

Chignik Lake (CHIG-nick)



People and Place

*Location*¹

Chignik Lake is located on the south side of the Alaska Peninsula next to the body of water of the same name. It lies 13 mi from Chignik, 265 mi southwest of Kodiak, and 474 mi southwest of Anchorage. The community is unincorporated and under the jurisdiction of the Lake and Peninsula Borough.

*Demographic Profile*²

In 2010, there were 73 residents, ranking Chignik Lake 277th of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population declined by 45.1%. Between 2000 and 2009, the population declined by 27.6% with an average annual growth rate of -0.89%. This was lower than the state average of 0.75% and indicative of steady rate of decline since the population peaked in 2000 (Table 1).

Chignik Lake is an Alutiiq community with 94.5% of residents identifying themselves as American Indian or Alaska Native in 2010, compared to 86.9% in 2000. In addition, 2.7% of residents identified themselves as White, compared to 11.7% in 2000 and 2.7% identified themselves as two or more races, compared to 0.7% in 2000 (Figure 1).

In 2010, the average household size was 2.70, compared to 3.90 in 1990 and 3.63 in 2000. In that year, there were 50 total housing units, compared to 57 in 1990 and 50 in 2000. Of those households surveyed in 2010, 52% were owner occupied, compared to 68% in 2000; 12% were renter occupied, compared to 12% in 2000; 20% were vacant, compared to 18% in 2000; and 26% were occupied seasonally, compared to 2% in 2000. There were no residents living in group quarters between 1990 and 2010.

In 2010, the gender distribution of Chignik Lake was slightly skewed at 56.2% male and 43.8% female. This was slightly more skewed than the statewide distribution (52.1% male, 47.9% female) and significantly more male biased than 2000 (48.3% male, 51.7% female). The median age was 32.5 years, very similar to the statewide median of 32.7 years and markedly higher than the 2000 median of 20.8 years.

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

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

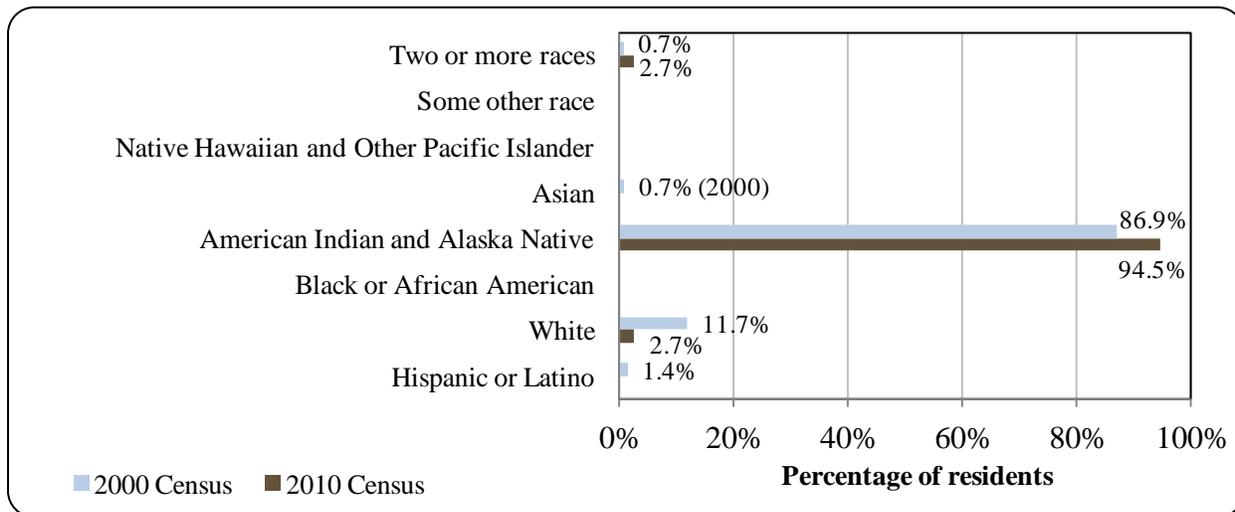
Table 1. Population in Chignik Lake from 1990 to 2010 by Source.

Year	U.S. Decennial Census ¹	Alaska Department of Labor Estimate of Permanent Residents ²
1990	133	-
2000	145	-
2001	-	140
2002	-	115
2003	-	113
2004	-	113
2005	-	117
2006	-	122
2007	-	125
2008	-	104
2009	-	105
2010	73	-

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>.

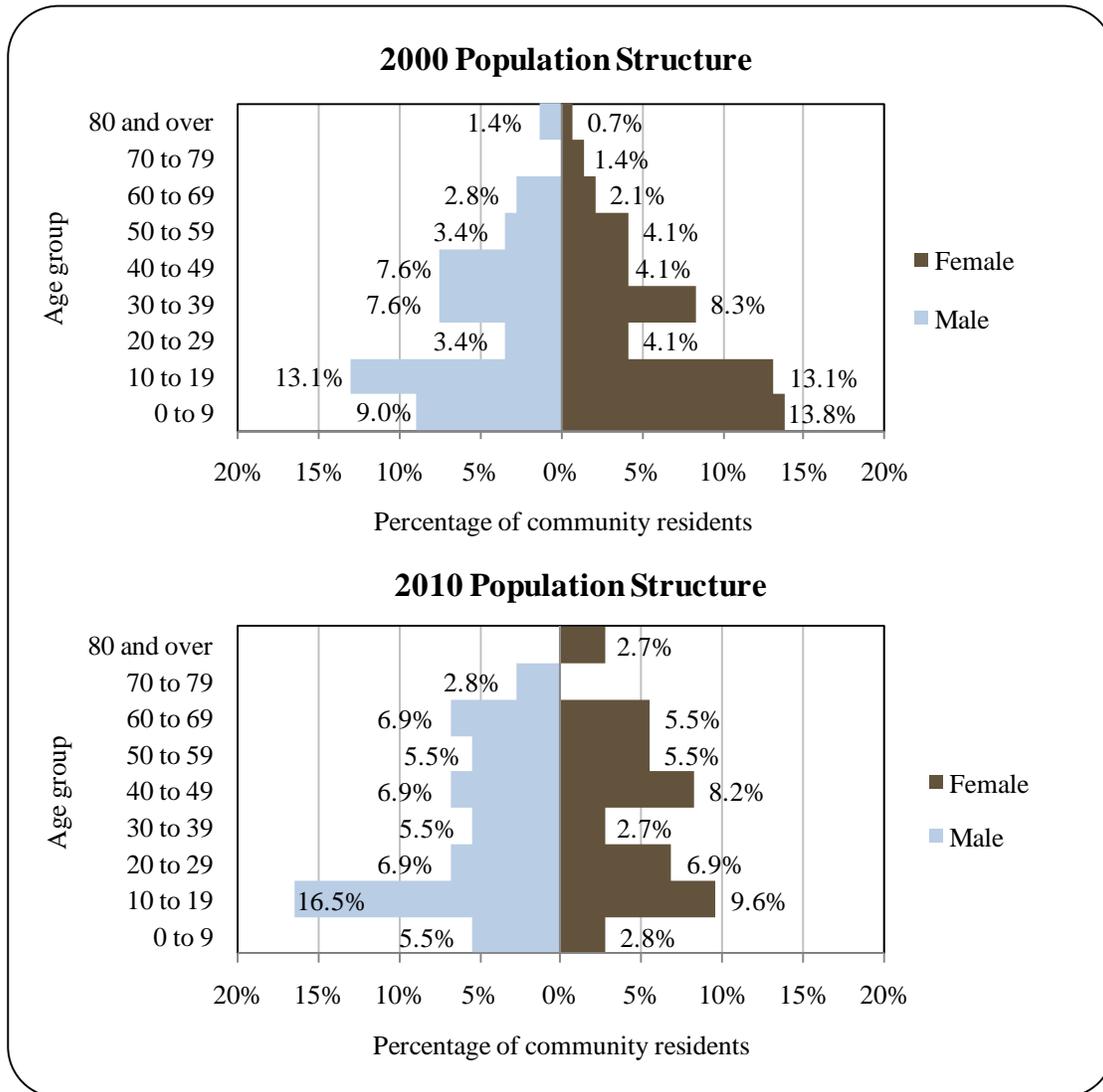
² Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



The population structure was irregular in both 2000 and 2010, although more constricted in 2010 with 34.4% of residents under the age of 20, as opposed to 49% in 2000. Also in that year, 17.9% of residents were over the age of 59, compared to 8.4% in 2000; 34.3% were between the ages of 30 and 59, compared to 35.1% in 2000; and 13.8% were between the ages of 20 and 29, compared to 7.5% in 2000.

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



Gender distribution by age cohort was more uneven in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 30 to 39 ranges (5.5% male, 2.7% female); followed by the 70 to 79 (2.7% female, 0.0% male) and 0 to 9 (5.5% male, 2.8% female) ranges. Of those three, the greatest relative gender difference occurred in the 70 to 79 range. Information regarding trends in Chignik Lake’s population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census’ 2006-10 American Community Survey (ACS)³ estimated that 57.1% of residents aged 25 years and older held a high school

³ While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 26.5% had less than a 9th grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 16.3% had 9th to 12th grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and an estimated 53.1% 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.

History, Traditional Knowledge, and Culture

Archaeological evidence suggests that Aleut (Unanga and Alutiiq) peoples have occupied the Alaska Peninsula for approximately 9,000 years.^{4,5} In the past, the Chignik region was at the contact boundary between Aleut and Yup'ik language groups. Archaeological investigations around Chignik Lake, Chignik River, and Chignik Lagoon suggest occupation dating back approximately 2,000 years. During the late 1700s and early 1800s, Russian traders began exploring the Aleutian Islands and Alaska Peninsula. The decline of the fur trade was followed by the growth of salmon processing within the region, and by 1889 three canneries had been established in Chignik Lagoon.⁶ These were the Chignik Bay Company cannery, the Shumagin Packing Company, and the Chignik Bay Packing Company.⁷

The present population traces its roots from Aleuts who lived on the west side of the Alaska Peninsula near Illnik and the old village of Kanatag near Becharof Lake. In 1903, the village was the winter residence of a single family who fished near Chignik Lagoon. Other families moved from surrounding villages in the early 1950s when a school was built. The residents of Chignik Lake retain close ties with its Alutiiq heritage and practice a subsistence lifestyle. Commercial fishing is the mainstay of Chignik Lake's economy. Some residents leave the village during the summer months to fish commercially, crew or work at the fish processors in Chignik.⁸

Natural Resources and Environment

The maritime climate of Chignik Lake is characterized by cool summers and relatively warm, rainy winters. Summer temperatures range from 39 to 60 °F (4 to 16 °C). Winter temperatures range from 21 to 50 °F (-6 to 10 °C). Extreme temperatures, ranging from a low of

⁴ LaRoche and Associates (2011). *Lake and Peninsula Borough Coastal Management Plan, Revised Public Hearing Draft*. Retrieved January 17, 2012 from:

http://alaskacoast.state.ak.us/District/DistrictPlans_Final/LakeandPen/revised_phd/vol1_rphd.pdf.

⁵ WHPacific (2010). *Aleutians East Multi-Jurisdictional/Multi-Hazard Mitigation Plan*. Retrieved December 7, 2011 from: <http://www.aleutianseast.org/>.

⁶ Mobley, C. M. (2004). *Chignik's Norquest Cannery: A Cultural Resource Inventory and Evaluation, Chignik, Alaska Peninsula, Alaska*. Retrieved January 10, 2013 from:

http://polarconsult.net/ChignikBay/env/mobley_combined.pdf.

⁷ Hutchinson-Scarborough, L., and J. A. Fall. (1996). *An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska*. Alaska Dep. of Fish and Game. Tech. Paper No. 230. Retrieved January 10, 2013 from:

<http://www.subsistence.adfg.state.ak.us/download/TPS/tp230.pdf>.

⁸ Lake and Peninsula Borough. (n.d.). *Chignik Lake*. Retrieved January 30, 2012 from:

http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC=%7BBF9236C9-F5CB-4227-9F86-681435D21410%7D.

-12 (-24 °C) to a high of 76 °F (24 °C), have been recorded. Precipitation averages 127 inches annually, with an average annual snowfall of 58 inches.⁹

Chignik Lake is located in the Alaska Peninsula National Wildlife Refuge (APNWR). The refuge was created in 1980 as a product of the Alaska National Interest Lands Conservation Act, and occupies 3.7 million acres of the Alaska Peninsula.¹⁰ The geology and topography of the area is characterized by high relief mountainous slopes mantled with deposits of volcanic ash and cinders. Brown and tan sandstone conglomerates dominate the landscape. Soils are relatively shallow and unproductive on the slopes, and primarily consist of well-drained ashy loams overlying sandy and cindery ash. Poorly drained depressions within mountainous slopes can contain muskeg environments. Level areas consist of deeper, poorly drained organics with a thin layer of ash. Land within the community consists mostly of marshy wetlands, pebble rock, and sand. Vegetation is typical of western/Aleutian Alaska. Due to soil and climatic conditions, natural growing trees are rare and most vegetation consists of low shrubs, grasses, and dwarf alders and willow. Brackish marsh vegetation populates the low lying areas and wetlands. Wildflowers including dandelion, fireweed, iris, rose, lupine, and horsetail are also found throughout the area, as well as an abundance of wild berries.¹¹

The APNWR provides habitat for many migratory and marine birds including mallards, shovel nose, canvas backs, pintails, common merganser, bufflehead, and gulls. Terrestrial wildlife includes brown bear, moose, caribou, wolf, wolverine, fox, river otter, and beaver. Fish includes all five species of Pacific salmon, Arctic grayling, Dolly Varden char, rainbow and lake trout, northern pike, and burbot. Marine mammals include Steller sea lions, harbor seals, sea otters, and migratory whales.¹² Natural resources in the area include a copper and molybdenum deposit located at Bee Creek to the northeast, as well as coal deposits scattered throughout the region.¹³

Natural hazards in the area are similar to those on a regional level and include coastal flooding and erosion, storm surges, earthquakes, volcano eruptions, and tsunamis. There have been several historic earthquake and flooding events, and the community itself lies west of the active volcano, Mt. Veniaminof.¹⁴ An active stratovolcano, eruption events were observed six times between 2002 and 2008.¹⁵

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in the community in 2010.¹⁶

⁹Alaska 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.

¹⁰U.S. Fish and Wildlife Service. (n.d.). *Alaska Peninsula National Wildlife Refuge*. Retrieved January 24, 2012 from: <http://alaskapeninsula.fws.gov/wildlife.htm>.

¹¹Chignik Bay Tribal Council (2006). *Chignik Bay Community Plan*. Retrieved January 24, 2012 from: <http://www.commerce.state.ak.us/dca/plans/ChignikBay-CP-2006.pdf>.

¹²U.S. Fish and Wildlife Service (n.d.). *Alaska Peninsula National Wildlife Refuge*. Retrieved January 24, 2012 from: <http://alaskapeninsula.fws.gov/wildlife.htm>.

¹³Alaska Department of Econ. Dev. (n.d.). *Mineral Resources in Alaska*. Retrieved January 24, 2012 from: <http://commerce.alaska.gov/ded/dev/minerals/mining.htm>.

¹⁴See footnote 12.

¹⁵Alaska Volcano Observatory (n.d.). *Veniaminof Reported Activity*. Retrieved January 9, 2013 from: <http://www.avo.alaska.edu/volcanoes/volcact.php?volcname=Veniaminof>.

¹⁶Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program*. Retrieved June 22, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

Current Economy¹⁷

Fishing is the mainstay of Chignik Lake's economy. Some residents leave the community during summer months to commercially fish, crew, or work at the fish processing plants at Chignik. The people depend on subsistence hunting and fishing and utilize salmon, other fish, caribou, moose, and seal. Top employers in 2010¹⁸ included: Lake and Peninsula School District, Chignik Lake Village Council, Bristol Bay Housing Authority, Bristol Bay Area Health Corp., and Bristol Bay Native Association.

In 2010,¹⁹ the estimated per capita income was \$16,347 and the estimated median household income was \$64,063, compared to \$13,842 and \$41,458 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,²⁰ the real per capita income (\$18,202) and real median household income (\$54,517) indicate that while individual earnings declined, household earnings increased. In 2010, Chignik Lake ranked 181st of 305 Alaskan communities from which per capita income was estimated, and 66th of 299 Alaskan communities from which median household income was estimated.

Chignik Lake's small population size may have prevented the ACS from accurately portraying economic conditions.²¹ Another way of 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 \$745,553 in total wages in 2010.²² When matched with the population in 2010, the per capita income equals \$10,213 which was significantly lower than 2010 ACS estimates and suggests that caution should be used when comparing 2010 ACS estimates with the 2000 Census.²³ 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.

According to 2006-2010 ACS estimates,²⁴ 61.7% of residents aged 16 years and older were part of the civilian labor force. Unemployment that year was estimated at 8.3%, compared to an estimated 5.9% statewide, and an 14.0% of the population was estimated to be living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Of those employed in 2010, an estimated 50% worked in the public sector and an estimated 50% worked in the private sector.

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

¹⁸ 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/>.

¹⁹ U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

²⁰ Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

²¹ While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

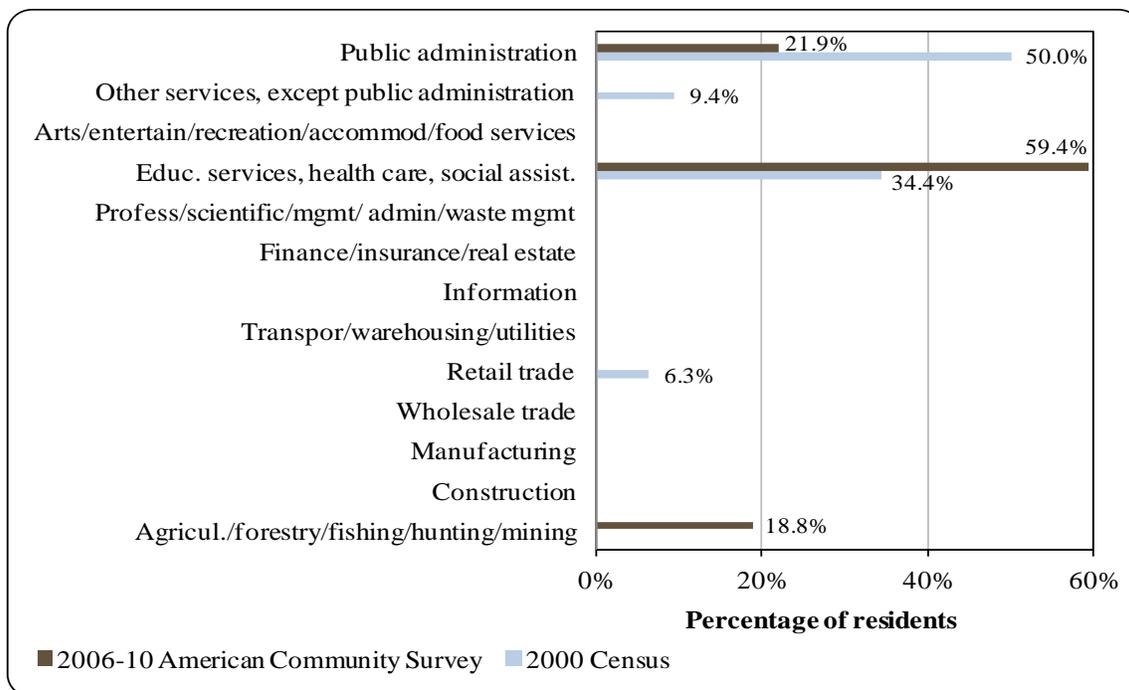
²² ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

²³ See footnote 18.

²⁴ See footnote 19.

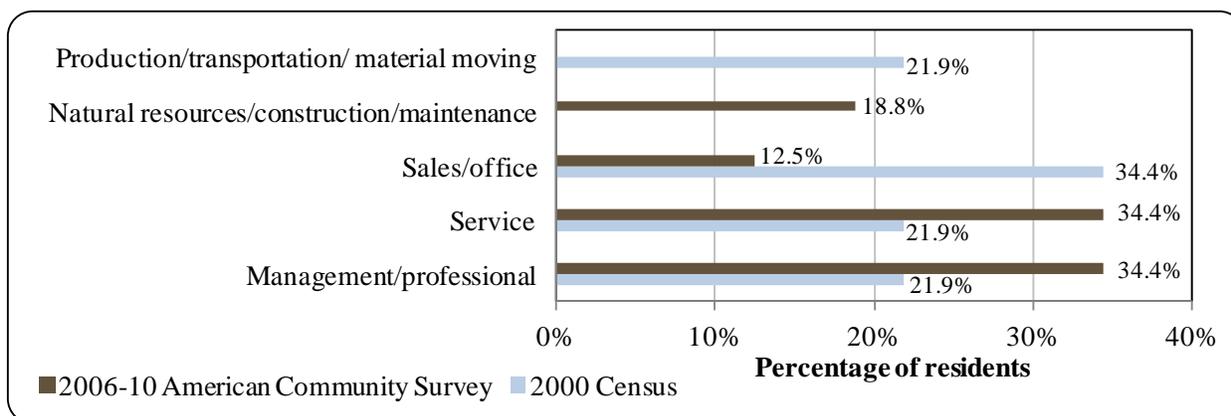
By industry, most (59.4%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by public administration sectors (21.9%) and agriculture, forestry, fishing, hunting, and mining sectors (18.8%). By occupation type, most (34.4%) employed residents were estimated to hold management or professional positions; followed by service positions (34.4%); natural resources, construction, or maintenance positions (18.8%); and sales or office positions (12.5%). There was immense variation in employment by industry sector and occupation type between 2000 and 2010. This could be attributed to the highly variable population or ACS sampling error. According to 2010 ALARI estimates, most (68.0%) of employed residents worked in local government sectors; followed by financial service sectors (12.0%) and other unspecified sectors (6.0%).²⁵ Further information regarding employment trends can be found in Figures 3 and 4.

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



²⁵ 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, Chignik Lake (U.S. Census).



Governance

Chignik Lake is unincorporated and therefore unable to administer taxes (Table 2). However, it is under the jurisdiction of the Lake and Peninsula borough which administers a 2% Raw Fish tax, 6% Bed tax, \$3.00 Guide tax, and \$1.00 Lodge Guide tax. There is a U.S. Bureau of Indian Affairs recognized Tribal government (Chignik Lake Village) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Chignik River Limited). The regional ANCSA chartered Native corporation representing Chignik Lake is the Bristol Bay Native Corporation. The closest seasonal Alaska Department of Fish and Game (ADF&G) office is located in Chignik; however, the closest permanent ADF&G office is located in Sand Point, 100 mi to the southwest. The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services (BCIS) offices are located in Kodiak, 265 mi to the northeast.

Infrastructure

*Connectivity and Transportation*²⁶

Chignik Lake is primarily accessible by air. There is a state-owned 2,800-ft. long by 60-ft. wide gravel airstrip; seaplanes may land at Chignik Lagoon. Regularly-scheduled and charter flights are provided. Goods are lightered weekly during the summer and monthly during winter, to the lake via Chignik Lagoon and are then transported over land. The state ferry provides service to Chignik Lagoon four times per year. There is no harbor, dock, barge access, or boat haul-outs. Skiffs and ATVs are the primary means of local transportation. There is a strong regional interest in constructing roads between Chignik, Chignik Lagoon, Chignik Lake, and the city landfill. The price of roundtrip airfare between Anchorage and Chignik Lake in June of 2012 was \$960.²⁷

²⁶Alaska 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.

²⁷ Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chignik Lake 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, 2011 from http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

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

³ Alaska Department of Revenue. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011 from <https://www.tax.state.ak.us>.

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

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

*Facilities*²⁸

Treated well water is stored in a wood stave tank and is piped to all 32 households. The school has its own well. Approximately 70% of the homes are plumbed. Fifteen HUD (Housing and Urban Development) homes are connected to a central sewer system with a waste pump and lagoon; the remainder of the houses in the community use individual septic systems. Chignik Lake Electric Utility generates power only during the summer months; in winter, electricity is purchased from the school district. There is one hotel available for visitor accommodations. Public safety services are provided by state troopers based in King Salmon. Fire and rescue services are provided by the Chignik Lake Rescue Squad. Additional public facilities include a community center and school library.

*Medical Services*²⁹

Chignik Lake Clinic is a Community Health Aid Program site. Basic health care is provided; however, emergency and trauma care, behavioral health care, dental care, diagnostic images, and pharmacy services are located in Chignik.

²⁸ See footnote 26.

²⁹ Ibid.

*Educational Opportunities*³⁰

Chignik Lake School provides preschool through 12th grade instruction. As of 2011, there were 22 students enrolled and 2 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

The Chignik lake system has historically been the most productive sockeye salmon system in southwestern Alaska. Commercial fisheries began in the Chignik region in the late nineteenth century. In 1888, a fish-prospecting party lead by the Fishermen's Packing Company of Astoria, Oregon, returned from Chignik with 2,160 barrels of salted salmon. During the following year, 12 new canneries in central Alaska lead to a boom in seafood processing. Around 1896, the Hume Brothers and Pacific Steam Whaling Company both constructed canneries in Chignik, which mostly purchased fish from the Chignik Lagoon area. Northwestern Fisheries Company purchased both canneries in 1905 and closed the Hume facility, while operating the other until 1931. In 1910, the Columbia River Packers Association (CRPA) built a cannery at the mouth of Indian Creek, along the shore of Anchorage Bay. The Chignik area began to flourish around the CRPA and Northwestern Fisheries canneries. Key to the canneries success was the extensive use of fish traps station in Chignik Bay and Lagoon. Both the CRPA and Northwestern facilities on Anchorage Bay were the main Chignik canneries until the 1932 season, when neither operated due to poor economic conditions. Both plants didn't operate the following year, allowing a independent operator to establish a cannery at Chignik Lagoon. The 1930s were poor years for the Chignik fishing industry. All 20 canneries owned by Northwestern Fisheries were leased to Pacific American Fisheries (PAF) in 1933, but the PAF primarily only operated fish traps while selling catch to other canneries. In the 1950s, both the CRPA and American Packers Association plants combined operations. A fire in 1976 decimated the APA cannery. The cannery was quickly rebuilt and put back into operation by 1977.³¹

Annual catches in the Chignik fishery generally ranged between 0.5 to 1.5 million fish between the fisheries inception and 1950. However, the 1950s and 1960s produced periods of low annual catches averaging fewer than 500,000 until they rebounded during the 1970s and 1980s.³² In 2002, the Board of Fisheries passed regulations leading to a harvesting cooperative in the Chignik fishery. Each year, the cooperative would receive a percentage of the Chignik sockeye harvest, based on the number of permit holders who join. Between 2002 and 2005, more than three quarters of Chignik permit holders joined the cooperative. Although controversial, the program reduced vessel participation and provided cost savings, while still providing income for its members. After lengthy litigation regarding its legality, the program was ended in 2006.³³

³⁰ Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

³¹ Mobley, C. M. (2004). *Chignik's Norquest Cannery—A Cultural Resource Inventory & Evaluation, Chignik, Alaska Peninsula, Alaska*. Retrieved June 25, 2012 from: http://polarconsult.net/ChignikBay/env/mobley_combined.pdf.

³² Rogers, D.E. (1995). *Recent Variation in the Catches of Chignik Sockeye Salmon*. Retrieved June 25, 2012 from: <https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/4219/9509.pdf?sequence=1>.

³³ Knapp, G. (2007). *The Chignik Salmon Cooperative: A Case Study of Allocation to a Voluntary Self-Governance Organization*. Retrieved June 25, 2012 from:

Historically, commercial red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, Pandalid shrimp, red sea cucumber, and giant Pacific octopus have occurred along the Alaska Peninsula. Most shellfish stocks are depressed, and commercial fisheries for red king crab and shrimp have not occurred since 1982. The Chignik Tanner crab fishery began in 1968, when 21,100 lbs were harvested and peaked in 1975 when 11 million lbs were harvested. Commercial fishing was closed in 1990 to allow depressed stocks to recover, and reopened during the 2004 and 2005 seasons. No Tanner crab fisheries occurred within the Chignik District between 2006 and 2010. Dungeness crab is harvested within the Chignik District although participation in the fishery is low with less than three vessels reporting landings in 2010. Shrimp fishing within the Chignik District began in 1968, and harvests peaked in 1976 at 27 million lbs. Stocks crashed shortly after, and by 1981 only 71,000 lbs were harvested. Since then, all inshore waters within the Chignik District have remained closed. While commercial fishing is permitted in some areas within the Chignik area, there was no fishing effort for shrimp within the Chignik District in 2010. Commercial sea cucumber harvests began in the Kodiak and Chignik districts in 1991 following an increase in market demand. Limits for eviscerated product was set at 25,000 lbs for the Chignik District in 2010 and fishing effort was limited. Demand for octopus increased during the 1990s, and are harvested alongside targeted species. In 2010, incidental harvests totaled 270,067 lbs from both state and federal waters.³⁴

Groundfish species targeted for both state and federal fisheries include Pacific cod, sablefish, lingcod, black rockfish, dark rockfish, and walleye pollock. In 2010, Pacific cod and walleye pollock comprised the largest volume of groundfish harvested in state fisheries within the Chignik area. Pacific cod are managed as a single Gulf of Alaska (GOA) stock, with the state managing parallel fisheries within state waters. In 2010, the total Acceptable Biological Catch for GOA Pacific cod was 174.38 million lbs. In that year, 59.16 million lbs of Pacific cod was taken from the western GOA, of which 56% was harvested from state waters. In the Chignik Area, pot gear vessels were allocated 8.51 million lbs, while jig gear vessels were allocated 946,040 lbs. The total Pacific cod harvest that year was 9.15 million lbs taken by 16 vessels, valued at \$2.19 million ex-vessel. In 2010, Black rockfish harvests in the Chignik Area were capped at 100,000 lbs. Only one vessel participated in the fishery that year. Skates are typically harvested incidentally while fishing for other targeted species, and fall under the assemblage of “other species” which include sharks, sculpins, squid, and octopi. Growing Asian markets for skates have increased interest, which at times can be more valuable than other targeted species. Because of overfishing concerns, NMFS placed skates on bycatch status in 2006, while ADF&G discontinued directed harvests in state waters. State directed sablefish fisheries existed within Kodiak and Chignik areas in 2002, but have since been restricted to bycatch harvests. In 2010, sablefish bycatch harvests in state waters around Kodiak, Chignik, and the South Peninsula Eastern Districted totaled 17,924 lbs. Lingcod harvests are also strictly managed within the Kodiak and Chignik areas. Again, most lingcod is harvested as bycatch, and retention typically remains below 100,000 lbs annually within the western GOA. During 2008, lingcod harvests spiked to 521,257 lbs due to increased retention by trawl vessels. Lingcod harvests declined to 97,281 lbs in 2009 and 67,429 lbs in 2010. Walleye pollock harvests totaled 101.6 million lbs in

http://www.iser.uaa.alaska.edu/people/knapp/personal/pubs/Knapp_Chignik_Salmon_Coop--Case_Study_of_Allocation_to_a_Voluntary_Self_Governance_Organization.pdf.

³⁴ Sagalkin, N. and K. Spalinger. (2011). *Annual Management Report for Shellfish Fisheries in the Kodiak, Chignik, and Alaska Peninsula Areas, 2010*. Alaska Dep. of Fish and Game. Fishery Management Report No. 11-43. Retrieved January 10, 2013 from: <http://www.adfg.alaska.gov/FedAidPDFs/FMR11-43.pdf>.

the central GOA, and 57.1 million lbs in the western GOA. In the western GOA, 58% of the total pollock harvest occurred within state waters.³⁵

Chignik Lake's participation in North Pacific Fisheries is tied to the Chignik Salmon Fishery, as well as the Chignik region as a whole. Like the other communities in the Chignik region, the community is eligible to participate in the Community Quota Entity program, although a non-profit has not been formed. The impetus for the CQE program followed the implementation of the halibut and sablefish Individual Fishing Quota (IFQ) program in 1995. The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated and apportionment of the annual Total Allowable Catch to eligible vessels and processors. Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, and unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead decreased participation in communities traditionally dependent on the halibut or sablefish fisheries. To address this issue, the North Pacific Fishery Management Council implemented the CQE program in 2005. Under the program, eligible communities could form a non-profit corporation to purchase and manage quota share on their behalf. Chignik Lake is located in Federal Reporting Area 620, International Pacific Halibut Commission Regulatory Area 3B, and the Central GOA Sablefish Regulatory District.

Processing Plants

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

Fisheries-Related Revenue

No fisheries-related revenue was reported on a community level between 2000 and 2010 (Table 3). Taxes and fees are collected on a borough level.

Commercial Fishing

In 2010, 8 residents, or 11.0% of the population, held 8 permits issued by the Commercial Fisheries Entry Commission (CFEC), which has held relatively stable since 2000 when 8 residents held 10 CFEC permits. All of the CFEC permits issued in 2010 were for salmon, and 63% were actively fished. No residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits, and 1,866 shares of halibut quota were held on 1 account between 2000 and 2010. No residents have held sablefish or crab quota shares since those programs began. The only fishery prosecuted by residents in 2010 was the Chignik purse

³⁵ Stichert, M. A., K. Phillips, and P. Converse. (2011). *Annual Management Report fo Groundfish Fisheries in the Kodiak, Chignik, and South Alaska Peninsula Management Areas, 2010*. Alaska Dep. of Fish and Game. Fishery Management Report No. 11-44. Retrieved January 10, 2013 from: <http://www.adfg.alaska.gov/FedAidPDFs/FMR11-44.pdf>.

seine salmon fishery.³⁶ In 2010, 27 residents held commercial crew licenses, compared to 38 in 2000. Also in that year, residents held majority ownership of 7 vessels, compared to 10 in 2000. No landings were made in the community between 2000 and 2010 given a lack of processing capacity; however, landings were still reported by residents. Landings made by residents in 2010 are considered confidential. However, in 2006 residents landed 311,656 lbs of salmon with an ex-vessel value of \$228,033, compared to 451,442 landed in 2000 with an ex-vessel value of \$395,859. This represents a decrease of approximately \$0.32 per pound ex-vessel during this time period after accounting for inflation³⁷ and without considering the species composition of landings. Further, information regarding commercial fishing trend scan be found in Tables 4 through 10.

³⁶ 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.]

³⁷ Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>.

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

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

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

¹ Alaska 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.

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) ²	Total permits	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	n/a							
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Other Finfish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) ²	Total permits	8	9	8	7	10	8	8	6	5	7	8
	Fished permits	7	7	3	3	6	7	7	4	3	4	5
	% of permits fished	88%	78%	38%	43%	60%	88%	88%	67%	60%	57%	63%
	Total permit holders	8	9	9	8	10	8	8	6	5	7	8
<i>Total CFEC Permits²</i>	<i>Permits</i>	<i>10</i>	<i>12</i>	<i>9</i>	<i>7</i>	<i>10</i>	<i>8</i>	<i>8</i>	<i>6</i>	<i>5</i>	<i>7</i>	<i>8</i>
	<i>Fished permits</i>	<i>9</i>	<i>8</i>	<i>3</i>	<i>3</i>	<i>6</i>	<i>7</i>	<i>7</i>	<i>4</i>	<i>3</i>	<i>4</i>	<i>5</i>
	<i>% of permits fished</i>	<i>90%</i>	<i>67%</i>	<i>33%</i>	<i>43%</i>	<i>60%</i>	<i>88%</i>	<i>88%</i>	<i>67%</i>	<i>60%</i>	<i>57%</i>	<i>63%</i>
	<i>Permit holders</i>	<i>8</i>	<i>10</i>	<i>9</i>	<i>8</i>	<i>10</i>	<i>8</i>	<i>8</i>	<i>6</i>	<i>5</i>	<i>7</i>	<i>8</i>

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

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

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

Year	Crew License Holders¹	Count Of All Fish Buyers²	Count Of Shore-Side Processing Facilities³	Vessels Primarily Owned By Residents⁴	Vessels Homeported⁴	Vessels Landing Catch In Chignik Lake²	Total Net Lbs Landed In Chignik Lake^{2,5}	Total Ex-Vessel Value Of Landings In Chignik Lake^{2,5}
2000	38	0	0	10	5	0	0	\$0
2001	37	0	0	11	6	0	0	\$0
2002	25	0	0	10	5	0	0	\$0
2003	20	0	0	10	4	0	0	\$0
2004	3	0	0	10	3	0	0	\$0
2005	32	0	0	11	4	0	0	\$0
2006	18	0	0	12	4	0	0	\$0
2007	13	0	0	10	4	0	0	\$0
2008	28	0	0	6	4	0	0	\$0
2009	26	0	0	7	3	0	0	\$0
2010	27	0	0	7	3	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 Chignik Lake: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	1	1,866	520
2001	1	1,866	572
2002	1	1,866	592
2003	1	1,866	589
2004	1	1,866	537
2005	1	1,866	452
2006	1	1,866	373
2007	1	1,866	317
2008	1	1,866	375
2009	1	1,866	375
2010	1	1,866	340

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 Chignik Lake: 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 in Chignik Lake: 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.]

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Table 9. Landed Pounds and Ex-Vessel Revenue, by Species, in Chignik Lake: 2000-2010.

	<i>Total Net Pounds¹</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	0	0	0	0	0	0	0	0	0	0	0
Halibut	0	0	0	0	0	0	0	0	0	0	0
Herring	0	0	0	0	0	0	0	0	0	0	0
Other Groundfish	0	0	0	0	0	0	0	0	0	0	0
Other Shellfish	0	0	0	0	0	0	0	0	0	0	0
Pacific Cod	0	0	0	0	0	0	0	0	0	0	0
Pollock	0	0	0	0	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0	0	0	0	0
<i>Total²</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Finfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Halibut	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Groundfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Shellfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pacific Cod	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pollock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sablefish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Salmon	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Total²</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>

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.

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Table 10. Landed Pounds and Ex-Vessel Revenue, by Species, by Chignik Lake Residents:
2000-2010.

	<i>Total Net Pounds¹</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	451,442	396,120	--	--	558,310	733,563	311,656	--	--	--	--
<i>Total²</i>	<i>451,442</i>	<i>396,120</i>	--	--	<i>558,310</i>	<i>733,563</i>	<i>311,656</i>	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$395,859	\$262,959	--	--	\$488,908	\$631,483	\$228,033	--	--	--	--
<i>Total²</i>	<i>\$395,859</i>	<i>\$262,959</i>	--	--	<i>\$488,908</i>	<i>\$631,483</i>	<i>\$228,033</i>	--	--	--	--

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

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

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

² Totals only represent non-confidential data.

Recreational Fishing

Recreational fishing is not a substantial part Chignik Lake's participation in North Pacific Fisheries, partly because of its remote location and high cost for travel to the community. Visitors to the community acquire sportfishing licenses elsewhere. No licenses were sold in the community between 2000 and 2010. In 2010, 10 residents held sportfishing licenses, compared to 7 in 2000. There were no registered sport fish guide businesses active in 2010 nor did any residents hold sport fish guide licenses. However, the Chignik area is popular with private anglers willing to make the trip, and Chignik Lake offers visitor accommodations.

Chignik Lake is located within the Alaska Peninsula and Aleutian Islands ADF&G Harvest Survey Area which includes all Alaskan waters, including drainages, between Cape Douglas and the community of Naknek. In 2010, angler days fished totaled 5,297 for saltwater fisheries and 33,635 for freshwater fisheries. In that year, non-Alaska resident anglers accounted for 38.4% of saltwater and 58.4% of freshwater angler days fished, compared to 15.8% and 39.5% in 2000, respectively. According to ADF&G Harvest Survey data, private anglers in Chignik Lake target king, coho, chum, and sockeye salmon, Dolly Varden char, halibut, rockfish, lingcod, Pacific cod, and other finfish. There is no kept/release charter information available for Chignik Lake. Information regarding recreational fishing trends can be found in Table 11.

Subsistence Fishing

Subsistence is an important part of life in Chignik Lake as many year round residents rely on subsistence and personal use fisheries to supplement their incomes when employment is scarce. As with many rural communities in Alaska, subsistence activities are a source of social and cultural cohesion, reinforcing lifestyles and traditions important to village life. In a 2003 ADF&G survey, 83% of household surveyed were found to be participating salmon subsistence activities, 90% were participating in halibut subsistence activities, 38% were participating in marine mammal subsistence activities, 65% were participating in marine invertebrate subsistence activities, and 18% were participating in non-salmon fish subsistence activities. Total per capita lbs harvested that year was estimated at 183.08. According to the ADG&G *Community Subsistence Information System*,³⁸ residents of Chignik Lake have used or harvested chitons, butter clams, octopus, littleneck clams, razor clams, sea urchin, Tanner crab, cockles, harbor seal, Steller sea lion, Dolly Varden, Pacific cod, rainbow trout, steelhead, and flounder.

Of the species reported by AF&G in Table 13, sockeye salmon were harvested the most, followed by coho, Chinook, pink, and chum. In 2008, residents reported harvesting 2,125 salmon, compared to 2,500 in 2000. Total reported salmon harvests peaked in 2002 with 3,062. In 2010, 4 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 7 in 2003. In that year, an estimated 100 lbs of halibut was harvested using 5 SHARC, compared to an estimated 359 lbs on 6 SHARC in 2003. Halibut harvests peaked in 2007 at an estimated 1,176 lbs harvested on 6 SHARC. Reports on marine mammal subsistence are limited. However, 1 sea otter was reported harvested in 2004. Between 2000 and 2008, an estimated 55 harbor seals were harvested. Harbor seal harvests peaked in 2008 at an estimated 20 seals. Information regarding subsistence trends can be found in Tables 12 through 15.

³⁸ Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 11. Sport Fishing Trends, Chignik Lake: 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 Chignik Lake ²
2000	0	0	7	0
2001	0	0	5	0
2002	0	0	10	0
2003	0	0	11	0
2004	1	3	7	0
2005	0	1	10	0
2006	1	1	18	0
2007	1	3	11	0
2008	1	1	11	0
2009	0	1	10	0
2010	0	0	10	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	1,664	8,870	17,749	27,227
2001	1,760	3,939	16,840	14,350
2002	4,126	5,210	15,865	18,417
2003	1,603	4,333	16,557	11,878
2004	1,948	12,721	18,813	19,360
2005	3,585	5,129	14,130	12,038
2006	2,809	4,392	22,323	8,830
2007	2,588	9,356	20,371	15,870
2008	3,436	4,298	21,797	10,207
2009	3,488	3,815	18,996	16,020
2010	2,036	3,261	19,643	13,992

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, Chignik Lake: 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	83%	90%	38%	65%	18%	183
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, Chignik Lake: 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	17	16	15	n/a	n/a	5	2,464	n/a	n/a
2001	26	25	41	n/a	n/a	n/a	2,930	n/a	n/a
2002	23	20	8	n/a	75	n/a	2,979	n/a	n/a
2003	24	21	2	1	46	7	2,621	815	439
2004	12	7	19	n/a	185	17	1,094	n/a	n/a
2005	24	15	30	n/a	264	40	2,714	n/a	n/a
2006	26	15	42	n/a	125	n/a	2,574	n/a	n/a
2007	27	21	6	n/a	64	96	2,638	n/a	n/a
2008	16	14	23	23	9	54	2,016	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, Chignik Lake: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	7	6	359
2004	6	3	413
2005	8	6	406
2006	7	5	310
2007	8	6	1,176
2008	8	5	423
2009	8	5	197
2010	4	1	100

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, Chignik Lake: 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	3	n/a
2001	n/a	n/a	n/a	n/a	n/a	1	n/a
2002	n/a	n/a	n/a	n/a	n/a	3	n/a
2003	n/a	n/a	n/a	n/a	n/a	9	n/a
2004	n/a	n/a	n/a	n/a	n/a	7	n/a
2005	n/a	1	n/a	n/a	n/a	4	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	8	n/a
2008	n/a	n/a	n/a	n/a	n/a	20	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.