

Willow (WILL-oh)



People and Place

*Location*¹

Willow is located in the Mat-Su Borough, between mile 60.0 and 80.7 of the George Parks Highway, 37 mi north of Anchorage. Its western boundary is the Susitna River. The area encompasses 684.8 sq mi of land and 8.0 sq mi of water. Willow is not incorporated into a municipality and is under the jurisdiction of Matanuska-Susitna (Mat-Su) Borough.

*Demographic Profile*²

In 2010, there were 2,102 residents living in Willow, ranking it 45th of 352 communities in terms of population size. Between 1990 and 2010, the population grew by 637.5%. Between 2000 and 2009, the population grew by 33.8% with an average annual growth rate of 2.1%, which was much higher than the statewide average of 0.75% and indicative of steady growth. Information regarding population trends can be found in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there are seasonal workers living in Willow year-round for lodging, fishing, and dog mushing. The population typically reaches its annual peak in June, and is thought to be driven mostly by employment in fisheries sectors.

The racial and ethnic composition of Willow is predominately White. In 2010, 90.8% of residents identified themselves as White, compared to 92.4% in 2000; 5.2% identified themselves as American Indian or Alaska Native, compared to 3.1% in 2000; and 2.9% identified themselves as two or more races, compared to 3.9% in 2000. In addition, 1.3% of residents identified themselves as Hispanic or Latino in both 2000 and 2010. All other races each represented less than 1% of the population in both 2000 and 2010 (Figure 1).

In 2010, the average household size was 2.34, compared to 2.90 in 1990 and 2.54 in 2000. In that year, there were 1,912 total housing units, compared to 244 in 1990 and 1,530 in 2000. Of the households surveyed in 2010, 40% were owner-occupied, compared to 37% in 2000; 7% were renter-occupied, compared to 5% in 2000; 5% were vacant, compared to 4% in 2000; and 48% were occupied seasonally, compared to 53% in 2000. There were 11 residents living in group quarters in 2010, compared to 0 in both 1990 and 2000.

The gender distribution in 2010 was somewhat skewed at 53.4% male and 46.6% female. This was slightly less even than the statewide distribution (52% male, 48% female), and similar to the distribution in 2000 (53.3% male, 46.7% female). The median age in 2010 was 46.4 years,

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

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

which was significantly higher than the statewide median of 33.8 years and moderately higher than the 2000 median of 40.1 years.

When compared with 2000, the population structure in 2010 was less expansive. In addition, age cohorts above 39 showed characteristics consistent with a stable population, meaning that cohorts aged while still mostly retaining their structural character. However, age cohorts 30 and under did not retain their structure, possibly indicating low youth retention. In 2010, 23.4% of residents were under the age of 20, compared to 29.8% in 2000; 22.5% were over the age of 59, compared to 13.7% in 2000; 46.4% were between the ages of 30 and 59, compared to 50.1% in 2000; and 7.7% were between the ages of 20 and 29, compared to 6.5% in 2000.

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

Year	U.S. Decennial Census ¹	Alaska Dept. of Labor Estimate of Permanent Residents ²
1990	285	-
2000	1,658	-
2001	-	1,667
2002	-	1,719
2003	-	1,814
2004	-	1,863
2005	-	1,898
2006	-	1,964
2007	-	2,046
2008	-	2,136
2009	-	2,218
2010	2,102	-

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

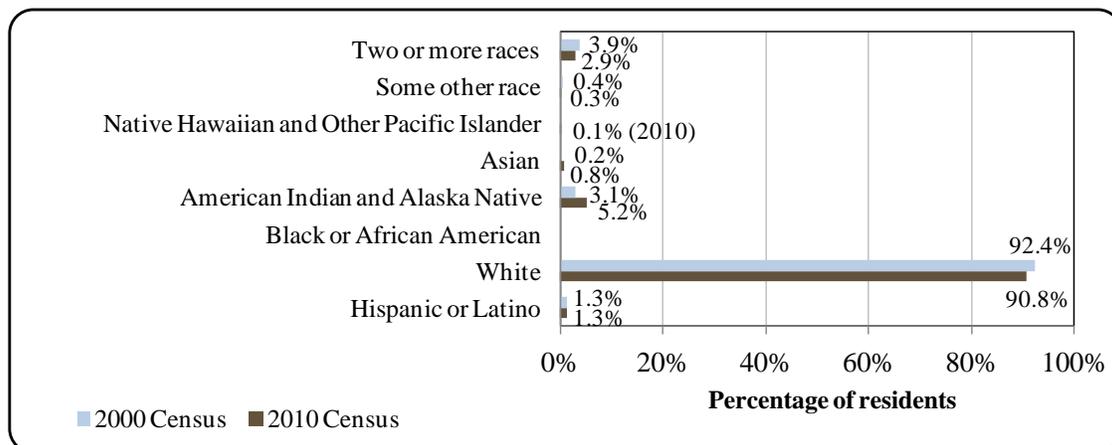
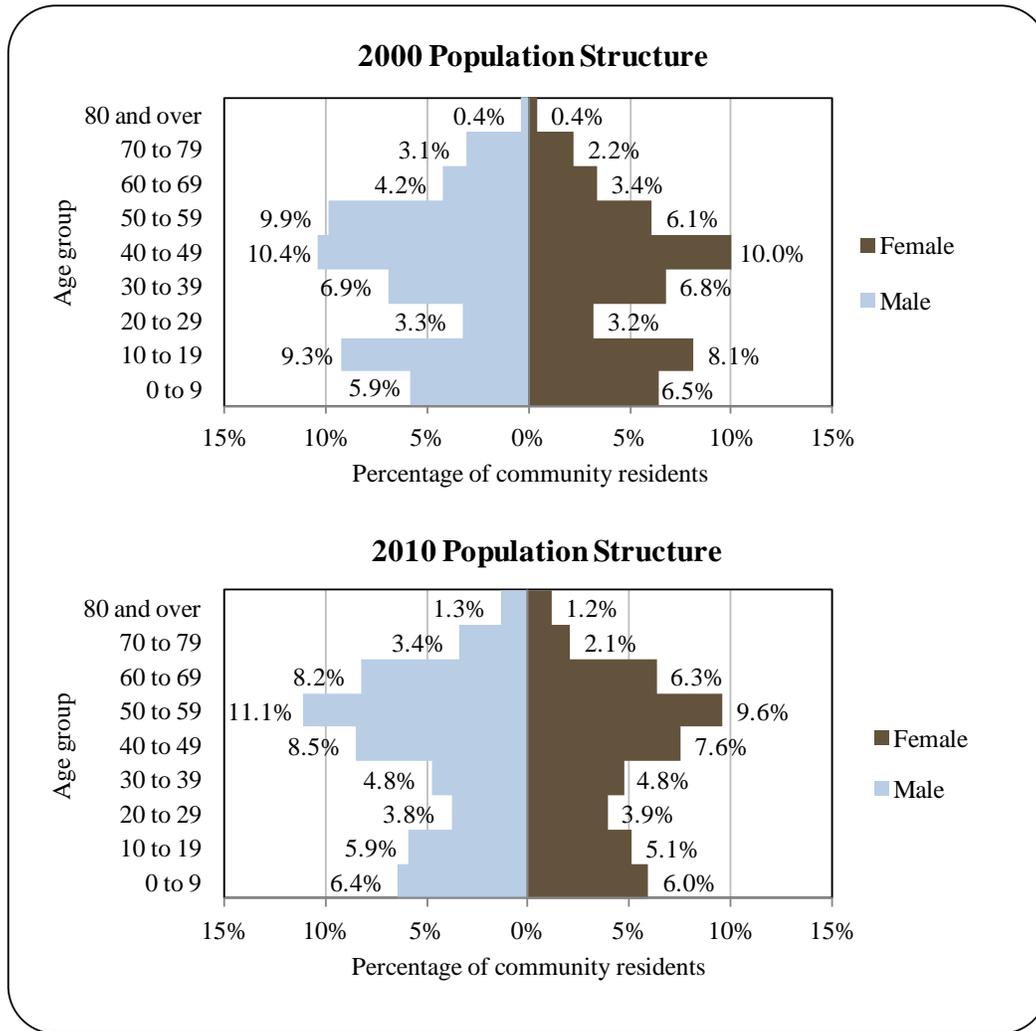


Figure 2. Population Age Structure in Willow Based on the 2000 and 2010 U.S. Decennial Census.



Gender distribution by age cohort was slightly more even in 2010 than in 2000 with slight male biases along most age ranges. In that year, the greatest absolute gender difference occurred in the 60 to 69 range (8.2% male, 6.3% female), followed by the 50 to 59 (11.1% male, 9.6% female) and 70 to 79 (3.4% male, 2.1%) ranges. Of those three, the greatest relative difference occurred in the 70 to 79 range. Information regarding Willow’s population structure can be found in Figure 2.

In terms of education attainment, the U.S. Census’ 2006-2010 American Community Survey (ACS)³ estimated that 89.3% of residents aged 25 years and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in

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.

that year, an estimated 2.7% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 8% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 33.9% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 9.9% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 18% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; an estimated 5.4% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

History, Traditional Knowledge, and Culture⁴

Historically, Dena'ina Athabascan Indians occupied the area; living in semi-permanent villages. The community got its start when gold was discovered on Willow Creek in 1897. Supplies and equipment were brought in by boat to Knik. From there, a 26 mi summer trail went northwest, up Cottonwood Creek, and across Bald Mountain to Willow Creek. The winter sled trail went north, crossing the present line of the Alaska Railroad at Houston, Alaska, and up the west end of Bald Mountain for 30 mi. This trail, dubbed the "Double Ender Sled Trail," is still being used by skiers, hunters, backpackers, and snowmobile enthusiasts. The sleds then followed a trail, now Hatcher Pass Road, along Willow Creek in an easterly direction. The Talkeetna Trail also passed through Willow and was used by dog teams and pack horses. Cabins to accommodate freighters and mail carriers were located at Nancy Lake, Willow, and other points north. This route was the forerunner of the Parks Highway. During construction of the Alaska Railroad, surveyors, construction crews, homesteaders, and other settlers came to Willow. A railroad station house was constructed in 1920. During World War II, a radar warning station and airfield were built. The Trail's End Lodge was built in 1947; it subsequently became a post office in 1948. By 1954, Willow Creek was Alaska's largest gold mining district, with total production approaching \$18 million. Land disposals, homestead subdivisions, and completion of the George Parks Highway in 1972 fueled growth in the area. In 1976, Alaskans selected Willow for their new state capital site. However, funding to enable the capital move was defeated in the November 1982 election.

⁴ Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Natural Resources and Environment

January temperatures range from -33 to 33 °F (-36 to 56 °C); July can range from 42 to 83 °F (6 to 28 °C). Annual rainfall varies from 16 to 27 inches, with 48 to 150 inches of snowfall.⁵

The topography surrounding Willow was shaped by glaciers which retreated in a north and northeastern direction approximately 9,000 years ago. As they retreated, a series of low hills and ridges were left behind. Numerous lakes occupy areas between the ridges. Underlying geology in the area consists of coal-bearing bedrock. As the glaciers retreated, thick deposits of sandy and gravelly moraine remained, which were later covered by silt loess. Topsoil is generally well-drained, with the exception of pockets of poorly drained peat. Vegetation is consistent with most of southcentral Alaska. Woody vegetation consists of mixed paper birch and white spruce stands. Black spruce is common on north facing slopes, poorly drained soils, and areas where permafrost may exist below the surface. Low-lying alluvial plains support cottonwood and quaking aspen populate some well-drained areas. Understory vegetation consists generally of low shrubs, devils club and high grasses. Poorly drained areas consist of alder and willow thickets. Muskeg areas are covered with sphagnum mosses. Other plants include Labrador-tea, cotton grass, bog birch, dwarf willow, bog blueberry, cloudberry, and low and high bush cranberry. Aquatic wildlife in the area includes coho, sockeye, and Chinook salmon, rainbow trout, Dolly Varden, whitefish, northern pike, burbot, long nose suckers, and three-spined stickleback. The nearby Nancy Lake State Recreation Area (NLSRA) has stocked rainbow trout and landlocked coho salmon. Terrestrial mammals include moose, black bear, beaver, otter, mink, muskrat, lynx, wolverine, martin, rabbits, and fox. Birds include ravens, loons, magpies, ducks, owls, eagles, and spruce hens.⁶

Coal, timber, and gravel make up the majority of exploitable natural resources in the Willow area. Coal deposits studied in the Houston area are sub-bituminous and characterized as low to medium grade.⁷ Chuitna Coal Project, located to the southwest of Willow, produces 12 million tons of coal annually and is expected to have a productive lifespan of 25 years.⁸ The NLSRA and Susitna Flats State Game Refuge provide scenic and recreational resources, as well as environmental services which support wildlife and quality of life. Oil and gas sources are known to exist in the area.⁹ There are several shallow gas leases within the Willow area and additional exploration licenses have been issued within the Susitna Valley.¹⁰ Other coal gasification developments are focused primarily within the Beluga River area to the southwest. Gas storage was approved for the Ivan River area outside of Beluga.¹¹ Geothermal energy

⁵ Ibid.

⁶ Alaska Department of Natural Resources (1983). *Nancy Lake State Recreation Area*. Retrieved April 26, 2012 from: <http://www.dnr.alaska.gov/parks/plans/nancylake/nancylk83/nancylakesramasplan.pdf>.

⁷ City of Houston (2003). *City of Houston Comprehensive Plan*. Retrieved April 26, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Houston-CP-2003.pdf>.

⁸ Alaska Department of Natural Resources (n.d.). *Chuitna Coal Project*. Retrieved April 26, 2012 from: <http://www.dnr.state.ak.us/mlw/mining/largemine/chuitna/>.

⁹ See footnote 6.

¹⁰ Alaska Department of Natural Resources (n.d.). *Exploration License Areas*. Retrieved April 26, 2012 from: <http://dog.dnr.alaska.gov/Programs/ExplorationLicenseAreas.htm#susitna>.

¹¹ Alaska Department of Natural Resources (n.d.). *Cook Inlet Maps*. Retrieved April 26, 2012 from: <http://dog.dnr.alaska.gov/Publications/CookInlet.htm#cimaps>.

sources are also thought exist in the area.¹² The State of Alaska owns most of the 1.8 million acres of identified timber lands in the Mat-Su Valley.¹³

Borough-wide natural hazards include flooding, earthquakes, avalanches, wildfire, severe weather, and extreme cold. Wildfires throughout the Mat-Su Borough typically present little risk to people and property because they often occur in sparsely populated areas. However, fire risk has been increasing in recent years due to urban development and spruce bark beetle infestations. The Mat-Su Borough is subject to seismic hazards which can trigger earthquakes, landslides, avalanches, ground uplift or subsidence, infrastructure failures, and soil liquefaction. Severe weather hazards can bring extreme cold, heavy snow, high winds, ice, flooding, landslides, and erosion. Overall, the Susitna Valley is most susceptible to wildfire, river flooding, erosion, and earthquakes.¹⁴

According to the Alaska Department of Environmental Conservation, there were no notable environmental remediation sites active in Willow as of 2010.¹⁵

Current Economy¹⁶

Many Willow residents are self-employed in a variety of businesses, including lodging, guiding and charter services, and retail stores. There are two saw mills and one prefabricated wood-building manufacturer. Some residents are employed in Palmer, Wasilla, or Anchorage. Capitol Speedway attracts stockcar racing enthusiasts from the entire state.¹⁷ In a survey conducted by the AFSC in 2011, community leaders reported that Willow's economy is reliant on mining, fishing, sportfishing, hunting, and dog mushing. Top employers¹⁸ in 2010 included: Mat-Su Borough Schools, State of Alaska, Mat-Su Borough, ASRC Energy Services O&M Inc., Newman's Hilltop Service, Palmer-Wasilla Health System LLC, Job Ready Inc., Fishhook/Halfrack/Townsite, BP Exploration Alaska Inc.; and VECO Alaska Inc.

In 2010,¹⁹ the estimated per capita income was \$27,981 and the estimated median household income was \$58,438, compared to \$22,323 and \$38,906 in 2000, respectively. However, after accounting for inflation by converting 2000 values into 2010 dollars,²⁰ the real per capita income (\$29,354) and real median household income (\$51,161) indicate a decline in both individual and household earnings. In that year, Willow ranked 79th of 305 communities from which per capita income was estimated and 83rd of 299 communities from which median household income was estimated.

¹² See footnote 6.

¹³ Metiva, M. and D. Hanson. (2008). *Mat-Su Comprehensive Economic Development Strategy*. Retrieved April 26, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Matanuska-Susitna%20Borough-EDP-2008.pdf>.

¹⁴ Adler, B. (2008). *All-Hazards Mitigation Plan*. Retrieved April 26, 2012 from: <http://www.matsugov.us>.

¹⁵ Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program*. Retrieved April 26, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

¹⁶ Unless otherwise noted, all monetary data are reported in nominal values.

¹⁷ See footnote 4.

¹⁸ Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. 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 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

It should be noted that ACS survey methods sample a relatively small percentage of the population, and as such, may not capture accurate economic conditions within communities with small populations. Data compiled in the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (ADOLWD) reported \$29.49 million in total wages earned by private sector and state employees, indicating a per capita income of \$14,030 when compared to 2010 U.S. Census population figures.²¹ In addition, the Denali Commission identified Willow as a “distressed” community in 2011, meaning that over 70% of residents were estimated to have incomes of less than \$16,120 in 2010. Overall, ALARI estimates indicate significantly lower incomes than what was reported by the Census Bureau in both 2000 and 2010.

According to 2006-2010 ACS estimates,²² 53.5% of residents aged 16 and over were part of the civilian labor force and an estimated 0.8% were part of the armed forces in 2010. In that year, unemployment was estimated at 1.2%, compared to an estimated 5.9% statewide; and an estimated 6.1% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. It should be noted that these estimates seem to conflict with Willow’s designation as a “distressed community.” ALARI estimates in 2010 estimated that unemployment was approximately 12.9% based on unemployment insurance claimants. Of those employed in 2010, an estimated 64.2% worked in the private sector, an estimated 16.2% worked in the public sector, an estimated 17.9% were self-employed, and an estimated 1.7% were unpaid family workers.

By industry, most employed residents were estimated to work in construction sectors (28.3%) in 2010;²³ followed by education, health care, and social assistance (15.2%) and retail trade (13.8%) sectors. Employment by industry was relatively diverse in both 2000 and 2010; however, it should be noted that many Willow residents commute to Wasilla, Palmer, and Anchorage for work. Because of this, employment figures may not necessarily be reflective of Willow’s local economy. Residents estimated to be employed in agriculture, forestry, fishing, hunting, and mining sectors declined from 6.1% in 2000 to 3.2% in 2010. Since agriculture, forestry, and mining are dominant industries in the Mat-Su Valley, it is difficult to determine the level at which fisheries sectors contributed to these figures. It should also be noted that much of Willow’s fisheries employment is related to recreational fishing sectors, which may not be captured in agriculture, forestry, fishing, hunting, and mining sector estimates. According to 2010 ALARI estimates,²⁴ most (23.0%) employed residents worked trade, transportation, and utilities sectors; followed by education and health (13.2%); local government (12.2%); and construction (11.7%) sectors.

By occupation type, most employed residents were estimated to hold management or professional positions in 2010 (38.3%);²⁵ followed by natural resources, construction, or maintenance positions (19.5%); production, transportation, or material moving positions (18.0%); sales or office positions (17.1%); and service positions (7.1%). Overall, there were

²¹ 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/>.

²² 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.

²³ See footnote 19.

²⁴ See footnote 21.

²⁵ Ibid.

significant changes in both employment by industry, and employment by occupation type between 2000 and 2010. Most notably, there was a significant increase in construction sector employment. Other notable increases occurred in education services, health care, social assistance, professional, scientific, management, administrative, and waste management sectors. In terms of occupation type, there were notable increases in the amount of management and professional positions, while there were notable declines in sales and office positions.

Overall, while variation in employment between 2000 and 2010 may be attributed to economic changes, although it is also possible that ACS survey methods were unable to capture accurate employment conditions due to a relatively small sample size. Information regarding employment trends can be found in Figures 3 and 4.

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

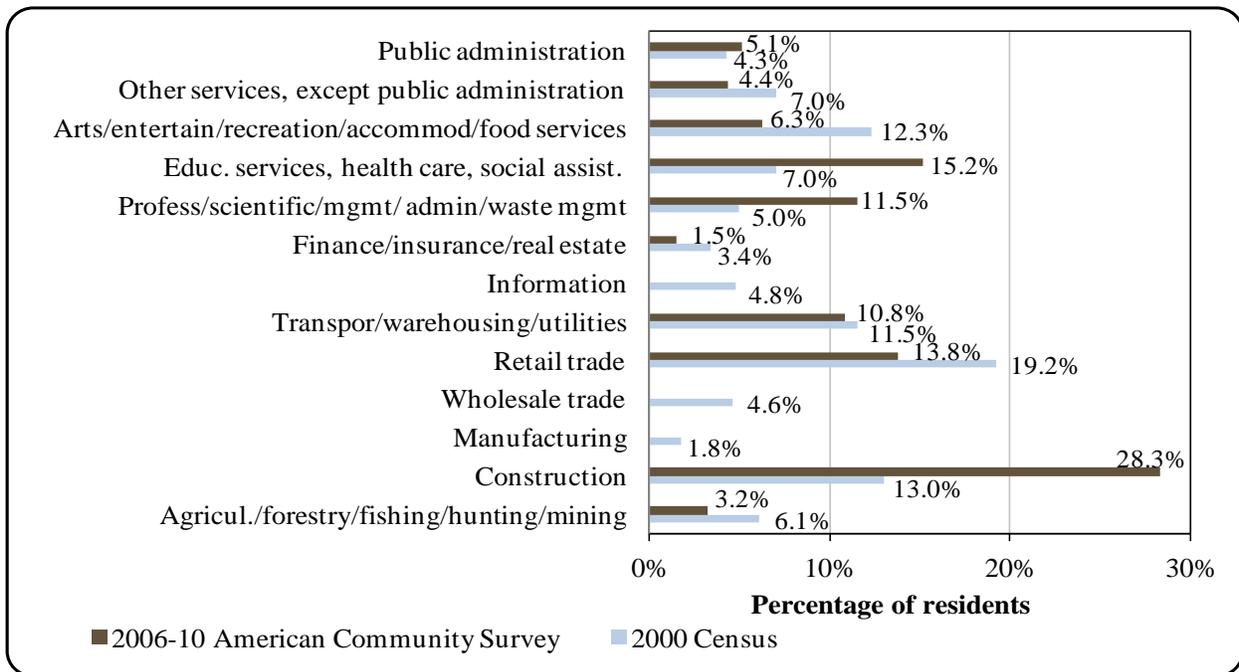
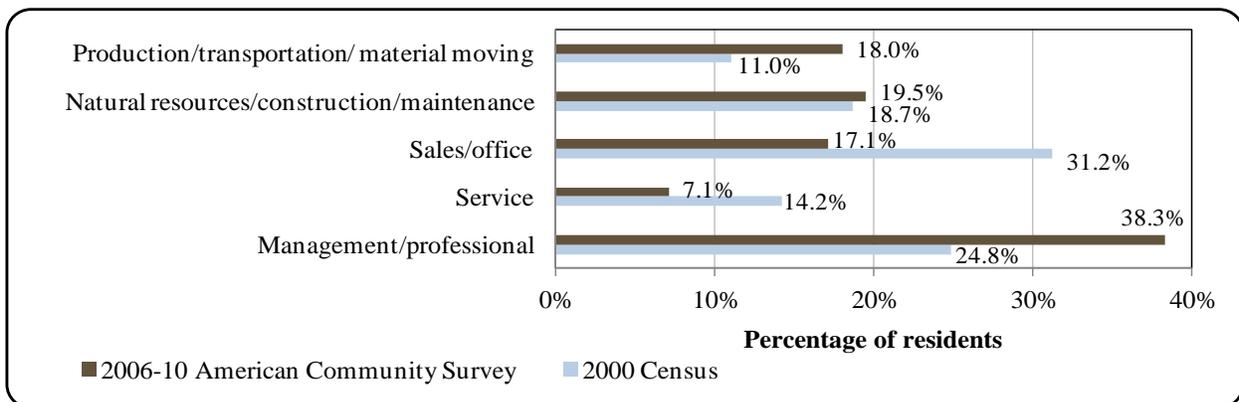


Figure 4. Local Employment by Occupation in 2000-2010, Willow (U.S. Census).



Governance

Willow is considered a Census Designated Place and is not incorporated into a municipality. Instead it is under the jurisdiction of the Mat-Su Borough, which is seated in Palmer. The community was not included in the Alaska Native Claims Settlement Act (ANCSA) of 1971 and is not represented by a Native Traditional Council. The closest Alaska Department of Fish and Game (ADF&G) office is located in Palmer, 34 mi southeast. The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage, 37 mi south.

Since Willow is not an incorporated municipality, it is unable to collect revenue through municipal taxes or fees (Table 2). All finances are handled on a borough level. The Borough administers a 9.956 mill base property tax, 5% accommodations tax, and 5.5% tobacco excise tax.

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

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

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

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

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

Infrastructure

*Connectivity and Transportation*²⁶

From the George Parks Highway, the area has access to the statewide highway system and the transportation facilities of Wasilla, Palmer, and Anchorage. There are two public airstrips: one is a state-owned 4,400 ft long by 75 ft wide gravel airstrip at mile 69.7 Parks Highway and the other is at Deshka Landing and owned by the Alaska Department of Natural Resources. There are five additional private strips and a seaplane base at Kashwitna Lake.

*Facilities*²⁷

Nearly all of the occupied homes in Willow are fully plumbed and use individual water wells and septic tanks. The school operates its own water system. Seasonal-use homes haul water and use outhouses. A borough-operated refuse transfer site is available on Willow-Fishhook Road, about 2 mi off the Parks Highway. Electricity is provided by hydroelectric generator. Visitor accommodations include Willow Trading Post Lodge, Ruth Lake Pioneer Lodge, Willow Island Resort, Sheep Creek Lodge, Chandalar RV Park, Cline's Lake Bed & Breakfast, Camp Caswell, Susitna Landing & Campground, Alaska Host Bed & Breakfast, Giggewood Inn, Nancy Lake Bed & Breakfast, and Willow Park Bed & Breakfast. Public safety services are provided by state troopers based in Talkeetna. Fire and rescue services are provided by Mat-Su Borough and Willow Ambulance Service. Additional public facilities include a community center and library. Communications services include local and long distance telephone, local television, and local radio.

In a survey conducted by the AFSC in 2011, community leaders reported that local public infrastructure includes a fish cleaning station, a barge landing area/marina at Deshka Landing on the Susitna River. There are no permanent public mooring facilities located in Willow. Vessels which can use facilities in Willow include jet boats, small vessels, fuel barges, and vessels containing hazardous materials. Fisheries-related businesses and services available in Willow include fishing gear sales, boat repair (electrical, mechanical, machining), tackle sales, bait sales, commercial cold storage, fish lodges, fishing related bookkeeping, boat fuel sales, fishing gear repair, fishing gear storage, ice sales, water taxi, seaplane services, and air taxi. Additional public services include a food bank and publically subsidized housing. Residents typically travel to Anchorage, Palmer, or Wasilla for businesses and services not available in Willow.

*Medical Services*²⁸

There are no medical services located in Willow. Sunshine Community Health Center in Talkeetna provides basic health care. Valley Hospital in Palmer provides acute, specialized, and long-term care. Willow Ambulance Service provides alternative care.

²⁶ 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.

²⁷ Ibid.

²⁸ Ibid.

*Educational Opportunities*²⁹

Beryozova School offers Kindergarten through 12th grade instruction. In 2011, there were 22 students enrolled and one teacher employed. Willow Elementary School offers preschool through 6th grade instruction. In 2011, there were 130 students enrolled and 12 teachers employed.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Soon after glaciers receded some 9,000 years ago, Tanaina Athabascans, and possibly Yup'ik Eskimos move into the Susitna River Valley. Two archaeological sites found within the NLSRA have been confirmed, and evidence shows that inhabitants of those sites relied on subsistence fishing, hunting, and trapping. The Alaska Railroad brought homesteaders into the Willow area around 1917, who built a life around mining, logging, and farming.³⁰ Since then, Willow's participation in North Pacific fisheries has been tied primarily to recreational fishing. The lower Susitna River, Little Susitna River, and various lakes in the region are popular among local anglers, as well as anglers from throughout the state. Willow has become a popular area with residents from the greater Mat-Su region and Anchorage, and the community has grown as a bedroom community centered on sportfishing and hunting. Although commercial fishing is not a central component of Willow's fisheries participation, several residents have commercial fishing permits.

In a survey conducted by the AFSC in 2011, community leaders reported that Willow participates in the fisheries management process in Alaska through a representative who sits on regional fisheries advisory and/or working groups run by ADF&G. Willow is not eligible for participation in either the Community Development Quota (CDQ) or Community Quota Entity (CQE) programs.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Willow did not have a registered processing plant operating in 2010. The closest seafood processor is located in Wasilla.

Fisheries-Related Revenue

Willow did not receive any fisheries-related revenue from taxes or fees between 2000 and 2010 (Table 3).

²⁹ Alaska Department of Education and Early Development (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

³⁰ Alaska Department of Natural Resources (n.d.). *Nancy Lake State Recreation Area*. Retrieved April 27, 2012 from: <http://dnr.alaska.gov/parks/units/nancylk/nancylk.htm>.

Commercial Fishing

In 2010, 18 residents, or less than one-percent of the population, held 30 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 19 residents held 44 CFEC permits. Of the CFEC permits held in 2010, 50% were for salmon, compared to 36% in 2000; 20% were for groundfish, compared to 32% in 2000; 7% were for sablefish, compared to 11% in 2000; 3% were for herring, compared to 7% in 2000; and 20% were for halibut, compared to 14% in 2000. Of the CFEC permits held in 2010, 73% were actively fished, compared to 73% in 2000. This varied by fishery from 100% of halibut permits, to 80% of salmon, 67% of groundfish, and 0% of herring and sablefish permits. Fisheries prosecuted by Willow residents in 2010 included: statewide longline halibut, statewide longline and mechanical jig miscellaneous saltwater finfish, Prince William Sound drift gillnet salmon, Cook Inlet drift and set gillnet salmon, Alaska Peninsula drift gillnet salmon, and Bristol Bay drift and set gillnet salmon.³¹

In addition, 7 residents held 8 License Limitation Program (LLP) groundfish permits, one resident held one LLP crab permit, and 3 residents held 3 Federal Fisheries Permits (FFP) that year. Approximately 50% of groundfish LLP, 0% of crab LLP, and 100% of FFP were actively fished in 2010. Finally, 470,466 shares of halibut quota were held through 7 accounts in 2010, compared to 155,692 shares held through 3 accounts in 2000. No residents held sablefish quota in 2010, although 143,794 shares were held on one account in 2006. No residents held crab quota between 2010 and when the program began.

Residents held 23 commercial crew licenses in 2010, compared to 16 in 2000. In that year, residents held majority ownership of 11 vessels, compared to 32 in 2000. Given that no shore-based processing plants are located in Willow, no commercial landings were reported in Willow between 2000 and 2010. However, residents of Willow did participate in the state's commercial fisheries by making landings in other communities. However, landings reported by Willow residents at other locations are considered confidential in 2010 with the exception of salmon. In that year, 695,046 lbs of salmon valued at \$668,183 were landed, compared to 387,574 lbs valued at \$296,558 in 2000; a decrease of \$0.09 per lb after adjusting for inflation³² and without considering the species composition of landings. Halibut landings in 2008 totaled 58,355 lbs valued at \$260,112, compared to 51,523 lbs valued at \$104,800 in 2001; an increase of \$1.73 after adjusting for inflation.³³ Other groundfish landings totaled 32,413 lbs valued at \$12,478 in 2007, compared to 184,426 lbs valued at \$70,268 in 2001. Pacific cod landings totaled 1.07 million lbs valued at \$320,352, compared to 901,249 lbs valued at \$356,323 in 2000; a decrease of \$0.08 per lb after adjusting for inflation.³⁴ Pollock landings in 2002 totaled 3,659 lbs valued at \$231. Sablefish landings in 2001 totaled 49,605 lbs valued at \$157,306. Information regarding commercial fishing trends can be found in Tables 4 through 10.

³¹ 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.]

³² Inflation calculated using the 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>.

³³ Ibid.

³⁴ Ibid.

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

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

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

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

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

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

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) ¹	Total permits	7	9	10	10	8	8	7	7	7	8	8
	Active permits	4	7	6	7	4	4	3	4	4	4	4
	% of permits fished	57%	77%	60%	70%	50%	50%	42%	57%	57%	50%	50%
	Total permit holders	5	6	7	7	6	6	6	6	6	7	7
Crab (LLP) ¹	Total permits	0	0	1	1	1	1	1	1	1	1	1
	Active permits	0	0	0	1	0	1	0	0	1	0	0
	% of permits fished	n/a	n/a	0%	100%	0%	100%	0%	0%	100%	0%	0%
	Total permit holders	0	0	1	1	1	1	1	1	1	1	1
Federal Fisheries Permits ¹	Total permits	9	9	9	3	3	3	4	4	4	3	3
	Fished permits	0	0	0	2	3	2	3	4	2	3	3
	% of permits fished	0%	0%	0%	67%	100%	67%	75%	100%	50%	100%	100%
	Total permit holders	7	7	7	3	3	3	4	4	4	3	3
Crab (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) ²	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) ²	Total permits	6	7	6	6	7	7	8	7	7	6	6
	Fished permits	4	5	6	6	7	7	8	6	7	6	6
	% of permits fished	67%	71%	100%	100%	100%	100%	100%	86%	100%	100%	100%
	Total permit holders	6	7	6	6	7	7	8	7	7	6	6
Herring (CFEC) ²	Total permits	3	3	3	2	1	1	1	1	2	1	1
	Fished permits	2	0	0	0	0	0	0	0	1	0	0
	% of permits fished	67%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	2	1	1

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) ²	Total permits	5	5	5	1	0	0	1	2	1	1	2
	Fished permits	2	5	2	0	0	0	1	0	1	1	0
	% of permits fished	40%	100%	40%	0%	n/a	n/a	100%	0%	100%	100%	0%
	Total permit holders	5	5	5	1	0	0	1	2	1	1	2
Groundfish (CFEC) ²	Total permits	14	20	16	9	11	8	8	8	9	11	6
	Fished permits	9	10	8	3	4	5	5	5	6	9	4
	% of permits fished	64%	50%	50%	33%	36%	63%	63%	63%	67%	82%	67%
	Total permit holders	6	7	7	5	5	4	6	6	6	7	5
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	16	17	18	18	16	18	19	17	18	18	15
	Fished permits	15	10	12	12	11	13	13	12	13	14	12
	% of permits fished	94%	59%	67%	67%	69%	72%	68%	71%	72%	78%	80%
	Total permit holders	16	17	18	18	16	18	19	17	18	17	15
<i>Total CFEC Permits²</i>	<i>Permits</i>	<i>44</i>	<i>52</i>	<i>48</i>	<i>36</i>	<i>35</i>	<i>34</i>	<i>37</i>	<i>35</i>	<i>37</i>	<i>37</i>	<i>30</i>
	<i>Fished permits</i>	<i>32</i>	<i>30</i>	<i>28</i>	<i>21</i>	<i>22</i>	<i>25</i>	<i>27</i>	<i>23</i>	<i>28</i>	<i>30</i>	<i>22</i>
	<i>% of permits fished</i>	<i>73%</i>	<i>58%</i>	<i>58%</i>	<i>58%</i>	<i>63%</i>	<i>74%</i>	<i>73%</i>	<i>66%</i>	<i>76%</i>	<i>81%</i>	<i>73%</i>
	<i>Permit holders</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>21</i>	<i>21</i>	<i>22</i>	<i>24</i>	<i>20</i>	<i>23</i>	<i>20</i>	<i>18</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Willow: 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 Willow²	Total Net Lbs Landed in Willow^{2,5}	Total Ex-Vessel Value of Landings in Willow^{2,5}
2000	16	0	0	32	16	0	0	\$0
2001	16	0	0	32	25	0	0	\$0
2002	12	0	0	37	32	0	0	\$0
2003	12	0	0	43	29	0	0	\$0
2004	14	0	0	35	21	0	0	\$0
2005	17	0	0	11	0	0	0	\$0
2006	15	0	0	13	1	0	0	\$0
2007	22	0	0	15	2	0	0	\$0
2008	19	0	0	14	0	0	0	\$0
2009	26	0	0	12	0	0	0	\$0
2010	23	0	0	11	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 Willow: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (lbs)
2000	3	155,692	15,415
2001	5	420,053	49,728
2002	8	443,922	54,339
2003	8	443,922	54,322
2004	8	445,329	60,346
2005	9	457,690	64,255
2006	9	468,438	64,993
2007	7	455,606	64,554
2008	9	404,674	53,004
2009	7	400,974	47,055
2010	7	470,466	56,039

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 Willow: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (lbs)
2000	0	0	0
2001	2	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	1	143,794	19,030
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 Willow: 2000-2010.

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

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

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Willow: 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.

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

	<i>Total Net Pounds¹</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	51,523	75,809	--	--	--	80,931	--	58,355	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	184,426	20,326	179,285	--	--	--	32,413	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	901,249	1,354,036	1,074,270	--	--	--	--	--	--	--	--
Pollock	--	--	3,659	--	--	--	--	--	--	--	--
Sablefish	--	49,605	--	--	--	--	--	--	--	--	--
Salmon	387,574	237,939	419,273	424,551	562,215	383,970	635,315	563,243	481,537	497,825	695,046
<i>Total²</i>	<i>1,288,823</i>	<i>1,877,529</i>	<i>1,593,337</i>	<i>603,836</i>	<i>562,215</i>	<i>383,970</i>	<i>716,246</i>	<i>595,656</i>	<i>539,892</i>	<i>497,825</i>	<i>695,046</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	\$104,800	\$169,360	--	--	--	\$312,334	--	\$260,112	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	\$70,268	\$7,780	\$42,552	--	--	--	\$12,478	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	\$356,323	\$441,241	\$320,352	--	--	--	--	--	--	--	--
Pollock	--	--	\$231	--	--	--	--	--	--	--	--
Sablefish	--	\$157,306	--	--	--	--	--	--	--	--	--
Salmon	\$296,558	\$128,519	\$186,821	\$231,734	\$326,150	\$292,183	\$444,844	\$448,268	\$364,850	\$422,273	\$668,183
<i>Total²</i>	<i>\$652,881</i>	<i>\$902,133</i>	<i>\$684,544</i>	<i>\$274,286</i>	<i>\$326,150</i>	<i>\$292,183</i>	<i>\$757,178</i>	<i>\$460,746</i>	<i>\$624,962</i>	<i>\$422,273</i>	<i>\$668,183</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 an important part of Willow’s fisheries-related economy. Many throughout the state maintain residences in Willow, which they use part-time.³⁵ According to the 2010 U.S. Census, 47% of total households were occupied full-time. Many streams and lakes in the area are stocked with rainbow trout, arctic grayling, char, and landlocked coho salmon.³⁶ In a survey conducted by the AFSC in 2011, community leaders reported that sportfishing takes place on charter or party boats, private boats owned by local residents, private boats owned by non-local residents, and from shore or docks. In addition, “fly-in” (remote destination) sportfishing is a popular local activity. Species targeted by local private anglers include all five species of Pacific salmon and hooligan.

In 2010, there were no registered sport fish guide businesses active in Willow, compared to one in 2000. The number of sport fish guide licenses held in the community declined steadily between 2000 and 2010, from 40 to 15. The number of sport fish guide licenses held in the community peaked at 46 in 2004. Also in 2010, 1,109 sportfishing licenses were sold to Willow residents, compared to 896 in 2000; and 817 sportfishing licenses were sold within the community, compared to 421 in 2000. Sportfishing license sales within the community peaked in 2005 at 1,321 licenses.

Willow is located within the Susitna River Drainage ADF&G Harvest Survey area which includes all drainages of the Susitna River. In 2010, there was a total of 122,235 freshwater angler days fished, compared to 241,457 in 2000. In that year, non-Alaska residents accounted for 33% of angler days fished, compared to 27% in 2000. Between 2000 and 2010, there were declines in both Alaska resident and non-Alaska resident angler days fished although the decline in Alaska resident angler days fished was relatively more significant. Information regarding recreational fishing trends can be found in Table 11. According to ADF&G Harvest Survey records,³⁷ private anglers in Willow target all five species of Pacific salmon, landlocked coho, rainbow trout, Dolly Varden char, whitefish, burbot, Arctic grayling, northern pike, Pacific halibut, rockfish, lingcod, Pacific cod, smelt, razor clams, hardshell clams, shrimp and other shellfish, and other finfish. Kept/released charter information is not available in Willow.

Subsistence Fishing

Willow is not considered a subsistence-dependent community, and traditional subsistence activities are generally not practiced by local residents. In a survey conducted by the AFSC in 2011, community leaders reported that subsistence harvesting is not done by residents of Willow. However, residents do harvest salmon as a personal use fishery, through sportfishing. Subsistence data compiled by ADF&G is limited; and information on subsistence participation by household and on subsistence halibut, marine invertebrate, other non-salmon fish and marine mammal harvests is unavailable. Minimal harvests of salmon for subsistence have been reported

³⁵ Alaska Department of Natural Resources (1983). *Nancy Lake State Recreation Area*. Retrieved April 26, 2012 from: <http://www.dnr.alaska.gov/parks/plans/nancylake/nancylk83/nancylakesramasplan.pdf>.

³⁶ Alaska Department of Fish and Game (n.d.). *Matanuska-Susitna Valley Small Lakes Management Plan*. Retrieved April 27, 2012 from: <http://www.adfg.alaska.gov/Static/fishing/pdfs/hatcheries/12region2.pdf>.

³⁷ 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).

by residents. Sockeye salmon are harvested most by residents, followed by coho and Chinook salmon. In 2008, residents reported harvesting 564 salmon, compared to 960 in 2000. Reported subsistence salmon harvests peaked in 2007 at 1,225 fish. Between 2003 and 2008, one resident held a Subsistence Halibut Registration Certificate (SHARC) although no halibut harvests were reported in that time. Two residents held SHARC in 2009 and 2010; again, there were no reported harvests. Information regarding subsistence trends can be found in Tables 12 to 15.

Additional Information

In a survey conducted by the AFSC in 2011, community leaders were asked their opinions on impacts that fisheries-related management and policies have had on their communities. Community leaders were concerned over poor salmon returns to Willow Creek, Little Willow Creek, Lake Creek, and Deshka River, and their impacts on recreational fishing. When asked about current challenges for the portion of Willow’s economy that is based on fishing, community leaders expressed concern over overharvesting and poaching of salmon. Specifically, there were concerns regarding Cook Inlet netting and its affect on Susitna River salmon runs. When asked about the effects fisheries policies or management actions have had on Willow, community leaders expressed concerns over emergency openings for Kenai sockeye impacting northbound salmon stocks. In addition, coho and Chinook salmon bycatch in the Cook Inlet is of chief concern. Overall, there is concern over poor salmon returns and equitable management on a region-wide level.

Table 11. Sport Fishing Trends, Willow: 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 Willow ²	Freshwater Angler Days Fished – Non-residents ³	Freshwater Angler Days Fished – Alaska Residents ³
2000	1	40	896	421	64,141	177,316
2001	1	44	945	449	71,249	128,658
2002	1	38	973	1,114	59,863	126,516
2003	0	43	1,010	1,117	56,844	131,687
2004	0	46	1,021	1,237	56,934	130,366
2005	0	17	1,050	1,321	68,753	100,803
2006	1	13	1,074	1,272	63,255	109,462
2007	1	18	1,047	1,240	58,471	115,578
2008	0	25	1,108	1,070	49,911	98,827
2009	0	19	1,112	1,001	40,797	99,404
2010	0	15	1,109	817	40,414	81,821

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, Willow: 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, Willow: 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	45	22	n/a	5	n/a	933	n/a	n/a
2001	57	52	20	n/a	14	n/a	820	n/a	n/a
2002	35	30	9	n/a	17	n/a	641	n/a	n/a
2003	38	31	6	2	16	2	692	n/a	n/a
2004	43	40	28	n/a	2	8	570	n/a	n/a
2005	36	29	10	n/a	30	n/a	309	n/a	n/a
2006	48	37	23	n/a	3	n/a	876	n/a	n/a
2007	48	47	23	4	35	n/a	1,163	n/a	n/a
2008	51	48	10	n/a	20	n/a	534	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, Willow: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	n/a	n/a
2008	1	n/a	n/a
2009	2	n/a	n/a
2010	2	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, Willow: 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.