

## **Togiak (TOAG-ee-ack)**



### **People and Place**

#### *Location*<sup>1</sup>

Togiak is located at the head of Togiak Bay, 67 miles west of Dillingham and approximately 400 miles southwest of Anchorage. It lies in the Togiak National Wildlife Refuge and is the gateway to Walrus Island Game Sanctuary. The community encompasses 45.2 square miles of land and 183.3 square miles of water. Togiak was incorporated as a 2<sup>nd</sup> Class city in 1969, is located within the Dillingham Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>2</sup>

There were 817 inhabitants in Togiak in 2010, making it the 77<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Togiak grew by 1.36%, though the average annual growth rate during that period was -0.26%, indicating a very slow rate of decline (Table 1).

In 2010, a majority of Togiak residents identified themselves as American Indian and Alaska Native (78%) (Figure 1). Other ethnic groups present in Togiak that year included White (5.5%), two or more races (15.9%), Hispanic or Latino (1.8%), some other race (0.2%), Black or African American (0.2%), and Native Hawaiian or Other Pacific Islander (0.1%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native fell by 8.3%, and the percentage of the population identifying themselves as White also decreased. During this period, there were corresponding increases in the percentages of the population identifying themselves as two or more races, Native Hawaiian and Other Pacific Islander, Black or African American, and Hispanic or Latino.

The average household size in Togiak in 2010 was 3.54, a decrease from 4.0 persons per household in both 1990 and 2000. There were a total of 261 housing units that year, compared to 200 in 1990 and 221 in 2000. Of the households surveyed in 2010, 61.3% were owner-occupied, compared to 74.7% in 2000; 27.2% were renter-occupied, compared to 16.7% in 2000; 9.2% were vacant, compared to 5.4% in 2000; and 2.3% were occupied seasonally, compared to 3.2% in 2000. No residents lived in group quarters between 1990 and 2010.

In 2010, the gender makeup in Togiak was 52.0% male and 48.0% female, which was the same as the statewide distribution (52.0% male, 48.0% female) and less even than the distribution in 2000 (50.3% male, 49.7% female). The median age was estimated to be 24.5 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska,

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<sup>1</sup> 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](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>2</sup> 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>.

33.8 years. In 2010 the largest percentage of the population fell within the age group 0-19 years old, with the next largest percentage falling within the age group 40-59 years old. Relatively few individuals were age 60 or older (Figure 2).

According to the 2006-10 American Community Survey,<sup>3</sup> in terms of educational attainment, 64.6% of Togiak residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 23.5% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 11.9% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 33.2% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 2.7% were estimated to have an Associate’s degree, compared to 8% of Alaskan residents overall; and 1.5% were estimated to have a Bachelor’s degree, compared to 17.4% of Alaskan residents overall.

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

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	613	-
2000	809	-
2001	-	787
2002	-	809
2003	-	820
2004	-	803
2005	-	779
2006	-	783
2007	-	786
2008	-	801
2009	-	820
2010	817	-

<sup>1</sup> (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>.

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

<sup>3</sup> 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.

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

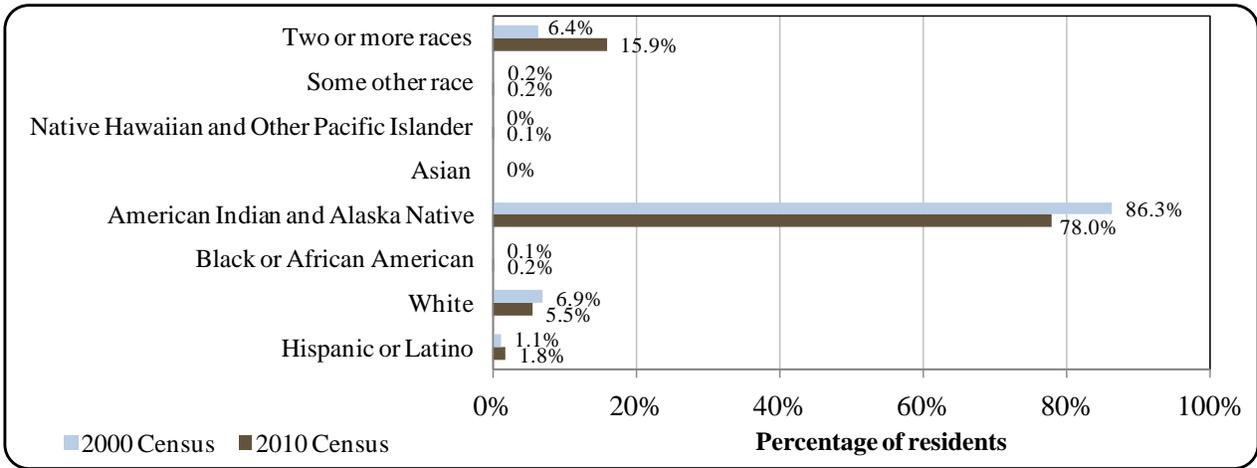
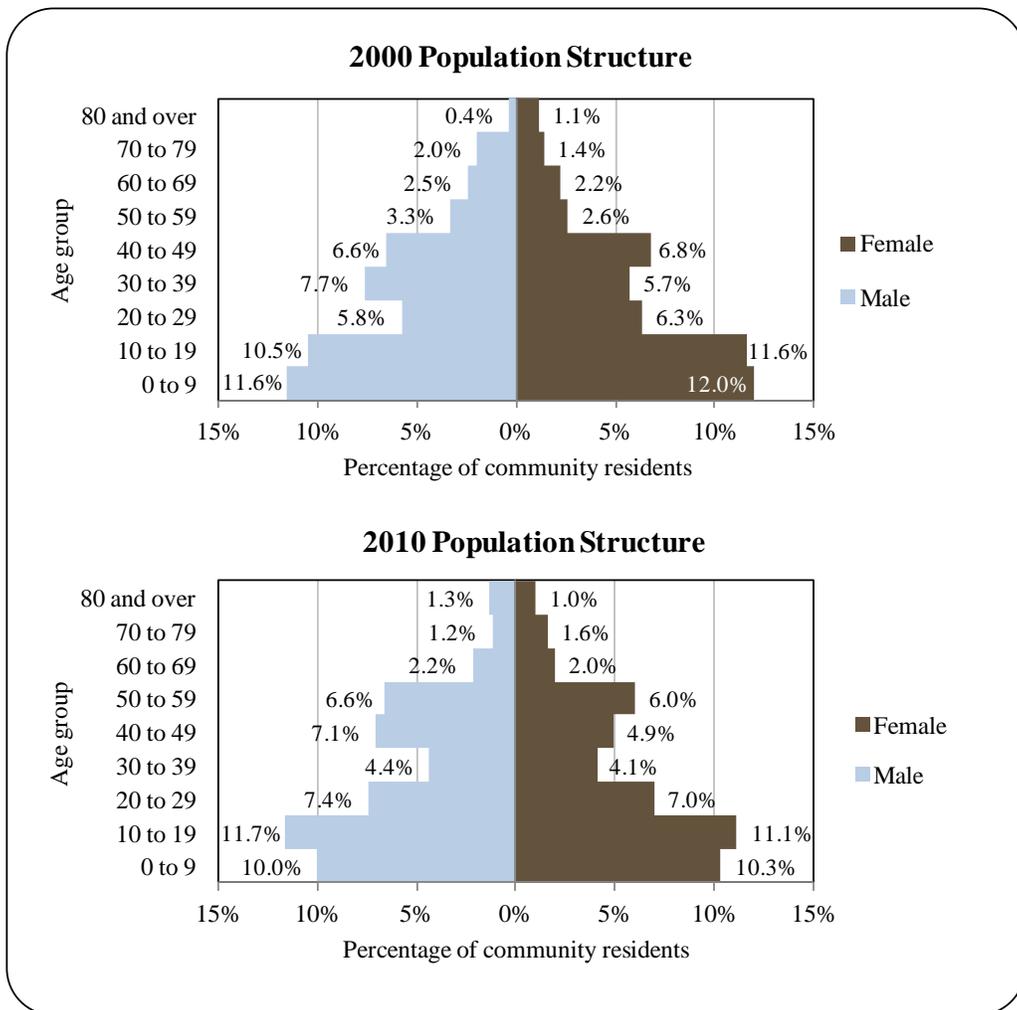


Figure 2. Population Age Structure in Togiak Based on the 2000 and 2010 U.S. Decennial Census.



### *History, Traditional Knowledge, and Culture*<sup>4</sup>

Togiak first appeared in the records of Lt. Gavrilla Sarichev of the Imperial Russian Navy between 1790 and 1792. The village was later recorded on maps produced between 1836 and 1850 by the Russian America Company.<sup>5</sup> In 1880, “Old Togiak” or “Togiagamute” was located across the bay and had a population of 276. Heavy winter snowfalls made wood-gathering difficult at Old Togiak, so gradually people settled at a new site on the opposite shore, where the task was easier. Many residents of the Yukon-Kuskokwim region migrated south to the Togiak area after a devastating influenza epidemic in 1918-19. A school was established in an old church in 1950. A school building and a National Guard armory were constructed in 1959. Togiak was flooded in 1964, and many fish racks and stores of gas, fuel oil, and stove oil were destroyed. Three or four households left Togiak after the flood and developed the village of Twin Hills upriver. The city government was incorporated in 1969. Today, Togiak is a traditional Yup’ik Eskimo village with that is dependent on fishing and a subsistence lifestyle. The sale, importation, and possession of alcohol is banned in the village.

### **Natural Resources and Environment**<sup>6</sup>

Togiak is located in a climatic transition zone; however, the arctic climate also affects this region. Average summer temperatures range from 37 to 66 °F (2.8 to 18.9 °C); winter temperatures average 4 to 30 °F (-15.6 to -1.1 °C). Precipitation averages 20 to 26 inches annually. Fog and high winds are prevalent during the winter. The bay is ice-free from June through mid-November.

Togiak is located within the Togiak National Wildlife Refuge (TNWR), an area that is managed by the U.S. Fish and Wildlife Service (FWS). The following information is from the FWS.<sup>7</sup> The TNWR totals 4.7 million acres. Almost half of these lands, the northern 2.3 million acres, are designated as the Togiak Wilderness Area. This constitutes the second largest contiguous Wilderness Area within the National Wildlife Refuge System. The TNWR was established to conserve fish and wildlife populations and habitats in their natural diversity including salmon, marine birds and mammals, migratory birds, and large mammals, to fulfill international treaty obligations; to provide for continued subsistence use; and to ensure necessary water quality and quantity. Special values of the TNWR include the Togiak Wilderness Area, the Kanektok, Goodnews and Togiak river drainages, and sportfishing. The wild lands of the refuge, including the Togiak Wilderness Area, provide valuable and diverse habitat for the fish and wildlife that make the area their home. The conservation of freshwater streams and rivers, wetland and alpine tundra, boreal forests, and coastal cliffs and beaches allow an amazing diversity of species to find suitable homes here. The lands also offer amazing opportunities for recreation and education.<sup>8</sup>

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<sup>4</sup> 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](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>5</sup> Tryck Consulting. (2006). *Togiak Comprehensive Plan*. Retrieved July 11, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Togiak-CP-2006.pdf>.

<sup>6</sup> Ibid.

<sup>7</sup> U.S. Fish and Wildlife Service (2011). *Togiak National Wildlife Refuge*. Retrieved from <http://togiak.fws.gov/> on April 9, 2012.

<sup>8</sup> U.S. Fish and Wildlife Service (2011). *Togiak National Wildlife Refuge: Wildlands*. Retrieved from <http://togiak.fws.gov/wildland.htm> on April 9, 2012.

The TNWR protects habitat that produces nearly 3 million Chinook, sockeye, chum, pink and coho salmon, and 27 other fish species. These fish species are the primary subsistence resource for residents of seven local villages. Fishery resources in this area of Alaska are economically important for commercial fisheries valued at over 8 million dollars, as well as a 6 million dollar sport fishery. Ensuring that adequate numbers of each fish species are allowed to spawn in each drainage is key to this region's aquatic and terrestrial ecosystems. The TNWR also contains prime habitat for several other fish species, including rainbow trout, Arctic grayling, Dolly Varden, and Arctic char. Anglers come from around the world for an opportunity to pursue these prized fish species. The TNWR is working to further our understanding of these fish species.

The TNWR conserves habitat for at least 201 staging, migrating, or breeding bird species. Bird species groups include landbirds, shorebirds, seabirds, raptors, and waterfowl. Birds from the North American Pacific Flyway and several Asiatic routes funnel through the area. It is home to more than 30 species of terrestrial mammals. With a wide variety of habitats, the TNWR supports brown bear, moose, caribou, wolves, and many smaller mammals. The Nushagak Peninsula, in the southeastern portion of the TNWR, was the site of a 1988 caribou reintroduction, and the caribou population continues to grow. Moose populations on the refuge have increased substantially in recent years as well, much to the delight of local people. Lynx and wolverines continue their elusive ways, seldom seen except for tracks they leave in the snow. In addition, 17 species of marine mammals are found along the coastline. The TNWR has haulout sites that provide animals a place to rest after feeding forays in the Bering Sea. Cape Peirce, on the southwestern tip of the TNWR, is one of only two regularly used land-based haulouts for Pacific walrus in North America. Up to 12,000 male walrus may haul out here at one time. Endangered Steller sea lions use haulouts within the TNWR, as do harbor and spotted seals. Marine and terrestrial mammals are important food resources for local village residents, and are important in the local tourism economy as well.<sup>9</sup>

Togiak is also the gateway to the Walrus Islands State Game Sanctuary (WISGS), an area managed by the Alaska Department of Fish and Game (ADF&G). The sanctuary protects a group of seven small craggy islands and their adjacent waters in northern Bristol Bay, approximately 65 miles southwest of Dillingham. The WISGS includes Round Island, Summit Island, Crooked Island, High Island, Black Rock and The Twins. The WISGS was established in 1960 to protect one of the largest terrestrial haulout sites in North America for Pacific walrus (*Odobenus rosmarus divergens*). The sanctuary also protects important habitats for several species of seabirds, Steller sea lions (*Eumetopias jubatus*) and other marine and terrestrial birds and mammals. The ADF&G manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources including the opportunity for scientific and educational study, viewing, and photography.<sup>10</sup>

Reserves of oil and natural gas are also thought to be present on the continental shelf in the Bristol Bay Basin, along the northern edge of the Aleutian Islands and Alaska Peninsula.<sup>11</sup> However, given the importance of Bristol Bay fisheries to the nation and the proximity of the

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<sup>9</sup> U.S. Fish and Wildlife Service. 2011. Togiak National Wildlife Refuge: Wildlife. Retrieved from <http://togiak.fws.gov/wildlife.htm> on April 9, 2012.

<sup>10</sup> Alaska Department of Fish and Game. 2011. Walrus Islands State Game Sanctuary: Area Overview. Retrieved from <http://www.adfg.alaska.gov/index.cfm?ADFG=walrusislands.main> on April 9, 2012.

<sup>11</sup> Alaska Department of Natural Resources. 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.<sup>12</sup> On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.<sup>13</sup>

The Bristol Bay area is at risk of earthquakes and volcanic activity, landslides and avalanches, flooding and erosion, storm surges, a majority of earthquake activity takes place to the south of the Alaska Peninsula, in the Aleutian trench. As a result, communities located on the south side of the Peninsula are more vulnerable to tsunamis than communities inside the Bay. Soils in Bristol Bay are made up largely of glacial till left behind in moraines, and depending on slope, saturation, loading, or earthquake activity, these soils have a potential to slide. Floods are a potential hazard on almost every river in the Bristol Bay region. They can be caused by spring snowmelt and breakup, river ice jams, and heavy rainfall. There is also potential for climate change to augment erosion, as coastal areas of Alaska are freezing later in the season, leaving coastal areas more vulnerable to fall storms and storm surges. Changing temperatures also have the potential to shift distribution of fish and wildlife, with possible consequences for commercial and subsistence activities.<sup>14</sup>

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Togiak in 2010.<sup>15</sup>

## **Current Economy<sup>16</sup>**

Togiak's economic base is primarily commercial salmon, herring, and herring roe-on-kelp fisheries. In 2010, 224 residents held commercial fishing permits; fishermen use flat-bottom boats for the shallow waters of Togiak Bay. There is one on-shore fish processor and several floating processing facilities near Togiak. The entire community depends heavily on subsistence activities. Salmon, herring, seal, sea lion, whale, and walrus are among the species harvested. A few residents trap.<sup>17</sup> Top employers in 2010<sup>18</sup> included: Southwest Region Schools, City of Togiak, Alaska Commercial Co., Togiak Seafoods, Bristol Bay Area Health Corp., Bristol Bay Native Association, Traditional Council of Togiak, Omni Enterprises Inc., Togiak Native Ltd., and Alaska Island Air Inc.

In 2010, the per capita income in Togiak was estimated to be \$10,406 and the median household income was estimated to be \$42,813, compared to \$9,676 and \$23,977 in 2000,

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<sup>12</sup> Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf>.

<sup>13</sup> The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from <http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf>.

<sup>14</sup> Glenn Gray and Associates. 2008. *Bristol Bay Coastal Resource Service Area Coastal Management Plan*. Retrieved February 7, 2012 from [http://alaskacoast.state.ak.us/District/DistrictPlans\\_Final/BBCRSA/BB\\_Final\\_Plan\\_Amendment.pdf](http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BBCRSA/BB_Final_Plan_Amendment.pdf).

<sup>15</sup> Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved January 28, 2013 from: <http://www.dec.state.ak.us/spar/csp/list.htm>.

<sup>16</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>17</sup> See footnote 4.

<sup>18</sup> 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/>.

respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>19</sup> the real per capita income in 2000 is shown to have been \$12,724 and the real 2000 median household income was \$31,529. This shows that per capita income decreased over the period, while there was a real increase in median household income. In 2010, Togiak ranked 267<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 177<sup>th</sup> of 299 Alaskan communities with household income data. However, Togiak's small population size may have prevented the American Community Survey (ACS) from accurately portraying economic conditions.<sup>20</sup> A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, the per capita income in Togiak in 2010 was \$5,338, which indicates a more significant decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>21</sup> This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>22</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in the same year, 47% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 30.9%, compared to the statewide unemployment rate of 5.9%. Approximately 16.6% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Togiak 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 Togiak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 14.3%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (63.5%), while 32.4% were employed in the private sector and 4.1% were self-employed. Out of 170 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (34%), retail trade (26.3%), public administration (12.8%), and transportation, warehousing, and utilities (12.2%). Smaller percentages of the workforce were employed in manufacturing (8.3%), other services, except public administration (4.5%), and construction (1.9%) (Figures 3 and 4). According to 2010 ALARI estimates,<sup>23</sup> most (45.9%) employed residents worked in local government sectors; followed by trade, transportation, and utilities (19.2%); education and health service (9.4%); and manufacturing (8.6%) sectors.

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<sup>19</sup> 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>).

<sup>20</sup> 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.

<sup>21</sup> See footnote 18.

<sup>22</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>23</sup> See footnote 18.

According to the 2006-2010 ACS, no residents were estimated to work in agriculture, forestry, hunting, or mining sectors. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed fishing industries is likely underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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

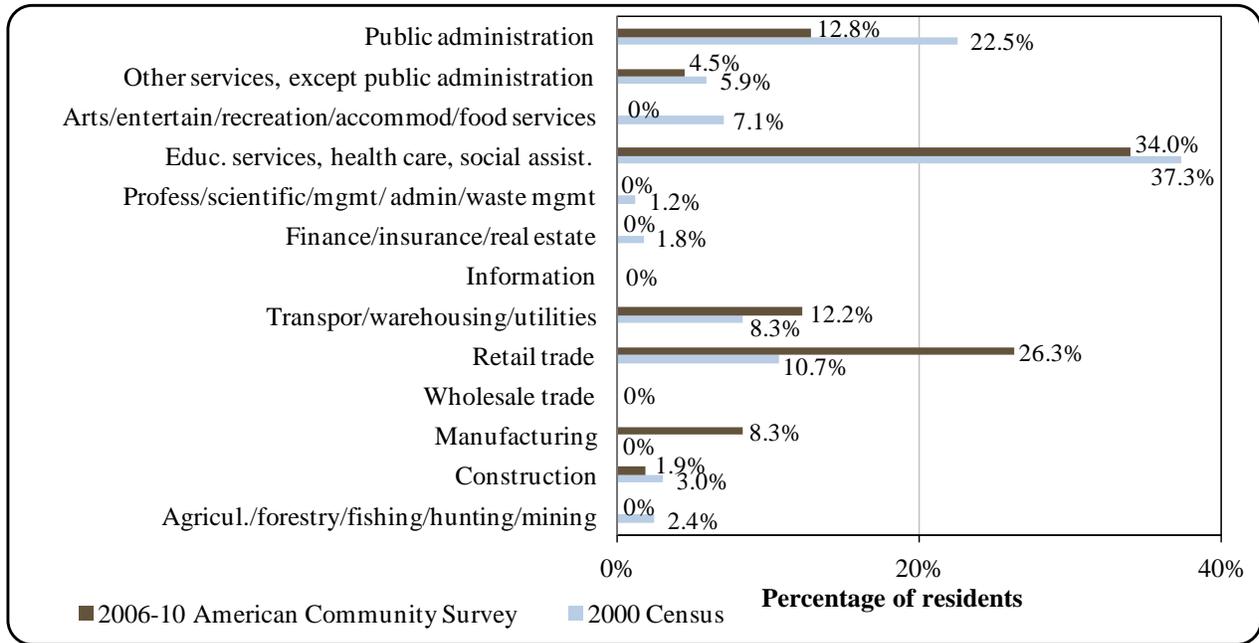
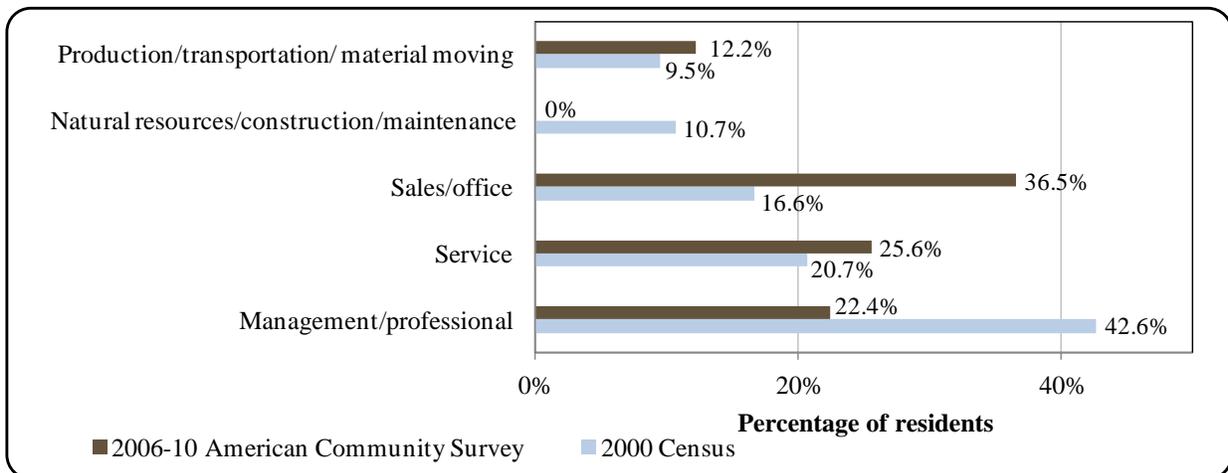


Figure 4. Local Employment by Occupation in 2000-2010, Togiak (U.S. Census).



## Governance

Togiak is a Second-class city located in the Dillingham Borough. Total municipal revenue received by the city was highly variable between 2000 and 2010. The city of Togiak administered a 2% sales tax in 2010. Total municipal revenue was taken from *Certified Financial Statements* and financial audits (financial audits were used for 2002 through 2005, and 2008 figures.)<sup>24</sup> When adjusted for inflation,<sup>25</sup> total municipal revenues declined by 21.1% between 2000 and 2010 from \$1.07 million, to \$1.09 million. Yearly revenues were somewhat variable, peaking in 2004 at \$1.47 million; thanks in part to sizable state and federal grants. In 2010, general fund revenues accounted for 82.1% of total municipal revenues, while utility, clinic, and grant revenues accounted for the remainder. In that year, 64.6% of general fund revenues were collected locally, while the remaining came from state revenue sharing sources. Of those locally generated revenues, most (21.3%) were collected from gravel sales, followed by sales taxes (20.6%), equipment rentals (15.0%), and raw fish taxes (10.9%). Most (44.5%) outside revenues were collected from federal payments in lieu of taxes, followed by state allocated Community Revenue Sharing (43.7%). Sales tax revenues accounted for 10.9% of total municipal revenues in 2010, compared to 5.5% in 2000. Community Revenue Sharing accounted for 12.6% of total revenues in 2010, compared to 2.5% from State Revenue Sharing in 2000. No fisheries-related grants were awarded to Togiak between 2000 and 2010. Information regarding municipal finances can be found in Table 2.

Togiak was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The authorized traditional entity, recognized by the Bureau of Indian Affairs (BIA), is Togiak Natives Limited. The regional Native corporation to which Togiak belongs is the Bristol Bay Native Corporation (BBNC). Formed under ANCSA, BBNC has approximately 9,000 shareholders who are Eskimo, Indian, and Aleut. BBNC is a diversified company with investment and business holdings in oilfield and industrial services, construction, government contracting and petroleum distribution. The foundation of BBNC is based on their land and their shareholders. BBNC's founders took their knowledge of the land and culture and built BBNC into a diversified corporation with more than \$1 billion in annual revenue. This revenue has been shared with BBNC's 8,000 shareholders, who have received more than \$70 million in dividends since BBNC's inception. BBNC has been and continues to be a major contributor to Alaska's economy.<sup>26</sup>

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

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<sup>24</sup> 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](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>25</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

<sup>26</sup> Bristol Bay Native Corporation (2007). *Who We Are*. Retrieved on May 12, 2012 from <http://www.bbnc.net/index.php/who-we-are11>.

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

Year	Total Municipal Revenue <sup>1</sup>	Sales Tax Revenue <sup>2</sup>	State/Community Revenue Sharing <sup>3,4</sup>	Fisheries-Related Grants (State and Federal) <sup>5</sup>
2000	\$1,067,504	\$59,213	\$27,128	n/a
2001	\$851,591	\$64,998	\$26,159	n/a
2002	\$709,105	\$70,728	\$26,155	n/a
2003	\$551,257	\$73,993	\$26,282	n/a
2004	\$1,467,121	\$32,680	-	n/a
2005	\$648,505	\$88,347	-	n/a
2006	\$730,804	\$98,281	-	n/a
2007	\$904,380	\$88,603	-	n/a
2008	\$843,642	\$90,430	-	n/a
2009	\$1,430,811	\$106,155	\$136,913	n/a
2010	\$1,088,817	\$118,933	\$137,124	n/a

<sup>1</sup> 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](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>2</sup> 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](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

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

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

<sup>5</sup> 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](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm).

## Infrastructure

### *Connectivity and Transportation*

A state-owned 4,400-ft long by 75-ft wide lighted gravel airstrip with a 981-ft long by 59-ft wide crosswind airstrip is available. Scheduled and chartered flights are dispatched from Dillingham. Round-trip airfare between Togiak and Anchorage in June 2012 was \$864.<sup>27</sup> Freight is brought in by air or barge and lightered to shore. There are no docking facilities in Togiak. Skiffs, autos, ATVs, and snowmachines are used for local transportation.<sup>28</sup>

### *Facilities*<sup>29</sup>

Water is derived from a well and is treated and stored in a 500,000-gal tank. The majority (125 residences) of households are connected to the piped water and sewer system; the remaining homes have individual wells and septic tanks. In all, 210 homes are fully plumbed, and 14 are not. The water system is 25 to 30 years old and suffers from broken or corroded pipes, valves,

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

<sup>28</sup> 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](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>29</sup> Ibid.

and service connections. A permitted landfill is available. Law enforcement services are provided by the Togiak police department and by Alaska state troopers based in Dillingham. Fire and rescue services are provided by the city fire truck. The Togiak Department of Public Safety provides police, fire, emergency medical services and search and rescue. Visitor accommodations include the Ikaiyurvik Family Resource Center and Airport Inn B&B. Additional facilities include the Nangucuilnguq Arts and Crafts Center and the Traditional Council Senior Center, as well as both school and public libraries. Communications services include local and long distance telephone, and local television and radio.

### *Medical Services*<sup>30</sup>

Medical care is provided by the Togiak Sub-Regional Health Clinic, which is owned by the city and operated by the Bristol Bay Area Health Corporation. The clinic is a Community Health Aid Program site. Alternate health care is provided by the Togiak First Responders Group. Emergency services have coastal and air access and are provided by the Togiak Department of Public Safety.

### *Educational Opportunities*<sup>31</sup>

The Togiak School provides instruction to students in pre-school through 12<sup>th</sup> grade. In 2011 the school had 222 students enrolled and 17 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

The Bristol Bay region is historically defined by traditional subsistence harvesting practiced by Yup'ik, Aleuts, and Athabascans of the region for millennia. Subsistence activities historically and continue to define livelihood, exchange, social networks, and social organization in the region. Subsistence supplements wage employment, and is considered culturally necessary for much of the population

The Bristol Bay salmon fishery is one of the most important commercial salmon fisheries in the world. Annual commercial harvests of salmon since statehood have averaged about 17 million sockeye salmon (91.2% of all salmon), about 880,000 chum salmon (4.7%), about 550,000 pink salmon (3.0%), about 120,000 coho salmon (0.6%), and about 100,000 Chinook salmon (0.5%). Commercial sockeye salmon harvests since 1959 have represented about 56% of statewide commercial harvests for that species. Chinook harvests occur mostly in the Nushagak District outside of Dillingham. Coho salmon are underused because fall runs occur after most vessels have ceased fishing efforts. Because of this, coho harvests are directly tied to market conditions rather than abundance. The Togiak River continuously exceeds minimum escapement

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<sup>30</sup> Ibid.

<sup>31</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

goals and had relatively few emergency orders issued between 2000 and 2005, compared to other areas within Bristol Bay.<sup>32</sup>

The Togiak area of Bristol Bay supports the largest herring fishery in the state. Large purse seine and gillnet fisheries harvest the spawning herring in a sac roe fishery, and a spawn-on-kelp harvest is also taken by local residents (usually in Togiak Bay). The Togiak sac roe fishery began in 1977, and has supported a fairly stable catch, averaging 40.6 million lbs between 1998 and 2002.<sup>33</sup>

Bristol Bay supports a large, stable red king crab fishery which has been increasing in abundance since the late 1990s. Fishing effort has remained high with an average of 261 active permits between 1998 and 2002. However, no Togiak residents held crab permits or quota between 2000 and 2010.<sup>34</sup>

Togiak is located at the head of Togiak Bay. The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Togiak participates in the Community Development Quota (CDQ) program through the Bristol Bay Economic Development Corporation (BBEDC). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish catch share to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>35</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest allocated quota. BBEDC provides jobs, training, and educational opportunities to CDQ-eligible residents and economic development tools and resources for communities. A partial list of BBEDC programs includes: Bering Sea groundfishing jobs, the Harvey Samuelsen scholarship program, vocational funding, internship programs, technical assistance with business plans and feasibility studies, infrastructure and seed funds, and fisheries and economic research.<sup>36</sup>

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, one shore-based processing plant is in operation in Togiak. The North Pacific Seafoods Togiak plant is known as Togiak Fisheries and began operations in 1957.<sup>37</sup> It is located on Togiak Bay and is 2.5 miles away from the village of Togiak (accessible by boat or plane) and 6 miles away from the village of Twin Hills (by 4-wheel-drive vehicle). The plant was purchased by North Pacific Fisheries in 1996. The plant processes herring during early May, and salmon, halibut, and salmon roe from mid-June until the end of July. In 2010, the plant employed 118 workers during peak season. In 2010, the

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<sup>32</sup> Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska*. Retrieved July 11, 2012 from: <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>33</sup> Woodby, D. et al. (2005). *Commercial Fisheries in Alaska*. Retrieved July 11, 2012 from: <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

<sup>34</sup> Ibid.

<sup>35</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>36</sup> Bristol Bay Economic Development Corporation (n.d.). *About BBEDC*. Retrieved on May 12, 2012 from <http://www.bbedc.com/web/index.html>.

<sup>37</sup> This information is based on the results of a survey of processing plant managers conducted by the Alaska Fisheries Science Center in 2011.

plant employed 18 J-1 workers.<sup>38</sup> The plant provides free room and board, as well as free air transportation between Anchorage and King Salmon, to its fish processing workers. The plant includes a small store.<sup>39</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, Togiak received fisheries-related revenue from a city-administered 2% raw fish tax, the Shared Fisheries Business Tax, and the Fisheries Resource Landing Tax. Amounts of revenue received from each source varied considerably during this period. Information about fisheries-related revenue received by Togiak between 2000 and 2010 is presented in Table 3.<sup>40</sup>

### *Commercial Fishing*

Between 2000 and 2010, there were a total of 330 permits issued by the Commercial Fisheries Entry Commission (CFEC) to 239 Togiak residents (29.3% of the population) for halibut, herring, and salmon. Overall and for each of the three species, the total number of CFEC permits, permit holders, and permits reported as fished declined between 2000 and 2010. The majority of CFEC permits issued during this period were for herring and salmon. In 2010, the majority of herring CFEC permits (160) were issued for the Bristol Bay herring spawn on kelp hand-picking fishery, with the remainder issued for the Goodnews Bay roe herring gill net fishery, the Nelson Island herring gill net fishery, the Bristol Bay and Goodnews Bay roe herring gill net fisheries, and the Cape Romanzof herring gill net fishery. Salmon CFEC permits were issued in 2010 for the Bristol Bay drift gill net and set gill net fisheries and the Kuskokwim gill net fishery. Halibut CFEC permits were issued in 2010 for the statewide longline fishery using vessels under 60 feet. There were no License Limitation Program (LLP) issued in Togiak during this period, and only two Federal Fisheries Permits issued between 2000 and 2002. Information about commercial fishing permits and permit holders by species is presented in Table 4.

The number of crew license holders in Togiak varied between 2000 and 2010, averaging 140 per year (17% of the population). The number of fish buyers located in Togiak also varied during this period, averaging 21 per year but decreasing overall. Throughout this period, there has been one shore-side processing facility located in Togiak. The number of commercial fishing vessels owned primarily by Togiak residents as well as the number of vessels homeported in Togiak both decreased between 2000 and 2010. The number of vessels landing catch in the community increased and then decreased again to 161 vessels in 2010. Both the total net lbs landed and the ex-vessel value of those landings increased overall during this period. Information about characteristics of the commercial fishing sector in Togiak is presented in Table 5. Togiak ranked 11<sup>th</sup> in landings and 25<sup>th</sup> in ex-vessel revenue out of 67 communities that received commercial fisheries landings in 2010.

Between 2000 and 2010, the number of halibut quota share account holders in Togiak, the number of quota shares held, and the total Individual Fishing Quota (IFQ) allotment

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<sup>38</sup> Ibid.

<sup>39</sup> North Pacific Fisheries (n.d.) *Togiak Fisheries*. Retrieved April 26, 2012 from [http://northpacificseafoods.com/index.php?option=com\\_content&task=view&id=42&Itemid=51](http://northpacificseafoods.com/index.php?option=com_content&task=view&id=42&Itemid=51).

<sup>40</sup> 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.

decreased. Information on halibut IFQ between 2000 and 2010 is presented in Table 6. No IFQ shares were held by Togiak residents in the federal sablefish (Table 7) or crab (Table 8) fisheries during this period.

Commercial landings and associated ex-vessel revenue recorded in Togiak are considered confidential due to a small number of participants between 2000 and 2010 for all species except halibut, herring, and salmon in select years. Between 2000 and 2008, the number of lbs of herring landed experienced an increase followed by a decrease, as did the ex-vessel revenue associated with those landings. Herring landings and ex-vessel revenue in Togiak experienced a substantial increase between 2002 and 2010. For years in which data were reportable between 2000 and 2010, salmon landings in Togiak experienced an increase followed by a decrease, while the associated ex-vessel revenue increased overall during this period. Information about landed lbs and ex-vessel revenue in Togiak between 2000 and 2010 is presented in Table 9.

Landings and associated ex-vessel revenue recorded by Togiak residents are also considered confidential between 2000 and 2010 with the exception of landings and revenue for halibut, herring, and salmon in select years. Between 2000 and 2010, both landings and ex-vessel revenue of halibut, herring, and salmon landed by Togiak residents varied considerably. Information regarding landed lbs and ex-vessel revenue by Togiak residents is presented in Table 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$481	\$40,952	n/a	\$45,000	\$32,680	\$25,607	\$35,396	\$48,376	\$62,767	\$53,893	\$72,923
Shared Fisheries Business Tax <sup>1</sup>	\$70,395	\$344,228	\$166,704	\$81,469	\$13,064	\$46,028	\$31,514	\$41,617	\$48,629	\$54,677	\$56,088
Fisheries Resource Landing Tax <sup>1</sup>	\$2,961	n/a	n/a	n/a	n/a	n/a	\$50	\$4,133	\$2,476	\$16,636	\$2,235
Fuel transfer tax <sup>2</sup>	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 <sup>2</sup>	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 <sup>1</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage <sup>2</sup>	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 <sup>2</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 revenue</i> <sup>4</sup>	<i>\$73,837</i>	<i>\$385,180</i>	<i>\$166,704</i>	<i>\$126,469</i>	<i>\$45,744</i>	<i>\$71,635</i>	<i>\$66,960</i>	<i>\$94,126</i>	<i>\$113,872</i>	<i>\$125,205</i>	<i>\$58,323</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$1.07 M</i>	<i>\$851,591</i>	<i>\$709,105</i>	<i>\$551,257</i>	<i>\$1.47 M</i>	<i>\$648,505</i>	<i>\$730,804</i>	<i>\$904,380</i>	<i>\$843,642</i>	<i>\$1.43 M</i>	<i>\$1.09 M</i>

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

<sup>1</sup> 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](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

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

<sup>3</sup> Reported by community leaders in a survey conducted by the AFSC in 2011.

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

<sup>5</sup> 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/dca/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dca/commfin/CF_FinRec.cfm).

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	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) <sup>1</sup>	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 <sup>1</sup>	Total permits	2	2	2	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	-	-	-	-	-	-	-	-
	Total permit holders	2	2	2	0	0	0	0	0	0	0	0
Crab (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) <sup>2</sup>	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) <sup>2</sup>	Total permits	31	26	37	34	35	25	22	14	15	13	12
	Fished permits	14	17	22	23	15	15	13	10	9	8	8
	% of permits fished	45%	65%	59%	68%	43%	60%	59%	71%	60%	62%	67%
	Total permit holders	31	26	37	34	35	25	22	14	15	13	12
Herring (CFEC) <sup>2</sup>	Total permits	236	215	202	202	207	201	200	199	196	195	192
	Fished permits	22	5	39	32	2	0	0	4	4	4	3
	% of permits fished	9%	2%	19%	16%	1%	0%	0%	2%	2%	2%	2%
	Total permit holders	206	198	183	185	186	181	181	180	177	176	173

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) <sup>2</sup>	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) <sup>2</sup>	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) <sup>2</sup>	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) <sup>2</sup>	Total permits	134	137	140	137	128	123	128	127	127	124	126
	Fished permits	128	128	115	123	114	111	116	110	119	115	119
	% of permits fished	96%	93%	82%	90%	89%	90%	91%	87%	94%	93%	94%
	Total permit holders	150	156	150	151	146	136	143	140	136	140	141
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>401</i>	<i>378</i>	<i>379</i>	<i>373</i>	<i>370</i>	<i>349</i>	<i>350</i>	<i>340</i>	<i>338</i>	<i>332</i>	<i>330</i>
	<i>Fished permits</i>	<i>164</i>	<i>150</i>	<i>176</i>	<i>178</i>	<i>131</i>	<i>126</i>	<i>129</i>	<i>124</i>	<i>132</i>	<i>127</i>	<i>130</i>
	<i>% of permits fished</i>	<i>41%</i>	<i>40%</i>	<i>46%</i>	<i>48%</i>	<i>35%</i>	<i>36%</i>	<i>37%</i>	<i>36%</i>	<i>39%</i>	<i>38%</i>	<i>39%</i>
	<i>Permit holders</i>	<i>263</i>	<i>259</i>	<i>250</i>	<i>257</i>	<i>248</i>	<i>242</i>	<i>244</i>	<i>244</i>	<i>240</i>	<i>239</i>	<i>239</i>

<sup>1</sup>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.]

<sup>2</sup>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 Togiak: 2000-2010.

Year	Crew License Holders <sup>1</sup>	Count Of All Fish Buyers <sup>2</sup>	Count Of Shore-Side Processing Facilities <sup>3</sup>	Vessels Primarily Owned By Residents <sup>4</sup>	Vessels Homeported <sup>4</sup>	Vessels Landing Catch In Togiak <sup>2</sup>	Total Net Lbs Landed In Togiak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Togiak <sup>2,5</sup>
2000	136	23	1	223	219	99	3,029,952	\$1,740,094
2001	125	15	1	208	215	166	5,783,136	\$2,183,537
2002	108	31	1	190	203	202	7,640,993	\$1,761,888
2003	139	27	1	180	195	317	48,361,794	\$5,901,630
2004	134	31	1	174	192	251	41,753,378	\$4,568,170
2005	142	24	3	164	160	234	44,820,232	\$5,560,616
2006	141	25	1	159	151	236	53,785,400	\$6,666,758
2007	142	22	1	146	141	249	41,125,777	\$6,722,468
2008	137	19	1	146	141	263	48,129,255	\$6,705,046
2009	160	9	1	146	147	178	40,180,353	\$6,027,242
2010	176	10	1	153	145	161	58,442,835	\$8,667,883

<sup>1</sup> 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.]

<sup>2</sup> 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.]

<sup>3</sup> 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.]

<sup>4</sup> 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.]

<sup>5</sup> Totals only represent non-confidential data.

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

<b>Year</b>	<b>Number of Halibut Quota Share Account Holders</b>	<b>Halibut Quota Shares Held</b>	<b>Halibut IFQ Allotment (lbs)</b>
2000	9	6,210	768
2001	8	4,586	633
2002	8	4,586	646
2003	7	4,452	626
2004	7	4,452	643
2005	7	4,452	624
2006	6	3,596	476
2007	6	3,596	445
2008	5	1,456	120
2009	5	1,456	105
2010	5	1,456	95

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 Togiak: 2000-2010.

<b>Year</b>	<b>Number of Sablefish Quota Share Account Holders</b>	<b>Sablefish Quota Shares Held</b>	<b>Sablefish IFQ Allotment (lbs)</b>
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 Togiak: 2000-2010.

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

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

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

	<i>Total Net Lbs<sup>1</sup></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	--	--	--	--	--	--	--	--	--	--	--
Halibut	70,439	146,199	211,128	164,169	88,921	120,667	95,385	125,217	95,144	--	--
Herring	--	--	4,736,957	42,571,352	37,536,200	40,255,658	46,907,928	33,622,488	41,046,192	35,136,963	52,916,435
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	2,692,908	--	4,128,257	4,443,907	--	7,378,072	6,987,919	5,034,950	5,495,610
<i>Total<sup>2</sup></i>	<i>70,439</i>	<i>146,199</i>	<i>7,640,993</i>	<i>42,735,521</i>	<i>41,753,378</i>	<i>44,820,232</i>	<i>47,003,313</i>	<i>41,125,777</i>	<i>48,129,255</i>	<i>40,171,913</i>	<i>58,412,045</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	--	--	--	--	--	--	--	--	--	--	--
Halibut	\$169,820	\$241,887	\$455,928	\$291,256	\$192,268	\$219,965	\$215,648	\$373,012	\$292,434	--	--
Herring	--	--	\$360,009	\$2,954,343	\$2,657,059	\$3,107,427	\$3,256,829	\$2,300,714	\$2,750,186	\$2,642,665	\$4,047,768
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	\$945,951	--	\$1,718,843	\$2,233,224	--	\$4,048,742	\$3,662,427	\$3,367,122	\$4,525,743
<i>Total<sup>2</sup></i>	<i>\$169,820</i>	<i>\$241,887</i>	<i>\$1,761,888</i>	<i>\$3,245,599</i>	<i>\$4,568,170</i>	<i>\$5,560,616</i>	<i>\$3,472,476</i>	<i>\$6,722,468</i>	<i>\$6,705,046</i>	<i>\$6,009,788</i>	<i>\$8,573,512</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.]

<sup>1</sup> Net lbs refers to the landed weight recorded in fish tickets.

<sup>2</sup> Totals only represent non-confidential data.

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

	<i>Total Net Lbs<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	29,166	66,110	50,949	72,738	24,491	55,135	25,093	25,861	11,433	8,074	30,059
Herring	203,311	164,846	18,331	2,133	--	--	--	379,110	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	3,366,112	3,439,182	1,272,565	2,429,143	1,991,735	3,048,880	3,878,515	4,123,926	3,428,604	2,829,476	3,132,750
<i>Total<sup>2</sup></i>	<i>3,598,589</i>	<i>3,670,138</i>	<i>1,341,845</i>	<i>2,504,014</i>	<i>2,016,226</i>	<i>3,104,015</i>	<i>3,903,608</i>	<i>4,528,897</i>	<i>3,440,037</i>	<i>2,837,550</i>	<i>3,162,809</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	\$75,789	\$113,775	\$112,292	\$131,656	\$56,746	\$101,834	\$47,903	\$53,118	\$35,019	\$16,697	\$92,131
Herring	\$21,319	\$12,602	\$3,207	\$747	--	--	--	\$27,649	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$1,922,648	\$1,182,390	\$433,162	\$1,122,944	\$817,132	\$1,311,083	\$1,801,833	\$2,046,545	\$1,799,274	\$1,895,228	\$2,527,314
<i>Total<sup>2</sup></i>	<i>\$2,019,755</i>	<i>\$1,308,767</i>	<i>\$548,661</i>	<i>\$1,255,346</i>	<i>\$873,877</i>	<i>\$1,412,917</i>	<i>\$1,849,735</i>	<i>\$2,127,313</i>	<i>\$1,834,293</i>	<i>\$1,911,925</i>	<i>\$2,619,445</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.]

<sup>1</sup> Net lbs refers to the landed weight recorded in fish tickets.

<sup>2</sup> Totals only represent non-confidential data.

### *Recreational Fishing*

Although there were sport fish guide businesses registered in Togiak between 2000 and 2010, none were active during those years. In 2010, five sport fish guide licenses were held in Togiak, compared to seven in 2000. The number of local sport fish guide licenses varied between 2000 and 2010, peaking at eight in 2001 and 2006, and bottoming at zero in 2005. In 2010, Togiak residents purchased 125 sportfishing licenses (irrespective of the location of the point of sale) and 10 licenses were sold in the community. Between 2000 and 2010, there were consistently more sportfishing licenses purchased by community residents than licenses purchased in the community, indicating the potential that residents travel to other areas or nearby communities to participate in sportfishing activities.

Togiak is located within the Nushagak, Wood River, and Togiak Alaska Sport Fishing Survey Area. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. For saltwater sportfishing, non-Alaska resident angler days fished varied between 0 and 767 between 2000 and 2010, while Alaska resident angler days fished varied between 31 and 921 during this period. During this period there were years in which non-Alaska residents fished a greater number of saltwater angler days as well as years in which Alaska residents fished a greater number of saltwater angler days. In contrast, non-Alaska resident anglers fished consistently more angler days in freshwater in this region (26,403 on average) than Alaska resident anglers (12,276 per year on average). Information about the sportfishing sector in and near Togiak is displayed in Table 11.

The Alaska Statewide Harvest Survey,<sup>41</sup> conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Togiak: Chinook salmon, coho salmon, rainbow trout, Dolly Varden, Arctic grayling, Pacific halibut, lingcod, and smelt. No kept/released log book data were reported for sportfishing charters out of Togiak between 2000 and 2010.<sup>42</sup>

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<sup>41</sup> 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).

<sup>42</sup> Alaska Department of Fish and Game. 2011. Alaska sport fish charter logbook database, 2000-2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

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

<b>Year</b>	<b>Active Sport Fish Guide Businesses<sup>1</sup></b>	<b>Sport Fish Guide Licenses<sup>1</sup></b>	<b>Sport Fishing Licenses Sold to Residents<sup>2</sup></b>	<b>Sport Fishing Licenses Sold in Togiak<sup>2</sup></b>
2000	0	7	69	0
2001	0	8	64	0
2002	0	5	54	3
2003	0	2	64	0
2004	0	2	77	0
2005	0	0	105	0
2006	0	8	88	75
2007	0	5	120	104
2008	0	6	66	48
2009	0	7	38	1
2010	0	5	125	10

<b>Year</b>	<b>Saltwater</b>		<b>Freshwater</b>	
	<b>Angler Days Fished – Non-Residents<sup>3</sup></b>	<b>Angler Days Fished – Alaska Residents<sup>3</sup></b>	<b>Angler Days Fished – Non-Residents<sup>3</sup></b>	<b>Angler Days Fished – Alaska Residents<sup>3</sup></b>
2000	246	183	31,290	11,793
2001	652	599	31,489	10,779
2002	665	31	20,011	11,911
2003	321	464	26,783	13,419
2004	767	61	25,203	19,980
2005	81	246	33,089	15,662
2006	365	196	28,840	14,858
2007	326	921	28,541	13,762
2008	113	103	27,066	7,356
2009	107	38	22,444	7,805
2010	0	44	15,676	7,709

<sup>1</sup> 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.]

<sup>2</sup> 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.]

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

### *Subsistence Fishing*

The entire community of Togiak depends heavily on subsistence activities. Salmon, herring, seal, sea lion, whale, and walrus are among the species harvested.<sup>43</sup> Information about per capita subsistence harvest and household participation in subsistence activities (Table 12), marine invertebrate harvests, and non-salmon fish harvests (Table 13) was not reported between 2000 and 2010. However, individual species harvest data are available for salmon, halibut and marine mammal harvests.

In years for which data were reported between 2000 and 2010, an average of 55 subsistence salmon permits were issued to Togiak households, with an average of 47 permits returned. Sockeye salmon were the primary species harvested under subsistence permits during this period (an average of 2,650 sockeye per year), along with over a thousand Chinook salmon and several hundred chum, coho, and pink salmon every year (Table 13).

Between 2003 and 2010, an average of seven Subsistence Halibut Registration Certificate (SHARC) cards was issued to Togiak residents. Five SHARC cards were returned in 2004 and two were returned in 2006. Information regarding subsistence harvest of halibut under these permits was not reported during this period. Information about subsistence halibut harvest is presented in Table 14.

The number of marine mammals harvested for subsistence between 2000 and 2010 varied widely. Beluga whales and walrus were among the species harvested by Togiak residents. Information about subsistence harvest of marine mammals is presented in Table 15. There was also significant subsistence harvest of harbor seals (an average of 14 animals per year) and spotted seals (an average of 83 per year) reported in Togiak.

The ADF&G Division of Subsistence reported that the following species of marine invertebrates were used for subsistence in Togiak during this period: blue mussels, cockles, Dungeness crab, razor clams, red king crab, shrimp, softshell clams, Tanner crab, and unknown clams. Marine mammals reported as harvested for subsistence use included bearded seal, harbor porpoise, harbor seal, ringed seal, Steller sea lion, and unknown seal. Non-salmon fish reported as harvested for subsistence use included: blackfish, burbot, capelin (grunion), Dolly Varden, grayling, herring, herring sac roe, herring spawn on kelp, humpback whitefish, lake trout, least cisco, Pacific cod (gray), Pacific tom cod, pike, rainbow smelt, rainbow trout, round whitefish, salmon shark, sculpin, starry flounder, unknown trout, and yellowfin sole.<sup>44</sup>

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<sup>43</sup> 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](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>44</sup> Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (lbs)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	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, Togiak: 2000-2010.

Year	Subsistence Salmon Permits Issued <sup>1</sup>	Salmon Permits Returned <sup>1</sup>	Chinook Salmon Harvested <sup>1</sup>	Chum Salmon Harvested <sup>1</sup>	Coho Salmon Harvested <sup>1</sup>	Pink Salmon Harvested <sup>1</sup>	Sockeye Salmon Harvested <sup>1</sup>	Lbs of Marine Inverts <sup>2</sup>	Lbs of Non-Salmon Fish <sup>2</sup>
2000	52	40	1,014	533	342	83	2,945	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	44	38	1,094	383	204	108	1,770	n/a	n/a
2005	43	36	1,444	259	281	26	2,223	n/a	n/a
2006	59	46	1,589	487	408	342	2,699	n/a	n/a
2007	45	33	1,227	420	110	19	2,521	n/a	n/a
2008	89	88	1,303	691	535	114	3,744	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.

<sup>1</sup> 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.

<sup>2</sup> 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, Togiak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	2	n/a	n/a
2004	5	5	n/a
2005	10	n/a	n/a
2006	10	2	n/a
2007	10	n/a	n/a
2008	9	n/a	n/a
2009	9	n/a	n/a
2010	4	n/a	n/a

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

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

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

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	2	n/a	7	n/a	n/a	5	147
2001	1	n/a	2	n/a	n/a	5	61
2002	n/a	n/a	10	n/a	n/a	14	79
2003	n/a	n/a	7	n/a	n/a	22	33
2004	n/a	n/a	1	n/a	n/a	7	64
2005	n/a	n/a	n/a	n/a	n/a	11	82
2006	n/a	n/a	2	n/a	n/a	12	51
2007	n/a	n/a	2	n/a	n/a	8	63
2008	n/a	n/a	2	n/a	n/a	46	168
2009	n/a	n/a	2	n/a	n/a	5	147
2010	n/a	n/a	n/a	n/a	n/a	5	61

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

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.