

## **Igiugig (ig-ee-UH-gig)**



### **People and Place**

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

Igiugig is located on the Alaska Peninsula on the south shore of the Kvichak River, which flows from Iliamna Lake. It is 50 mi northeast of King Salmon and 48 mi southwest of Iliamna. The community occupies 19.8 sq mi of land and 1.3 sq mi of water. It is unincorporated and under the jurisdiction of the Lake and Peninsula Borough.

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

In 2010, there were 50 residents, ranking Igiugig 296<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population increased by 51.5%. Between 2000 and 2009, the population fell by 9.4% with an average annual growth rate of 1.25%, indicating a variable population trend. Information regarding population trends can be found in Table 1.

Historically an Eskimo village, the population is now primarily Alutiiq. In 2010, 40.0% of residents identified themselves as American Indian or Alaska Native, compared to 71.7% in 2000; 28.0% identified themselves as White, compared to 17.0% in 2000; and 32.0% identified themselves as two or more races, compared to 11.3% in 2000. In addition, 12% of residents identified themselves as Hispanic or Latino, compared to 1.9% in 2000. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 3.13, compared to 2.50 in 1990 and 3.31 in 2000. In that year, there were a total of 19 housing units, compared to 16 in 1990 and 20 in 2000. Of the households surveyed in 2010, 42% were owner-occupied, compared to 65% in 2000; 42% were renter-occupied, compared to 15% in 2000; 5% were vacant, compared to 0% in 2000; and 11% were occupied seasonally, compared to 20% in 2000. No residents lived in group quarters between 1990 and 2010.

The gender distribution was biased towards females in 2010 at 52.0% female and 48.0% male. This was more skewed towards females than the statewide distribution (52.0% male, 48.0% female), although less skewed than the distribution in 2000 (56.6% female, 43.4% male). Also in 2010, the median age was 22.0 years, which was significantly younger than both the statewide median of 33.8 years, and 2000 median of 36.3 years.

The population structure was more expansive in 2010 than in 2000. In that year, 40.0% of residents were under the age of 20, compared to 35.1% in 2000; 8.0% were over the age of 59,

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<sup>1</sup> Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](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>.

compared to 7.4% in 2000; 30.0% were between the ages of 30 and 59, compared to 46.9% in 2000; and 22.0% were between the ages of 20 and 29, compared to 0.0% in 2000.

Gender distribution by age cohort was less even in 2010, than in 2000. In that year, the greatest absolute gender difference occurred with both the 0 to 9 (10.0% male, 6.0% female) and 10 to 19 (14.0% female, 10.0% male) ranges, followed by the 50 to 59 (6.0% female, 2.0% male) and 70 to 79 (4.0% male, 2.0% female) ranges. Of those three, the greatest relative gender difference occurred within the 70 to 79 range (Figure 2).

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

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	33	-
2000	53	-
2001	-	55
2002	-	43
2003	-	50
2004	-	55
2005	-	50
2006	-	53
2007	-	32
2008	-	40
2009	-	48
2010	50	-

<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>.

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

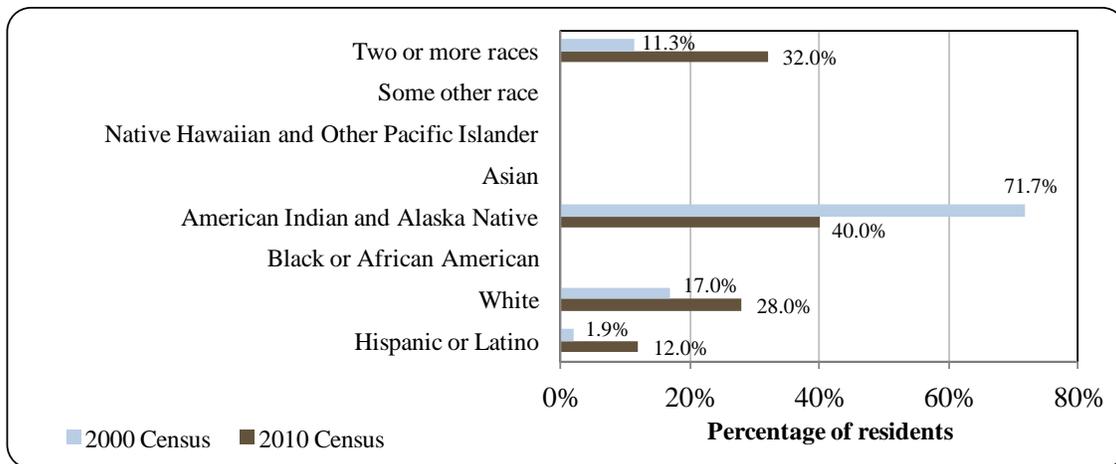
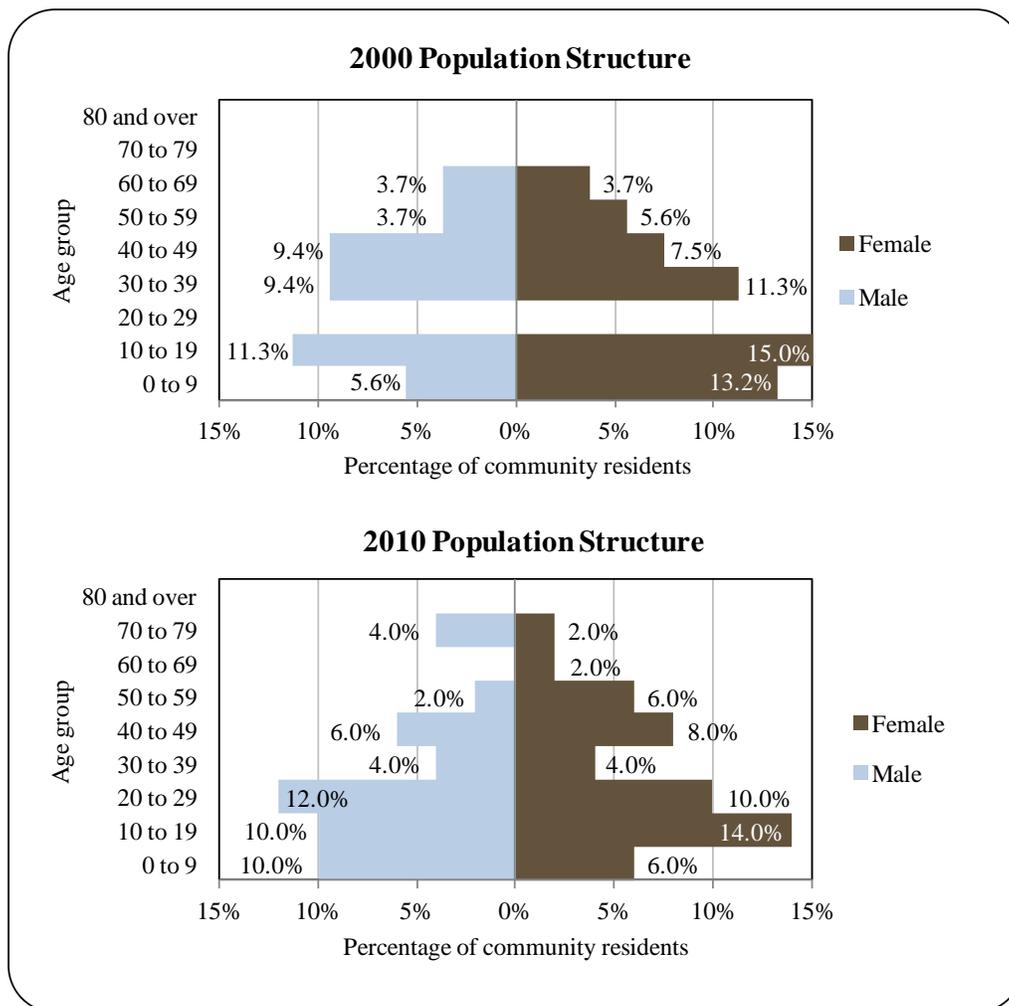


Figure 2. Population Age Structure in Igiugig Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census’ 2006-2010 American Community Survey (ACS)<sup>3</sup> estimated that 23.5% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 76.5% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; no resident had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; and no resident had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; and no resident held a Bachelor’s degree, compared to an estimated 17.4% of Alaska residents overall.

<sup>3</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

In Yup'ik, Igiugig means “like a throat that swallows water,” which describes its location at the mouth of the Kvichak River where it draws water from Lake Iliamna.<sup>5</sup> Kiatagmuit Eskimos originally lived on the north bank of the Kvichak River in the village of Kaskanak and used Igiugig as a summer fish camp. At the turn of the century, these people moved upriver to the present site of Igiugig. People from Branch also moved to Igiugig as it began to develop. Around 1905, Laplander reindeer stations were built near the village. Today, about one-third of residents can trace their roots back to the Branch River village. A post office was established in 1934 but was discontinued in 1954.<sup>6</sup>

Igiugig is a close knit village centered on family and community. Traditional subsistence values and lifestyles continue to sustain their culture and many residents continue to engage in traditional trades like skin sewing, basket making, and ivory carving.<sup>7</sup>

### **Natural Resources and Environment**

Igiugig lies within the transitional climatic zone. Average summer temperatures range from 42 to 62 °F; winter temperatures average 6 to 30 °F. The record high is 91 °F, and the record low is -47 °F. Precipitation averages 26 inches annually, with 64 inches of snow.<sup>8</sup>

Igiugig lies on the west end of Lake Iliamna at the head of the Kvichak River, north of the Katmai National Park and Preserve. Important Kvichak River drainages include Kaskanak, Yellow, and Bear creeks. The mixed landscape includes mountains, rivers, tundra, marshy lowlands, and ponds. Bedrock consists of middle Tertiary volcanic rock. Lake Iliamna covers more than 1,000 sq mi of the Alaska Peninsula region, and is more than 2,000 ft deep in areas. Uplands consist of tundra and barrens, and elevations above 1,500 ft are sparsely vegetated.<sup>9</sup>

All five species of Pacific salmon spawn in the Kvichak and Alagnak river systems. Other freshwater species within the area include Northern pike, blackfish, burbot, whitefish (round/white), rainbow trout, Dolly Varden, lake trout, Arctic grayling, smelt, and least cisco. Mammals include brown bears, moose, caribou, red fox, wolf, lynx, wolverine, river otter, mink, marten, weasel, porcupine, snowshoe hare, red squirrel, beaver, and freshwater seal.<sup>10</sup>

Two mineral occurrences exist on opposite sides of Lake Iliamna. The Anelon gold prospect is located near Newhalen on the north side of the lake. The Aukney gold prospect is located on the north side of Big Mountain.<sup>11</sup> The Pebble copper/molybdenum prospect site is located approximately 25 mi north of Newhalen, at the divide between the Kaktuli River and

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<sup>4</sup> Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>5</sup> Community of Iliamna. (2001). *Igiugig Village Community Comprehensive Strategic Plan*. Retrieved October 17, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Igiugig-SAP-2001.pdf>.

<sup>6</sup> See footnote 4.

<sup>7</sup> See footnote 5.

<sup>8</sup> See footnote 4.

<sup>9</sup> Alaska Department of Natural Resources. (n.d.). *Region 10: Western Iliamna Lake, Kvichak River*. Retrieved October 17, 2012 from: [http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap\\_ch3\\_reg10.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/bristol/pdf/bbap_ch3_reg10.pdf)

<sup>10</sup> National Park Service. (n.d.). *Katmai National Park and Preserve: Animals*. Retrieved October 17, 2012 from: <http://www.nps.gov/katm/naturescience/animals.htm>.

<sup>11</sup> See footnote 9.

Upper Talarik Creek.<sup>12</sup> Northern Dynasty Minerals Limited calls the Pebble deposit, “one of the greatest stores of mineral wealth ever discovered,” and estimates that the deposit includes 5.94 billion tons in the measured and indicated category, including 55 billion pounds of copper, 66.9 million ounces of gold and 3.3 billion pounds of molybdenum, and 4.84 billion tons in the inferred category, including 25.6 billion pounds of copper, 40.4 million ounces of gold and 2.3 billion pounds of molybdenum.<sup>13</sup> Concern has been raised about the possible effects of acid mine drainage from development of the Pebble deposit on salmon. Iliamna Lake is the source of the Kvichak River System, an important salmon-producing watershed in the Bristol Bay area.<sup>14</sup> The Alaska Peninsula-Bristol Bay region is underlain by gold lode Mesozoic and Tertiary sediments which support potential coal bed methane and oil deposits in shallow areas. Most potential oil and gas reserves lie between Kvichak Bay and Lake Iliamna. Although not suitable for commercial harvest, timber resources are located along the Kvichak and Alagnak River valleys.<sup>15</sup>

According to the *Lake and Peninsula Borough Hazard Mitigation Plan*, erosion and wildfire are of chief concern to residents. River bank erosion and wave action from Lake Iliamna constantly alter the local landscape and residents report that the beach, fish camp, and smoke house have all been lost. Residents also believe that the lake level has been rising. The power house and bulk fuel facilities are in immediate danger of erosion, and eventually the entire community will be threatened. Mitigation measures include geotextile fabricated roads, riprap along shorelines and riverbanks, and structure relocation. Wildfire from dry vegetation and high winds create additional risks to the community. Mitigation measures include the acquisition of a fire engine, and the construction of a firebreak around the community.<sup>16</sup>

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Igiugig in 2010.<sup>17</sup>

## Current Economy<sup>18</sup>

Igiugig’s economy is dependent on commercial and subsistence fishing and most residents participate in both activities. Seasonal employment, such as tourism and construction, is also available and there are several locally-owned hunting/fishing lodges within the vicinity of Igiugig. Local government and the school provide year-round employment.<sup>19</sup> On a regional level, many residents within the Lake Iliamna area travel to Naknek each summer to fish or work in the seafood processing industry.<sup>20</sup>

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<sup>12</sup> Parker, Geoffrey Y., Francis M. Raskin, Carol Ann Woody, and Lance Trasky. 2008. “Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska’s Large Mine Permitting Process.” *Alaska Law Review* 25:1.

<sup>13</sup> Northern Dynasty Minerals Limited. 2012. *The Pebble Deposit*. Retrieved January 13, 2012 from <http://www.northerndynastyminerals.com/ndm/Pebble.asp>.

<sup>14</sup> Alaska Department of Natural Resources. April 2005. *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>15</sup> See footnote 11.

<sup>16</sup> Missal, J. and M. Smith. (2009). *Lake and Peninsula Borough Multi-Hazard Mitigation Plan*. Retrieved September 6, 2012 from:

[http://www.commerce.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Lake\\_Pen\\_Boro\\_MJ\\_HMP.pdf](http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Lake_Pen_Boro_MJ_HMP.pdf).

<sup>17</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved October 17, 2012 from: [http://dec.alaska.gov/spar/csp/sites/big\\_mountain.htm](http://dec.alaska.gov/spar/csp/sites/big_mountain.htm).

<sup>18</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>19</sup> See footnote 5.

<sup>20</sup> See footnote 9.

In 2010,<sup>21</sup> the estimated per capita income was \$7,171 and the estimated median household income was \$23,250, compared to \$13,172 and \$21,750 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,<sup>22</sup> the real per capita income (\$17,321) and real median household income (\$28,601) indicate significant declines in both personal and household earnings. In 2010, Igiugig ranked 302<sup>nd</sup> of 305 communities from which per capita income was estimated, and 266<sup>th</sup> of 299 communities from which median household income was estimated. This ranked Igiugig among the lowest of Alaskan communities in terms of collective earnings.

However, Igiugig's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>23</sup> Another understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned \$725,383 in total wages in 2010.<sup>24</sup> When matched with the 2010 Decennial Census population, the per capita income equals \$14,508, which is significantly greater than the 2010 ACS estimate. This suggests that caution should be used when comparing 2000 Decennial Census and 2010 ACS figures.<sup>25</sup>

According to 2006-2010 ACS estimates,<sup>26</sup> an estimated 50.0% of residents aged 16 and older were part of the civilian labor force in 2010. Of those employed, an estimated 100% worked in the public sector. Also in that year, unemployment was estimated at 0.0%, compared to 5.9% statewide; and an estimated 23.4% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Again, Igiugig's small population may have prevented the ACS from accurately capturing economic conditions, including the unemployment rate. According to 2010 ALARI estimates,<sup>27</sup> the local unemployment rate was 11.9% based on unemployment insurance claimants. It should be noted that employment and worker characteristics data compiled within ALARI estimated that there were 42 residents aged 16 and over in Igiugig in 2010; which also conflicts with 2010 Decennial Census population statistics.

By industry, most (85.7%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by an estimated 14.3% in public administration sectors. Between 2000 and 2010, there was a strong consolidation of employment in education, health care, and social assistance sectors; while transportation, warehousing, and utilities sectors experienced significant declines (Figure 3). According to 2010 ALARI estimates, most (67.6%) employed residents worked in local government sectors; followed by construction

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<sup>21</sup> 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>.

<sup>22</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>23</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>24</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>25</sup> 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/>.

<sup>26</sup> See footnote 23.

<sup>27</sup> See footnote 25.

(17.6%); education and health service (5.9%), and trade, transportation, and utilities sectors (2.9%). By occupation type, most (71.4%) employed residents held management or professional positions; followed by service positions (28.6%). Between 2000 and 2010, there were significant gains in service, management, and professional occupations; while production, transportation, material moving, sales, and office positions experienced significant declines (Figure 4).

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 the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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

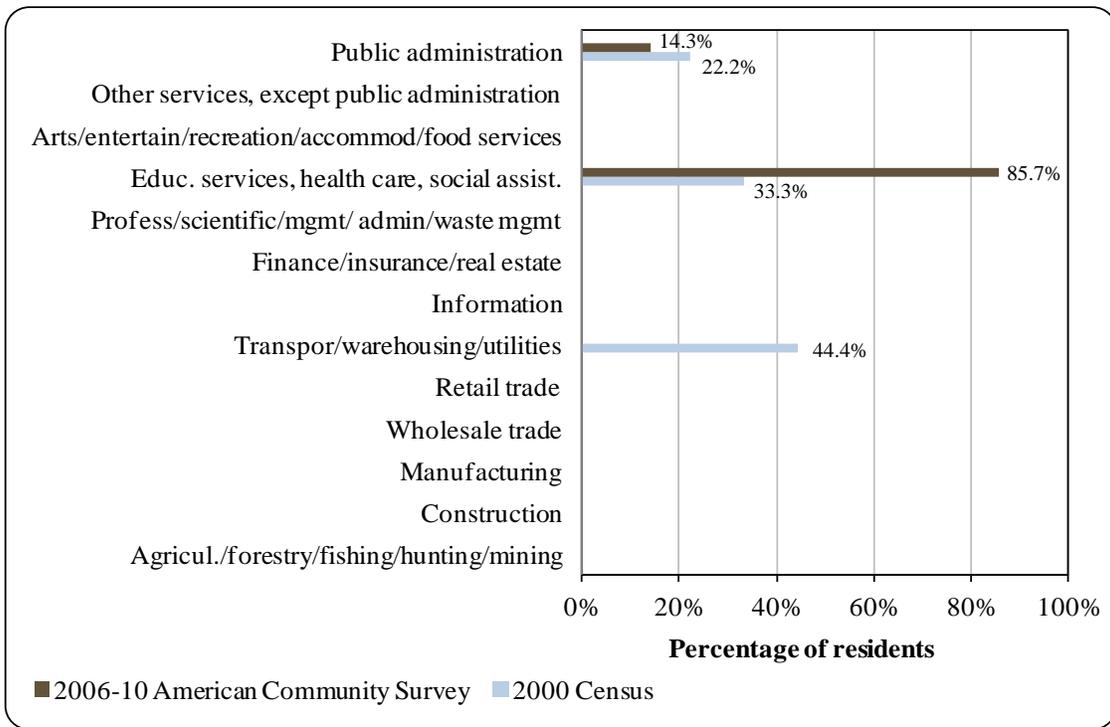
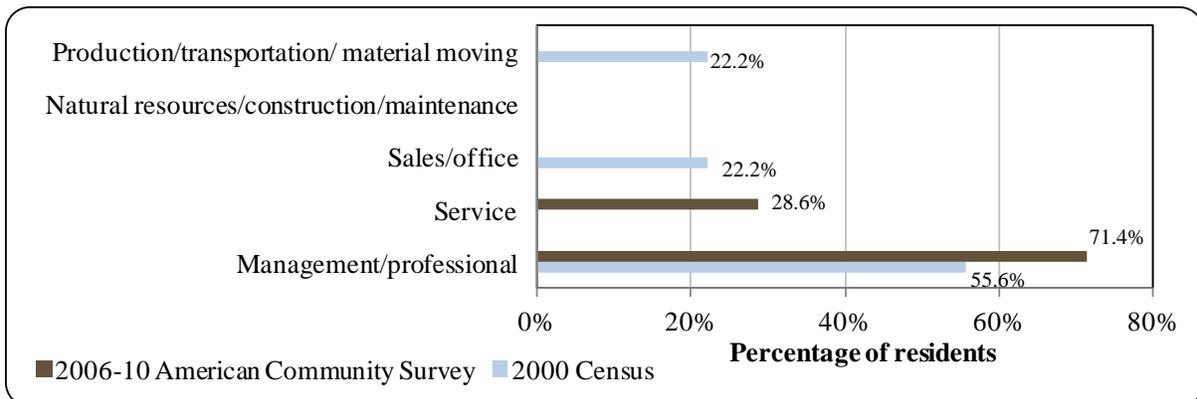


Figure 4. Local Employment by Occupation in 2000-2010, Igiugig (U.S. Census).



## Governance

Igiugig is unincorporated although under the jurisdiction of the Lake and Peninsula Borough. There is a U.S. Bureau of Indian Affairs recognized tribal council and Alaska Native Claims Settlement Act (ANCSA) chartered village corporation (Igiugig Native Corporation). The ANCSA-recognized regional corporation is the Bristol Bay Native Corporation and the local ANCSA-chartered non-profit is the Bristol Bay Native Association.

The nearest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage. The closest Alaska Department of Fish and Game (ADF&G) office is located in King Salmon. The nearest National Marine Fisheries Service (NMFS) enforcement office is located in Homer.

Because it is unincorporated, Igiugig is unable to collect local taxes or fees (Table 2). However, the Lake and Peninsula Borough administers a 2% raw fish tax, 6% accommodations tax, \$3 per person/day guide tax, and a \$1 per person/day lodge and day guide tax.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Igiugig 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	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a

<sup>1</sup> Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

<sup>3</sup> Alaska Department of Revenue (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 Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm).

## Infrastructure

### *Connectivity and Transportation*

Igiugig is accessible by water and air. Charter flights are available from Iliamna and King Salmon. The state owns and maintains a 3,000-ft long by 75-ft wide gravel runway. A small public dock is available. Barges deliver goods from Naknek or Dillingham in the fall. Igiugig Corporation operates a barge system on Lake Iliamna.<sup>28</sup> Roundtrip airfare from Anchorage to Dillingham (the nearest airport where charters fly for access to Igiugig) in June 2012 costs \$452.<sup>29</sup>

### *Facilities*

Water is derived from the Kvichak River. Attempts to drill community wells in the 1970s found inadequate water supplies. There is a recreation center and a public library. The village operates a piped water and sewer system, but not all homes are connected. The Igiugig Electric Company, operated by the village council, provides diesel-generated power to the community. Visitor accommodations include Alaska's Clearwater Lodge at Bristol Bay, Kvichak Cabin, and Igiugig Boarding House. Public safety services are provided by local Village Public Safety Officer. Fire and rescue services are provided by Igiugig Village Response Team. Additional public facilities include a recreation center and public library. Communications services include local and long distance telephone, internet (school only) local television, and local radio.<sup>30</sup>

### *Medical Services*

The Igiugig Village Health Clinic provides residents with medical services and Emergency Services have lake and air access. The clinic is owned by the village council and operated by the Bristol Bay Area Health Corporation. Emergency service is provided by a health aid. The closest hospital is located in Dillingham.<sup>31</sup>

### *Educational Opportunities*

Igiugig school is part of the Lake and Peninsula School district and offers preschool through 12<sup>th</sup> grade instruction. In 2011, there were 18 students enrolled and 3 teachers employed.<sup>32</sup>

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<sup>28</sup> Alaska Department of Community and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>29</sup> Airfare calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). (Retrieved November 22, 2011).

<sup>30</sup> See footnote 28.

<sup>31</sup> Ibid.

<sup>32</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

The region surrounding Iliamna Lake is both a historic and contemporary subsistence use area this is heavily used by villages along the Lake and Nushagak/Mulchatna drainages. Most subsistence activity in the region is concentrated around the Nondalton area, north of Kokhanok.<sup>33</sup> Iliamna Lake and surrounding drainages and lakes provide popular subsistence areas, and many locals rely on sockeye salmon and freshwater seal. Igiugig is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 3A, and the Bering Sea Sablefish Regulatory Area. Igiugig is not eligible for either the Community Quota Entity program or the Community Development Quota program.

Igiugig residents participate exclusively in the Bristol Bay salmon fishery, which began in 1888 (although residents did not participate until later). In 1883, the exploratory vessel *Neptune* anchored in Nushagak Bay to assess potential commercial salmon prospects. Plentiful runs prompted a cannery to be built at the village of Kanulik. By the late 1880s, canneries were built at Scandinavian Creek, Kanakanak, and Clark's Point. Gillnetters flocked to the region and by 1890, canneries were producing more product than there were buyers. This posed a problem for packers, who reacted by forming the Alaska Packers Association in order to control production. By 1895, landings in Bristol Bay reached 5 million sockeye and new canneries were built on the Ugashik, Egegik, Naknek, and Kvichak Rivers.<sup>34</sup>

The Spanish American War and Klondike Gold Rush bolstered the demand for canned salmon in the late nineteenth and early twentieth Century's. By 1901, there were 18 canneries throughout Bristol Bay, and landings reached 10 million sockeye salmon. Mechanization and industry expansion increased production substantially, causing it to peak in 1912 at 20 million salmon landed by over 1,000 gillnetters. From 1912 to 1917, production ranged between 20 and 25 million. The demand for canned salmon during World War I caused canneries to operate 24 hours a day, seven days a week, and allowed them to report record profits. However, in 1919, ultimately this caused a major crash in sockeye runs throughout Bristol Bay.<sup>35</sup>

Following the salmon crash, the White Act of 1924 was passed, which mandated a 50% escapement rate and turned the Alaskan salmon fishery over to the federal government to manage. The federal government in turn instituted fishery closures and gear restrictions including the abolishment of powerboats, purse seines, and fish traps; however, the new regulations were rarely enforced during the years immediately following the passage of the White Act.<sup>36</sup>

Commercial salmon fishing was strong in the 1920s and early 1930s and accounted for 80% of tax revenues collected by local and state governments. However, in 1935, variable runs, foreign encroachment, and the Great Depression stressed the industry and resulted in only 3

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<sup>33</sup> The Pebble Partnership. (2012). *Subsistence & Traditional Knowledge Studies*. Retrieved September 7, 2012 from: <http://www.arlis.org/docs/vol2/Pebble/2012%20Agency%20Meetings/29%20Subsistence%20and%20Traditional%20Resources%20-%20Steven%20Braund.pdf>.

<sup>34</sup> The Bristol Bay Economic Development Corporation. (2003). *An Analysis of Options to Restructure the Bristol Bay Salmon Fishery*. Retrieved March 14, 2012 from: <http://www.bbsalmon.com/FinalReport.pdf>.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

million salmon caught by commercial fishermen, which came close to a total shut-down of the Bristol Bay salmon fishery.<sup>37</sup>

World War II brought significant changes to the Bristol Bay commercial fishing industry. Worker shortages prompted processing plants to hire local labor and local fishermen. In Dillingham, fishermen and cannery workers formed co-ops in 1944 to counter what was seen as an overly influential industry. Following World War II, salmon runs were once again in decline; however, the Pacific Decadal Oscillation and lower ocean productivity was thought to be the cause. Overfishing in the Bering Sea also contributed to declines. By 1955, deep-sea catches by Japanese vessels reached 50 million salmon. Inshore catches, averaged at 6.7 million sockeye annually during the 1950s.<sup>38</sup>

After Alaska became a state in 1959, salmon management responsibility shifted to state managers. In Bristol Bay, this translated into stricter-season management and escapement monitoring. Seasons were regulated according to in-season run strength indicators instead of pre-season forecasts. However, salmon recovery was slow. Bristol Bay salmon fell to historic lows in 1973 when fewer than one million sockeye salmon were harvested commercially. In response, the state blamed Japanese fishing effort and established limits to fishery entry. Following an amendment to Alaska's constitution in 1972, the state issued transferable limited entry permits based on experience and economic dependence to the fishery. In 1976, the United States asserted jurisdiction over much of the outer continental shelf surrounding its coastlines, encompassing the 200-mi Exclusive Economic Zone. The combination of state revisions to the borders of Bering Sea fishing areas and favorable environmental conditions allowed for the beginning of salmon recovery.<sup>39</sup>

Salmon returned to the Bristol Bay region in 1978, when after a weak sockeye season, a surge in pink salmon into the Nushagak River overwhelmed processing capacity for the region. Sockeye returned in force the following year, and strong demands elevated prices over \$1.00 per pound. In 1980, over 64 million sockeye returned to Bristol Bay and subsequent seasons remained strong. By 1988, sockeye prices rose to \$2.40 per pound and average gross earnings by drift boat exceeded \$100,000 and the value of Bristol Bay drift permits surged to almost \$250,000. As permit value rose, entry into the fishery became increasingly contested and litigated and resulted in the state issuing additional permits.<sup>40</sup>

In addition, during this time Chile began exporting farmed salmon to Japan. While insignificant at first, salmon farming began to threaten the Alaska salmon industry and cause a significant drop in prices. A year after salmon prices peaked, they dropped to \$1.09 per pound. By 1991, seafood processors were offering \$0.50 per pound. This resulted in many fishermen striking. Many Alaskan fishermen made accusations of price-fixing from Japanese-owned seafood processors. However, during that time, Bristol Bay still maintained record salmon harvests, with 45 million salmon taken in 1995. Revenues remained high despite low prices due to large harvests.

In previous lean years, production shortages drove prices up. However, the abundance of farmed fish changed this. By 1997, the overall value of Bristol Bay salmon was cut in half from the previous year to \$63 million. Runs immediately after this had modest rebounds followed by more declines. Bristol Bay was declared both a state and federal disaster area and many permit

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<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

holders opted to not participate in the 2001 season. In 2002, additional fishermen as well as several canneries and cold storage facilities opted out as well. In that year, the Bristol Bay drift permit once valued at \$250,000 was valued at less than \$20,000. In addition, total ex-vessel value of the fishery was down 90% from its peak in 1992.<sup>41</sup>

### *Processing Plants*

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

### *Fisheries-Related Revenue*

Between 2000 and 2010, there was no known fisheries-related revenue generated for the community of Igiugig (Table 3).

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

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

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

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

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

<sup>41</sup> Ibid.

### *Commercial Fishing*

In 2010, five residents, or 10% of the population, held five commercial fishing permits issued by the Commercial Fisheries Entry Commission. Between 2000 and 2010, the number of CFEC permits held in the community decreased from its peak of nine in 2000. During those years, no residents held Federal Fisheries Permits (FFP), License Limitation Program (LLP) permits, or crab, halibut, or sablefish quota share. Of the CFEC permits held in 2010, 100% were for salmon, compared to 67% in 2000. CFEC herring permits were held between 2000 and 2003; however, they were only actively fished in 2000.

Residents held four commercial crew licenses in 2010, compared to eight in 2000; which was also the year in which the number of crew licenses held in the community peaked. Residents held majority ownership of one commercial fishing vessel in 2010, which was a significant decline from 2000, when residents held majority ownership of 14 vessels. In addition, the number of commercial fishing vessels homeported in Igiugig declined significantly from 35 in 2000 to 1 in 2006. No commercial fishing vessels were homeported in the community between 2007 and 2010.

Of the CFEC permits held in 2010, 80% were actively fished, compared to 89% in 2000; which was also the year in which permit activity peaked. The Bristol Bay drift gillnet salmon fishery was the only fishery prosecuted by Igiugig residents in 2010. Between 2000 and 2010, no landings were reported in Igiugig. Landings reported by residents are considered confidential with the exception of salmon landings in 2000 and 2001. In 2001, residents landed 152,055 lb of salmon valued at \$64,008 ex-vessel, compared to 155,553 lb valued at \$100,510 in 2000. Information regarding commercial fishing trends can be found in Tables 4 through 10.

Table 4. Permits and Permit Holders by Species, Igiugig: 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	n/a										
	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	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits <sup>1</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	n/a										
	Total permit holders	0	0	0	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	n/a										
	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	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (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	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	3	1	1	0	0	0	0	0	0	0	0
	Fished permits	2	0	0	0	0	0	0	0	0	0	0
	% of permits fished	67%	0%	0%	n/a							
	Total permit holders	2	1	1	0	0	0	0	0	0	0	0

Table 4 Cont. Permits and Permit Holders by Species, Igiugig: 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	n/a										
	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	n/a										
	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	n/a										
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	6	6	5	4	6	6	4	4	4	4	5
	Fished permits	6	4	3	2	4	2	2	1	3	2	4
	% of permits fished	100%	67%	60%	50%	67%	33%	50%	25%	75%	50%	80%
	Total permit holders	6	6	5	4	6	7	4	4	5	4	5
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	9	7	6	4	6	6	4	4	4	4	5
	<i>Fished permits</i>	8	4	3	2	4	2	2	1	3	2	4
	<i>% of permits fished</i>	89%	57%	50%	50%	67%	33%	50%	25%	75%	50%	80%
	<i>Permit holders</i>	7	6	5	4	6	7	4	4	5	4	5

<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 Igiugig: 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 Igiugig <sup>2</sup>	Total Net Lb Landed In Igiugig <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Igiugig <sup>2,5</sup>
2000	8	0	0	14	35	0	0	\$0
2001	3	0	0	14	29	0	0	\$0
2002	2	0	0	12	20	0	0	\$0
2003	1	0	0	10	26	0	0	\$0
2004	0	0	0	9	27	0	0	\$0
2005	3	0	0	1	1	0	0	\$0
2006	2	0	0	2	1	0	0	\$0
2007	2	0	0	1	0	0	0	\$0
2008	2	0	0	1	0	0	0	\$0
2009	2	0	0	1	0	0	0	\$0
2010	4	0	0	1	0	0	0	\$0

<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 Igiugig: 2000-2010.

<b>Year</b>	<b>Number of Halibut Quota Share Account Holders</b>	<b>Halibut Quota Shares Held</b>	<b>Halibut IFQ Allotment (lb)</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 7. Sablefish Catch Share Program Participation by Residents of Igiugig: 2000-2010.

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

<b>Year</b>	<b>Number of Crab Quota Share Account Holders</b>	<b>Crab Quota Shares Held</b>	<b>Crab IFQ Allotment (lb)</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.]

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

	<i>Total Net Lb<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	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>Total<sup>2</sup></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>Total<sup>2</sup></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.]

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

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

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

	<i>Total Net Lb<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	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	155,553	152,055	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	155,553	152,055	--	--	--	--	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$100,510	\$64,008	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	\$100,510	\$64,008	--	--	--	--	--	--	--	--	--

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 lb refers to the landed weight recorded in fish tickets.

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

### *Recreational Fishing*

The Bristol Bay salmon sportfishing season typically begins by the end of May when Chinook salmon begin to enter Bristol Bay drainages. Dolly Varden, Arctic char, and grayling can often be found feeding on out-migrating salmon fry, and northern pike are active as well. Most of the Kvichak River and drainages flowing into Iliamna Lake remain closed to fishing until June 8, when rainbow trout fishing opens in eastern sections of the river. Chinook become more accessible in eastern portions of Bristol Bay drainages, and Arctic char, Dolly Varden, northern pike, and grayling remain active. Sockeye salmon become popular targets for anglers in July, and are plentiful in the Kvichak River early in the month. Chum salmon are found in abundance by mid-July, and some coho may be found by the end of the month. Chinook salmon are closed to sportfishing in most Bristol Bay drainages by the end of July. Coho salmon are most plentiful in August and September, and by October, sportfishing opportunities are primarily limited to resident fish. Throughout the winter months rainbow trout, Dolly Varden, grayling, smelt, Arctic char, and northern pike can be targeted.<sup>42</sup>

While very little sportfishing is conducted from Igiugig, the Kvichak River is one of the most popular sportfishing destinations in Alaska. Many lodges line the river from Igiugig to Naknek, and four residents held sport fish guide licenses in 2010. No sport fish guide businesses were registered in Igiugig between 2006 and 2010, and no locally registered sport fish guide businesses were active between 2000 and 2010. The number of sportfishing licenses sold to residents remained relatively constant, averaging 11 per year between 2000 and 2010, and peaking at 15 in 2010.

Igiugig is located in the Kvichak River Drainage ADF&G Harvest Survey Area, which includes all lakes and tributaries of the Kvichak River drainage. In 2010, there was a total of 25,681 freshwater angler days fished, compared to 31,145 in 2000. In that year, non-Alaska residents accounted for 78.1% of freshwater angler days fished, compared to 66.9% in 2000. Total angler days fished peaked in 2007 at 33,417. In each year, Alaska residents accounted for significantly less freshwater angler days fished than non-Alaska residents. Saltwater sportfishing made up a comparatively insignificant portion of angler days fished within the Survey Area. In 2010, there were 22 saltwater angler days fished, compared to 236 in 2000. In that year, non-Alaska residents accounted for 100% of saltwater angler days fished, compared to 28.8% in 2000. The number of saltwater angler days fished peaked in 2002 at 449. Further information regarding sportfishing trends can be found in Table 11.

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<sup>42</sup> Alaska Department of Fish and Game. (n.d.). *Sport Fish Area Fishing Report – Bristol Bay*. Retrieved September 10, 2012 from: [http://www.adfg.alaska.gov/sf/FishingReports/index.cfm?ADFG=R2.summary&Area\\_key=19&RecordID=40](http://www.adfg.alaska.gov/sf/FishingReports/index.cfm?ADFG=R2.summary&Area_key=19&RecordID=40).

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

Year	Active Sport Fish Guide Businesses <sup>1</sup>	Sport Fish Guide Licenses <sup>1</sup>	Sport Fishing Licenses Sold to Residents <sup>2</sup>	Sport Fishing Licenses Sold in Igiugig <sup>2</sup>
2000	0	2	13	0
2001	0	2	14	0
2002	0	1	12	0
2003	0	0	12	0
2004	0	0	12	0
2005	0	2	10	0
2006	0	2	12	0
2007	0	1	8	0
2008	0	4	7	0
2009	0	4	4	0
2010	0	4	15	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	68	168	20,848	10,297
2001	214	43	21,554	8,202
2002	435	14	19,495	6,618
2003	74	50	18,248	5,831
2004	129	101	20,785	5,263
2005	38	79	22,156	4,179
2006	114	28	28,013	4,054
2007	229	38	30,340	3,077
2008	179	65	24,104	5,127
2009	0	0	17,234	6,514
2010	0	22	20,068	5,613

<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*

Residents of Igiugig follow a seasonal subsistence pattern. In the summer, sockeye salmon is heavily relied upon, while fall and winter involves hunting for caribou and moose. Species commonly harvested for subsistence purposes include all five species of Pacific salmon, rainbow trout, whitefish, Arctic grayling, and blackfish. Most community members use drift or set nets for catching salmon, and once harvested, fish are generally cooked fresh, smoked, or frozen.<sup>43</sup>

There are several fish camps located along the Kvichak River where sockeye, coho, and Chinook salmon are harvested. During the winter, Dolly Varden, Northern pike, Arctic grayling and trout are harvested. In 2005, 91% of households were estimated to participate in subsistence activities involving salmon, 49% were estimated to participate in activities involving marine mammals, and 56% were estimated to participate in subsistence activities involving non-salmon fish. Another account by Krieg et al<sup>44</sup> found that 100% of Igiugig households harvested salmon and non-salmon fish. In addition, beluga whales and freshwater harbor seals were harvested in 2005 (beluga whales were harvested outside of Naknek and freshwater seals were harvested within the Kvichak River). There is no record of residents harvesting marine invertebrates. Halibut was used by 25% of households in 2005, although it was not harvested directly.<sup>45</sup>

Of the species listed by ADF&G in Table 13, residents reported harvesting sockeye salmon the most, followed by chum, Chinook, coho, and pink salmon. In 2008, residents reported harvesting 1,710 salmon, compared to 2,022 in 2000; which was also the year in which reported salmon harvests peaked. The number of subsistence salmon permits issued to residents remained relatively constant between 2000 and 2008. In 2005, an estimated 2,606 lb of non-salmon fish was harvested. No residents were issued Subsistence Halibut Registration Certificates between 2003 and 2009. In terms of marine mammals, an estimated six beluga whales were harvested between 2000 and 2010. In addition, residents reported harvesting five freshwater seals in 2005.<sup>46</sup>

According to ADF&G *Community Subsistence Information System* records,<sup>47</sup> species which residents have historically used include: butter clams, Dungeness crab, freshwater clams, horse clams, octopus, littleneck clams, pinkneck clams, razor clams, shrimp, Tanner crab, bearded seal, harbor seal, ringed seal, Steller sea lion, blackfish, broad whitefish, bullhead sculpin, burbot, char, Dolly Varden, flounder, grayling, herring, humpback whitefish, lake trout, least cisco, lingcod, rainbow trout, rockfish, round whitefish, smelt, steelhead, stickleback, sucker, cod, and pike. Information regarding subsistence trends can be found in Tables 12 through 15.

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<sup>43</sup> Igiugig Village Council. (n.d.). *Subsistence Living*. Retrieved October 18, 2012 from: <http://www.igiugig.com/village-life/life-in-igiugig/subsistence-living>.

<sup>44</sup> Krieg, T. M., Holen, D. L.; and Koster, D. (2009). *Subsistence Harvests and Uses of Wild Resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005*. Alaska Department of Fish and Game. Technical Paper No. 322. Retrieved October 19, 2012 from: <http://www.subsistence.adfg.state.ak.us/techpap/TP322.pdf>

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</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, Igiugig: 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	91%	n/a	49%	n/a	56%	265
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, Igiugig: 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>	Lb of Marine Inverts <sup>2</sup>	Lb of Non-Salmon Fish <sup>2</sup>
2000	8	8	5	14	19	3	1,981	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	7	7	2	n/a	n/a	n/a	1,336	n/a	n/a
2005	6	6	2	n/a	1	14	1,017	n/a	2,606
2006	7	5	n/a	n/a	n/a	n/a	1,252	n/a	n/a
2007	7	6	1	2	n/a	n/a	1,828	n/a	n/a
2008	8	8	8	29	n/a	n/a	1,673	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, Igiugig: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb 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, Igiugig: 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	1	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	3	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	2	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

<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.