

Saint Michael

People and Place

*Location*¹

Saint Michael is located on the east coast of Saint Michael Island, along the southern inner coast of Norton Sound. It lies 125 miles southeast of Nome and 48 miles southwest of Unalakleet. Saint Michael is located in the Cape Nome Recording District and the Nome Census Area and is not located within an organized borough. The City boundaries encompass 21.8 square miles of land and 6.3 square miles of water.

*Demographic Profile*²

In 2010, there were 401 residents in Saint Michael, making it the 139th largest of 352 total Alaskan communities with recorded populations that year. Overall between 2000 and 2010, the population increased by 21.2%. The Saint Michael's average annual growth rate between 2000 and 2009 was 1.06%, indicating a steady growth trend. The change in population from 1990 to 2010 is provided in Table 1.

A majority of residents in Saint Michael in 2010 identified themselves as American Indian and Alaska Native (92%), with 5.5% of the population identifying themselves as White, 2.5% of the population identifying themselves as two or more races, and 0.7% of the population identifying themselves as Hispanic or Latino. The percentage of the population identifying themselves as American Indian and Alaska Native decreased very slightly, by 0.7%, from 2000 to 2010, as did the percentage of the population identifying themselves as White, which decreased by 1.3%. During the same period there was a corresponding increase in the percentage of the population identifying themselves as two or more races and as Hispanic or Latino. The change in racial and ethnic composition from 2000 to 2010 is provided in Figure 1.

The average household size in Saint Michael remained relatively stable over the three decades, shifting from 4.2 persons per household in 1990 to 2.09 in 2000, and 4.18 in 2010. Over the same period the number of households increased, from 69 in 1990 to 90 in 2000, and 96 in 2010. Of the 117 housing units surveyed for the 2010 Decennial Census, 62 were owner-occupied, 34 were renter-occupied, and 21 were vacant. Between 1990 and 2010, no residents of Saint Michael were reported to be living in group quarters.

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>.

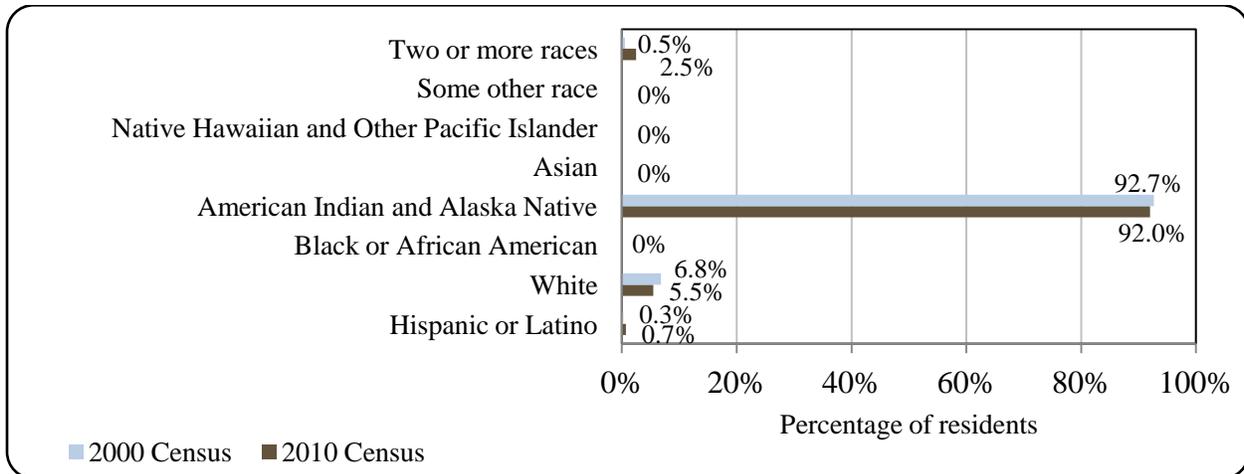
Table 1. Population in Saint Michael from 1990 to 2010 by Source.

| Year | U.S. Decennial Census ¹ | Alaska Dept. of Labor Estimate of Permanent Residents ² |
|------|------------------------------------|--|
| 1990 | 295 | - |
| 2000 | 368 | - |
| 2001 | - | 377 |
| 2002 | - | 390 |
| 2003 | - | 413 |
| 2004 | - | 411 |
| 2005 | - | 427 |
| 2006 | - | 446 |
| 2007 | - | 444 |
| 2008 | - | 433 |
| 2009 | - | 446 |
| 2010 | 401 | - |

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>.

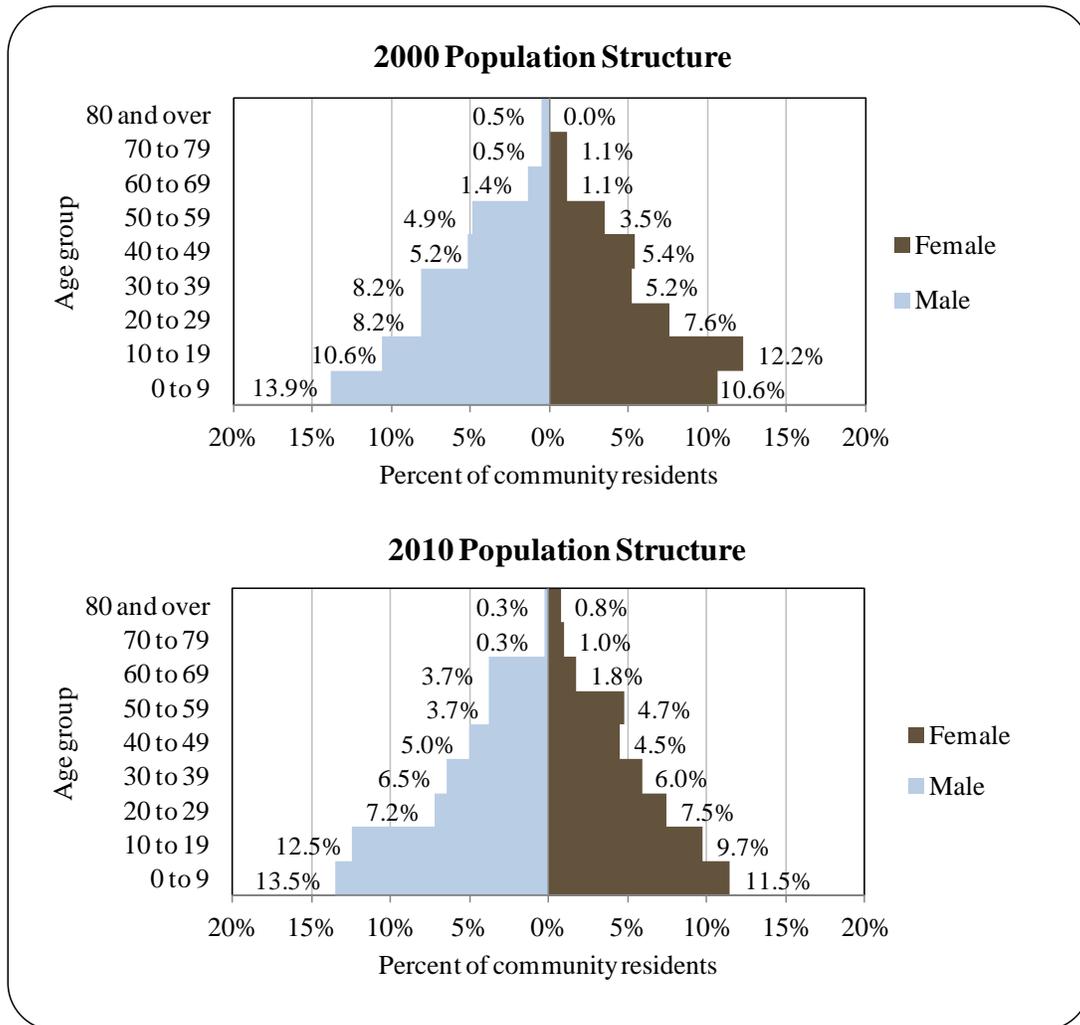
² Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup in Saint Michael was slightly skewed, at 52.6% male and 47.4% female, similar to the State as a whole (52% male, 48% female). The median age in Saint Michael was 21.7 years that year, considerably lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. The greatest percentage of residents fell within the age category 0-19 years old, with the next largest percentage for the age category 20-39 years old. Relatively few people were age 59 or older in 2010, with most residents under the age of 20. In 2010, the population was slightly skewed towards males in the younger age groups. The overall population structure of Saint Michael in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),³ 89.1% of residents aged 25 and older were estimated to hold a high school diploma or higher degree, compared to 90.7% of Alaskan residents overall. Also in 2010, 4.5% of the population of Saint Michael held less than a 9th grade education, compared with 3.5% of Alaskan residents overall; 6.4% held a 9th-12th grade education but no diploma, compared with 5.8% of Alaskan residents overall; 50% held a high school diploma or equivalent, compared with 27.4% of Alaskan residents overall; 24.4% had some college but no degree, compared with 28.3% of Alaskan residents overall; 7.1% held an Associate’s degree, compared with 8% of Alaskan residents overall; 5.1% held a Bachelor’s degree, compared with 17.4% of Alaskan

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.

residents overall; and 2.6% held a graduate or professional degree, compared with 9.6% of Alaskan residents overall.

*History, Traditional Knowledge, and Culture*⁴

Saint Michael's population is largely Yup'ik Eskimo today, and many residents are also descendants of Russian traders. Seal, beluga whale, moose, caribou, fish, and berries are important staples. The sale and importation of alcohol is banned in the village.

A fortified trading post called "Redoubt Saint Michael" was built by the Russian-American Company at this location in 1833. At the time, it was the northernmost Russian settlement in Alaska. The Native village of "Tachik" stood to the northeast. When the Russians left Alaska in 1867, several of the post's traders remained. "Fort Saint Michael," a U.S. military post, was established in 1897. During the gold rush of 1897, it was a major gateway to Interior Alaska via the Yukon River. As many as 10,000 persons were said to live in Saint Michael during the gold rush. Saint Michael was also a popular trading post for Eskimos to trade their goods for Western supplies. Centralization of many Yup'iks from the surrounding villages intensified after the measles epidemic of 1900 and the influenza epidemic of 1918. The village remained an important trans-shipment point until the Alaska Railroad was built. The city government was incorporated in 1969.

Natural Resources and Environment

Saint Michael has a subarctic climate with maritime influences during the summer. Summer temperatures average 40 to 60 °F (4.4 to 15.5 °C); winters average -4 to 16 °F (-20 to -8.9 °C). Extremes from -55 to 70 °F (-48.3 to 21.1 °C) have been recorded. Annual precipitation averages 12 inches, with 38 inches of snow. Summers are rainy, and fog is common. Norton Sound is ice free from early June to mid-November.⁵

The landscape of eastern Saint Michael Island is typical of the Yukon-Kuskokwim delta, characterized by flat, marshy lowlands and gently rolling hills. The highest point in the vicinity of the City is Saint Michael Mountain, rising to 450 ft. Vegetation in the area consists primarily of moist tundra, including moss, grass, scrub, willow, and alder. Saint Michael Island is separated from the mainland coast by a narrow channel known as "the Canal." The topography and vegetation of the mainland coast is similar to that of Saint Michael Island, and the landscape increases in elevation eastward toward the Nulato Hills. A permafrost layer underlies most of the City, with the exception of the coastline.⁶

Saint Michael is located near the Andreafsky Wilderness. The U.S. Congress designated the Andreafsky Wilderness in 1980, and the area now includes a total of 1,300,000 acres. The area is managed by the U.S. Fish and Wildlife Service (FWS). The Andreafsky Wilderness covers only slightly more than 5 percent of the vast 20-million-acre Yukon Delta National Wildlife Refuge, America's largest unit of the National Wildlife Refuge System. Animals found

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

⁵ Ibid.

⁶ Rodney P. Kinney Associates, Inc. (2007). *Saint Michael Long Range Transportation Plan*. Prepared for the Saint Michael IRA Council in cooperation with the Kawerak Transportation Program. Retrieved March 5, 2013 from <http://www.kawerak.org/servedivisions/csd/trans/LRTP/St.MichaelLRTP.pdf>.

in the Refuge include moose, foxes, beavers, martens, minks, wolves, wolverines, caribou, large populations of black and brown bears, and millions of salmon.⁷

According to a state assessment, natural hazards with the potential of occurring in the Nome Census Area include earthquake, flood, wildfire, severe weather, erosion, and tsunami or seiche. The probability of occurrence of earthquakes was rated as high, tsunami/seiche activity was rated at low probability, and the other hazards had unknown probabilities.⁸

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Saint Michael area as of March 2013.⁹

Current Economy¹⁰

The Saint Michael economy is based on subsistence food harvests supplemented by part-time wage earning. Most jobs are held in city government, the Indian Reorganization Act (IRA) council, the village corporation, schools, utilities, health services and housing services, and local stores.^{11,12}

According to the 2006-2010 ACS,¹³ the per capita income in Saint Michael in 2010 was estimated to be \$11,403, and the median household income in 2010 was estimated to be \$33,750, compared to reported \$10,692 and \$33,306 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,¹⁴ the real per capita income (\$14,060) and the real median household income (\$43,442) in 2000 indicate a decrease in both values between 2000 and 2010. However, Saint Michael's small population size may have prevented the ACS from accurately portraying economic conditions.¹⁵ A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for Saint Michael in 2010 is \$7,322,¹⁶ which provides support for an overall decrease in per capita income from 2000 and 2010. This is reflected by the fact that the

⁷ The University of Montana. Wilderness.net. (n.d.): *Andreafsky Wilderness*. Retrieved from <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&WID=11> on March 22, 2012.

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

⁹ Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

¹⁰ Unless otherwise noted, all monetary data are reported in nominal values.

¹¹ See footnote 4.

¹² 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/>.

¹³ 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>.

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

¹⁵ While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

¹⁶ See footnotes 12 and 13.

community was recognized as “distressed” by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.¹⁷ However, it should be noted both ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Saint Michael ranked 250th of 305 Alaskan communities with reported per capita income that year, and 225th of 299 Alaskan communities with reported household income data. Based on the 2006-2010 ACS, in that same year, 68% of the population aged 16 and over was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 21.6%, compared to the statewide unemployment rate of 5.9%. Approximately 45.9% of local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. It should be noted, however, that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Saint Michael are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Saint Michael.¹⁸ An alternative estimate of unemployment is based on the ALARI database, which indicates that the 2010 unemployment rate in Saint Michael was 26.4%, compared to a statewide unemployment rate estimate of 11.5%.¹⁹

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (55.2%), with 44.8% of the workforce employed in the private sector. Out of 105 people age 16 and over that were estimated to be employed in the civilian labor force in 2010, the majority worked in the following industries: education services, health care, or social assistance (49.5%) and public administration (15.2%). The most common occupations in 2010 were management/professional (47.6%), service (21.9%), and sales and office occupations (10.5%). No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in fishing may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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

¹⁸ See footnote 15.

¹⁹ See footnote 12.

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

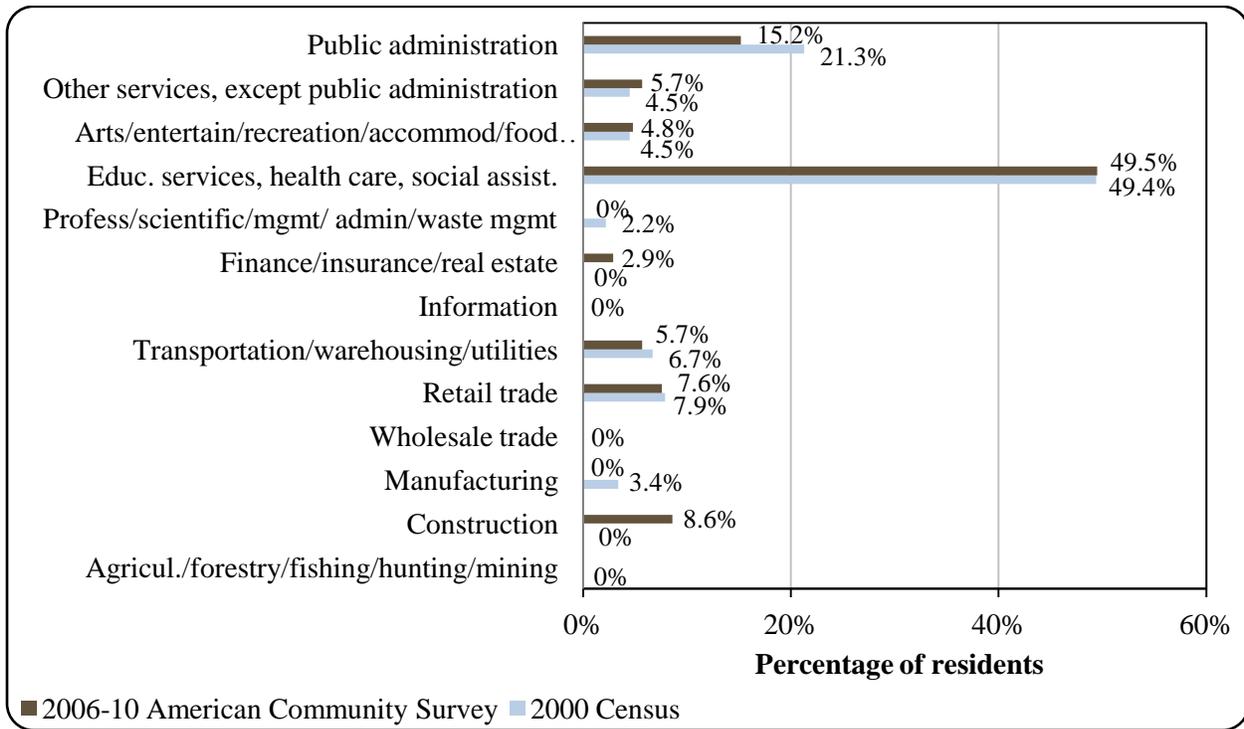
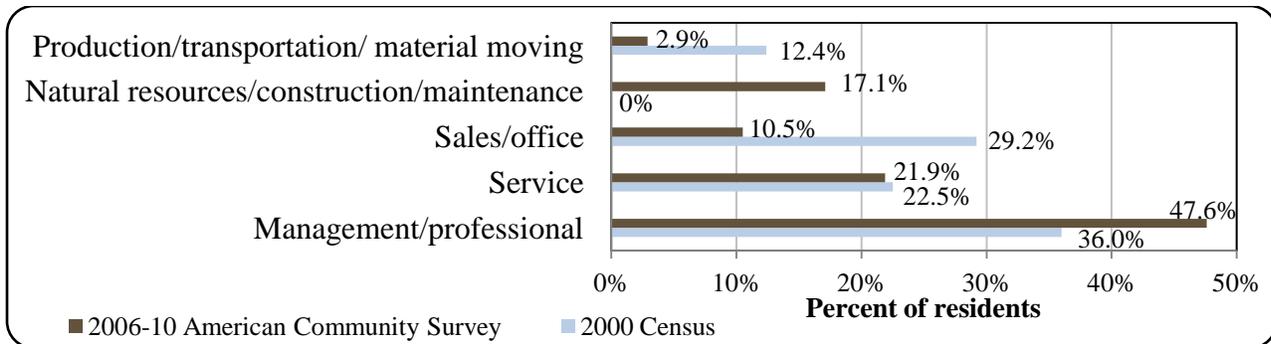


Figure 4. Local Employment by Occupation in 2000-2010, Saint Michael (U.S. Census).



Governance

Saint Michael is a 2nd Class City that was incorporated in 1969, and is not located within an organized borough. Saint Michael is governed by a City Council.²⁰ As of 2010, Saint Michael City administered a 4% sales tax.²¹ In addition to sales tax revenue, other locally-generated revenue sources in Saint Michael between 2000 and 2010 included water/sewer and washeteria/sauna fees, bingo, pull tab, and concessions receipts, fuel sales, building and

²⁰ 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.

²¹ Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 2011 from http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm.

equipment rentals, land leases, and airport and electric facility maintenance contracts. Outside revenue sources included funds from various shared revenue programs, and grants. State shared revenues came from the State Revenue Sharing program from 2000 to 2003 (between \$20,000 and \$35,000 per year), the Community Revenue sharing program in 2009 and 2010 (almost \$120,000 each year), along with revenue in some years from the SAFE Communities program (public safety, utilities, infrastructure, etc.), municipal energy assistance, and raw fish tax and shared fisheries business tax refunds (see the *Fisheries-Related Revenue* section). Federal shared revenues came from the Payment in Lieu of Taxes program. Saint Michael received state grants for suicide prevention efforts, and capital project grants for health clinic expansion, washeteria upgrade, purchase of heavy equipment, and other work on community facilities, among others.

Municipal revenue was higher than average from 2002 to 2004 due to substantial capital project grants in those years. In these years, Saint Michael received between \$2 and \$3.5 million per year from agencies toward water and sewer improvements, including more than \$1 million from the State Village Safe Water program and more than \$1 million from the Indian Health Service for water and sewer improvements in 2002, and more than \$2 million each year in 2003 and 2004 in Rural Development funds from the U.S. Department of Agriculture. Information about selected aspects of community revenue in Saint Michael is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Saint Michael 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 | \$495,831 | \$73,464 | \$34,628 | n/a |
| 2001 | \$424,985 | \$68,909 | \$34,628 | n/a |
| 2002 | \$3,029,450 | \$60,625 | \$23,801 | n/a |
| 2003 | \$4,312,403 | \$72,355 | \$29,789 | n/a |
| 2004 | \$4,402,448 | \$76,094 | n/a | n/a |
| 2005 | \$855,801 | \$90,965 | n/a | n/a |
| 2006 | \$962,499 | \$88,117 | n/a | n/a |
| 2007 | \$987,469 | \$107,350 | n/a | n/a |
| 2008 | \$873,321 | \$118,113 | n/a | n/a |
| 2009 | \$714,051 | \$120,328 | \$118,933 | n/a |
| 2010 | \$757,442 | \$135,528 | \$118,140 | 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.

Saint Michael was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Native Village of Saint Michael. The village corporation is the Saint Michael Native Corporation, which manages 125,440 acres of land. The regional Native corporation to which Saint Michael belongs is the Bering Strait Native Corporation.²²

The Village of Saint Michael is also a member of Kawerak Inc., a tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”²³ Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer services to villages in their regions.²⁴ Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of 18 member villages in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.²⁵

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

Infrastructure

Connectivity and Transportation

Saint Michael is primarily accessible by air and sea, and also via a 10.5 mi road to the City of Stebbins. In addition, primitive roads allow for winter travel to Unalakleet and Kotlik. The State owns a 4,001 ft long by 75 ft wide gravel airstrip. Regular and charter flights are available from Nome and Unalakleet.²⁶ In June 2012, round-trip airfare between Saint Michael and Anchorage was \$620.²⁷ A seaplane base is also available, but infrequently used.²⁸

Saint Michael is near the Yukon River Delta and has a good natural harbor but no dock. Lighterage service is provided on a frequent basis from Nome. Saint Michael receives at least one annual shipment of bulk cargo.²⁹

²² See footnote 20.

²³ Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

²⁴ U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from <http://www.gao.gov/new.items/d05719.pdf>.

²⁵ See footnote 20.

²⁶ Rodney P. Kinney Associates, Inc. (2007). *Saint Michael Long Range Transportation Plan*. Prepared for the Saint Michael IRA Council in cooperation with the Kawerak Transportation Program. Retrieved March 5, 2013 from <http://www.kawerak.org/servicedivisions/csd/trans/LRTP/St.MichaelLRTP.pdf>.

²⁷ Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on November 16, 2011.

²⁸ See footnote 26.

²⁹ See footnote 20.

Facilities

Water is derived from Clear Lake and is treated and stored in a 1.2 million-gallon tank. The system includes water delivery/holding tanks for homes, a piped gravity and vacuum sewer system with septic treatment, and household plumbing. The City operates a washeteria³⁰ which serves as a central watering point for the community. The City also operates a Class 3 landfill, though refuse collection is not provided and residents must haul refuse independently. Electricity is provided by a diesel powerhouse operated by the Alaska Village Electric Cooperative.³¹

Law enforcement services are provided by a Village Public Safety Officer, as well as state troopers based in Nome. There is a community hall and the school has a library.³²

*Medical Services*³³

Medical care is provided by the Katherine Kobuk Memorial Clinic (Saint Michael), which is owned by the City and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal air and floatplane access and are provided by a health aide. The clinic in nearby Stebbins is a qualified Emergency Care Center.

*Educational Opportunities*³⁴

The Anthony A. Andrews School provides instruction for students from pre-school through 12th grade. In 2011 the school had 172 students and 18 teachers.

Involvement in North Pacific Fisheries

History and Evolution of Fisheries

Prior to the arrival of Europeans, subsistence hunting and fishing was the basis of the economy for people living on in the Norton Sound region. Settlements on the west coast of the Seward Peninsula targeted marine mammals, and other people moved between seasonal settlements to access fish and wildlife resources. Today, residents of Saint Michael are active in commercial and subsistence fisheries, and recreational fishing is growing in the area as well.³⁵ Between 2000 and 2010, Saint Michael residents were most engaged in commercial fisheries for salmon and herring, and a number of crab permits were also acquired by residents in 2010 (see *Commercial Fisheries* section below).

³⁰ “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

³¹ 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.

³² Ibid.

³³ Ibid.

³⁴ Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

³⁵ Norton Sound Steering Committee, Scientific Technical Committee. 2003. *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the United States in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then. Saint Michael is located west of the southernmost of six Norton Sound salmon subdistricts (Subdistrict 6 – Unalakleet).³⁶

Commercial catch of herring for human consumption began in Alaska in 1878, commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. King crab fisheries developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery. Today, Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.³⁷ In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.³⁸

Saint Michael is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Saint Michael participates in the Community Development Quota (CDQ) program. In 1995, management of the Pacific halibut and sablefish fisheries shifted from limited entry to a catch share program. The program includes allocation of the annual Total Allowable Catch (TAC) of halibut and sablefish via Individual Fishing Quota (IFQ). In the Bering Sea – Aleutian Islands (BSAI) region, quota shares are also allocated to six CDQ non-profit organizations representing 65 communities in Western Alaska.³⁹ The CDQ non-profit representing the Native Village of Saint Michael is the Norton Sound Economic Development Corporation (NSEDCC), which promotes training and employment opportunities for residents, community and development programs for member villages, and offers loans to facilitate involvement of locals in Bering Sea crab and groundfish fisheries.⁴⁰ In 2010, the

³⁶ Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf.

³⁷ Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

³⁸ Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

³⁹ Fina, Mark. 2011. Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf.

⁴⁰ Norton Sound Economic Development Corporation. 2003. *Homepage*. Retrieved February 21, 2012 from <http://www.nsedc.com/>.

NSEDC received an allocation of 146,250 pounds of CDQ halibut quota, all of which was allocated for harvest within Area 4D.⁴¹ Total BSAI sablefish CDQ allocations in 2009 and 2011 were 1.3 million lbs in each year. No sablefish CDQ report was available from NOAA for the 2010 season.⁴² Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the CDQ allocations.⁴³ Saint Michael is not eligible to participate in the Community Quota Entity program.

Processing Plants

According to ADF&G's 2010 Intent to Operate list, Saint Michael did not have a registered processing plant. The nearest registered processing plant was located in Unalakleet.

Fisheries-Related Revenue

Between 2000 and 2010, Saint Michael received a small amount of revenue from the Shared Fisheries Business Tax (Table 3). No other fisheries-related revenue sources were reported in Saint Michael during the 2000-2010 period.⁴⁴

Commercial Fishing

Between 2000 and 2009, between 5 and 8 Saint Michael residents held commercial fishing permits, and in 2010 this number increased to 15. In 2010, residents of Saint Michael held crab, herring, and salmon permits issued by the Commercial Fisheries Entry Commission (CFEC). Overall, the percentage of permits reported as actively fished in each year between 2000 and 2010 varied substantially between 11% and 57%. In 2010, 29% of the overall permits held by Saint Michael residents were reported as actively fished (Table 4). In 2010, herring CFEC permits were issued for the Norton Sound gillnet fishery, while crab CFEC permits were issued for the Norton Sound king crab pot fishery using vessels under 60 ft. The majority of the salmon CFEC permits issued in 2010 were for the Lower Yukon gillnet fishery, with the remainder issued for the Norton Sound gillnet fishery.

Between 2000 and 2010, the number of crew license holders in Saint Michael varied between 2 and 13, with 11 crew license holders in 2010. While two commercial fishing vessels were primarily owned by Saint Michael residents in 2010 and one vessel was homeported in Saint Michael, there were no fish buyers, shore-side processing facilities, or vessels landing catch in the community. While the numbers of crew license holders, vessels primarily owned by Saint Michael residents, and vessels homeported varied widely between 2000 and 2010, the number of fish buyers, shore-side processing facilities, and vessels landing catch in the community remained stable for each year of this period (Table 5).

⁴¹ NOAA National Marine Fisheries Service. 2010. *Memorandum: 2010 Community Development Quota (CDQ) Halibut Allocations*. Retrieved January 8, 2013 from <http://www.fakr.noaa.gov/ram/10ifqcdqtac.pdf>.

⁴² NOAA National Marine Fisheries Service. (n.d.). *IFQ Halibut/Sablefish Reports and CDQ Halibut Program Reports*. Retrieved February 22, 2013 from <http://www.fakr.noaa.gov/ram/ifqreports.htm>.

⁴³ International Pacific Halibut Commission. 2012. *Pacific Halibut Fishery Regulations 2012*. Retrieved October 16, 2012 from <http://www.iphc.int/publications/regs/2012iphcregs.pdf>.

⁴⁴ A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

Between 2000 and 2010, no residents of Saint Michael held quota share accounts or quota share allotments in federal catch share fisheries for halibut, sablefish, or crab (Tables 6, 7, and 8). Additionally, no landings were reported in Saint Michael for any commercial species between 2000 and 2010 (Table 9). With the exception of herring landings in 2000, landings and ex-vessel value generated by Saint Michael vessel owners are considered confidential due to the small number of participants between 2000 and 2010. In the year 2000, Saint Michael vessel owners landed 143,342 net lbs of herring valued at \$12,901 in ex-vessel revenue (Table 10).

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

| Revenue source | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------------|------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Raw fish tax ¹ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Shared Fisheries Business Tax ¹ | \$64 | \$134 | \$189 | n/a | \$75 | \$194 | \$231 | \$182 | \$100 | \$74 | \$89 |
| Fisheries Resource Landing Tax ¹ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Fuel transfer tax ² | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Extraterritorial fish tax ² | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Bulk fuel transfers ¹ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Boat hauls ² | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Harbor usage ² | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Port/dock usage ² | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Fishing gear storage on public land ³ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Marine fuel sales tax ³ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| <i>Total fisheries- related revenue⁴</i> | <i>\$64</i> | <i>\$134</i> | <i>\$189</i> | <i>n/a</i> | <i>\$75</i> | <i>\$194</i> | <i>\$231</i> | <i>\$182</i> | <i>\$100</i> | <i>\$74</i> | <i>\$89</i> |
| <i>Total municipal revenue⁵</i> | <i>\$495,831</i> | <i>\$424,985</i> | <i>\$3,029,450</i> | <i>\$4,312,403</i> | <i>\$4,402,448</i> | <i>\$855,801</i> | <i>\$962,499</i> | <i>\$987,469</i> | <i>\$873,321</i> | <i>\$714,051</i> | <i>\$757,442</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 financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm.

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

| Species | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|----------------------|------|------|------|------|------|------|------|------|------|------|------|
| Groundfish (LLP) ¹ | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Active permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab (LLP) ¹ | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Active permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Federal Fisheries Permits ¹ | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab (CFEC) ² | Total permits | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | 14% |
| | Total permit holders | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Other shellfish (CFEC) ² | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Halibut (CFEC) ² | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Herring (CFEC) ² | Total permits | 6 | 7 | 5 | 6 | 4 | 4 | 5 | 4 | 5 | 4 | 4 |
| | Fished permits | 3 | 3 | 2 | 2 | 0 | 2 | 3 | 0 | 0 | 0 | 2 |
| | % of permits fished | 50% | 43% | 40% | 33% | - | 50% | 60% | - | - | - | 50% |
| | Total permit holders | 7 | 8 | 6 | 7 | 4 | 4 | 5 | 4 | 5 | 4 | 4 |

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

| Species | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---------------------------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Sablefish (CFEC) ² | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish (CFEC) ² | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Finfish (CFEC) ² | Total permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Fished permits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % of permits fished | - | - | - | - | - | - | - | - | - | - | - |
| | Total permit holders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Salmon (CFEC) ² | Total permits | 1 | 1 | 2 | 4 | 5 | 4 | 4 | 5 | 6 | 5 | 6 |
| | Fished permits | 0 | 0 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 1 | 2 |
| | % of permits fished | - | - | 100% | 50% | 20% | 50% | 25% | 40% | 50% | 20% | 33% |
| | Total permit holders | 1 | 1 | 2 | 3 | 4 | 3 | 3 | 4 | 5 | 5 | 6 |
| <i>Total CFEC Permits²</i> | <i>Permits</i> | 8 | 9 | 7 | 10 | 9 | 8 | 9 | 9 | 11 | 9 | 17 |
| | <i>Fished permits</i> | 3 | 3 | 4 | 4 | 1 | 4 | 4 | 2 | 3 | 1 | 5 |
| | <i>% of permits fished</i> | 38% | 33% | 57% | 40% | 11% | 50% | 44% | 22% | 27% | 11% | 29% |
| | <i>Permit holders</i> | 7 | 8 | 7 | 8 | 6 | 5 | 6 | 6 | 8 | 7 | 15 |

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

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

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

| Year | Crew License Holders ¹ | Count Of All Fish Buyers ² | Count Of Shore-Side Processing Facilities ³ | Vessels Primarily Owned By Residents ⁴ | Vessels Homeported ⁴ | Vessels Landing Catch In Saint Michael ² | Total Net Pounds Landed In Saint Michael ^{2,5} | Total Ex-Vessel Value Of Landings In Saint Michael ^{2,5} |
|------|-----------------------------------|---------------------------------------|--|---|---------------------------------|---|---|---|
| 2000 | 13 | 0 | 0 | 5 | 5 | 0 | 0 | \$0 |
| 2001 | 12 | 0 | 0 | 6 | 5 | 0 | 0 | \$0 |
| 2002 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | \$0 |
| 2003 | 12 | 0 | 0 | 5 | 4 | 0 | 0 | \$0 |
| 2004 | 2 | 0 | 0 | 3 | 2 | 0 | 0 | \$0 |
| 2005 | 8 | 0 | 0 | 3 | 2 | 0 | 0 | \$0 |
| 2006 | 13 | 0 | 0 | 4 | 3 | 0 | 0 | \$0 |
| 2007 | 5 | 0 | 0 | 2 | 1 | 0 | 0 | \$0 |
| 2008 | 2 | 0 | 0 | 4 | 3 | 0 | 0 | \$0 |
| 2009 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | \$0 |
| 2010 | 11 | 0 | 0 | 2 | 1 | 0 | 0 | \$0 |

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

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

³ Totals only represent non-confidential data.

⁴ 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.]

⁵ 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 6. Halibut Catch Share Program Participation in Saint Michael: 2000-2010.

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

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

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

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

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

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

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

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

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

| | <i>Total Net Pounds¹</i> | | | | | | | | | | |
|--------------------------|---|------|------|------|------|------|------|------|------|------|------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Crab | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Finfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Halibut | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Herring | 143,342 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Groundfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Shellfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pacific Cod | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pollock | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Sablefish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Salmon | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Total²</i> | <i>143,342</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 | \$12,901 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Groundfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Shellfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pacific Cod | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pollock | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Sablefish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Salmon | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| <i>Total²</i> | <i>\$12,901</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

According to the ADF&G Statewide Harvest Survey,⁴⁵ coho salmon, chum salmon, whitefish, Arctic grayling, and northern pike are caught by private anglers in Saint Michael. Although one sport fish guide business was registered in the community in all but one year between 2000 and 2010, the business was not active in any year during the period. The number of licensed sport fish guides residing in Saint Michael generally declined over the same period, from seven in 2001 and 2002 to two in 2010. The number of sport fishing licenses purchase by Saint Michael residents (irrespective of point of sale) varied between 13 and 41 per year during the 2000-2010 period. No sport fishing licenses were sold within the community of Saint Michael during the decade, suggesting that Saint Michael residents travel to other communities to purchase licenses and prepare for recreational fishing activity.

Saint Michael is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between 0 and 28 non-Alaska resident angler days fished per year, and between 0 and 108 Alaska resident angler days fished per year. A majority of sport fishing activity occurred in freshwater, with non-Alaska resident anglers fishing consistently more angler days (12,624 – 17,582 angler days per year) than Alaska resident anglers (5,166 – 9,152 angler days per year). This information about the sport fishing sector in and near Saint Michael is displayed in Table 11.

Table 11. Sport Fishing Trends, Saint Michael: 2000-2010.

| Year | Active Sport Fish Guide Businesses¹ | Sport Fish Guide Licenses¹ | Sport Fishing Licenses Sold to Residents² | Sport Fishing Licenses Sold in Saint Michael² |
|-------------|---|--|---|---|
| 2000 | 0 | 4 | 14 | 0 |
| 2001 | 0 | 7 | 28 | 0 |
| 2002 | 0 | 7 | 13 | 0 |
| 2003 | 0 | 6 | 23 | 0 |
| 2004 | 0 | 5 | 15 | 0 |
| 2005 | 0 | 2 | 19 | 0 |
| 2006 | 0 | 2 | 24 | 0 |
| 2007 | 0 | 2 | 21 | 0 |
| 2008 | 0 | 0 | 20 | 0 |
| 2009 | 0 | 1 | 26 | 0 |
| 2010 | 0 | 2 | 41 | 0 |

⁴⁵ Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

Table 11, Cont. Sport Fishing Trends, Saint Michael: 2000-2010.

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

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

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

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

Subsistence Fishing

The Saint Michael economy is based on subsistence food harvests supplemented by part-time wage earning. Seal, beluga whale, moose, caribou, fish, and berries are important staples.⁴⁶ While data were not available regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12), subsistence salmon permit data show levels of participation and harvest between 2000 and 2008 (Table 13). The number of subsistence salmon permits issued and returned, as well as harvest levels for chum salmon, coho salmon, and pink salmon remained relatively stable between 2000 and 2007, though in 2007 the number of sockeye salmon reported harvested decreased from that in previous years. In 2008, the last year for which data were available, the number of permits issued and returned as well as the harvest numbers for the various species of salmon decreased substantially from previous years. Data were not available on subsistence halibut fishing participation between 2000 and 2010 (Table 14). Data reported by NMFS show regular harvest of beluga whales between 2000 and 2006, though the amount of individual animals harvested in each year is variable, while data reported by the U.S. FWS show one walrus harvested for subsistence use in 2006. No data were available from management agencies regarding harvest of sea otter, Steller sea lion, harbor seal, or spotted seal between 2000 and 2010 (Table 15).

⁴⁶ Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm.

Table 12. Subsistence Participation by Household and Species, Saint Michael: 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, Saint Michael: 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 | 85 | 80 | 160 | 1,381 | 1,180 | 80 | 16 | n/a | n/a |
| 2001 | 90 | 74 | 282 | 2,246 | 490 | 229 | 17 | n/a | n/a |
| 2002 | 93 | 90 | 227 | 1,136 | 989 | 583 | 20 | n/a | n/a |
| 2003 | 94 | 85 | 295 | 1,994 | 1,438 | 577 | 89 | n/a | n/a |
| 2004 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 2005 | 96 | 88 | 805 | 2,916 | 1,208 | 1,405 | 49 | n/a | n/a |
| 2006 | 97 | 94 | 246 | 2,383 | 1,138 | 435 | 315 | n/a | n/a |
| 2007 | 115 | 103 | 452 | 2,119 | 622 | 265 | 9 | n/a | n/a |
| 2008 | 70 | 40 | 35 | 229 | 58 | n/a | n/a | n/a | n/a |
| 2009 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 2010 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |

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

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

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

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

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

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

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

Table 15. Subsistence Harvests of Marine Mammal Resources, Saint Michael: 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 | 8 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2001 | 21 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2002 | 13 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2003 | 2 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2004 | 3 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2005 | 6 | n/a | n/a | n/a | n/a | n/a | n/a |
| 2006 | 5 | n/a | 1 | 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.