Between 2000 and 2010 there were no fish buyers or shore-side processing facilities in Shageluk, nor were there any vessels homeported or landing catch in Shageluk. Between 2000 and 2002 there were between one and two vessels owned primarily by Shageluk residents, however there were no vessels owned primarily by Shageluk residents between 2002 and 2010. Information on characteristics of the commercial fishing sector in Shageluk between 2000 and 2010 is presented in Table 5.

There were no quota share account holders in Shageluk between 2000 and 2010 for federal halibut (Table 6) or sablefish (Table 7) fisheries, and there were no quota share account holders for federal crab fisheries in Shageluk between 2005 and 2010 (Table 8). Given the lack of processing capacity, there were no commercial landings or associated ex-vessel revenue reported in Shageluk between 2000 and 2010 (Table 9) and no commercial landings or associated ex-vessel revenue reported by Shageluk residents between 2000 and 2010 (Table 10).

[537] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$43	$44	$52	$54
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*$43*	*$44*	*$52*	*$54*
Total municipal revenue[5]	*$266,840*	*$128,538*	*$233,501*	*$245,099*	*$146,653*	*$108,897*	*$183,334*	*$198,134*	*$253,879*	*$259,782*	*$322,288*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	1	0	1	0	0	0	0
	Fished permits	0	0	0	0	0	0	1	0	0	0	0
	% of permits fished	-	-	-	-	-	-	100%	-	-	-	-
	Total permit holders	0	0	0	0	1	0	1	0	0	0	0
Salmon (CFEC) [2]	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	1	0	0	1	0	0	0	0	0	0	0
	% of permits fished	100%	-	-	100%	-	-	-	-	-	-	-
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Total CFEC Permits[2]	*Permits*	*1*	*1*	*1*	*1*	*2*	*1*	*2*	*1*	*1*	*1*	*1*
	Fished permits	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*
	% of permits fished	*100%*	-	-	*100%*	-	-	*50%*	-	-	-	-
	Permit holders	*1*	*1*	*1*	*1*	*2*	*1*	*2*	*1*	*1*	*1*	*1*

[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 Shageluk: 2000-2010.

Year	Crew Licenses 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 Shageluk[2]	Total Net Pounds Landed In Shageluk[2,5]	Total Ex-Vessel Value Of Landings In Shageluk[2,5]
2000	0	0	0	2	0	0	0	$0
2001	0	0	0	2	0	0	0	$0
2002	1	0	0	1	0	0	0	$0
2003	1	0	0	0	0	0	0	$0
2004	1	0	0	0	0	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	0	0	0	0	0	0	0	$0
2008	0	0	0	0	0	0	0	$0
2009	0	0	0	0	0	0	0	$0
2010	1	0	0	0	0	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

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

[2] Totals only represent non-confidential data.

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

	Total Net Lbs[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net lbs refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Very little recreational fishing takes place in Shageluk or by Shageluk residents. There were no active sport fish guide businesses or individuals holding sport fish guide licenses in Shageluk between 2000 and 2010. In 2010, two sportfishing licenses were sold to Shageluk residents (irrespective of the location of the point of sale), which represents an overall decrease in the number of sportfishing licenses sold to residents between 2000 and 2010. There were not any sportfishing licenses sold within Shageluk between 2000 and 2010, indicating that community residents likely pursue sportfishing in other communities (Table 11).

Shageluk is located within the Yukon River Drainage Alaska Sport Fishing Survey Area. No saltwater angler days were reported in this survey area between 2005 and 2010. Earlier in the decade, between 2000 and 2004, the number of saltwater angler days fished by non-Alaska residents decreased from 81 in 2000 to 17 in 2004, though no angler days were reported for non-Alaska residents in either 2002 or 2003. In contrast, the number of saltwater angler days fished by Alaska residents was highly variable between 2000 and 2003, and no saltwater angler days were reported for Alaska residents between 2004 and 2010. During this period, freshwater angler

days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region between 2000 and 2010, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. Information about the sportfishing sector in and near Shageluk is presented in Table 11.

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Shageluk[2]
2000	0	0	17	0
2001	0	0	16	0
2002	0	0	9	0
2003	0	0	10	0
2004	0	0	20	0
2005	0	0	16	0
2006	0	0	1	0
2007	0	0	17	0
2008	0	0	20	0
2009	0	0	20	0
2010	0	0	2	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-Residents[3]	Angler Days Fished – Alaska Residents[3]
2000	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

[1] ADF&G (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] ADF&G (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] ADF&G (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

Historically, subsistence harvest has been foundational to the economy and culture of the Deg Hit'an Athabascan people. Salmon were of primary importance, as well as a secondary dependence on large and small game animals.[538] Because no Chinook or coho salmon return to the Innoko River, people living in Shageluk have historically traveled to summer fish camps along the Yukon River to participate in salmon harvest.[539] Today, subsistence and fishing-related activities remain important to the economy and way of life of Shageluk residents.[540] Fish are the most reliable subsistence resource in the lower-middle Yukon River region. In addition to salmon, non-salmon fish are a vital component of the subsistence fish harvest, partly due to their year-round availability. Non-salmon fish species harvested by residents of Shageluk include whitefish, sheefish, northern pike, grayling, longnose sucker, burbot, Alaska blackfish, and Arctic lamprey.[541]

Information was not available regarding the percentage of Shageluk households participating in subsistence by species between 2000 and 2010, with the exception of data showing that approximately 83% of households participated in non-salmon fish subsistence (not including halibut) in 2002 (Table 12). However, data are available regarding the number of subsistence salmon permits issued to Shageluk households between 2000 and 2010. The total number of permits initially declined from 40 in 2000 to 29 in 2005, and then rebounded to 38 by 2008 (the last year for which data were available). The number of subsistence salmon permits reported as actively fished remained relatively stable between 2000 and 2008. The number of Chinook salmon harvested per year showed a decreasing trend over this period, while chum salmon harvest was highly variable from year to year. Small numbers of coho and pink salmon were reported as harvested in some years during the 2000-2008 period as well. Table 13 displays information about salmon subsistence. Table 13 also notes a substantial harvest of non-salmon fish in 2002, the year ADF&G Division of Subsistence conducted a subsistence survey. No information was reported by ADF&G regarding marine invertebrate harvest that year. ADF&G reported that the following species of non-salmon fish were used for subsistence in Shageluk in 2002: Arctic char, Arctic grayling, northern pike, sheefish, trout, and whitefish.[542]

No information was reported by management agencies regarding subsistence halibut fishing participation between 2003 and 2010 (Table 14) or subsistence harvest of marine mammal resources between 2000 and 2010 (Table 15).

---

[538] VanStone, James. 1976. "The Yukon River Ingalik: Subsistence and the Fur Trade, and a Changing Resource Base." *Ethnohistory*. 23(3), pp. 199-212.
[539] VanStone, James. (1979). "Ingalik Contact Ecology: An Ethnohistory of the Lower-Middle Yukon, 1790-1935." *Fieldana. Anthropology*. 71, pp. i, iii, v-vii, ix-xii, 1-273. (Retrieved October 3, 2012 from http://www.jstor.org.)
[540] 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.
[541] Brown, C, Burr, J., Elkin, K., and Walker, R. 2005. *Contemporary Subsistence Use and Population Distribution of Non-Salmon Fish in Grayling, Anvik, Shageluk, and Holy Cross.* Alaska Dept. of Fish and Game, Tech. Paper No. 289. Retrieved October 4, 2012 from http://www.subsistence.adfg.state.ak.us/TechPap/tp289.pdf.
[542] Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS).* ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

Table 12. Subsistence Participation by Household and Species, Shageluk: 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 (lbs)
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	83%	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, Shageluk: 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	40	26	805	1,838	n/a	n/a	n/a	n/a	n/a
2001	37	28	222	684	n/a	n/a	n/a	n/a	n/a
2002	33	24	439	1,956	n/a	n/a	n/a	n/a	19,756
2003	32	26	550	5,587	35	130	n/a	n/a	n/a
2004	29	19	418	1,848	106	n/a	n/a	n/a	n/a
2005	29	22	420	4,136	n/a	n/a	n/a	n/a	n/a
2006	32	26	358	1,386	48	n/a	n/a	n/a	n/a
2007	41	18	448	1,124	267	n/a	n/a	n/a	n/a
2008	38	25	397	453	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, Shageluk: 2003-2010.

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

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

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

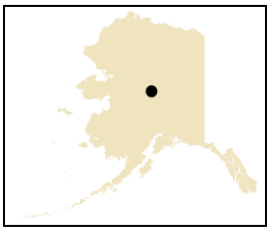
Note: n/a indicates that no data were reported for that year.

[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.

Tanana (*TAN-uh-naw*)



People and Place

Location [543]

Tanana is located in Interior Alaska about two miles west of the junction of the Tanana and Yukon Rivers; 130 mi west of Fairbanks. The community encompasses 11.6 square miles of land and 4.0 square miles of water. Tanana is incorporated as a First-class city, is located in the Yukon-Koyukuk Census Area, and is not under the jurisdiction of a borough.

Demographic Profile [544]

In 2010, there were 246 inhabitants in Tanana, ranking it the 179th largest of 352 total Alaskan communities with recorded populations that year. Overall, the population declined by 29.0% between 1990 and 2010. Tanana's population decreased by 18.51% between 2000 and 2009, with an average annual growth rate of -1.31%, indicating a slow rate of decline. The change in population from 1990 to 2010 is provided in Table 1.

Tanana is a traditional Athabascan community. In 2010, 86.6% of residents identified themselves as American Indian or Alaska Native, compared to 79.9% in 2000. Also in that year, 9.8% of residents identified themselves as White, compared to 17.9% in 2000; 0.4% identified themselves as Asian, compared to 0% in 2000; 2.8% identified themselves as two or more races, compared to 2.3% in 2000; and 0.4% identified themselves as some "other" race, compared to 0% in 2000. In addition, 0.4% of residents identified themselves as Hispanic or Latino, compared to 0.6% in 2000 (Figure 1).

The average household size in 2010 was 2.41, compared to 2.55 in 2000 and 2.70 in 1990. In that year, there were a total of 136 housing units, compared to 166 in 2000 and 169 in 1990. Of the households surveyed in 2010, 50% were owner-occupied, compared to 42% in 2000; 24% were renter-occupied, compared to 31% in 2000; 15% were vacant, compared to 2% in 2000; and 11% were occupied seasonally, compared to 25% in 2000. In addition, five residents lived in group quarters in 2010, compared to 0 in 2000.

The gender distribution in 2010 was skewed at 53.3% male, and 46.7% female. This was slightly less even then the statewide distribution (52.0% male, 48.0%), and more even than the distribution in 2000 (56.8% male, 43.2% female). The median age that year was 42.3, which was significantly older than both the statewide median of 33.8 years, and 2000 median of 34.2 years.

[543] 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.

[544] 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.

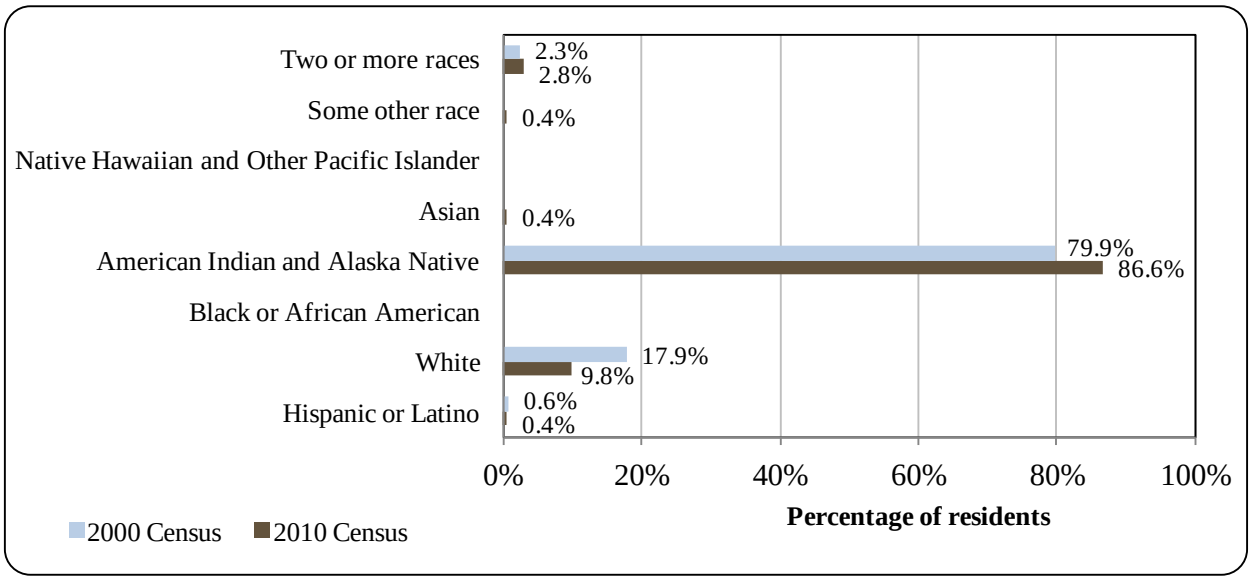
Table 1. Population in Tanana from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	345	-
2000	308	-
2001	-	302
2002	-	272
2003	-	282
2004	-	303
2005	-	282
2006	-	260
2007	-	257
2008	-	251
2009	-	251
2010	246	-

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

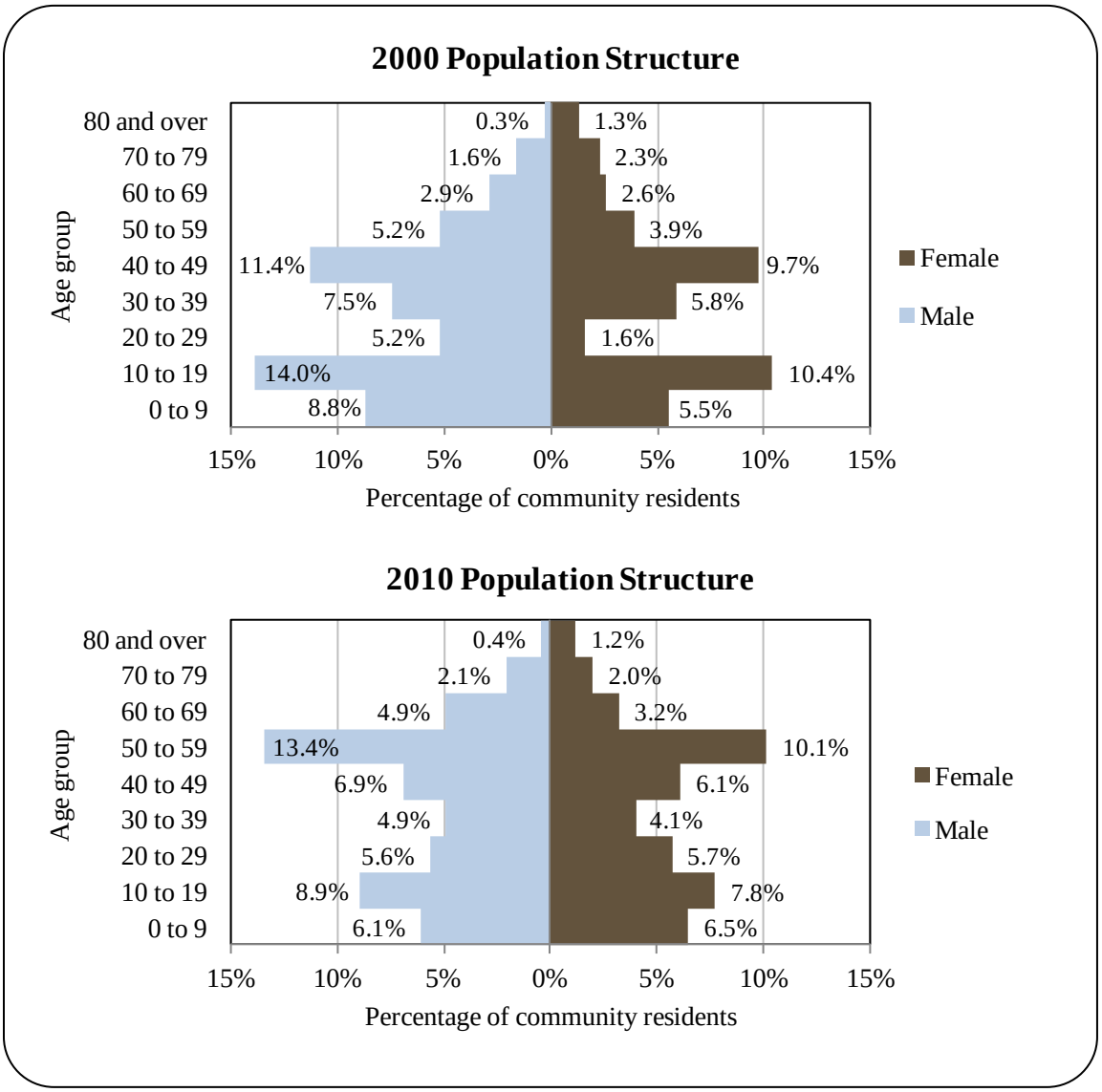


Compared with 2000, the population structure was less expansive in 2010, with marked proportional increases in older age ranges; possibly indicating struggles in youth retention. In that year, 29.3% of residents were under the age of 20, compared to 38.7% in 2000; 13.8% were over the age of 59, compared to 11.0% in 2000; 45.5% were between the ages of 30 and 59,

compared to 43.5% in 2000; and 11.3% were between the ages of 20 and 29, compared to 6.8% in 2000.

Overall, gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 50 to 59 range (13.4% male, 10.1% female), followed by the 60 to 69 (4.9% make, 3.2% female) and 10 to 19 (8.9% male, 7.8% female) ranges. The greatest relative gender difference occurred in the 60 to 69 range. Information regarding trends in Tanana's population structure can be found in Figure 2.

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



According to the 2006-10 American Community Survey (ACS),[545] in terms of educational attainment, 86.3% of Tanana residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 8.1% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 5.6% were estimated to have a ninth to 12th grade education but no diploma, compared to 5.8% of Alaskan residents overall; 37.6% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 44.7% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 2.5% were estimated to hold a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 1.5% were estimated to hold a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

History, Traditional Knowledge, and Culture[546]

Due to its location at the confluence of the Tanana and Yukon Rivers, Tanana was a traditional trading settlement for Koyukon and Tanana Athabascans long before European contact. In 1880, Harper's Station, an Alaska Commercial Company trading post, was established 13 miles downriver from the present site. In 1881, Church of England missionaries from Canada built a mission eight miles downriver. Between 1887 and 1900, an elaborate school and hospital complex, the St. James Mission, was constructed. It became an important source of services and social change along both rivers. In 1898, Fort Gibbon was founded at Tanana to maintain the telegraph line between Fairbanks and Nome. A post office was also established, and several other trading posts developed around the turn of the century. Gold seekers left the Yukon after 1906. Ft. Gibbon was abandoned in 1923. The St. James Hospital was transferred to Bureau of Indian Affairs (BIA) administration in the 1920s. During World War II, an air base was established near Tanana as a refueling stop for the lend-lease aircraft program. New hospital facilities were built in 1949. During the 1950s, hospital administration was transferred to the U.S. Public Health Service.

The City of Tanana was incorporated in 1961. The hospital complex was a major employer during this period, employing 54 persons with a payroll of $1.6 million, but it closed in 1982. That same year, Tanana incorporated as a First-class city in order to assume control of the local school system. The hospital facilities were remodeled for use as a health clinic, counseling center, tribal office, and regional elders' residence.

Traditional Athabascan ways of life persist in Tanana; subsistence, potlatches, dances, and foot races are part of the culture. The sale of alcohol is limited to the city-owned package store.

[545] 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.

[546] 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.

Natural Resources and Environment[547]

Tanana experiences a cold, continental climate with temperature extremes. Daily maximum temperatures during July range from 64 to 70 °F (18 to 21 °C); daily minimum temperatures during January are -14 to -48 °F (-26 to -44 °C). Extremes have been measured from -71 to 94 °F (-57 to 34 °C). Average annual precipitation is 13 inches, with 50 inches of snowfall. The river is ice-free from mid-May through mid-October.

Tanana is located just north of Denali National Park. The following information about Denali National Park and Preserve (National Park) is from the U.S. National Park Service.[548]

Denali, the "High One," is the name Athabascan native people gave the massive peak that crowns the 600-mi-long Alaska Range. Denali is also the name of an immense national park and preserve created from the former Mount McKinley National Park. In 1917, Mount McKinley National Park was established as a game refuge. The park, including North America's highest peak, were named for former senator - later President - William McKinley. In 1980, the Alaska National Interest Lands Conservation Act (ANILCA) enlarged the boundary of the park by 4 million acres and redesignated it as Denali National Park and Preserve. The National Park exemplifies interior Alaska's character as one of the world's last great frontiers; its wilderness is largely unspoiled.

More than 650 species of flowering plants as well as many species of mosses, lichens, fungi, algae, and others grace the slopes and valleys of the National Park. Only plants adapted to long, cold winters and short growing seasons can survive in this subarctic wilderness. Permafrost ground underlies many areas of the park, where only a thin layer of topsoil is available to support life. After the continental glaciers retreated from most of the park 10,000 to 14,000 years ago, hundreds of years were required to begin building new soils and revegetation. The dynamic glaciated landscape provides large rivers, countless lakes and ponds, and unique landforms which form the foundation of the ecosystems that thrive in the National Park.

The National Park is well-known for its diversity of wildlife. There are 39 species of mammals, 169 species of birds, 14 species of fish, and one species of amphibian known to occur in the area. There are no reptiles recorded in the National Park. Animal life and activity is dictated by the seasons. Winter is the longest season and the animals that are year-round residents are well-adapted to life in the subarctic. The brief spring season brings the return of 80% of the National Park’s bird life, the waking of hibernating bears, and an increase in activity levels of wildlife. Summer is a time for raising young and preparing for migration, hibernation, or survival during the winter. Summer also brings hordes of insects, including mosquitoes. In late summer, king and chum salmon run in the multitude of streams and rivers. In autumn, migrating birds fill the skies and bull moose gather their harems of cows for the mating season.

There are no active mineral projects within the immediate vicinity of Tanana, although the Money Knob/Livengood gold development is approximately 100 mi northeast. As of 2009, the site was believed to contain over 4 million ounces of recoverable gold.[549]

Environmental hazards which can potentially impact Tanana include floods, wildland fires, earthquakes, severe weather, and erosion. While historic flood events are uncommon,

---

[547] Ibid.

[548] U.S. National Park Service (2012). *Denali National Park and Preserve: Nature and Science*. Retrieved from http://www.nps.gov/dena/naturescience/index.htm on March 29, 2012.

[549] Myers, R. 2009. *The Money Knob Gold Deposit.* International Tower Hill Mines, LTD. Retrieved March 13, 2013 from: http://www.arcticminers.org/presentations/Russell_Myers.pdf.

Tanana did experience a major flood event resulting in damages ranging in the millions of dollars. Tanana experiences a yearly ice breakup and snowmelt which can result in ice-jams and localized flooding. The 2009 flood resulted in expensive damage to property and required the evacuation of 75 residents from their homes. Wildland fire risk is also high due to the large expanses of grasses and black spruce throughout the area. Spruce bark beetle infestation of local tree stands also increases the risk of fire. Effects of wildland fires include risks to property and decreased air quality. The City of Tanana has experienced many historic wildland fire evens in the past, many of which resulted in loss or damage to property. Tanana is located near the Denali Fault, which in 2002 produced a magnitude 7.9 earthquake; the largest inland earthquake in 150 years. There is an approximate 20-25% chance of a magnitude 6.0 or above earthquake occurring within 50 years. For Tanana, severe weather manifests itself as heavy snow, ice buildup, extreme cold, thunderstorms, and high winds. The community has experienced many severe weather events, although they are not well documented. Based on historical data, damaging weather events occur every 3 years with an annual probability of 33%. Erosion mainly occurs along the banks of the Yukon River, and can result from flooding and stormwater runoff. Tanana is currently experiencing erorison along Front Street and 1st Avenue, along the Yukon River bank. Other high risk areas include areas near Airport Road and a small plane parking and gravel site along White Alice Site Road.[550]

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Tanana in 2010.[551]

Current Economy[552]

Local government provides the most permanent employment in Tanana. The majority of workers are employed with the City, Native Village, and school district. Seasonal jobs include Bureau of Land Management (BLM) firefighting, trapping, wood cutting, and construction. Post-flood rehabilitation efforts have led to the city employing 19 seasonal construction employees. The City also employs individuals to gather and cut wood for biomass energy systems, wood boiler installers and operators, foresters, and engineering biomass systems. Tozitna, Limited, the village corporation for Tanana, runs a gas station and fuel delivery service. Limited wage employment is supplemented by subsistence activities including hunting, fishing, and harvesting wild berries.[553] Top employers in 2010 included Tanana Native School, City of Tanana, Tanana City School District, American Mechanical Inc., Tanana Chiefs Conference, Tanana Commercial Co. LLC, Too'gha Inc., Doyon Drilling Inc., The IBEX Group Inc., and VSW Tanana Project.[554]

According to the 2006-10 ACS,[555] in 2010, the per capita income in Tanana was estimated to be $17,675 and the median household income was estimated to be $46,250,

[550] City of Tanana and Tanana Tribal Council (2011). *Tanana Local Hazard Mitigation Plan.* Retrieved March 13, 2013 from: http://www.commerce.alaska.gov/dca/plans/Tanana%20-%20Sep%202011.pdf.
[551] Alaska Department of Environmental Conservation (n.d). *Contaminated Sites Program.* Retrieved March 13, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm#Fairbanks.
[552] Unless otherwise noted, all monetary data are reported in nominal values.
[553] See footnote 550.
[554] 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/.
[555] 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

compared to $12,077 and $29,750 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[556] the real per capita income in 2000 was $15,881 and the real household income was $39,121. This shows that both per capita and household income increased between 2000 and 2010. In 2010, Tanana ranked 172nd of 305 Alaskan communities with estimated per capita income that year, and 159th of 299 Alaskan communities with estimated household income data.

Tanana's small population size may have prevented the American Community Survey from accurately portraying economic conditions.[557] A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, the per capita income in Tanana in 2010 was $13,520, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.[558]

Based on household surveys conducted for the 2006-2010 ACS, an estimated 60.5% of the population age 16 and over was estimated to be in the civilian labor force, compared to the estimated statewide rate of 68.8%. The local unemployment rate was estimated at 11.8%, compared to the estimated statewide unemployment rate of 5.9%. Approximately 9.9% of local residents were living below the poverty line, compared to an estimated 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Tanana are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Tanana. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 28.8%.

The greatest number of workers were estimated to be employed in the private sector (50.7%), while an estimated 43.7% were employed in the public sector and an estimated 5.6% were self-employed. Out of an estimated 142 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in transportation, warehousing, and utilities (30.1%), public administration (17.6%), educational services, health care, and social assistance (16.3%), and construction (15.7%). Smaller percentages of the workforce were employed in other services, except public administration (2%), professional, scientific, management, administration, and waste management (8.5%), retail trade (7.2%), and agriculture, forestry, fishing, hunting, and mining (2.6%). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the agriculture, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. According to 2010 ALARI estimates, most (63.1%) employed residents work in local government sectors; followed by construction (8.7%); trade, transportation, and utilities (8.1%); and education and health service sectors (5.4%). Information regarding industry employment trends can be found in Figure 3.

By occupation, most (21.6%) employed residents were estimated to hold management or professional positions; followed by production, transportation, and material moving (20.9%);

---

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.

[556] 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).

[557] See footnote 555.

[558] See footnote 554.

sales or office (20.3%); and service positions (17.6%). No employed residents were estimated to hold natural resources, construction, or maintenance positions, which conflicts with both ALARI estimates and local accounts of employment. There were significant proportional declines in the number of residents employed in service and natural resources, construction, and maintenance positions between 2000 and 2010. Conversely, there were significant proportional gains in the number of residents employed in production, transportation, and material moving positions. Information regarding occupational employment trends can be found in Figure 4.

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

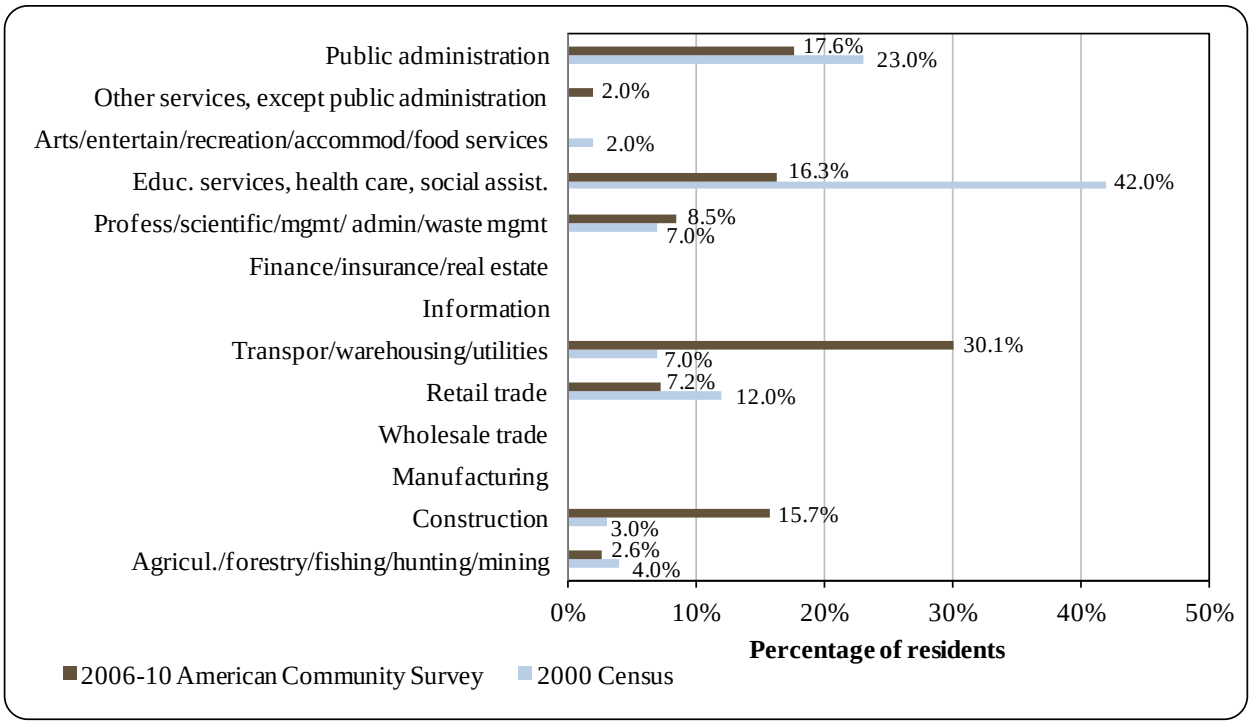
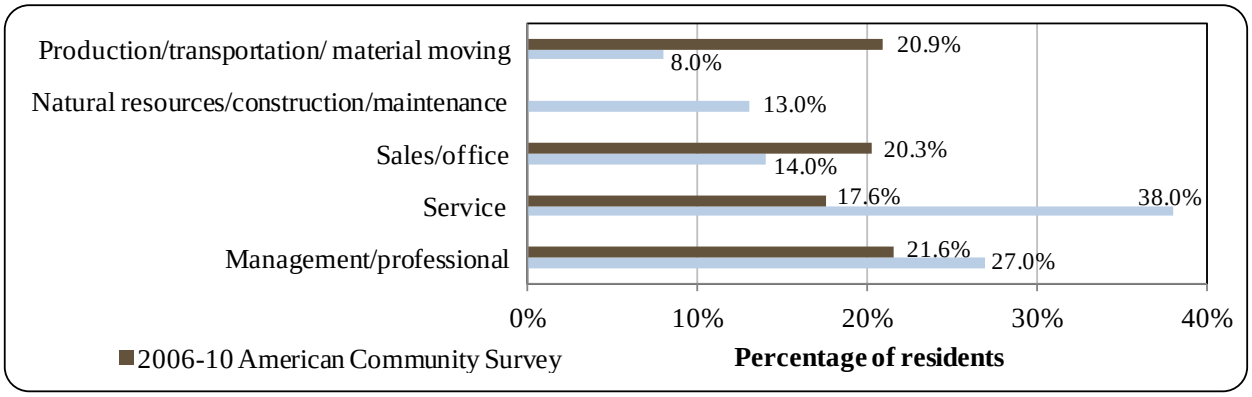


Figure 4. Local Employment by Occupation in 2000-2010, Tanana (U.S. Census).



Governance

Tanana is a First-class city that is not located within an organized Borough. Tanana administers a municipal budget, including revenues from a 2% sales tax. When adjusted for inflation,[559] total municipal revenues increased by 142.0% between 2000 and 2010 from $521,913, to $1.63 million. The significant increase in municipal revenues that followed a declining trend from 2000 to 2005 can be attributed to both a sharp increase in general fund revenues, as well as grants attributed to both FEMA flood relief and other outside revenues. In 2010, locally generated revenues accounted for 29.5% of the total municipal budget, compared to 27.5% in 2000. Total general fund revenues accounted for 48.8% of total municipal revenues (including special revenues) in 2010, compared to 34.5% in 2000. In 2005, when municipal revenues were at their lowest, general fund revenues accounted for 100% of total municipal revenues.[560]

In 2010, most (86.1%) locally generated revenues were collected from service charges; followed by "other" revenues (8.5%) and sales tax revenues (5.4%). Most (34.5%) outside revenues came from state allocated Community Revenue Sharing; followed by USDA dust control grants (18.0%) and payments in lieu of taxes (17.5%). Tanana did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of Tanana's community revenue is presented in Table 2.

Tanana was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is Tozitna, Limited. The regional Native corporation to which Tanana belongs is Doyon, Limited. Doyon, Limited, the Native regional corporation for Interior Alaska, is a for-profit corporation with more than 18,500 shareholders. Established under ANCSA, Doyon is the largest private landowner in Alaska, with more than 12.5 million acres allocated to the corporation under ANCSA. Doyon's mission is to continually enhance their position as a financially strong Native corporation in order to promote the economic and social well-being of their shareholders and future shareholders, to strengthen their Native way of life, and to protect and enhance their land and resources. As one of the top 10 Alaska-owned businesses, Doyon operates a diverse Family of Companies, including more than a dozen for-profit businesses across the nation in the areas of oil field services, utility management, security, engineering management, land and natural resource development, facility management, construction and tourism.[561]

[559] Inflation calculated using Anchorage CPI from Alaska DOL: http://labor.alaska.gov/research/cpi/cpi.htm.
[560] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm..
[561] Doyon, Limited (n.d.). *Company Overview*. Retrieved on May 11, 2012 from http://www.doyon.com/corporate_profiles/companyoverview.aspx.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Tanana 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	$521,913	$21,110	$38,735	n/a
2001	$457,973	$28,325	$30,496	n/a
2002	$483,923	$25,370	$30,496	n/a
2003	$405,408	$21,049	$30,496	n/a
2004	$428,696	$20,505	-	n/a
2005	$228,541	$21.608	-	n/a
2006	$236,430	$21,461	-	n/a
2007	$587,740	$17,145	-	n/a
2008	$751,964	$23,953	-	n/a
2009	$1,075,786	$20,693	$109,296	n/a
2010	$1,633,465	$25,865	$108,856	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2]Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3]Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5]Alaska Dept. of Comm. and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

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

Infrastructure

Connectivity and Transportation

Tanana is accessible only by air and river transportation. The city maintains 32 miles of local roads. The city operates a dock on the river and barged goods can be offloaded at a staging and storage area. The state owns and operates the Ralph M. Calhoun Memorial Airport, which has a 4,400-foot long by 150-foot wide lighted gravel runway. Float planes land on the Yukon River. Cars, trucks, snowmobiles, ATVs, and riverboats are used for local transportation.[562] Round-trip airfare between Tanana and Anchorage in June 2012 was $494.[563]

[562] 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.
[563] Airfare was obtained on the travel website http://www.travelocity.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

Facilities[564]

Water and sewer utilities are operated by Too'gha, Inc., a non-profit utility board. Water is derived from three wells near the Yukon River, and four watering points are available. Nearly all residents now haul their own water from the "washeteria" and use privies and "honeybuckets". A piped water and sewer system serves the Tanana Hospital, clinic, regional elders' residence, and the tribal council building. Water is treated locally. The landfill uses an incinerator and provides recycling services.

Law enforcement services are provided by the city police department, a Village Public Safety Officer, and state troopers in Fairbanks. Fire and rescue services are provided by the Tanana Tribal Emergency Medical Services. A community hall is operated by the Tanana Tribal Council, as is the Elders Residential Facility. There is both a public and a school library in Tanana.

Medical Services[565]

Health care is provided by the Tanana Health Center, which is owned by the Village Council and operated by the Tanana Tribal Council. The health center is a Community Health Aid Program (CHAP) site. Alternate health care is provided by Tanana Emergency Medical Services. The clinic is a qualified Emergency Care Center, and x-ray and pharmacy services are available. Emergency services have limited highway, river, and airport access and are provided by 911 telephone service volunteers and a health aide. The nearest hospital is located in Fairbanks.

Educational Opportunities[566]

The Maudrey J. Sommer School in Tanana provides instruction for students in Kindergarten through 12th grade. In 2011 the school had 35 students enrolled and 5 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries[567,568]

Commercial salmon fishing is permitted along the entire 1,200 mi stretch of the main stem Yukon River in Alaska, as well as the lower 225 mi of the Tanana River. The first recorded commercial salmon harvest in the Yukon River drainage occurred in 1918, although much of the harvest occurred at the river mouth, far from Tanana. Relatively large harvests of Chinook, chum, and coho salmon occurred from 1919 to 1921. The commercial fishery was closed from

[564] See footnote 562.
[565] Ibid.
[566] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.
[567] Clark, J. H. et al. (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fishery Research Bulletin, 12(*1). Retrieved July 10, 2012 from: http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf.
[568] Wolfe, R. J.; Scott, C. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska.* Final Report for Study 07-253, U.S. Fish and Wildlife Service.

1925 to 1931 because of concerns over the upriver subsistence fishery. In 1932, commercial fishing was allowed to continue, but at a reduced level. Commercial fishing of chum and coho salmon resumed in 1952. During the 1970s and 1980s, commercial fishing became integrated with subsistence fishing within village economies. Local residents who held commercial fishing permits also operated small-scale nets or fish wheels within family production groups. Among the middle and upper Yukon River, participation rates by local commercial fishermen have been much lower and more variable than in the lower Yukon due to 90% of the commercial Chinook quota amounts being allocated to the lower river districts by the Board of Fisheries in the early 1970s. Peak Chinook salmon harvests occurred in the 1980s when almost 130,000 fish were commercial harvested per year. Commercial harvests averaged about 97,000 fish per year in the 1990s and reduced to 27,000 fish after 2000. Harvests continued to decline, and no commercial harvests occurred during the 2009 through 2012 seasons. Significant reductions in subsistence fishing occurred throughout the entire Yukon system during that time as well.

Annual chum salmon harvests in the area typically totaled over 150,000 fish before 1989. By 2000, the annual catch fell to 19,300 due to run failures. Although chum runs have recovered, annual catches have yet to return to historic levels. Total coho salmon catches increased from around 5,000 to 10,000 fish in the 1960s, to 30,000 to 40,000 by the 1980s. Coho catch declined during the 1990s to levels barely supporting local subsistence needs. In recent decades, Chinook salmon has increased as a part of the subsistence diet in middle Yukon villages, from about three fish per person in 1981, to six fish in 2006. Chum salmon harvests peaked prior to the 1980s, when village residents harvested them for dog food. Chum harvests declined sharply following the sharp reduction of that practice. According to a 2006 ADF&G survey of Tanana households, 50% reported that fewer salmon had impacted their livelihoods.

Tanana is located in Interior Alaska about two mi west of the junction of the Tanana and Yukon Rivers. Due to the inland location of the community, Tanana is not located in a Federal Statistical and Reporting Area, a Pacific Halibut Fishery Regulatory Area, or a Sablefish regulatory area. The community is not eligible for either the Community Development Quota or Community Quota Entity program.

Processing Plants

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

Fisheries-Related Revenue

Tanana received fisheries-related revenue in 2010 from the Shared Fisheries Business Tax; however, the amount received was minimal. This was the only fisheries-related revenue reported between 2000 and 2010. Information on known fisheries-related revenue received by Tanana is presented in Table 3.[569]

[569] A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Commercial Fishing

In 2010, there were 16 commercial salmon permits issued by the Commercial Fisheries Entry Commission (CFEC) to 16 permit holders in Tanana. The number of salmon CFEC permits and permit holders in Tanana decreased slightly between 2000 and 2010, though those permits were only reported as fished between 2002 and 2008. During this period, between 19% and 28% of salmon CFEC permits were reported as fished in any given year. Of the salmon CFEC permits issued in 2010, the majority were for a fishwheel fishery in the upper Yukon, with the remainder issued for the Upper Yukon gillnet fishery. There were no other CFEC permits, License Limitation Program (LLP) permits, or Federal Fisheries Permits (FFP) in Tanana between 2000 and 2010. Information on permits and permit holders by species between 2000 and 2010 is presented in Table 4. No residents held quota share for halibut, sablefish, or crab fisheries between 2010 and when the programs began (Tables 6 to 8).

In 2010, there were no crew license holders in Tanana, and between 2000 and 2010 there were very few crew license holders in any given year. Between 2000 and 2010, there were no fish buyers or shore-side processing facilities located in Tanana. In 2010, Tanana residents held majority ownership of one vessel (a decrease from two in 2000) and there was one vessel homeported in that year (a decrease from three in 2000). Information on characteristics of the commercial fishing sector in Tanana between 2000 and 2010 is presented in Table 5.

No vessels reported landings in Tanana between 2000 and 2010 (Table 9). In addition, no residents reported landings in 2000, 2001, 2009, and 2010. Landings reported by residents in other years are considered confidential (Table 10).

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$180
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*$180*
Total municipal revenue[5]	*$521,913*	*$457,973*	*$483,923*	*$405,408*	*$428,696*	*$228,541*	*$236,430*	*$587,740*	*$751,964*	*$1.08 M*	*$1.63 M*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	19	20	20	20	18	18	18	18	16	16	16
	Fished permits	0	0	4	4	4	4	5	4	3	0	0
	% of permits fished	0%	0%	20%	20%	22%	22%	28%	22%	19%	0%	0%
	Total permit holders	20	20	21	20	18	18	18	18	16	16	16
Total CFEC Permits[2]	*Permits*	*19*	*20*	*20*	*20*	*18*	*18*	*18*	*18*	*16*	*16*	*16*
	Fished permits	*0*	*0*	*4*	*4*	*4*	*4*	*5*	*4*	*3*	*0*	*0*
	% of permits fished	0%	0%	*20%*	*20%*	*22%*	*22%*	*28%*	*22%*	*19%*	0%	0%
	Permit holders	*20*	*20*	*21*	*20*	*18*	*18*	*18*	*18*	*16*	*16*	*16*

[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 Tanana: 2000-2010.

Year	Crew Licenses 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 Tanana[2]	Total Net Pounds Landed In Tanana[2,5]	Total Ex-Vessel Value Of Landings In Tanana[2,5]
2000	2	0	0	2	3	0	0	$0
2001	1	0	0	2	3	0	0	$0
2002	0	0	0	2	3	0	0	$0
2003	0	0	0	1	2	0	0	$0
2004	0	0	0	1	2	0	0	$0
2005	0	0	0	1	2	0	0	$0
2006	1	0	0	1	2	0	0	$0
2007	2	0	0	1	2	0	0	$0
2008	1	0	0	1	1	0	0	$0
2009	0	0	0	1	1	0	0	$0
2010	0	0	0	1	1	0	0	$0

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

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

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

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

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

[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--

Note: Cells showing – indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

While there were sport fish guide businesses registered in Tanana between 2000 and 2003, none were reported as active during that time. Residents held several sport fish guide licenses during that time as well. No sport fish guide businesses were registered in the community, nor did any residents hold sport fish guide licenses between 2004 and 2010. There were 58 sportfishing licenses sold to Tanana residents in 2010 (irrespective of the location of the point of sale), a number which varied between 2000 and 2010. There were no sportfishing licenses sold within the community until 2007, and the number of licenses sold in Tanana has increased slightly since that time to a total of 45 in 2010. The number of sportfishing licenses sold in Tanana was lower than the number of licenses sold to Tanana residents during this period, indicating that some community residents may purchase their licenses and pursue sportfishing in other communities.

Tanana is located within the Yukon River Drainage Alaska Sport Fishing Survey Area. There were no saltwater angler days fished reported in this survey area between 2005 and 2010. Between 2000 and 2004, the number of saltwater angler days fished by non-Alaska residents decreased from 81 in 2000 to 17 in 2004, though there were no angler days fished by non-Alaska residents in 2002 and 2003. The number of saltwater angler days fished by Alaska residents was highly variable between 2000 and 2003, and there were no saltwater angler days fished by Alaska residents between 2004 and 2010. During this period, freshwater angler days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region between 2000 and 2010, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. Information about the sportfishing sector in and near Tanana is presented in Table 11.

The Alaska Statewide Harvest Survey,[570] conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Tanana: coho salmon, sockeye salmon, whitefish, burbot, Arctic grayling, northern pike, Pacific halibut, rockfish, and other fish. No kept/released log book data were reported for fishing charters out of Tanana between 2000 and 2010.[571]

[570] 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).

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

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Tanana[2]
2000	0	4	55	0
2001	0	2	52	0
2002	0	3	48	0
2003	0	1	56	0
2004	0	0	48	0
2005	0	0	64	0
2006	0	0	69	0
2007	0	0	50	31
2008	0	0	50	35
2009	0	0	57	39
2010	0	0	58	45

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]	Angler Days Fished – Non-residents[3]	Angler Days Fished – Alaska Residents[3]
2000	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	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/sportfishingsurvey/ (Accessed September 2011).

Subsistence Fishing

Subsistence foods for residents of Tanana include salmon, whitefish, moose, bear, ptarmigan, waterfowl, and berries.[572] With the exception of the percentage of households using non-salmon fish in 2006 (17%), data were not available for subsistence participation by household between 2000 and 2010. In 2006, the per capita harvest of non-salmon fish (except halibut) was 28,763 pounds (Table 13). According to the ADF&G Division of Subsistence, non-salmon fish species harvested for subsistence use in Tanana in 2006 included burbot, Dolly Varden, grayling, pike, sheefish, sucker, and whitefish.[573]

For years which data were reported between 2000 and 2010, an average of 102 subsistence salmon permits were issued to Tanana residents, with an average of 43 of those permits reported as fished each year (Table 13). Chum salmon were the primary species harvested under subsistence permits (an average of 19,580 chum salmon per year), along with an average of over 3,000 Chinook salmon and coho salmon each year. Subsistence participants typically harvest Chinook and chum salmon during July and early August, and chum and coho salmon from mid-August through September.[574]

Between 2000 and 2010, data were not reported for subsistence halibut fishing participation (Table 14) or subsistence harvest of marine mammal resources (Table 15).

Table 12. Subsistence Participation by Household and Species, Tanana: 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	17%	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).

[572] 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.
[573] 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).
[574] Alaska Department of Fish and Game (n.d.). *Tanana River Personal Use Salmon Fishery.* Retrieved March 21, 2013 from: http://www.adfg.alaska.gov/index.cfm?adfg=PersonalUsebyAreaInteriorTanana.main.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Tanana: 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]	Pounds of Marine Inverts[2]	Pounds of Non-Salmon Fish[2]
2000	122	45	2,896	12,266	6,285	n/a	29	n/a	n/a
2001	113	37	4,112	11,186	6,675	n/a	n/a	n/a	n/a
2002	102	35	2,379	9,576	2,032	n/a	n/a	n/a	n/a
2003	97	34	5,332	17,383	3,480	n/a	n/a	n/a	n/a
2004	90	45	2,689	24,608	1,049	n/a	n/a	n/a	n/a
2005	98	51	3,729	25,377	1,616	n/a	n/a	n/a	n/a
2006	104	47	3,794	28,641	3,619	n/a	n/a	n/a	28,763
2007	99	48	5,498	26,825	2,369	n/a	n/a	n/a	n/a
2008	97	48	3,981	20,355	1,511	80	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, Tanana: 2003-2010.

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

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

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

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

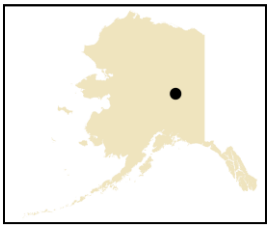
Note: n/a indicates that no data were reported for that year.

[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.

Two Rivers



People and Place

Location [575]

Two Rivers is dispersed from mi 13 to mi 25 of Chena Hot Springs Road. It lies between the Chena and the Little Chena Rivers. The community covers 28.5 sq mi of land. Two Rivers is unincorporated and under the jurisdiction of the Fairbanks North Star Borough.

Demographic Profile [576]

In 2010, there were 719 inhabitants in Two Rivers, making it the 86th largest of 352 total Alaskan communities with recorded populations that year. Overall, the population of Two Rivers grew by 58.7% between 1990 and 2010. The population grew by 37.6% between 2000 and 2009 with an average annual growth rate of 2.12%, which was significantly higher than the statewide average of 0.75% and indicative of robust growth. Information regarding population trends from 1990 to 2010 is shown in Table 1.

Two Rivers is predominately a White community. In 2010, 85.7% of residents identified themselves as White, compared to 88.6% in 2000. Also in that year, 3.6% of residents identified themselves as American Indian or Alaska Native, compared to 2.7% in 2000; 1.0% identified themselves as Asian, compared to 2.5% in 2000; 0.1% identified themselves as Black or African American, compared to 0.2% in 2000; 0.1% identified themselves as Native Hawaiian or Other Pacific Islander, compared to 0.0% in 2000; 8.2% identified themselves as two or more races, compared to 5.2% in 2000; and 1.3% identified themselves as some other race, compared to 0.8% in 2000. In addition, 5.0% of residents identified themselves as Hispanic or Latino, compared to 1.2% in 2000.

The average household size in Two Rivers in 2010 was 2.43, a decrease from 2.9 persons per household in 1990 and 2.72 in 2000. In that year, there were a total of 348 housing units, compared to 209 in 1990 and 192 in 2000. Of the households surveyed in 2010, 73% were owner-occupied, compared to 80% in 2000; 12% were renter-occupied, compared to 12% in 2000; 7% were vacant, compared to 4% in 2000; and 8% were occupied seasonally, compared to 4% in 2000. No residents lived in group quarters between 1990 and 2010.

The gender distribution in 2010 was slightly skewed at 51.7% male and 38.3% female. This was similar to the statewide distribution that year (52.0% male, 48.0% female), and more even than the distribution in 2000 (54.6% male, 45.4% female). The median age in 2010 was 42, which was significantly older than both the statewide median of 34, and 2000 median of 35.

[575] 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.

[576] 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.

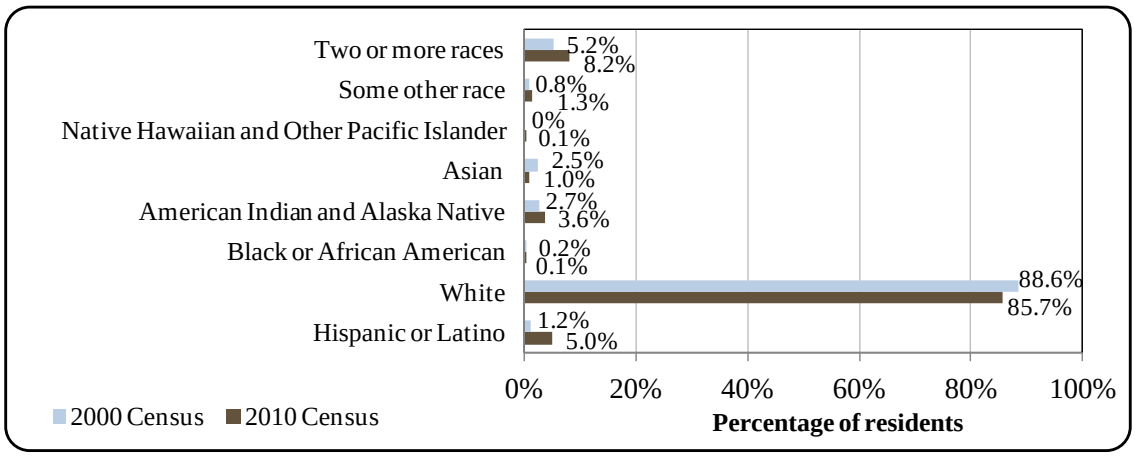
Table 1. Population in Two Rivers from 1990 to 2010 by Source.

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	453	-
2000	482	-
2001	-	536
2002	-	540
2003	-	602
2004	-	600
2005	-	629
2006	-	627
2007	-	624
2008	-	656
2009	-	663
2010	719	-

[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.

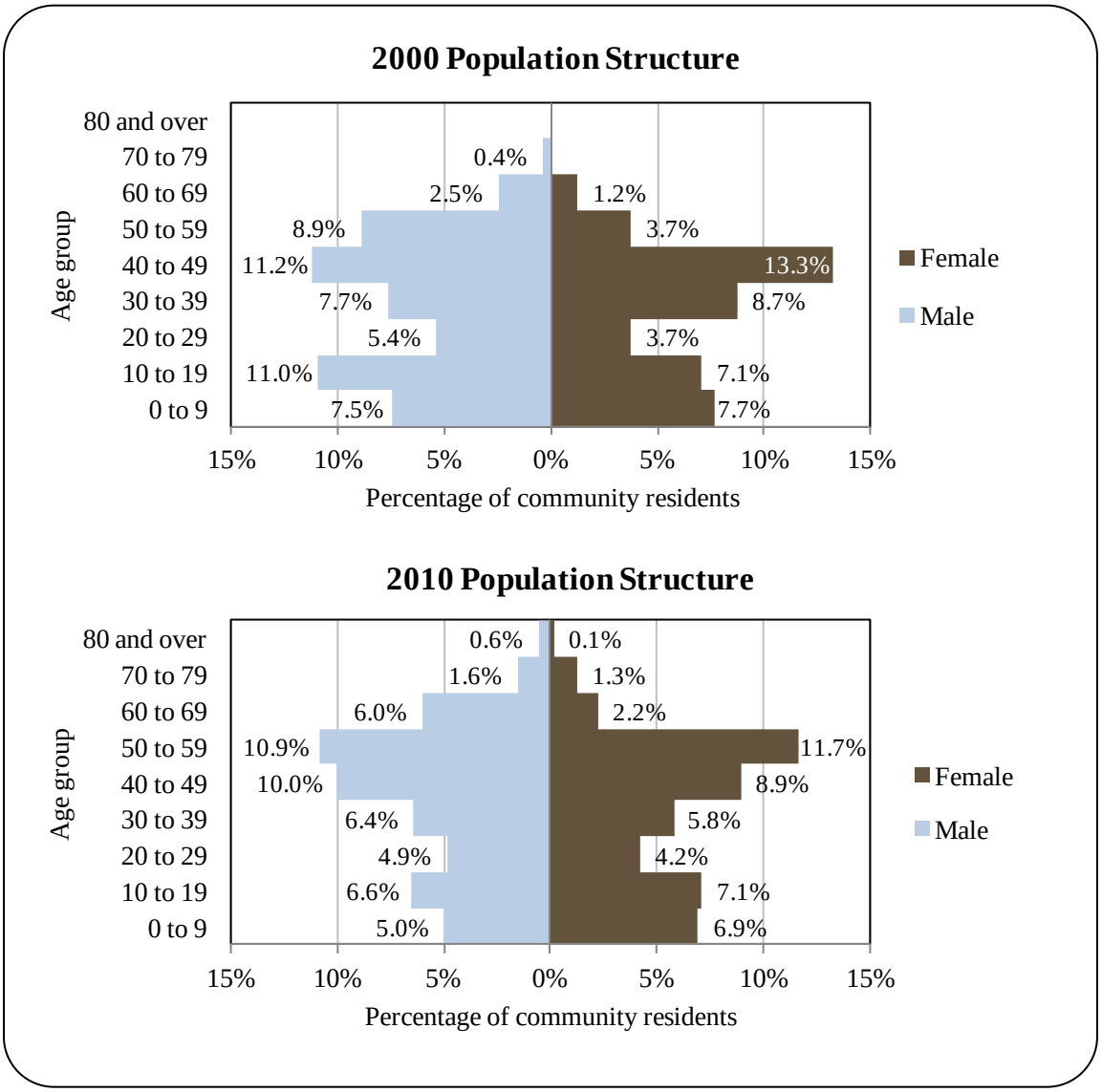
Figure 1. Racial and Ethnic Composition, Two Rivers: 2000-2010 (U.S. Census).



Overall, the gender distribution was less expansive in 2010 than in 2000, which is reflected in the rise in median age. In that year, 25.6% of residents were under the age of 20, compared to33.3% in 2000; 11.8% were over the age of 59, compared to 4.1% in 2000; 53.7% were between the ages of 30 and 59, compared to 53.5%, and 9.1% were between the ages of 20 and 29, compared to 9.1% in 2000.

Gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 60 to 69 range (6.0% male, 2.2% female), followed by the 0 to 9 (6.9% female, 5.0% male) and 40 to 49 (10.0% male, 8.9% female) ranges. Of those three, the greatest relative gender difference occurred in the 60 to 69 range. Information regarding trends in Two Rivers' population structure can be found in Figure 2.

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



According to the 2006-10 American Community Survey,[577] in terms of educational attainment, 100% of Two Rivers 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, 6.9% of residents aged 25 and older were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 49.6% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 27.4% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 9.3% were estimated to have a

[577] 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.

Bachelor's degree, compared to 17.4% of Alaska residents overall; and 6.9% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture[578]

The Fairbanks region, specifically the Tanana Valley, had been inhabited by Tanana Athabascans for thousands of years prior to European contact. Tanana Athabascans were strictly territorial and used hunting and gathering practices in their semi-nomadic way of life and dispersed habitation patterns. The boundaries of such systems of life were, presumably, fairly fluid and it may explain some references to the presence in the area of Koyukon Athabascans, the northwest neighbors. Fairbanks, like much of central Alaska, was at the center of the race between British, Russian, and American control of the Yukon River from Norton Sound and Saint Michael to Fort Yukon and the current Canadian border.

Two Rivers lies on the banks of the upper Chena River, near the Little Chena River. It was the site of a territorial school. Expansion of the greater Fairbanks area since the 1970s has enabled the community to expand and develop. Dog mushing is a prevalent activity in Two Rivers. There are several community organizations, including churches, the Parent-Teacher Association, the Ski Club, 4-H, and scouts. A recreational complex is available at Pleasant Valley, approximately five mi from Two Rivers, which supports baseball, basketball, tennis, ice skating, and hockey.

Natural Resources and Environment[579]

Interior Alaska experiences seasonal temperature extremes. Average January temperatures range from -19 to -2 °F (-28.3 to -18.9 °C); average July temperatures range from 49 to 71 °F (9.4 to 21.7 °C). Annual precipitation averages 11.5 inches, with 68 inches of snowfall.

Two Rivers is adjacent to the Chena River State Recreation Area (SRA), an area that is administered by the Alaska Department of Natural Resources (DNR) Division of Parks and Outdoor Recreation. The following information was obtained from the Alaska DNR.[580] Thomas and Robert Swan came across Chena Hot Springs in 1905. When local Fairbanks residents learned of this resource, they requested access, and the U.S. War Department built a trail to the hot springs in 1913. Today, part of the Yukon Quest, an annual 1,000-mi sled dog race, is run on the old trail. The area around the springs attracted attention from gold prospectors and loggers as well. The Chena River became a central mode of transportation, carrying people to the hot springs and timber to the rapidly growing city of Fairbanks. With the start of World War II, large numbers of servicemen settled in the Fairbanks area and developed the wild lands.

In 1967, Alaska legislators designated 15,360 acres as the Chena River SRA. One year later, oil was discovered in Prudhoe Bay and lands were rapidly parceled out and developed. Alaskans fought to preserve the remaining wild lands and their natural resources, and in 1975, 240,000 acs were added to the recreation area.

---

[578] 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.
[579] Ibid.
[580] Alaska Department of Natural Resources (n.d.). *Chena River State Recreation Area Brochure*. Retrieved on April 19, 2012 from http://dnr.alaska.gov/parks/units/chena/brochure/chenabrochure.pdf.

Today, the Chena River SRA encompasses 397 sq mi of forests, rivers, and alpine tundra. Visitors may hike, bike, dogsled, ski, horseback ride, ski or, snowmobile, 4-wheel, or snowshoe on over 100 mi of maintained trails. The meandering, class I-II Chena River flows through the park, and is an ideal place for kayaking, canoeing, fishing, swimming, or sunbathing. Chena River SRA abounds with wildlife including moose, bears, lynx, and a multitude of birds. The Chena River, flanked by alpine ridges and towering landforms, cuts through this recreation area. The valley is anchored by Chena Dome (4,421 ft) to the north and the granite tors to the south. The granite tors' weathered, craggy spires of intrusive granite rise above their surroundings. The two-toned Angel Rocks on the east side are the exposed tips of a large granite mass underlying the Chena River area. Fishing in the Chena River is catch and release only, and small game animals bring trappers and hunters to the park during the winter. Sport hunting within the park includes moose, bear, rabbit, grouse, ptarmigan, and fur bearing animals. Fishery resources include Arctic char, broad whitefish, burbot, Chinook salmon, coho salmon, chum salmon, Dolly Varden, Arctic grayling, humpback whitefish, lake trout, least cisco, longnose sucker, northern pike, rainbow trout, round whitefish, and sheefish.

Mineral resources include Fort Knox Gold Mine, which produces about 363,000 ounces of gold per year. Pogo Gold development is located 115 miles east of Fairbanks. Placer mines exist in the area, although on a small scale. Fourteen known or prospective mineral deposits exist east of Fairbanks. The Tanana Valley State Forest contains approximately 1.8 million acres of forestland. In 2003, 1.77 million acres of lands were designated as harvestable.[581]

Flooding and wildfire are the most prevalent environmental hazards in the area, although permafrost melt and land subsidence hazards have been increasing. Fires are common, and are mostly caused by summer lightning strikes along the foothills. Frequent flooding occurs across active floodplains.[582]

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation projects active in Two Rivers in 2010.[583]

Current Economy[584]

There are numerous local businesses in Two Rivers, and many residents are employed in the Fairbanks area. Three general stores, four restaurants, a post office, a laundromat, the University of California at Los Angeles' High Power Auroral Stimulation observatory, agricultural enterprises, a recreational vehicle park, and other small businesses exist in Two Rivers. Several residents are involved in dog mushing or raising horses, due to the excellent trails in the area. Top employers in 2010[585] included Fairbanks North Star School District, University of Alaska, Banner Health System, State of Alaska, Fairbanks Gold Mining Inc., Fairbanks North Star Borough, Tanana Chiefs Conference, Midnight Sun Subway LLC, Fountainhead Development Inc., and Wal-Mart Associates Inc.

---

[581] Fairbanks Northstar Borough (2003). *Comprehensive Economic Development Strategy.* Retrieved July 18, 2012 from: http://www.commerce.state.ak.us/dca/plans/FairbanksNorthStarBorough-EDP-2003.pdf.
[582] Ibid.
[583] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved Match 25, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm#Interior.
[584] Unless otherwise noted, all monetary data are reported in nominal values.
[585] 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/.

In 2010,[586] per capita income in Two Rivers was estimated to be $44,736 and the median household income was estimated to be $161,705, compared to $24,351 and $58,571 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,[587] the real per capita income in 2000 is shown to have been $32,021 and the real 2000 median household income was $77,020. This shows that both per capita income and median household income increased in Two Rivers between 2000 and 2010. In 2010, Two Rivers ranked ninth out of 305 Alaska communities from which per capita income was estimated, and first out of 299 Alaska communities from which median household income was estimated. However, Two Rivers' small population size may have prevented the American Community Survey from accurately portraying economic conditions.[588] Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, the per capita income in Two Rivers in 2010 was $19,560, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.[589]

Based on the 2006-10 American Community Survey, 79.3% of the population age 16 and older was estimated to be part of the civilian labor force, compared to an estimated statewide rate of 68.8%. The local unemployment rate was estimated to be zero, compared to an estimated statewide rate of 5.9%. An estimated 9.5% of local residents were living below the poverty line, compared to an estimated 9.6% of Alaskans overall. There is a possibility that unemployment and poverty statistics are inaccurate given the small population of Two Rivers. A more accurate estimate based on 2010 ALARI estimates indicates that the unemployment rate in was 9% (based on unemployment insurance claimants). It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Two Rivers are not reflective of the value of subsistence to the local economy. In addition, 2010 ALARI estimates are based on private and state employment figures and do not take into account self-employed or federally-employed workers.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the private sector (82.7%), while 4.2% of workers were employed in the public sector, 6.5% were self-employed, and 6.5% were unpaid family workers. Out of 260 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 (71.5%). Smaller percentages of the population were employed in public administration (4.4%), arts, entertainment, recreation, accommodations, and food services (6.6%), finance, insurance, and real estate (6.1%), retail trade (6.1%), and construction (5.3%). Between 2000 and 2010, there was significant variation in employment by industry sector. The greatest proportional changes occurred in education services, health care, and social assistance sectors, followed by construction and transportation, warehousing, and utilities sectors (Figure 3). No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing*

[586] 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.
[587] 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).
[588] See footnote 577.
[589] See footnote 585.

section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly.

By occupation type, most (58.3%) employed residents were estimated to hold management or professional positions; followed by natural resources, construction, or maintenance (17.5%); service (6.6%); and sales or office positions (6.1%). Again, there was significant proportional variation in employment by occupation type between 2000 and 2010. Between those years, the greatest change occurred in management and professional occupations; followed by natural resources, construction, and maintenance; and production, transportation, an material moving positions (Figure 4).

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

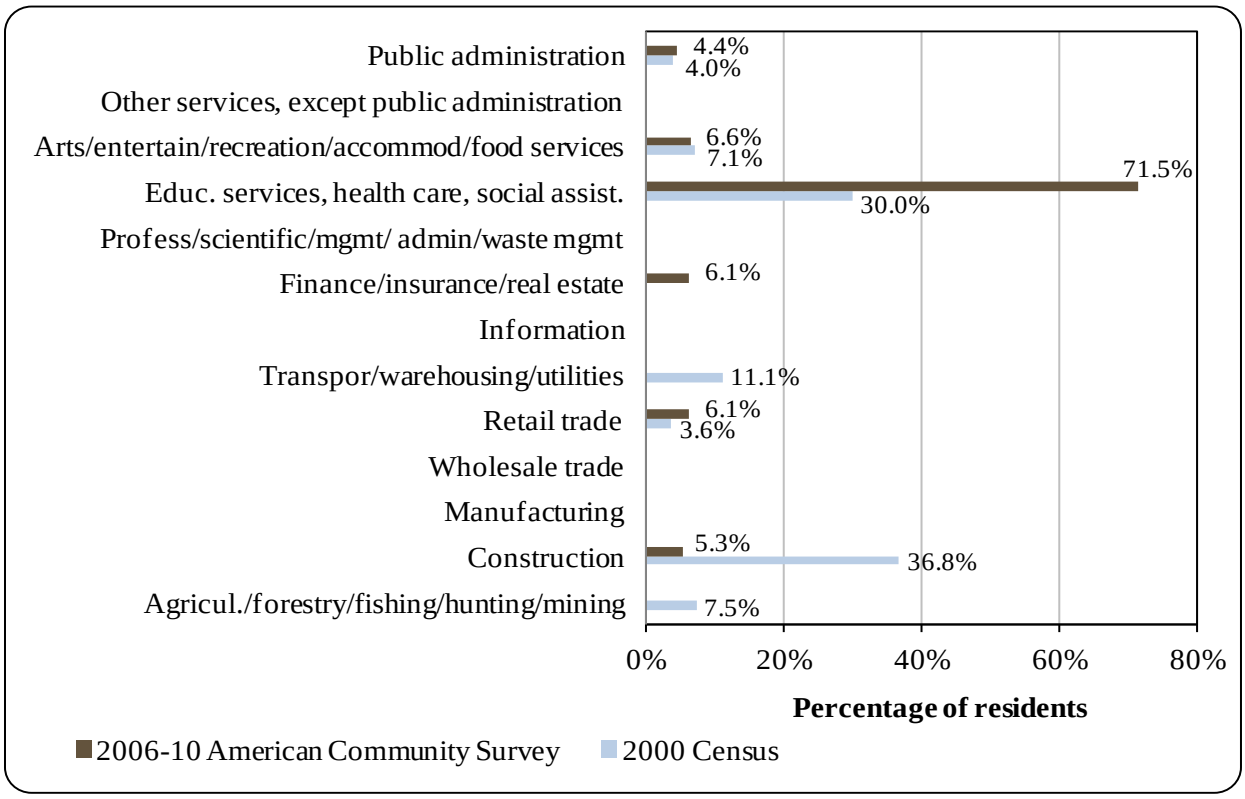
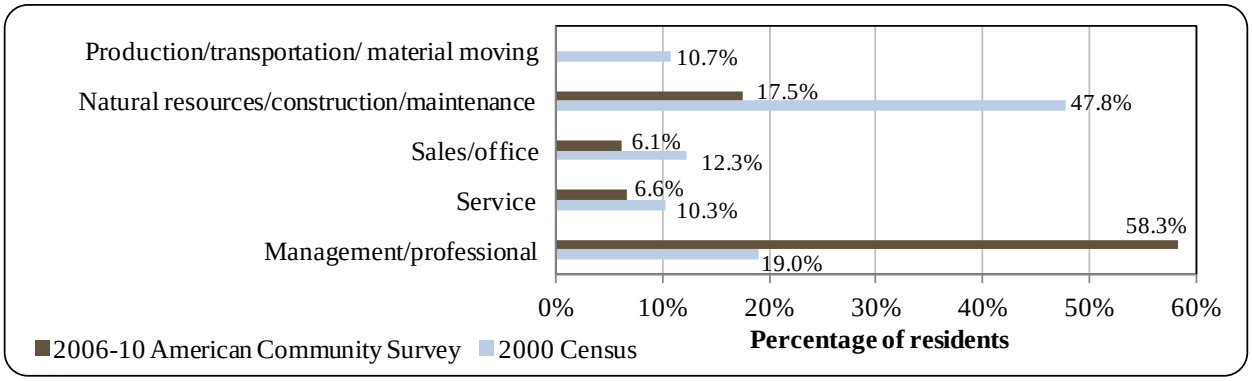


Figure 4. Local Employment by Occupation in 2000-2010, Two Rivers (U.S. Census).



Governance

Two Rivers is an unincorporated town located in the Fairbanks North Star Borough. Because of the unincorporated status of Two Rivers, no municipal taxes were administered between 2000 and 2010. In addition, Two Rivers did not receive any State/Community Revenue Sharing contributions or any fisheries-related grants between 2000 and 2010 (Table 2).

Two Rivers was not included in the Alaska Native Claims Settlement Act (ANCSA) and is not federally recognized as a Native village. However, the community is represented by Doyon, Ltd., a regional ANCSA chartered for-profit Alaska Native corporation.[590]

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

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

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.
[3] Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

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

Infrastructure

Connectivity and Transportation

Local roads connect to the Alaska road system. Airport, railway, and highway connections are available in nearby Fairbanks (approximately 25 mi).[591] In June 2012, roundtrip airfare between Fairbanks and Anchorage was $256.[592]

Facilities[593]

Homes in Two Rivers have individual wells or have water delivered, use septic tanks, and are fully plumbed. Nearly one-fourth of homes in this area are used only seasonally. Refuse is collected from dumpsters and transported to the borough landfill. Law enforcement services are provided by state troopers in Fairbanks, and fire and rescue services are provided by Two Rivers Rescue. Two Rivers has a Boys and Girls Club and a community hall.

Medical Services[594]

Medical care is provided by the Fairbanks hospitals. Alternate health care is provided by Two Rivers Rescue and Fairbanks hospitals. Emergency services have highway and helicopter access and are provided by a 911 telephone service and volunteers.

Educational Opportunities[595]

The Two Rivers School provides instruction to students in pre-school through 9th grade. In 2011, the school had 91 students enrolled and 8 teachers employed. Beyond 9th grade, students attend school in nearby Fairbanks.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Evidence of historic use of the Tanana River was documented by early Euro-American explorers. The subsistence fishery was essentially unrestricted until a regulatory system was put into place in 1964. In the beginning, permits were issued on an individual bases with no harvest limits or eligibility criteria. In 1971, the first harvest limits for salmon were imposed. These

[591] Ibid.
[592] Airfare was obtained on the travel website http://www.travelocity.com for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.
[593] Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.
[594] Ibid.
[595] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

limits were 25 Chinook and 200 "other salmon" per person. Since then, restrictions on numbers of fish and fishing periods have been increased.[596]

Many Fairbanks area residents participate in personal use fisheries on the Tanana River. In a 1980 ADF&G survey of Tanana River fishermen, 76.9% of respondents indicated that they lived in the greater Fairbanks area. Of those surveyed that year, 58.5% reported that subsistence harvest activities account for "half" or "some" of their annual meat consumption. Only 7.8% reported that subsistence activities account for "all" of their annual meat consumption.[597]

Two Rivers lies on the banks of the upper Chena River, near the Little Chena River. Due to its inland location, Two Rivers is not located within any Federal Statistical and Reporting Area, Pacific Halibut Fishery Regulatory Area, or Sablefish Regulatory Area. Two Rivers is not eligible for the Community Development Quota or Community Quota Entity programs.

Processing Plants

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

Fisheries-Related Revenue

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

Commercial Fishing

In 2010, there were two residents of Two Rivers holding commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the statewide salmon hand troll fishery. The number of salmon CFEC permits issued in Two Rivers increased from one to two between 2000 and 2010, but none of the permits issued was reported as fished during this period. No Two Rivers residents held Federal Fisheries Permits or License Limitation Program (LLP) permits between 2000 and 2010 (Table 4).

Between 2000 and 2010, the number of crew license holders in Two Rivers varied between zero and three, with one crew license holder in the community in 2010. There were no fish buyers or shore-side processing facilities in Two Rivers between 2000 and 2010. Between 2000 and 2004, there were between two and three vessels owned primarily by Two Rivers residents and there was one vessel homeported in Two Rivers between 2001 and 2004. Between 2005 and 2010, there were no vessels owned primarily by Two Rivers residents and no vessels homeported in Two Rivers. There were no vessels landing catch in Two Rivers between 2000 and 2010, and therefore there are no landings or associated ex-vessel revenue to report during this period. Information on characteristics of the commercial fishing sector in Two Rivers is provided in Table 5.

There were no quota share account holders in Two Rivers for halibut or sablefish between 2000 and 2010 (Tables 6 and 7) or for crab between 2005 and 2010 (Table 8). As

[596] Caulfield, R. A. (1981). *Final Report of the Survey of Permitholders in the Tanana River Subsistence Salmon Permit Fishery.* Retrieved July 12, 2012 from: http://www.subsistence.adfg.state.ak.us/TechPap/tp014.pdf.
[597] Caulfield, R. A. (1980). *Interim Report on the Survey of Permitholders in the Tanana Subsistence Permit Fishery.* Retrieved July 12, 2012 from: http://www.arlis.org/docs/vol1/10883183.pdf.

previously stated, there were no landings or ex-vessel revenue recorded in Two Rivers between 2000 and 2010 (Table 9). Landings by Two Rivers residents between 2000 and 2004 were considered confidential due to a small number of participants, and no landings were recorded by Two Rivers residents between 2005 and 2010 (Table 10).

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	1	1	1	1	1	2	2	2	2	2	2
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	2	2	2	2	2	2
Total CFEC Permits[2]	*Permits*	*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*
	Fished permits	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Permit holders	*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*

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

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

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

Year	Crew Licenses 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 Two Rivers[2]	Total Net Pounds Landed In Two Rivers[2,5]	Total Ex-Vessel Value Of Landings In Two Rivers [2,5]
2000	1	0	0	2	0	0	0	$0
2001	0	0	0	2	1	0	0	$0
2002	0	0	0	3	1	0	0	$0
2003	0	0	0	3	1	0	0	$0
2004	0	0	0	3	1	0	0	$0
2005	0	0	0	0	0	0	0	$0
2006	0	0	0	0	0	0	0	$0
2007	1	0	0	0	0	0	0	$0
2008	3	0	0	0	0	0	0	$0
2009	2	0	0	0	0	0	0	$0
2010	1	0	0	0	0	0	0	$0

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

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

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

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

[5] Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation in Two Rivers: 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 Two Rivers: 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 Two Rivers: 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 Two Rivers: 2000-2010.

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	0	0	0	0	0	0
Finfish	--	--	--	--	--	0	0	0	0	0	0
Halibut	--	--	--	--	--	0	0	0	0	0	0
Herring	--	--	--	--	--	0	0	0	0	0	0
Other Groundfish	--	--	--	--	--	0	0	0	0	0	0
Other Shellfish	--	--	--	--	--	0	0	0	0	0	0
Pacific Cod	--	--	--	--	--	0	0	0	0	0	0
Pollock	--	--	--	--	--	0	0	0	0	0	0
Sablefish	--	--	--	--	--	0	0	0	0	0	0
Salmon	--	--	--	--	--	0	0	0	0	0	0
Total[2]	--	--	--	--	--	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Finfish	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Halibut	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Herring	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Other Groundfish	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Other Shellfish	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Pacific Cod	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Pollock	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Sablefish	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Salmon	--	--	--	--	--	$0	$0	$0	$0	$0	$0
Total[2]	--	--	--	--	--	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

Note: Cells showing "--" indicate that the data are considered confidential.
Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[1] Net pounds refers to the landed weight recorded in fish tickets.
[2] Totals only represent non-confidential data.

Recreational Fishing

Despite there being several sport fish guide businesses registered in the community, none were active between 2000 and 2010. This means that no kept/released logbook data were reported for fishing charters out of Two Rivers during those years.[598] The number of individuals holding sport fish guide licenses varied between zero and four during this period, with three sport fish guide license being held in 2010.

The number of sportfishing licenses sold to Two Rivers residents (irrespective of the location of the point of sale) remained relatively stable between 2000 and 2009 at an average of 148 per year, and then increased to 170 in 2010. Few sportfishing licenses were sold in the community until 2005, at which time between 185 and 255 licenses were sold annually. The number of licenses sold in the community was greater than the number of licenses sold to community residents between 2005 and 2010, indicating the potential that visitors to Two Rivers were pursing sportfishing activities during this period.

Two Rivers is located within the Tanana River Drainage Alaska Sport Fishing Survey Area. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, sportfishing activity in this region varied considerably. For saltwater sportfishing, the number of angler days fished by non-Alaska residents decreased between 2000 and 2004, with no angler days fished by non-Alaska residents between 2005 and 2010. The number of angler days fished by Alaska residents in this region also declined between 2000 and 2003, with no saltwater angler days fished by Alaska residents between 2004 and 2010. In freshwater, Alaska residents fished considerably more angler days per year (an average of 88,125) than non-Alaska residents (an average of 9,480). This information about the sportfishing sector in and near Two Rivers is displayed in Table 11.

Table 11. Sport Fishing Trends, Two Rivers: 2000-2010.

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Two Rivers[2]
2000	0	1	142	0
2001	0	4	153	9
2002	0	4	133	3
2003	0	3	152	0
2004	0	3	152	47
2005	0	4	157	250
2006	0	2	142	185
2007	0	2	151	224
2008	0	4	145	248
2009	0	3	157	192
2010	0	3	170	255

[598] Alaska Department of Fish and Game (2011). *Alaska sportfishing 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 public available as some information is confidential.]

Table 11 cont'd. Sport Fishing Trends, Two Rivers: 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	11,517	110,246
2001	29	14	10,744	80,391
2002	0	89	9,733	98,884
2003	0	17	7,502	92,432
2004	17	0	11,853	104,633
2005	0	0	11,335	82,063
2006	0	0	8,216	71,461
2007	0	0	9,327	91,629
2008	0	0	7,613	64,722
2009	0	0	7,415	85,082
2010	0	0	9,025	87,834

[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).

The Alaska Statewide Harvest Survey,[599] conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Two Rivers: Chinook salmon, coho salmon, sockeye salmon, rainbow trout, Arctic grayling, and northern pike.

Subsistence Fishing

Two Rivers is not designated as "rural" by the Federal Subsistence Board, meaning that rural subsistence preference is not granted on federal lands. However, Alaska Native preference is still afforded to some residents, and state subsistence rights for personal use fisheries are available to others. Data on subsistence participation by household and species and per capita subsistence harvest were not reported for Two Rivers between 2000 and 2010 (Table 12). In years for which data were reported for salmon harvests between 2000 and 2010, an average of 22 subsistence salmon permits was issued to Two Rivers residents, with an average of 20 permits returned during this period. Sockeye salmon were the primary species harvested under subsistence permits (an average of 358 sockeye per year), along with several Chinook salmon and coho salmon each year (Table 13).

[599] 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).

Data regarding subsistence harvest of marine invertebrates, non-salmon fish (Table 13), halibut (Table 14) and marine mammals (Table 15) were not reported between 2000 and 2010.

Additional Information

The Two Rivers Dog Musher's Association represents dog mushers and dog-powered sports fans working together to promote the sport of dog mushing and to organize races, social events, and fund raising in the Two Rivers area, to maintain the winter trail system along Chena Hot Springs Road, to address trail issues relating to the interests of the dog mushers in the Two Rivers Area, and to mentor youth and mushers in the ethical treatment of sled dogs.[600]

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

[600] Two Rivers Dog Musher's Association (n.d.). *Our Purposes.* Retrieved April 19, 2012 from http://www.trdma.org/about_trdma.htm.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Two Rivers: 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	18	18	3	n/a	22	n/a	224	n/a	n/a
2001	26	26	8	n/a	9	n/a	507	n/a	n/a
2002	21	20	7	n/a	11	n/a	309	n/a	n/a
2003	27	25	5	n/a	n/a	n/a	334	n/a	n/a
2004	21	19	9	n/a	4	n/a	326	n/a	n/a
2005	20	18	7	n/a	n/a	n/a	421	n/a	n/a
2006	23	20	7	n/a	n/a	n/a	457	n/a	n/a
2007	26	20	8	n/a	5	n/a	387	n/a	n/a
2008	18	15	5	n/a	1	n/a	258	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, Two Rivers: 2003-2010.

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

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

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

Table 15. Subsistence Harvests of Marine Mammal Resources, Two Rivers: 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

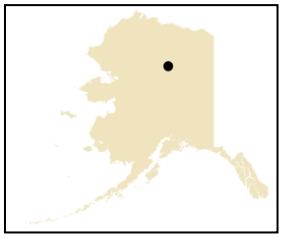
Note: n/a indicates that no data were reported for that year.

[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.

Wiseman



People and Place

Location [601]

Wiseman is located on the middle fork of the Koyukuk River, at the junction of Wiseman Creek in the Brooks Range. It is about 260 mi northwest of Fairbanks off the Dalton Highway, 13 mi north of Coldfoot, and 75 mi north of the Arctic Circle. Wiseman is located in a valley, at 1,180 ft elevation. The area encompasses 78.1 sq ft of land. Wiseman is located in the Yukon-Koyukuk Census Area and is not incorporated into a municipality or under the jurisdiction of a borough.

Demographic Profile [602]

In 2010, there were 14 residents living in Wiseman, ranking it 335th of 352 Alaskan communities in terms of population size. Between 1990 and 2010 the population fell by 57.6%. Between 2000 and 2009 the population fell by 23.8% with an average annual growth rate of -1.85%, which was significantly less than the statewide average of 0.75% and indicative of a steadily declining population. Further information regarding population trends can be found in Table 1.

Wiseman's racial and ethnic composition was predominately White in 2010. In that year, 92.9% of residents identified themselves as White, compared to 81.0% in 2000; and 7.1% identified themselves as two or more races, compared to 0.0% in 2000. Information regarding racial and ethnic trends in Wiseman can be found in Figure 1.

The average household size in 2010 was 2.8, compared to 3.0 in both 1990 and 2000. In that year there were a total of 25 housing units, compared to 37 in 1990 and 30 in 2000. Of the households surveyed in 2010, 20% were owner-occupied, compared to 17% in 2000; 0% was renter-occupied, compared to 7% in 2000; 4% were vacant, compared to 3% in 2000; and 76% were occupied seasonally, compared to 73% in 2000. Between 1990 and 2010 no residents were reported to be living in group quarters.

Gender distribution in 2010 exactly even at 50.0% male and 50.0% female, which was more even than the distribution statewide (52.0% male, 48.0% female) and significantly more even than the distribution in 2000 (57.1% male, 42.9% female). The average age that year was 28.5 years, compared to 33.8 years statewide and 33.5 years in 2000.

Because of its small population size, Wiseman's population structure was irregular in both 2000 and 2010 making it difficult to discern a trend. In 2010, 50.2% of residents were under the age of 20, compared to 47.7% in 2000; 7.2% were over the age of 59, compared to 4.8% in

[601] 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.

[602] 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.

2000; 43.0% were between the ages of 30 and 59, compared to 47.7% in 2000; and 0.0% were between the ages of 20 and 29, compared to 0.0% in 2000.

Gender distribution by age cohort was somewhat less even in 2010 than it was in 2000, with female biases occurring within the 70 to 79 and 30 to 39 ranges, and male biases occurring in the 50 to 59 and 0 to 9 ranges (Figure 2).

The U.S. Census' 2006-2010 American Community Survey (ACS) did not capture educational attainment estimates for the Wiseman.

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

Year	U.S. Decennial Census[1]	Alaska Dept. of Labor Estimate of Permanent Residents[2]
1990	33	-
2000	21	
2001	-	25
2002	-	25
2003	-	27
2004	-	26
2005	-	17
2006	-	22
2007	-	17
2008	-	16
2009	-	16
2010	14	-

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

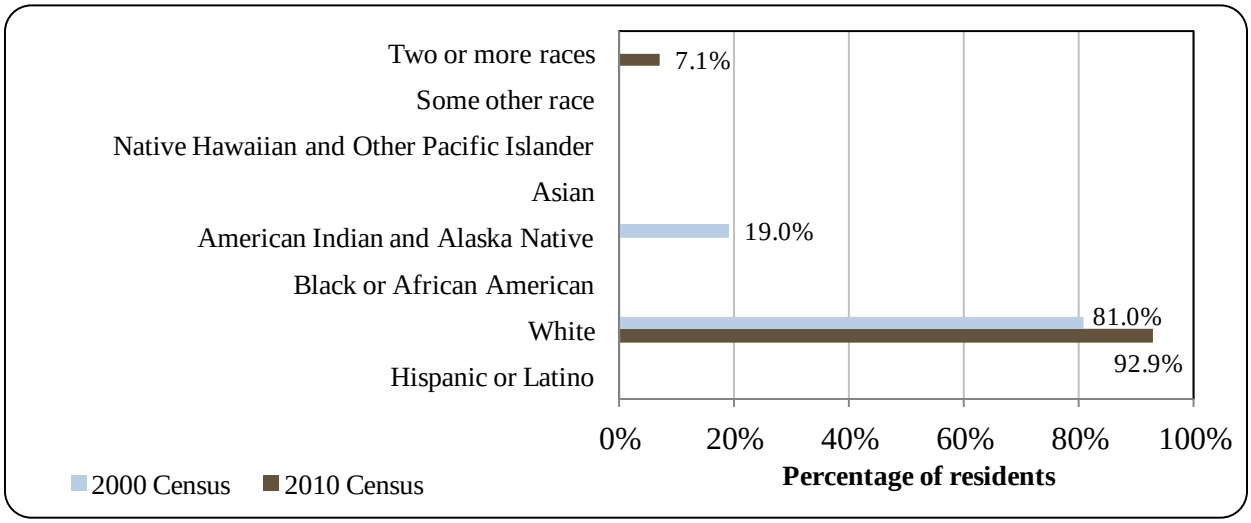
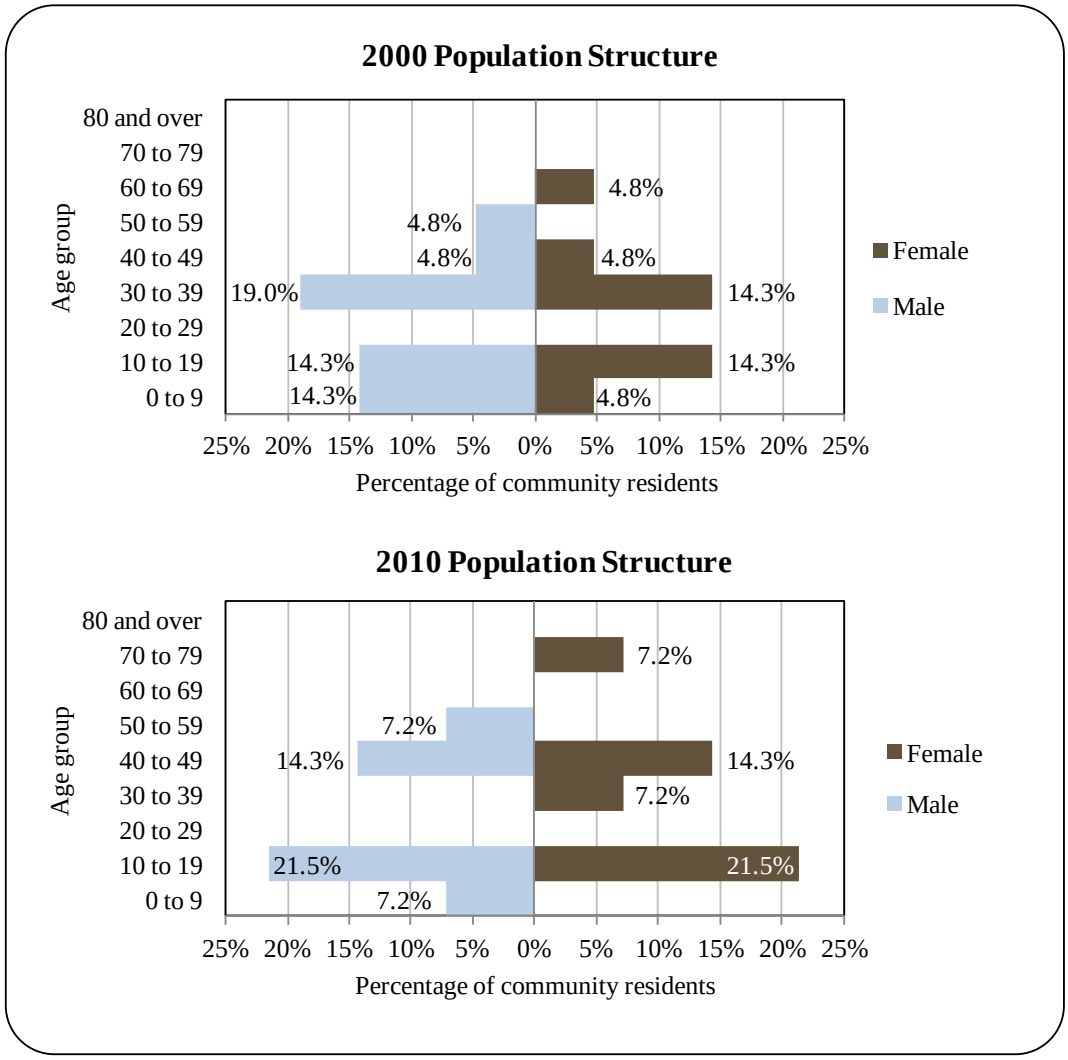


Figure 2. Population Age Structure in Wiseman Based on the 2000 and 2010 U.S. Decennial Census.



History, Traditional Knowledge, and Culture

Occupation of the Brooks Range and northern Alaska can be traced back at least 10,000 years. During the last glacial maximum, successive waves of immigrants arrived in the Arctic, either through an ice free corridor connecting North America and Siberia, coastal routes along the Bering Land Bridge, or both.

The earliest evidence of human occupation is dated to approximately 8,500 to 11,000 years ago; however, there is some disagreement over ages within archaeological record. Evidence related to an early American Paleo-Arctic tradition have been found in the vicinity of Itkillik Lake, the upper Kobuk River, and near Anaktuvuk Pass.[603]

[603] National Park Service (1988). *Final Environmental Impact Statement: Wilderness Recommendation: Gates of the Arctic National Park and Preserve, Alaska.* Retrieved May 22, 2012 from: http://babel.hathitrust.org/.

The northern Archaic people arrived in northern Alaska from southern forested regions about 6,500 years ago. By about 1,000 years ago, the Western Thule culture appeared in the archaeological record. The Thule spread throughout the Arctic, eventually reaching as far east as Greenland and Labrador. The Nunamiut culture, which occupied much of the Brooks Range and surrounding tundra descended from the Thule. The south slope of the Brooks Range was traditionally occupied by central Athabaskan groups. In historic times, there were many interactions between northern Eskimo groups and central Athabaskan groups throughout the Brooks Range area.[604]

In 1850, the central Brooks Range was still largely isolated from the influences of European and American culture. The mountains were occupied by semi-nomadic bands of Nunamiut hunters. Kobuk Eskimos and Koyukon and Kutchin Athabaskans made seasonal journeys into the area as well. Principal activities included hunting, fishing, and trading among coastal and interior groups. In the mid-1880s, American explorers began moving into the central Brooks Range. Around this time, waves of miners and trappers began occupying the area.[605]

In response to increased mining on the Nolan Creek and the Hammond River in the early 1900s, locals began to abandon Coldfoot, 13 mi to the south. Supplies were brought up the Koyukuk River to Wiseman Creek by horse-drawn barge, where a new town developed in 1907. It was first called Wrights, then Nolan, and finally Wiseman in 1923. A log post office operated from about 1909 to 1956, with mail and supplies freighted or flown in. A territorial school operated from 1934 to 1941. By 1974, the 414-mi pipeline "haul road" was constructed, which passes near Wiseman. Travel was restricted for the general public until December 1994. The road is now known as the Dalton Highway, named for James William Dalton, an arctic engineer. In 1979, Florence Jonas (or Kalhabuk), the last full Eskimo resident, passed away in Wiseman at the age of 82. A nearby mountain and chapel were named in her honor. The school, operated in the community center, was closed in November 2002, because it was unable to meet the state's minimum enrollment. Since then, children have been home schooled.[606]

Natural Resources and Environment[607]

The climate of the area is strongly continental. Winter temperatures can be extremely cold: -50 to -70 °F (-46 to -57 °C) in January and February. There is a total loss of sunlight between December 5 and January 9. High temperatures occasionally reach 90 °F (32 °C). Annual precipitation averages 12-15 inches, and snowfall averages 36 inches. The Aurora Borealis is especially vivid over this portion of the Brooks Range and is visible from September through March.

Wiseman is located in a valley within the southern portion of the Brooks Range and right outside the Gates of the Arctic National Park and Preserve (GANPP). The area is remote and rugged with ridges that reach elevations of 4,000 to 8,000 ft or more. The ridges are actually the northernmost expanse of the Rocky Mountain system. The topography of the region is shaped by tectonic uplift, deformation, folding, fracturing, and overlapping. Uplift, erosion, and heavy glaciations account for the landscape profile and U-shaped valleys. Subsurface geology consists

[604] Ibid.
[605] Ibid.
[606] 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.
[607] Ibid.

of metamorphic quartz mica and chloritic schists which form belts along the south flanks of the Brooks Range.

Soils vary by location and are dependent on topography, aspect, fire history, drainage, permafrost, and parent material. Most mountainous areas are characterized by thin, sandy soils. Hilly moraines and south-facing colluvial slopes consists of gravelly loams. There are also areas of thin peaty mat and occasional pockets of permafrost. Lower elevations are covered by a gray to brown silty loam overlain by a peaty organic layer. Soils often overlay continuous permafrost zones.

Regional vegetation is consistent with taiga (boreal forest), tundra, and shrub thicket types. Alpine tundra occurs in mountainous areas and may be populated with willows, dryas, heather, lichens, grasses, sedges, and herbs. Moist tundra is found in moderately drained foothills and along valleys. Cottongrass dominates landscapes. Other plants include grasses, dwarf birch, willows, and Labrador tea. Taiga reaches its northern limit at around the southern border of the Brooks Range. As such, spruce stands are scattered and mixed with hardwoods, such as birch or aspen. Other vegetation includes willows, blueberry, cranberry, bearberry, crowberry, lichens, mosses, Labrador tea, and poplar.

Mammals within the GANPP include brown/grizzly bears, moose, lemmings, voles, ground squirrel, marmot, beaver, mink, otter, wolverine, fox, wolf, lynx, marten, snowshoe hare, moose, caribou, and Dall sheep. Freshwater fish include Arctic grayling, lake trout, northern pike, Arctic char, whitefish, sheefish, salmon, long-nosed sucker, burbot, nine-spined stickleback, and slimy sculpin.

Minerals found in the region include copper, gold, lead, and zinc. There are several polymetallic deposits located at Wiseman, Nolan Creek, and Michigan Creek.[608] Placer mines have operated historically around the Nolan-Hammond River areas outside of Wiseman.

Environmental hazards primarily come in the form of extreme cold events, permafrost melt, wildfire, and erosion. Solifluction, or soil creep, is common on moderate slopes and can be associated with permafrost thaw. Smoke and haze associated with forest and tundra fires can degrade local air quality.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Wiseman as of 2010.[609]

Current Economy[610]

Very little information regarding Wiseman's economy is available. Roadside services and transportation of materials for the North Slope Borough provide a few positions in Wiseman. Several residents sell handcrafted items and furs. Self-employment, seasonal visitor service jobs, seasonal highway maintenance jobs, and the National Park Service provide income.[611]

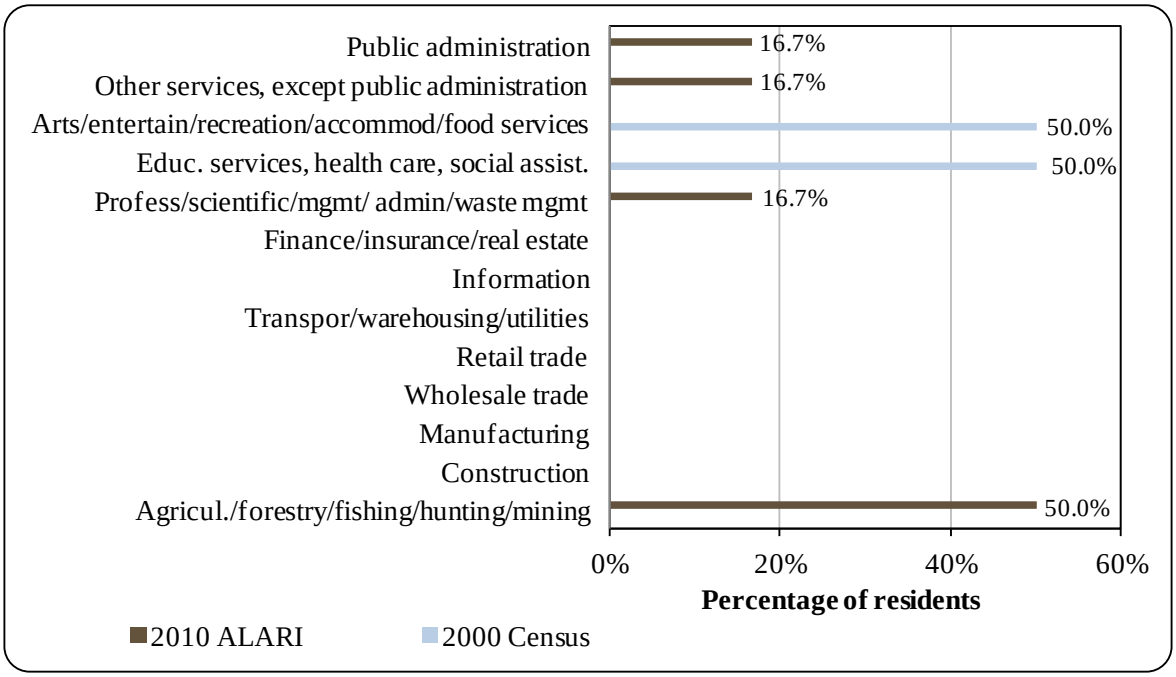
Economic data for 2010 was not captured by the 2006-2010 ACS; however, economic conditions for that year were estimated by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development

[608] Alaska Department of Commerce (n.d.). *Mineral Resources of Alaska.* Retrieved May 22, 2012 from: http://commerce.alaska.gov/ded/dev/minerals/mining.htm.
[609] Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program.* Retrieved March 28, 2013 from: http://www.dec.state.ak.us/spar/csp/list.htm.
[610] Unless otherwise noted, all monetary data are reported in nominal values.
[611] See footnote 609.

(DOLWD).[612] In that year, wages reported for residents totaled $137,413.[613] When compared with the total number of residents reported by the 2010 Census, per capita income was estimated at $9,815. In 2000, per capita income was $8,211; however, after adjusting for inflation by converting 2000 values to 2010 dollars,[614] the real per capita income ($10,797) indicates a slight decrease in individual earnings. In addition, Wiseman 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. [615]

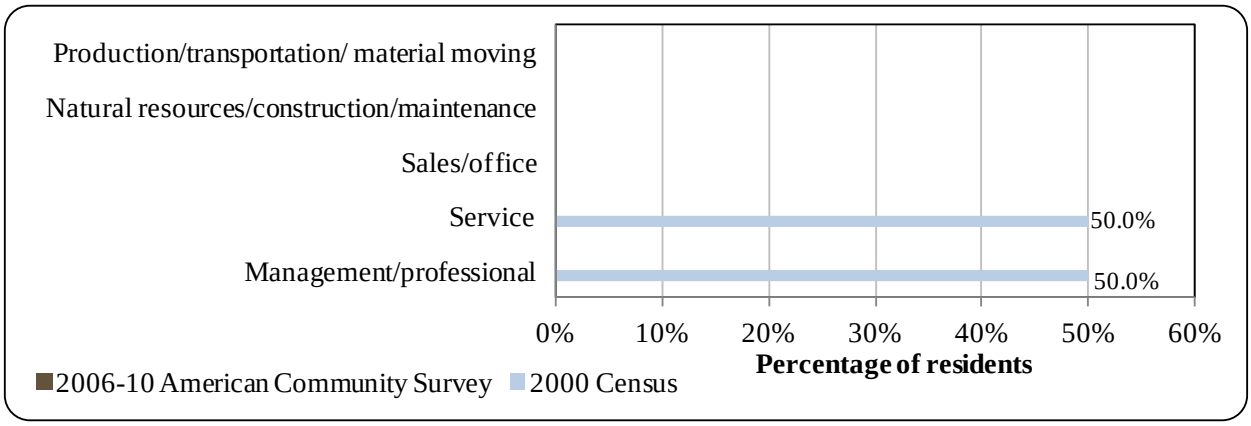
According to ALARI records, six residents were employed in private or state government sectors in 2010. Of those six, an estimated 50% worked in natural resources and mining sectors, an estimated 16.7% worked in professional or business service sectors, an estimated 16.7% worked in state government sectors, and an estimated 16.7% worked in other, "non-specified" sectors. In contrast, in 2000, the U.S. Census Bureau reported that 50.0% of employed residents worked in arts, entertainment, recreation, accommodation, and food service sectors; and 50.0% worked in education services, healthcare, and social assistance sectors. Further information regarding employment trends can be found in Figures 3 and 4.

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



[612] 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/.
[613] ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.
[614] Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, http://labor.alaska.gove/research/cpi/inflationcalc.htm).
[615] Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: www.denali.gov.

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



Governance

Wiseman is a Census Designated Place located in the Yukon-Koyukuk Census Area. Since the community is unincorporated, it is unable to collect taxes or fees (Table 2). In addition, Wiseman was not included in the Alaska Native Claims Settlement Act (ANCSA) and does not have a federally recognized Tribal government. The Wiseman Community Association acts as a governing body for the community.

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

Year	Total Municipal Revenue[1]	Sales Tax Revenue[2]	State/Community Revenue Sharing[3,4]	Fisheries-Related Grants (State and Federal)[5]
2000	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

[1] Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.
[2] Alaska 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, 2011from https://www.tax.state.ak.us.
[4] The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.
[5] Alaska Department of Community and Rural Affairs. (n.d.). Community Funding Database. Retrieved April 15, 2011from http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm.

The closest Alaska Department of Fish and Game (ADF&G) and U.S. Bureau of Citizenship and Immigration Services offices are located in Fairbanks, 190 mi southeast. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 430 mi south.

Infrastructure

Connectivity and Transportation[616]

The partially-paved Dalton Highway connects Wiseman to Alaska's road system. A state-owned 2,000-ft long by 30-ft wide gravel airstrip is available but is not consistently maintained.

Facilities[617]

Several homes have individual wells and septic tanks; others haul water and use outhouses. Individual generators are used for power; some residents use propane lights. Seventy percent (70%) of the cabins in Wiseman are used only seasonally. Visitor accommodations include the Arctic Getaway. Public safety services are provided by state troopers based in Fairbanks. Additional public facilities include the Wiseman Community Center. Communications services include local and long distance telephone.

Medical Services[618]

The Wiseman Health Clinic provides itinerant healthcare and is a Community Health Aid Program (CHAP) site. A State Public Health Nurse visits once a year in October. Emergency services are limited. The closest hospital is located in Fairbanks.

Educational Opportunities[619]

There are no schools located in Wiseman. All students are homeschooled.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Very little information is available regarding Wiseman's historic participation in North Pacific Fisheries. Many residents have held recreational fishing licenses, and several residents held commercial fishing permits between 2000 and 2010.

---

[616] 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.
[617] Ibid.
[618] Ibid.
[619] Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from http://eed.alaska.gov/stats/.

Processing Plants

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

Fisheries-Related Revenue

Between 2000 and 2010, Wiseman did not collect any fisheries-related taxes or fees (Table 3).

Commercial Fishing

Overall, residents of Wiseman do not participate heavily in commercial fishing. In 2010, one resident, or 7.1% of the population, held one commercial fishing permit issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 4 residents held 3 CFEC permits. In both years salmon accounted for 100% of permits held by residents. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFPs) or License Limitation Program (LLP) permits. In addition, no residents held halibut, sablefish, or crab quota between 2010 and when the programs began.

No residents held commercial crew licenses between 2001 and 2010, and only one resident held a commercial crew license in 2000. In addition, one resident held majority ownership of one vessel between 2000 and 2010. No permits were actively fished in 2010, compared to 67% of permits in 2000. Between those years, permits were actively fished only during 2000, 2006, and 2007.

No landings were reported in Wiseman between 2000 and 2010. Landings made at other locations by residents of Wiseman are considered confidential for those years. Further information regarding commercial fishing trends can be found in Tables 4 through 10.

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

Revenue source	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Raw fish tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fisheries Resource Landing Tax[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers[1]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage[2]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax[3]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total fisheries-related revenue[4]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total municipal revenue[5]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

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

[1] Alaska 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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) [1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits[1]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0

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

Species		**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Sablefish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) [2]	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) [2]	Total permits	3	3	3	1	1	1	2	1	1	1	1
	Fished permits	2	0	0	0	0	0	2	1	0	0	0
	% of permits fished	67%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
	Total permit holders	4	3	3	1	1	1	1	1	1	1	1
Total CFEC Permits[2]	*Permits*	*3*	*3*	*3*	*1*	*1*	*1*	*2*	*1*	*1*	*1*	*1*
	Fished permits	*2*	*0*	*0*	*0*	*0*	*0*	*2*	*1*	*0*	*0*	*0*
	% of permits fished	*67%*	0%	0%	0%	0%	0%	*100%*	*100%*	0%	0%	0%
	Permit holders	*4*	*3*	*3*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*

[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 Wiseman: 2000-2010.

Year	Crew Licenses 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 Wiseman[2]	Total Net Pounds Landed in Wiseman[2,5]	Total Ex-Vessel Value of Landings in Wiseman [2,5]
2000	1	0	0	1	1	0	0	$0
2001	0	0	0	1	1	0	0	$0
2002	0	0	0	1	1	0	0	$0
2003	1	0	0	1	1	0	0	$0
2004	0	0	0	1	1	0	0	$0
2005	0	0	0	1	1	0	0	$0
2006	0	0	0	1	1	0	0	$0
2007	0	0	0	1	1	0	0	$0
2008	0	0	0	1	1	0	0	$0
2009	0	0	0	1	1	0	0	$0
2010	0	0	0	1	1	0	0	$0

[1] Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[2] Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[3] Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[4] Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]
[5] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
Total[2]	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Finfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Halibut	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Groundfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Shellfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pacific Cod	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Pollock	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sablefish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Salmon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total[2]	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

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

	Total Net Pounds[1]										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--
	Ex-vessel Value (nominal U.S. dollars)										
	2000	***2001***	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***	***2010***
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
Total[2]	--	--	--	--	--	--	--	--	--	--	--

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

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

[1] Net pounds refers to the landed weight recorded in fish tickets.

[2] Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is practiced by most residents of Wiseman. In 2010, 12 sportfishing licenses were held by residents (irrespective of point of sale), compared to 13 in 2000. In addition, 35 sportfishing licenses were sold in the community that year, compared to 46 in 2000. There were no registered sport fish guides or charter businesses operating in the community between 2000 and 2010.

Wiseman is located in the Yukon River Drainage ADF&G Harvest 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; and all drainages of the Koyukuk River and Alatna River. In 2010 there was a total of 9,134 freshwater angler days fished, compared to 11,223 in 2000. Of those, non-Alaskan residents accounted for 43.6%, compared to 29.8% in 2000. Further information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence data are somewhat limited for Wiseman. ADF&G data for household subsistence participation are not available. Of the species listed by ADF&G in Table 13, sockeye salmon are harvested exclusively according to reports. In 2008, residents reported harvesting 22 sockeye, compared to 39 in 2005. No data are available for subsistence halibut, marine invertebrate, non-salmon fish, or marine mammal harvests. Information regarding subsistence trends can be found in Tables 12 through 15.

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

Year	Active Sport Fish Guide Businesses[1]	Sport Fish Guide Licenses[1]	Sport Fishing Licenses Sold to Residents[2]	Sport Fishing Licenses Sold in Wiseman[2]	Freshwater Angler Days Fished – Non-residents[3]	Freshwater Angler Days Fished – Alaska Residents[3]
2000	0	0	13	46	3,345	7,878
2001	0	0	12	52	4,063	6,454
2002	0	0	9	35	5,761	9,194
2003	0	0	14	51	3,344	5,756
2004	0	0	11	48	5,479	7,613
2005	0	0	10	59	4,182	4,783
2006	0	0	13	53	3,607	7,816
2007	0	0	13	42	3,168	8,226
2008	0	0	14	48	2,573	10,400
2009	0	0	15	28	2,969	7,639
2010	0	0	12	35	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/sportfishingsurvey/ (Accessed September 2011).

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

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

Note: n/a indicates that no data were reported for that year.
Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

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

Year	Subsistence Salmon Permits Issued[1]	Salmon Permits Returned[1]	Chinook Salmon Harvested[1]	Chum Salmon Harvested[1]	Coho Salmon Harvested[1]	Pink Salmon Harvested[1]	Sockeye Salmon Harvested[1]	Lbs of Marine Inverts[2]	Lbs of Non-Salmon Fish[2]
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	1	1	1	n/a	n/a	n/a	39	n/a	n/a
2006	3	3	n/a	n/a	n/a	n/a	31	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	1	1	n/a	n/a	n/a	n/a	22	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.
[1] Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.
[2] Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. http://www.adfg.alaska.gov/sb/CSIS/ (Accessed February 2011).

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

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

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

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

RECENT TECHNICAL MEMORANDUMS

Copies of this and other NOAA Technical Memorandums are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22167 (web site: *www.ntis.gov)*. Paper and electronic (.pdf) copies vary in price.

AFSC-

258 HOFF, G. R. 2013. Results of the 2012 eastern Bering Sea upper continental slope survey of groundfish and invertebrate resources, 268 p. NTIS number pending.

257 TESTA, J. W. (editor). 2013. Fur seal investigations, 2012, 90 p. NTIS number pending.

256 LAUTH, R. R., and D. G. NICHOL. 2013. Results of the 2012 eastern Bering Sea continental shelf bottom trawl survey of groundfish and invertebrate resources, 162 p. NTIS number pending.

255 BOVENG, P. L., J. L. BENGTSON, M. F. CAMERON, S. P. DAHLE, E. A. LOGERWELL, J. M. LONDON, J. E. OVERLAND, J. T. STERLING, D. E. STEVENSON, B. L. TAYLOR, and H. L. ZIEL.2013. Status review of the ribbon seal (*Histriophoca fasciata*), 174 p. NTIS number pending.

254 ECHAVE, K. B., D. H. HANSELMAN, and N. E. MALONEY. 2013. Report to industry on the Alaska sablefish tag program, 1972 - 2012, 47 p. NTIS number pending.

253 ECHAVE, K., C. RODGVELLER, and S.K. SHOTWELL. 2013. Calculation of the geographic area sizes used To create population indices for the Alaska Fisheries Science Center longline survey, 93 p. NTIS number pending.

252 HOBBS, R. C. 2013. Detecting changes in population trends for Cook Inlet beluga whales (*Delphinapterus leucas)* using alternative schedules for aerial surveys, 93 p. NTIS number pending.

251 FRITZ, L., K. SWEENEY, D. JOHNSON, M. LYNN, T. GELATT, and J. GILPATRICK. 2013. Aerial and ship-based surveys of Steller sea lions (*Eumetopias jubatus*) conducted in Alaska in June-July 2008 through 2012, and an update on the status and trend of the western distinct population segment in Alaska, 91 p. NTIS number pending.

250 ZIMMERMANN, M., M. M. PRESCOTT, and C. N. ROOPER. 2013. Smooth sheet bathymetry of the Aleutian Islands, 43 p. NTIS number pending.

249 ZIMMERMANN, M., and J. L. BENSON. 2013. Smooth sheets: How to work with them in a GIS to derive bathymetry, features and substrates, 52 p. NTIS number pending.

248 SINCLAIR, E. H., D. S. JOHNSON, T. K. ZEPPELIN, and T. S. GELATT. 2013. Decadal variation in the diet of Western Stock Steller sea lions (*Eumetopias jubatus*). U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-248, 67 p. NTIS number pending.

247 CLAUSEN, D. M., and C. J. RODGVELLER. 2013.Deep-water longline experimental survey for giant grenadier, Pacific grenadier, and sablefish in the Western Gulf of Alaska, 30 p. NTIS number pending.

246 YANG, M-S., and C. YEUNG. 2013. Habitat-associated diet of some flatfish in the southeastern Bering Sea,151 p. NTIS No. PB2013-107698.

245 ALLEN, B. M., and R. P. ANGLISS. 2013. Alaska marine mammal stock assessments, 2012, 282 p. NTIS number pending.

244 GUTHRIE, C. M. III, H. T. NGUYEN, and J. R. GUYON. 2013. Genetic stock composition analysis of Chinook salmon bycatch samples from the 2011 Bering Sea and Gulf of Alaska trawl fisheries, 28 p. NTIS number pending.

243 KONDZELA, C. M., C. T. MARVIN, S. C. VULSTEK, H. T. NGUYEN, and J. R. GUYON. Genetic stock composition analysis of chum salmon bycatch samples from the 2011 Bering Sea walleye pollock trawl fishery, 39 p. NTIS number pending.