Regional Analysis of Fish Consumption Rate Estimates for Rural Alaska Populations

Overview of Methodology

Survey

The Alaska Department of Fish and Game Division of Subsistence (ADF&G) collects information on community-level harvest and use patterns of wild resources through a series of standardized questions that are administered at the household level by ADF&G staff and trained local research assistants. Survey questions relevant to this report pertain to amounts of resources harvested by the household and, regardless of any household harvest, if a household used, received, or gave away a given resource. Survey designs take the form of either comprehensive surveys (including all resource categories: salmon, non-salmon fish, marine invertebrates, land mammals, marine mammals, and vegetation) or targeted surveys (i.e. salmon only). Harvests reported to and recorded by ADF&G during household surveys are not limited to subsistence harvests as defined by state regulations and recorded through permit returns; all harvests of resources taken by methods defined under sport, personal use, and subsistence regulations, as well as resources procured through commercial home-packs, are recorded and used to develop the harvest and use profiles for each study community. Depending on community size, a 70-100% sample achievement is often sought and attained. Each study community is unique and specific sampling methodology can be found within Division Technical Papers that report study findings (http://www.adfg.alaska.gov/sf/publications/).

Study Communities and Resources

Communities surveyed by ADF&G representing 2008-2015 harvest (study) years were considered for inclusion in this preliminary analysis. In some instances, ADF&G-defined study communities ('study communities') included multiple census-designated communities. A total of 110 study communities, consisting of 118 census-designated communities and representing six regions of Alaska, were included in the final analyses in this report (refer to Appendix A and C for a map of the regions and list communities, respectively). Communities deemed rural by State definition (refer to Fall, 2016) were included in this analysis, thus eliminating the following communities that were also surveyed by ADF&G during the time period under consideration: Healy (2014), Denali Park Village (2015), Talkeetna (2012), Trapper Creek (2012), Ferry (2015), and Mentasta Pass (2010). The resource categories salmon, non-marine fish (non-salmon), halibut, herring, marine invertebrates, and marine mammals were selected for the analyses in this report in response to the needs of the Alaska Department of Environmental Conservation's (ADEC) request for fish consumption rate estimates to be considered for updates to the human health criteria portion of the water quality criteria. As a result, any resource harvested for dog food was removed prior to analysis as were spotted seals, which are primarily used for dogfood and crafts (e.g. the skins for sewing). The study community Allakaket (2011) was not included in this analysis despite it being classified as rural due to the inability to confidently decipher fish harvested for dog food from fish harvested for human consumption.

Percentiles

Computation of percentiles was done based on previous work between ADF&G and ADEC for the development of wild food consumption rate estimates (see Wolfe & Utermohle, 2000). Briefly, the method to determine percentiles of fish consumption involves creating three user groups within each study community at the species level: 1) households that harvested a resource and did not share; 2) households that harvested a resource and shared with others or households that did not harvest a resource and received from others; 3) households that did not use the resource. For households harvesting and not sharing, use level per person is computed by dividing total household harvest by total household size, assuming all harvest was consumed equally by all residents of the household. Use level per person for households in user group two, constituting the sharing group, was computed by summing all household harvests of those households that harvested and shared and dividing it by the sum of all households who gave or received the resource under the assumption that all harvests were shared within the study community and consumed equally by all individuals of households reporting use of the resource. Households reporting no use of the resource received a use level of zero. Use levels for each species were then summed based on the analysis of interest (i.e. inclusion/exclusion of marine mammals), which was rank ordered and the percentile rank occupant of interest (75th, 85th, 90th, and 95th) was identified.

Outliers

At the species level, outliers were identified as being two standard deviations from the mean study-community consumption estimate rate and a consumption rate estimate of twice the upper limit of the suggested daily intake of fish/protein (340.2 grams per day). Outliers not reporting resource sharing were adjusted to reflect sharing of the resource in effort to reflect the availability of that resource to other households within the study community. In special cases whereby, an outlier was identified but households using the resource in the study community was below that of the number of households the harvesting household reported sharing with (as reflected in field notes) the harvest was removed from the study community total under the assumption that the majority of the harvest was likely shared outside of the study community.

Urban Estimates

Data from annual harvest monitoring programs for fish and marine mammals were used to calculate fish consumption rate estimates for urban residents. For further insight into calculations please refer to Fall (2016) and ADF&G (2016). Species could not be selected out for this portion of the exercise nor could percentiles be calculated as data was not available at the household level.

Table 1. Sum total salmon, nonmarine fish, and marine invertebrate per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	143.3	109.9	200.1	261.9	310.5	395.5	156.1	121.5	211.1	272.2	322.5	404.9
Southeast	124.6	91.9	168.3	231.3	269.6	330.0	129.3	92.9	170.1	236.5	282.5	330.0
Southcentral	105.6	85.1	144.0	186.3	219.4	290.4	116.8	96.2	151.5	192.5	233.1	298.4
Southwest	185.2	167.9	248.5	298.4	340.2	396.7	192.7	170.4	253.4	298.7	341.9	398.4
Western	194.7	154.3	265.5	346.7	409.2	504.9	203.5	161.4	270.6	358.4	415.3	509.5
Arctic	133.6	95.0	190.2	264.1	306.8	376.6	148.5	104.2	207.6	273.7	318.6	393.7
Interior	109.8	86.8	163.1	203.5	238.4	302.4	128.2	107.1	173.0	219.8	249.9	312.7

Source ADF&G Division of Subsistence household surveys, 2009-2016.

Figure 1. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of salmon, nonmarine fish, and marine invertebrates by region, Alaska.

Table 2. Sum total salmon, nonmarine fish, marine invertebrate, and marine mammal (excluding bowhead whale) per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	166.4	130.4	240.5	315.2	361.4	449.0	181.0	144.0	253.9	326.9	371.1	458.9
Southeast	139.5	94.4	210.1	269.6	310.3	369.3	144.7	100.5	214.4	277.8	312.3	369.7
Southcentral	108.7	85.6	149.0	192.4	231.8	309.7	120.2	97.6	155.4	200.7	237.4	319.5
Southwest	192.2	168.2	260.9	302.4	345.7	424.4	200.0	174.1	262.0	304.3	351.4	424.8
Western	221.7	178.4	316.3	395.8	456.0	561.0	231.6	188.9	322.8	403.6	463.4	562.6
Arctic	191.2	161.0	300.2	355.3	393.3	473.4	211.1	175.8	315.4	361.6	404.3	488.3
Interior	109.8	86.8	163.1	203.5	238.4	302.4	128.2	107.1	173.0	219.8	249.9	312.7

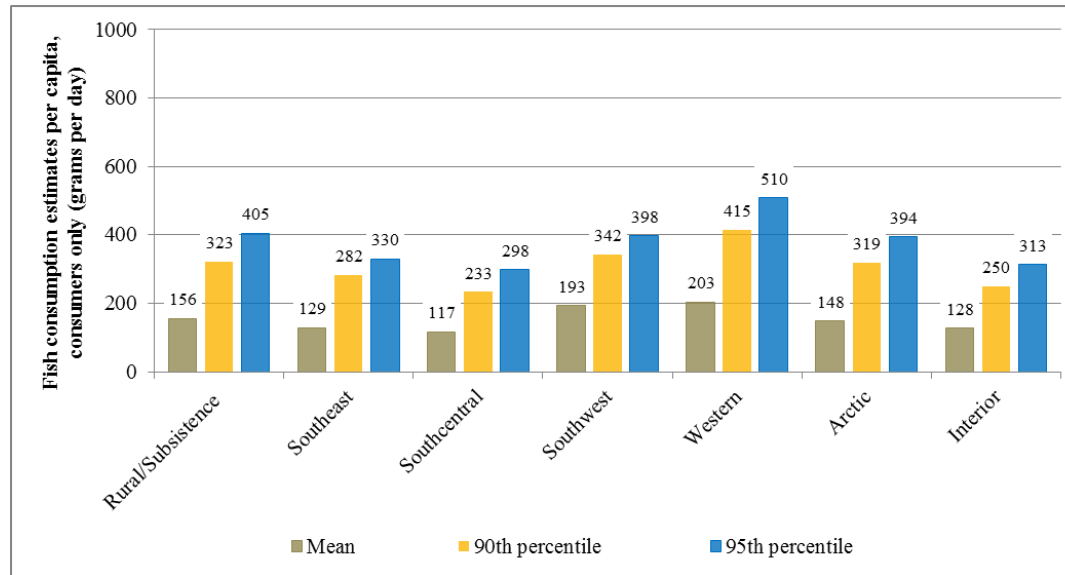Source ADF&G Division of Subsistence household surveys, 2009-2016.

Figure 2. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of salmon, nonmarine fish, marine invertebrates, and marine mammals (excluding bowhead whales) by region, Alaska.

Table 3. Sum total salmon, nonmarine fish, marine invertebrate, and marine mammal per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	183.7	133.2	256.3	343.19	426.9	575.8	199.3	148.7	271.2	360.3	442.1	587.0
Southeast	139.5	94.4	210.1	269.6	310.3	369.3	144.7	100.5	214.4	277.8	312.3	369.7
Southcentral	108.7	85.6	149.0	192.4	231.8	309.7	120.2	97.6	155.4	200.7	237.4	319.5
Southwest	192.2	168.2	260.9	302.4	345.7	424.4	200.0	174.1	262.0	304.3	351.4	424.8
Western	221.7	178.4	316.3	395.8	456.0	561.0	231.6	188.9	322.8	403.6	463.4	562.6
Arctic	260.3	181.3	406.6	558.4	641.4	694.8	284.5	218.0	435.7	579.4	647.9	698.2
Interior	109.8	86.8	163.1	203.5	238.4	302.4	128.2	107.1	173.0	219.8	249.9	312.7

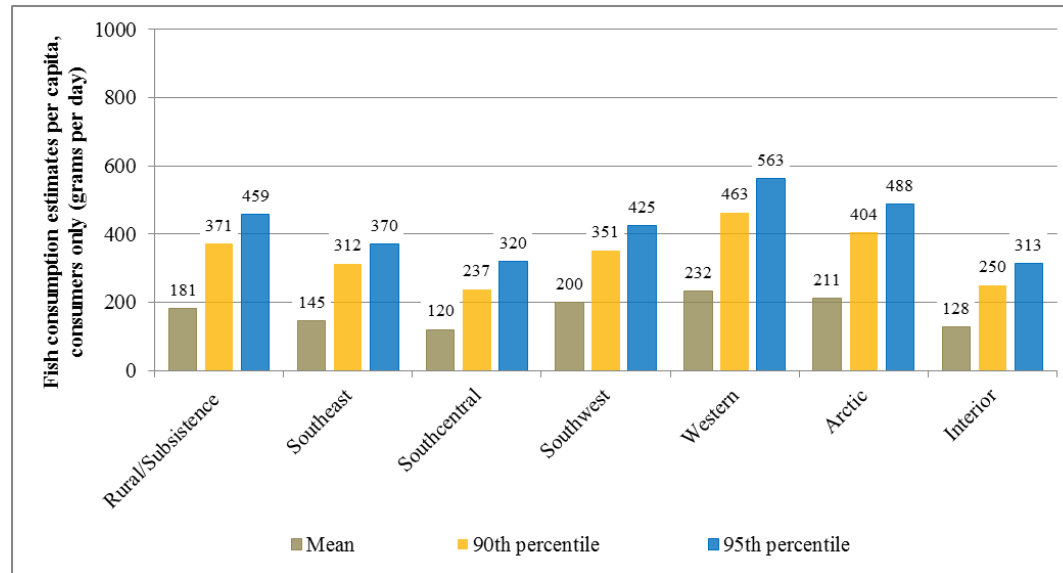Source ADF&G Division of Subsistence household surveys, 2009-2016.

Figure 3. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of salmon, nonmarine fish, marine invertebrates, and marine mammals by region, Alaska.

Table 4. Sum total salmon, nonmarine fish, halibut, herring, and marine invertebrate per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	152.9	119.4	216.8	277.3	327.4	415.5	165.7	130.5	227.8	289.0	336.1	424.6
Southeast	174.1	142.8	235.2	307.0	337.2	402.0	179.5	147.7	241.2	307.8	337.5	409.8
Southcentral	118.6	101.5	157.0	203.5	242.2	314.8	129.6	109.7	161.6	216.1	255.3	327.4
Southwest	191.0	168.2	260.9	303.8	351.4	433.9	198.7	172.3	261.1	304.3	354.9	438.5
Western	201.1	162.7	273.0	356.0	417.9	509.5	209.9	170.7	280.1	366.5	424.6	514.6
Arctic	137.6	95.8	198.0	276.0	323.3	381.9	152.3	106.0	220.7	294.3	330.7	395.8
Interior	112.4	91.0	165.1	206.2	242.0	302.4	130.2	108.2	176.2	221.0	251.0	311.9

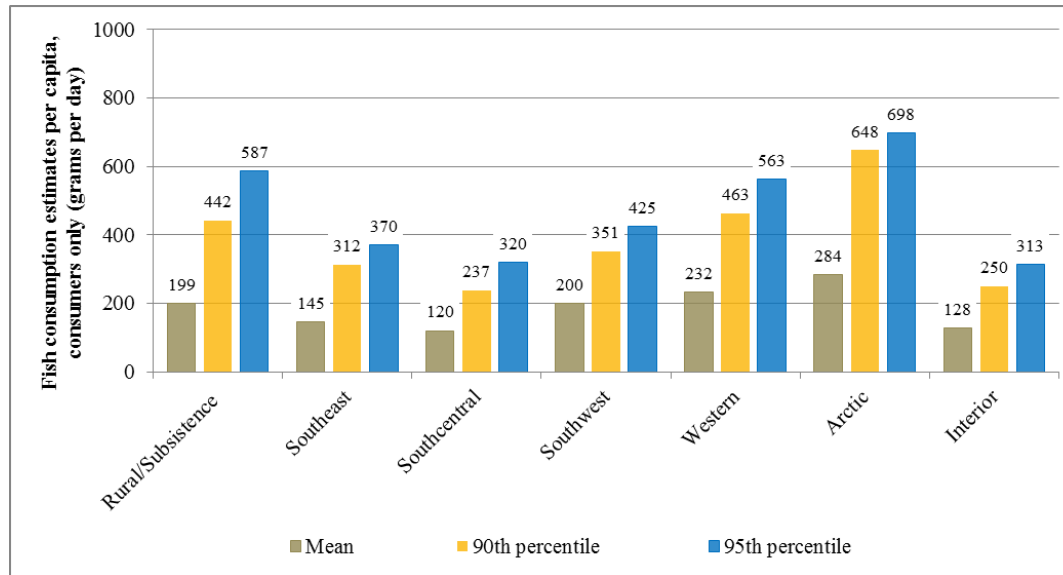Source ADF&G Division of Subsistence household surveys, 2009-2016.

Figure 4. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of salmon, nonmarine fish, halibut, herring, and marine invertebrates by region, Alaska.

Table 5. Sum total salmon, nonmarine fish, halibut, herring, marine invertebrate, seal, and sea lion per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	167.4	134.6	238.4	304.9	354.1	449.3	181.2	147.0	248.9	315.2	364.88	456.5
Southeast	185.9	150.7	277.0	324.5	352.5	424.0	191.7	158.6	279.5	325.6	357.6	424.6
Southcentral	121.6	101.9	158.5	211.2	254.5	329.8	132.7	110.2	165.1	221.7	257.9	338.3
Southwest	196.3	169.7	261.1	313.9	357.9	455.9	204.2	175.6	266.2	318.5	363.1	475.0
Western	216.5	172.7	303.8	385.7	452.3	543.4	225.8	184.2	311.3	393.6	455.3	548.3
Arctic	173.3	149.9	252.4	322.5	365.9	448.6	191.1	164.4	263.9	332.1	376.6	458.9
Interior	112.4	91.0	165.1	206.2	242.0	302.4	130.2	108.2	176.2	221.0	251.0	311.9

Source ADF&G Division of Subsistence household surveys, 2009-2016.
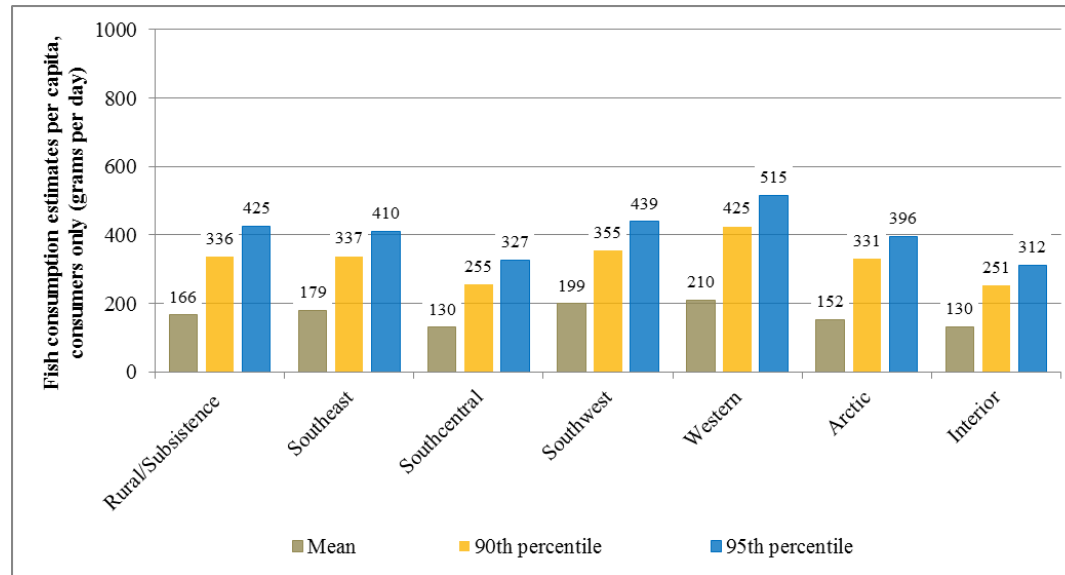

Figure 5. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of salmon, nonmarine fish, halibut, herring, marine invertebrates, seal, and sea lion by region, Alaska.

Table 6. Sum total nonmarine fish, and marine invertebrate per capita consumption comparisons, Alaska.

	Fish Consumption Estimates Per Capita (grams per day)											
	Consumers and non-consumers						Consumers only					
			Percentiles						Percentiles			
Area	Mean	Median	75th	85th	90th	95th	Mean	Median	75th	85th	90th	95th
Urban	8.9	-	-	-	-	-	-	-	-	-	-	-
Rural/Subsistence	48.7	21.5	63.8	98.5	133.9	205.0	66.9	41.0	84.0	126.5	160.6	239.6
Southeast	30.5	16.8	40.8	64.8	81.8	108.8	38.2	21.7	51.0	74.5	94.1	125.9
Southcentral	15.3	1.8	13.9	27.8	40.9	73.8	26.9	11.3	29.8	51.0	69.5	93.4
Southwest	47.3	43.1	64.5	74.9	113.7	118.5	61.9	53.0	70.0	88.6	118.2	122.9
Western	64.2	41.6	99.3	134.3	155.7	200.7	79.9	58.5	114.8	143.4	171.3	213.9
Arctic	74.9	42.1	85.3	144.4	237.9	300.6	93.0	55.3	101.5	206.0	261.2	318.6
Interior	31.9	10.0	37.7	65.1	94.2	144.7	49.9	28.6	63.4	97.3	126.7	157.9

Source ADF&G Division of Subsistence household surveys, 2009-2016.
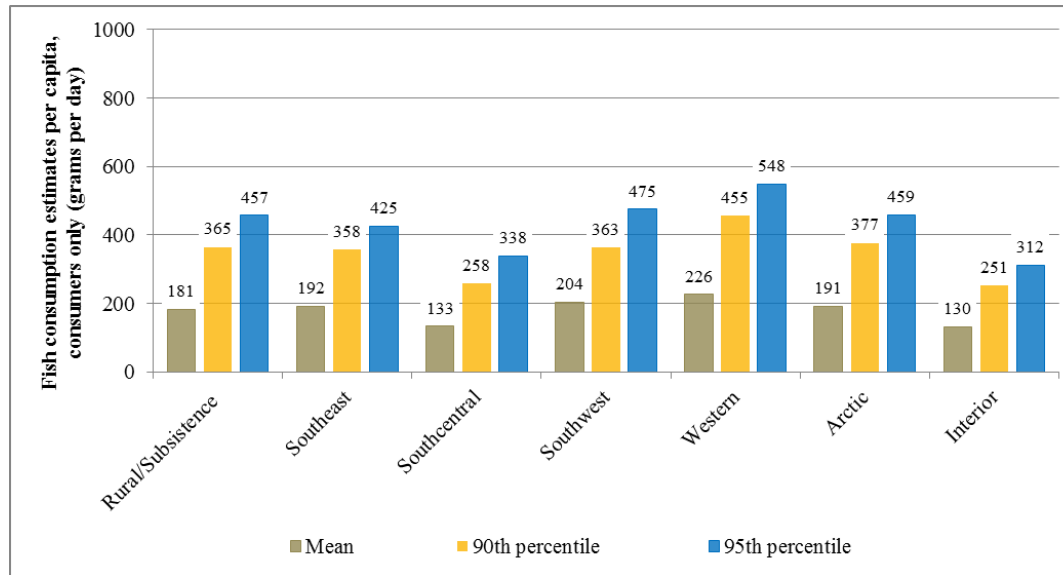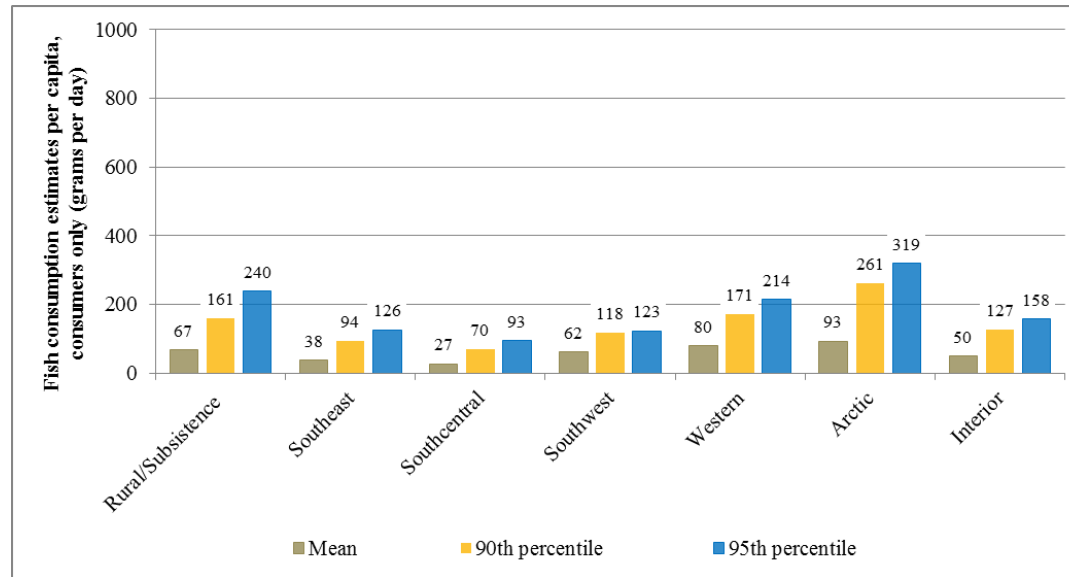

Figure 6. Mean, 90th percentile, and 95th percentile fish consumption rate estimates per capita (grams per day) comparisons for consumers of nonmarine fish, and marine invertebrates by region, Alaska.
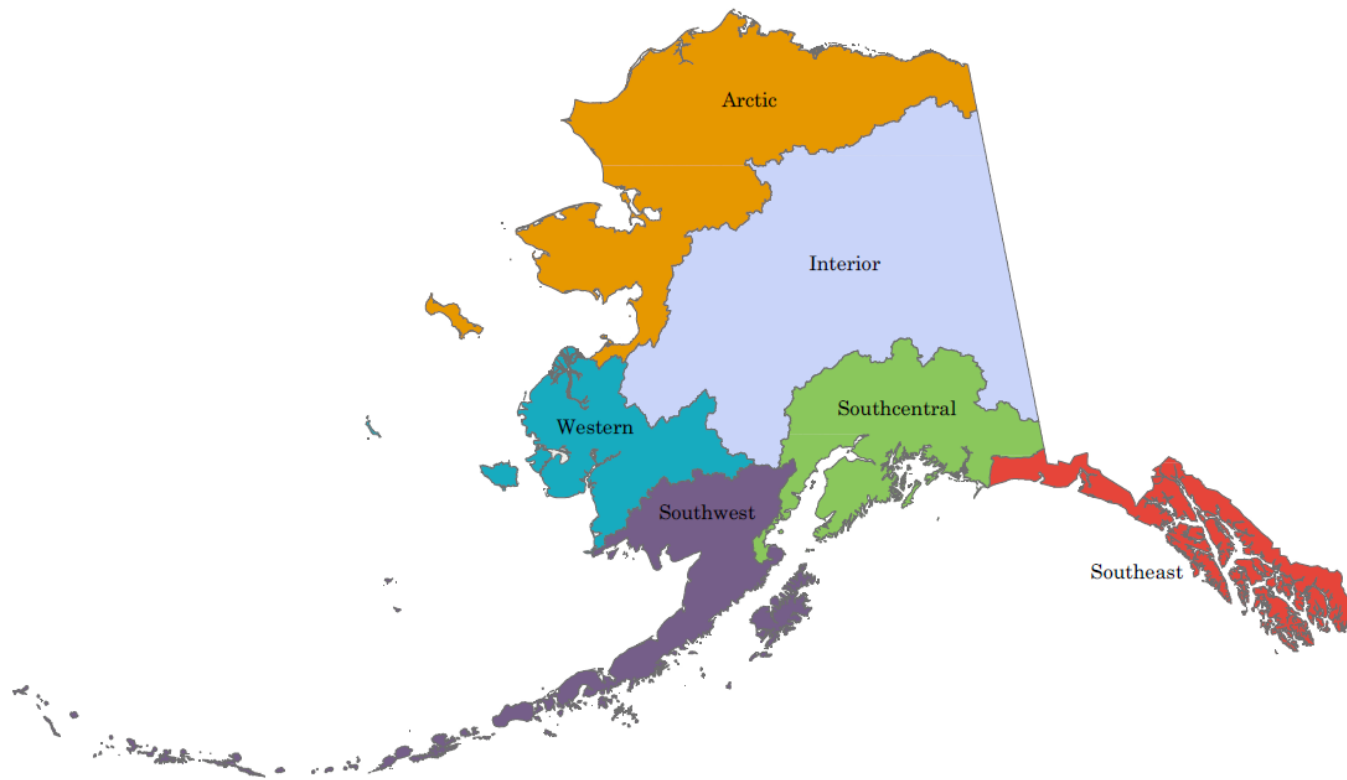
Figure A1. Map of Alaska regions applied in analysis.

Appendix B

Table B1. Ethnic composition of survey participants by region, Alaska.

Region	% of surveyed population that is Alaska Native	% of population of consumers that is Alaska Native
Southeast	55.9%	55.1%
Southcentral	35.3%	33.4%
Southwest	84.9%	83.7%
Western	90.2%	88.7%
Arctic	89.9%	85.3%
Interior	60.7%	57.1%

Source ADF&G Division of Subsistence household surveys, 2009-2016.

Table C1. Southeast Alaska study communities.

Community	Study year	Sampled		Estimated		Average household size	% of population that is Alaska Native	Study type
		Households	Population	Households	Population			
Angoon	2012	51	143	122	342.1	2.8	89.5%	Comprehensive
Haines	2012	132	310	818	1921.1	2.4	15.8%	Comprehensive
Hoonah	2012	122	319	280	732.1	2.6	64.0%	Comprehensive
Hydaburg	2012	48	134	119	332.2	2.8	92.5%	Comprehensive
Klukwan	2014	24	48	32	64.0	2.0	91.7%	Comprehensive
Whale Pass	2012	21	43	27	55.3	2.1	0.0%	Comprehensive
Yakutat	2015	101	249	240	591.7	2.5	59.0%	Comprehensive

Table C2. Southcentral Alaska study communities.

Community	Study year	Sampled Households	Sampled Population	Estimated community Households	Estimated community Population	Average household size	% of population that is Alaska Native	Study type
Cantwell	2012	55	130	83	196.2	2.4	17.7%	Comprehensive
Chase	2012	16	31	18	34.9	1.9	0.0%	Comprehensive
Chenega	2014	12	25	17	35.4	2.1	64.0%	Comprehensive
Chistochina	2009	27	71	33	86.8	5.3	64.8%	Comprehensive
Chitina	2012	46	114	54	133.8	2.5	42.1%	Comprehensive
Copper Center[1]	2010	80	218	158	430.6	2.7	39.5%	Comprehensive
Cordova	2014	184	504	950	2602.2	2.7	15.9%	Comprehensive
Gakona	2012	42	110	77	201.7	2.6	20.9%	Comprehensive
Glennallen	2013	77	211	140	383.6	2.7	17.5%	Comprehensive
Gulkana	2013	29	91	33	103.6	3.1	69.2%	Comprehensive
Kenny Lake[2]	2012	67	164	174	417.2	2.5	11.6%	Comprehensive
Lake Louise	2013	10	19	14	26.6	1.9	0.0%	Comprehensive
McCarthy Road	2012	39	69	58	102.6	1.8	1.5%	Comprehensive
Mendeltna	2013	10	24	14	33.6	2.4	0.0%	Comprehensive
Mentasta Lake	2010	23	68	36	106.4	3.0	85.3%	Comprehensive
Nanwalek	2014	56	223	58	231.0	4.0	91.9%	Comprehensive
Nelchina	2013	18	47	29	75.7	2.6	8.5%	Comprehensive
Paxson	2013	8	23	11	31.6	2.9	0.0%	Comprehensive
Port Graham	2014	41	105	58	148.5	2.6	89.5%	Comprehensive
Seldovia[3]	2014	95	208	127	278.1	2.2	23.1%	Comprehensive
Skwentna	2012	30	53	35	61.8	1.8	3.8%	Comprehensive
Slana[4]	2010	62	127	86	176.2	2.1	15.8%	Comprehensive
Susitna	2012	11	20	13	23.6	1.8	10.0%	Comprehensive
Tatitlek	2014	21	58	27	74.6	2.8	87.9%	Comprehensive
Tazlina	2013	79	232	120	352.4	2.9	39.2%	Comprehensive
Tolsona	2013	8	16	12	24.0	2.0	0.0%	Comprehensive
Tonsina	2013	23	53	39	89.9	2.3	11.3%	Comprehensive
Tyonek	2013	49	111	63	142.7	2.3	95.5%	Comprehensive

[1]Copper Center includes Silver Springs and Copper Center CDPs.
[2]Kenny Lake includes Willow Creek and Kenny Lake CDPs.
[3]Seldovia includes Seldovia Village and Seldovia CDPs.
[4]Slana includes Nebesna and Slana CDPs.

Table C3. Southwest Alaska study communities.

Community	Study year	Sampled		Estimated community		Average household size	% of population that is Alaska Native	Study type
		Households	Population	Households	Population			
Akutan	2008	36	74	40	82.2	2.1	93.2%	Comprehensive
Chignik City	2014	25	64	30	76.8	2.6	65.6%	Salmon only
Chignik Lagoon	2014	16	45	25	70.3	2.8	80.0%	Salmon only
Chignik Lake	2014	19	55	26	75.3	2.9	90.9%	Salmon only
Clarks Point	2014	13	27	15	31.2	2.2	92.6%	Salmon only
Dillingham	2014	200	595	997	2902.4	3.0	63.4%	Salmon only
Egegik	2014	20	57	25	71.3	2.9	70.2%	Comprehensive
Ekwok	2014	30	84	36	100.8	2.8	94.1%	Salmon only
Koliganek	2014	51	168	60	197.7	3.3	95.2%	Comprehensive
New Stuyahok	2014	101	464	112	514.5	4.6	97.0%	Salmon only
Perryville	2014	34	99	39	113.6	2.9	98.0%	Salmon only
Pilot Point	2014	17	47	23	63.6	2.8	83.0%	Comprehensive
Togiak	2008	80	341	188	801.4	4.3	98.0%	Comprehensive
Ugashik	2014	4	5	7	8.8	1.3	60.0%	Comprehensive

Table C4. Western Alaska study communities.

Community	Study year	Sampled		Estimated community		Average household size	% of population that is Alaska Native	Study type
		Households	Population	Households	Population			
Akiak	2010	63	273	89	385.7	4.3	86.8%	Comprehensive
Bethel	2012	466	1607	1645	5672.8	3.5	70.8%	Comprehensive
Eek	2013	64	247	90	347.3	3.9	97.2%	Comprehensive
Emmonak	2008	109	480	179	788.3	4.4	97.9%	Comprehensive
Kwethluk	2010	93	428	155	713.3	4.6	97.7%	Comprehensive
Marshall	2010	46	185	85	341.9	4.0	96.8%	Comprehensive
Mountain Village	2010	115	499	181	785.4	4.3	95.2%	Comprehensive
Napakiak	2011	56	199	89	316.3	3.6	93.0%	Comprehensive
Napaskiak	2011	56	280	96	480.0	5.0	96.1%	Comprehensive
Oscarville	2010	12	54	14	63.0	4.5	98.2%	Comprehensive
Pilot Station	2013	94	460	128	626.4	4.9	96.7%	Comprehensive
Quinhagak	2013	109	493	162	732.7	4.5	99.2%	Comprehensive
Russian Mission	2011	46	234	79	401.9	5.1	95.7%	Comprehensive
Scammon Bay	2013	86	439	123	627.9	5.1	97.3%	Comprehensive
Tuluksak	2010	68	360	86	455.3	5.3	99.2%	Comprehensive
Tuntutuliak	2013	67	266	104	412.9	4.0	97.4%	Comprehensive

Table C5. Arctic Alaska study communities.

Community	Study year	Sampled		Estimated community		Average household size	% of population that is Alaska Native	Study type
		Households	Population	Households	Population			
Ambler	2014	55	202	74	271.8	3.7	91.6%	Fish only
Barrow	2014	259	869	1584	5314.7	3.4	66.7%	Comprehensive
Buckland	2014	90	475	98	517.2	5.3	97.7%	Fish only
Deering	2013	32	93	44	127.9	2.9	93.6%	Comprehensive
Diomede	2013	25	51	39	79.6	2.0	94.1%	Comprehensive
Golovin	2012	33	101	59	180.6	3.1	85.2%	Comprehensive
Kiana	2014	73	295	98	396.0	4.1	95.3%	Fish only
Kobuk	2014	28	128	33	150.9	4.6	86.7%	Fish only
Kotzebue	2014	214	773	826	2983.6	3.6	77.4%	Comprehensive
Noatak	2014	106	469	125	553.1	4.4	97.4%	Fish only
Noorvik	2014	96	427	124	551.5	4.5	98.1%	Fish only
Nuiqsut	2014	58	223	108	415.2	3.9	96.0%	Comprehensive
Point Hope	2014	105	439	176	735.9	4.2	97.5%	Comprehensive
Point Lay	2014	40	177	63	278.8	4.4	92.1%	Fish only
Selawik	2014	161	692	183	786.6	4.3	96.7%	Fish only
Shishmaref	2014	86	379	140	617.0	4.4	96.3%	Comprehensive
Shungnak	2014	43	177	62	255.2	4.1	94.9%	Fish only
Stebbins	2013	87	369	135	572.6	4.2	93.5%	Comprehensive
Wainwright	2014	75	292	145	564.5	3.9	96.6%	Fish only

Table C6. Interior Alaska study communities.

Community	Study year	Sampled		Estimated community		Average household size	% of population that is Alaska Native	Study type
		Households	Population	Households	Population			
Alatna	2011	6	21	9	31.5	3.5	100.0%	Comprehensive
Anderson	2015	50	118	79	186.4	2.4	1.7%	Comprehensive
Anvik	2011	24	66	32	88.0	2.8	95.5%	Comprehensive
Beaver	2011	25	50	36	72.0	2.0	100.0%	Comprehensive
Bettles	2011	8	12	8	12.0	1.5	0.0%	Comprehensive
Coldfoot	2011	4	8	5	10.0	2.0	0.0%	Comprehensive
Dot Lake[5]	2011	14	33	21	49.5	2.4	63.6%	Comprehensive
Dry Creek	2011	27	82	30	91.1	3.0	0.0%	Comprehensive
Evansville	2011	13	20	13	20.0	1.5	45.0%	Comprehensive
Galena	2010	80	215	158	424.6	2.7	68.4%	Comprehensive
Grayling	2011	41	158	55	212.0	3.9	96.8%	Comprehensive
Hughes	2014	26	69	34	90.2	2.7	100.0%	Comprehensive
Manley Hot Springs	2012	41	87	58	123.1	2.1	23.0%	Comprehensive
McGrath	2011	108	271	142	356.3	2.5	59.0%	Comprehensive
Minto	2012	46	133	61	176.4	2.9	95.5%	Comprehensive
Nenana[6]	2015	134	322	243	583.9	2.4	34.8%	Comprehensive
Nikolai	2011	26	78	39	117.0	3.0	91.0%	Comprehensive
Northway[7]	2014	55	146	73	193.8	2.7	87.7%	Comprehensive
Nulato	2010	84	243	90	260.4	2.9	96.7%	Comprehensive
Rampart	2014	7	21	13	39.0	3.0	100.0%	Comprehensive
Ruby city	2010	47	128	66	179.7	2.7	82.8%	Comprehensive
Shageluk	2013	26	76	29	84.8	2.9	97.4%	Comprehensive
Stevens Village	2014	4	10	4	10.0	2.5	100.0%	Comprehensive
Takotna	2011	14	33	22	51.9	2.4	51.5%	Comprehensive
Tok	2011	143	338	555	1311.8	2.4	16.3%	Comprehensive
Wiseman	2011	5	13	5	13.0	2.6	0.0%	Comprehensive

[5]Dot Lake includes Dot Lake Village and Dot Lake CDPs.
[6]Nenana includes Four Mile Road and Nenana CDPs.
[7]Northway includes Northway Junction, Northway Village, and Northway CDPs.

Appendix D

Table D1. Harvest and use characteristics by species, Southeast Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	93.0%	69.0%	66.0%	69.0%	54.0%	94.1
Chum salmon	22.0%	17.0%	16.0%	8.0%	10.0%	5.1
Coho salmon	59.0%	45.0%	43.0%	27.0%	31.0%	23.6
Chinook salmon	71.0%	44.0%	39.0%	45.0%	29.0%	13.7
Pink salmon	25.0%	21.0%	20.0%	7.0%	8.0%	4.8
Sockeye salmon	73.0%	48.0%	45.0%	46.0%	39.0%	46.9
Unknown salmon	4.0%	1.0%	0.0%	3.0%	1.0%	0.1
Nonsalmon fish	86.0%	56.0%	52.0%	65.0%	43.0%	53.6
Pacific herring	21.0%	16.0%	16.0%	8.0%	8.0%	6.1
Pacific halibut	83.0%	46.0%	40.0%	61.0%	39.0%	43.4
Char	1.0%	1.0%	1.0%	0.0%	0.0%	0.1
Brook trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Dolly Varden	20.0%	17.0%	17.0%	5.0%	5.0%	3.1
Arctic grayling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Cutthroat trout	7.0%	7.0%	6.0%	2.0%	2.0%	0.6
Rainbow trout	6.0%	5.0%	5.0%	2.0%	1.0%	0.2
Steelhead	6.0%	5.0%	4.0%	2.0%	2.0%	0.1
Unknown trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown whitefishes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	27.0%	10.0%	10.0%	22.0%	12.0%	14.9
Fur seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Harbor seal	25.0%	9.0%	8.0%	21.0%	10.0%	11.9
Unknown seal oil	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Sea otter	4.0%	3.0%	3.0%	1.0%	2.0%	3.0
Steller sea lion	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine invertebrates	78.0%	47.0%	46.0%	63.0%	36.0%	26.4
Abalone	2.0%	1.0%	1.0%	1.0%	1.0%	0.1
Chitons (bidarkis, gumboots)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Red (large) chitons	2.0%	2.0%	2.0%	2.0%	1.0%	0.4
Black (small) chitons	18.0%	13.0%	13.0%	9.0%	9.0%	1.9
Unknown chitons	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Butter clams	22.0%	15.0%	15.0%	11.0%	11.0%	3.0
Horse clams	1.0%	1.0%	1.0%	0.0%	0.0%	0.1
Pacific littleneck clams (steamers)	14.0%	10.0%	10.0%	6.0%	5.0%	1.0
Pinkneck clams	1.0%	1.0%	1.0%	0.0%	1.0%	0.4
Razor clams	2.0%	1.0%	1.0%	1.0%	1.0%	0.2
Unknown clams	1.0%	1.0%	1.0%	1.0%	0.0%	0.1
Basket cockles	22.0%	14.0%	14.0%	13.0%	11.0%	3.7

- Continued -

Table D1, continued. Harvest and use characteristics by species, Southeast Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine invertebrates, continued						
Heart cockles	5.0%	3.0%	3.0%	2.0%	2.0%	1.0
Unknown cockles	6.0%	6.0%	5.0%	3.0%	3.0%	0.3
Dungeness crab	62.0%	30.0%	30.0%	46.0%	23.0%	4.4
Blue king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Brown king crab	2.0%	1.0%	1.0%	1.0%	1.0%	0.1
Red king crab	14.0%	5.0%	4.0%	12.0%	5.0%	0.9
Unknown tanner crab	6.0%	3.0%	3.0%	3.0%	2.0%	0.1
Unknown crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Geoducks	1.0%	1.0%	1.0%	1.0%	0.0%	0.0
Limpets	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown mussels	3.0%	3.0%	3.0%	1.0%	1.0%	0.1
Octopus	11.0%	6.0%	6.0%	6.0%	5.0%	1.0
Weathervane scallops	1.0%	0.0%	0.0%	0.0%	0.0%	0.1
Rock scallops	2.0%	1.0%	1.0%	1.0%	0.0%	0.1
Unknown scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Sea cucumber	4.0%	3.0%	3.0%	1.0%	1.0%	0.5
Green sea urchin	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Red sea urchin	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Purple sea urchin	1.0%	1.0%	0.0%	0.0%	0.0%	0.0
Unknown sea urchin	1.0%	1.0%	1.0%	0.0%	1.0%	0.0
Shrimp	37.0%	17.0%	17.0%	27.0%	13.0%	6.9
Squid	1.0%	0.0%	0.0%	1.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
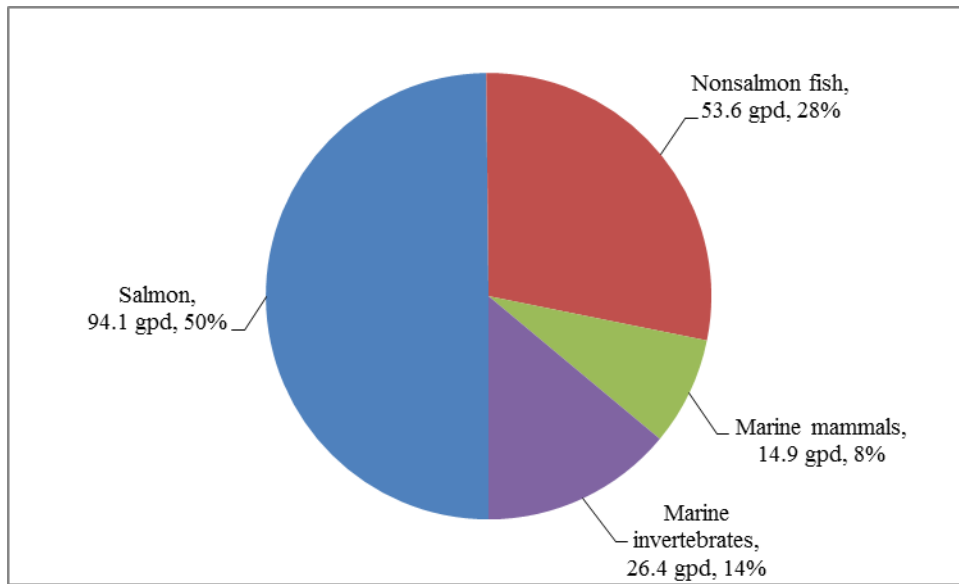*Source* ADF&G Division of Subsistence household surveys, 2009-2016.

Figure D1. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Southeast Alaska.
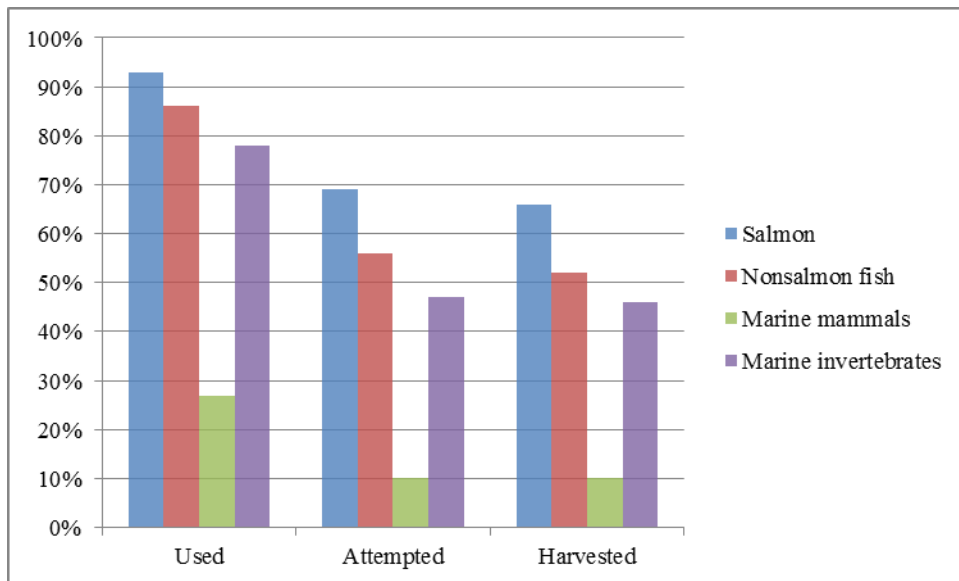

Figure D2. Percentages of households that used, attempted, and harvested wild resources, by category, Southeast Alaska.

Table D2. Harvest and use characteristics by species, Southcentral Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	90.0%	65.0%	61.0%	64.0%	51.0%	90.3
Chum salmon	9.0%	7.0%	6.0%	4.0%	4.0%	1.9
Coho salmon	43.0%	33.0%	30.0%	22.0%	19.0%	14.3
Chinook salmon	52.0%	38.0%	32.0%	32.0%	23.0%	14.1
Pink salmon	14.0%	12.0%	11.0%	7.0%	6.0%	4.6
Sockeye salmon	79.0%	53.0%	49.0%	53.0%	43.0%	55.4
Landlocked salmon	1.0%	1.0%	1.0%	0.0%	0.0%	0.1
Spawning sockeye salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown salmon	3.0%	0.0%	0.0%	2.0%	0.0%	0.0
Nonsalmon fish	71.0%	54.0%	50.0%	49.0%	31.0%	24.5
Pacific herring	3.0%	2.0%	1.0%	2.0%	1.0%	0.4
Pacific halibut	54.0%	25.0%	22.0%	41.0%	20.0%	12.7
Burbot	11.0%	9.0%	8.0%	4.0%	2.0%	1.0
Char	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Brook trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Dolly Varden	13.0%	13.0%	12.0%	4.0%	5.0%	4.5
Lake trout	11.0%	11.0%	9.0%	2.0%	3.0%	1.4
Arctic grayling	20.0%	18.0%	16.0%	5.0%	6.0%	1.1
Northern pike	3.0%	2.0%	2.0%	1.0%	1.0%	0.6
Sheefish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Sturgeon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Longnose sucker	1.0%	1.0%	0.0%	0.0%	0.0%	0.1
Cutthroat trout	1.0%	1.0%	1.0%	0.0%	0.0%	0.1
Rainbow trout	16.0%	16.0%	14.0%	5.0%	4.0%	1.4
Steelhead	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Unknown trout	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Broad whitefish	1.0%	1.0%	1.0%	0.0%	0.0%	0.3
Least cisco	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
Humpback whitefish	3.0%	2.0%	2.0%	1.0%	1.0%	0.3
Lake whitefish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Round whitefish	3.0%	2.0%	2.0%	1.0%	1.0%	0.3
Unknown whitefishes	3.0%	1.0%	1.0%	2.0%	1.0%	0.1
Unknown nonsalmon fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	10.0%	3.0%	2.0%	9.0%	3.0%	3.2
Bearded seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Fur seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Harbor seal	8.0%	3.0%	2.0%	7.0%	3.0%	2.2

- Continued -

Table D2, continued. Harvest and use characteristics by species, Southcentral Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine mammals, continued						
Unknown seal	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Sea otter	1.0%	0.0%	0.0%	0.0%	0.0%	0.2
Steller sea lion	2.0%	1.0%	1.0%	2.0%	1.0%	0.8
Walrus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Beluga whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Bowhead whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Humpback whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown whale	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Marine invertebrates	29.0%	18.0%	17.0%	21.0%	12.0%	3.9
Red (large) chitons	1.0%	1.0%	1.0%	1.0%	0.0%	0.0
Black (small) chitons	8.0%	6.0%	6.0%	4.0%	4.0%	0.5
Unknown chitons	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Butter clams	9.0%	6.0%	6.0%	5.0%	3.0%	0.3
Freshwater clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Horse clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Pacific littleneck clams (steamers)	3.0%	2.0%	2.0%	1.0%	1.0%	0.2
Pinkneck clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Razor clams	7.0%	3.0%	3.0%	5.0%	2.0%	0.6
Softshell clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown clams	1.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown cockles	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Dungeness crab	2.0%	0.0%	0.0%	2.0%	1.0%	0.2
King crab	2.0%	0.0%	0.0%	2.0%	1.0%	0.3
Tanner crab, bairdi	4.0%	2.0%	2.0%	3.0%	1.0%	0.1
Unknown tanner crab	1.0%	0.0%	0.0%	1.0%	0.0%	0.1
Unknown crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Geoducks	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Limpets	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Unknown mussels	3.0%	3.0%	3.0%	1.0%	1.0%	0.1
Octopus	9.0%	5.0%	5.0%	6.0%	4.0%	0.9
Oyster	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Weathervane scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rock scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown sea cucumber	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown sea urchin	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Shrimp	9.0%	4.0%	3.0%	7.0%	2.0%	0.5

- Continued -

Table D2, continued. Harvest and use characteristics by species, Southcentral Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine invertebrates, continued						
Snails	4.0%	3.0%	3.0%	2.0%	2.0%	0.1
Squid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Whelk	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown marine invertebrates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
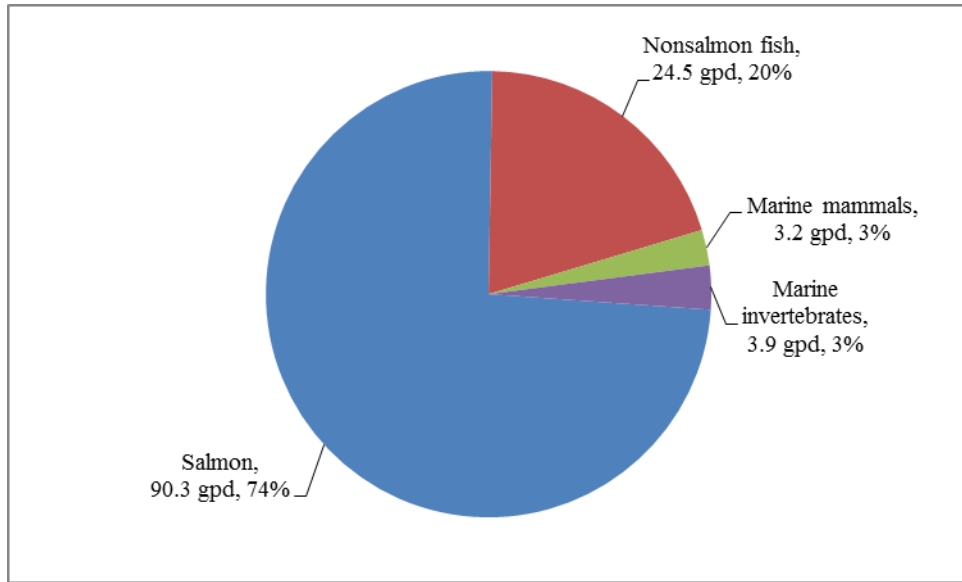*Source* ADF&G Division of Subsistence household surveys, 2009-2016.

Figure D3. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Southcentral Alaska.
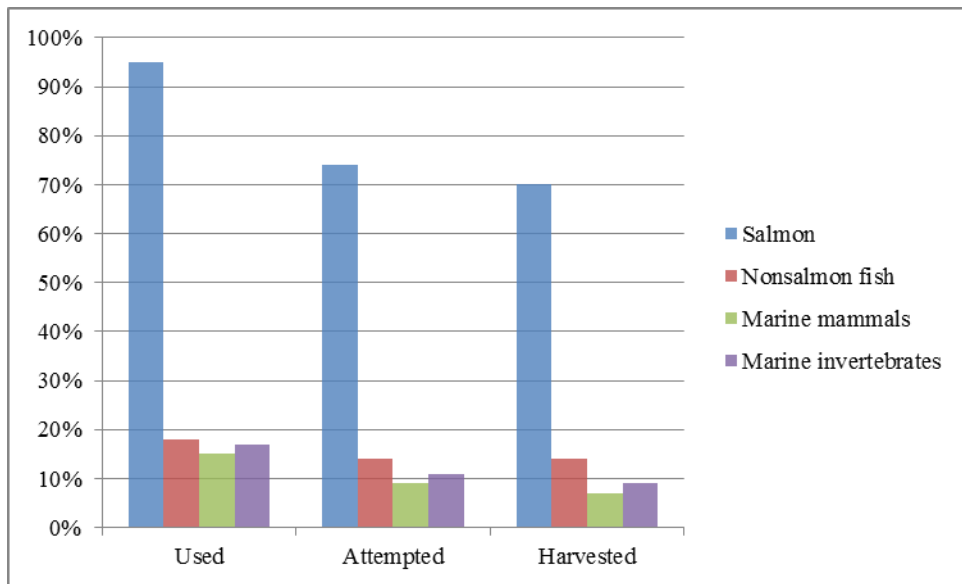

Figure D4. Percentages of households that used, attempted, and harvested wild resources, by category, Southcentral Alaska.

Table D3. Harvest and use characteristics by species, Southwest Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	95.0%	74.0%	70.0%	72.0%	63.0%	173.4
Chum salmon	38.0%	32.0%	29.0%	15.0%	19.0%	14.0
Coho salmon	64.0%	51.0%	48.0%	33.0%	36.0%	34.3
Chinook salmon	76.0%	56.0%	49.0%	49.0%	44.0%	65.3
Pink salmon	24.0%	19.0%	17.0%	12.0%	12.0%	5.7
Sockeye salmon	82.0%	58.0%	53.0%	52.0%	46.0%	50.5
Landlocked salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Spawning coho salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Spawning sockeye salmon	19.0%	12.0%	11.0%	10.0%	8.0%	3.7
Unknown salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Nonsalmon fish	18.0%	14.0%	14.0%	14.0%	10.0%	12.6
Pacific herring	4.0%	2.0%	2.0%	3.0%	2.0%	2.2
Pacific halibut	10.0%	5.0%	4.0%	8.0%	4.0%	3.6
Burbot	1.0%	1.0%	0.0%	1.0%	0.0%	0.0
Dolly Varden	14.0%	11.0%	11.0%	8.0%	7.0%	5.6
Lake trout	1.0%	1.0%	1.0%	1.0%	0.0%	0.2
Arctic grayling	2.0%	2.0%	1.0%	2.0%	0.0%	0.0
Northern pike	6.0%	4.0%	3.0%	4.0%	3.0%	0.8
Longnose sucker	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rainbow trout	4.0%	3.0%	3.0%	1.0%	1.0%	0.1
Steelhead	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown trout	1.0%	1.0%	0.0%	0.0%	0.0%	0.0
Broad whitefish	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
Least cisco	3.0%	2.0%	2.0%	2.0%	1.0%	0.1
Humpback whitefish	1.0%	1.0%	0.0%	1.0%	0.0%	0.0
Round whitefish	1.0%	1.0%	0.0%	1.0%	0.0%	0.0
Unknown whitefishes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown nonsalmon fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	15.0%	9.0%	7.0%	15.0%	9.0%	7.0
Harbor porpoise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Bearded seal	1.0%	1.0%	0.0%	0.0%	0.0%	0.2
Fur seal	2.0%	1.0%	1.0%	2.0%	1.0%	0.2
Harbor seal	13.0%	8.0%	7.0%	13.0%	8.0%	4.0
Ribbon seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Ringed seal	1.0%	0.0%	0.0%	0.0%	0.0%	0.2
Unknown seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

- Continued -

Table D3, continued. Harvest and use characteristics by species, Southwest Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine mammals, continued						
Sea otter	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Steller sea lion	3.0%	1.0%	0.0%	3.0%	1.0%	0.7
Walrus	4.0%	1.0%	1.0%	4.0%	1.0%	1.2
Beluga whale	1.0%	0.0%	0.0%	0.0%	0.0%	0.5
Unknown whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine invertebrates	17.0%	11.0%	9.0%	12.0%	8.0%	4.7
Chitons (bidarkis, gumboots)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Red (large) chitons	0.0%	0.0%	0.0%	0.0%	0.0%	0.9
Black (small) chitons	2.0%	1.0%	1.0%	2.0%	1.0%	0.2
Butter clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Horse clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Pacific littleneck clams (steamers)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Razor clams	1.0%	1.0%	1.0%	0.0%	0.0%	0.2
Softshell clams	1.0%	1.0%	1.0%	0.0%	0.0%	0.1
Unknown clams	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Unknown cockles	10.0%	6.0%	6.0%	8.0%	5.0%	1.4
Dungeness crab	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Hair crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Red king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown king crab	2.0%	0.0%	0.0%	2.0%	0.0%	0.0
Tanner crab, bairdi	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Tanner crab, opillio	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Unknown tanner crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rock jingles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Limpets	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Blue mussels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Brown mussels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown mussels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Octopus	3.0%	1.0%	1.0%	3.0%	2.0%	2.0
Unknown scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Sea anemone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Sea cucumber	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown sea urchin	2.0%	1.0%	1.0%	1.0%	1.0%	0.0
Shrimp	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Snails	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
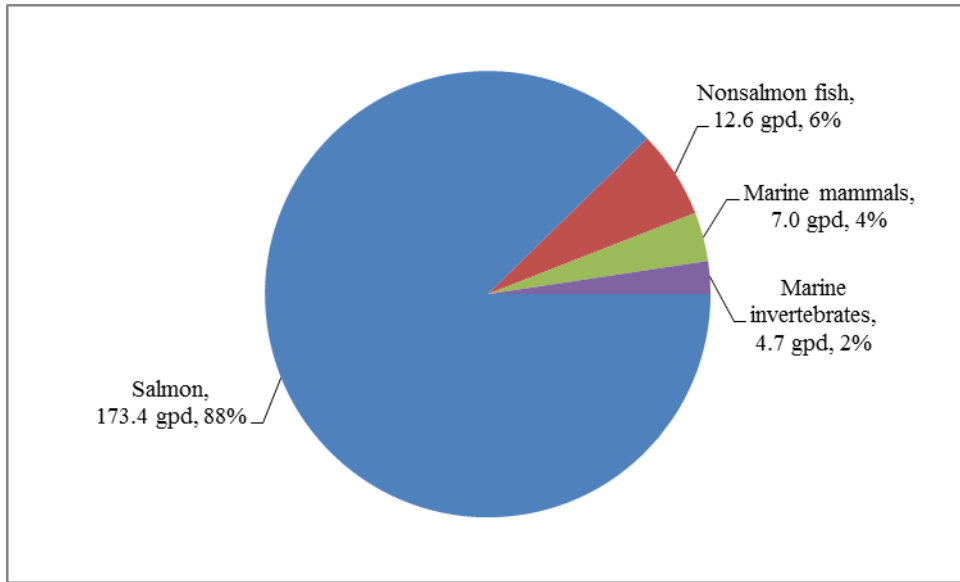
Figure D5. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Southwest Alaska.
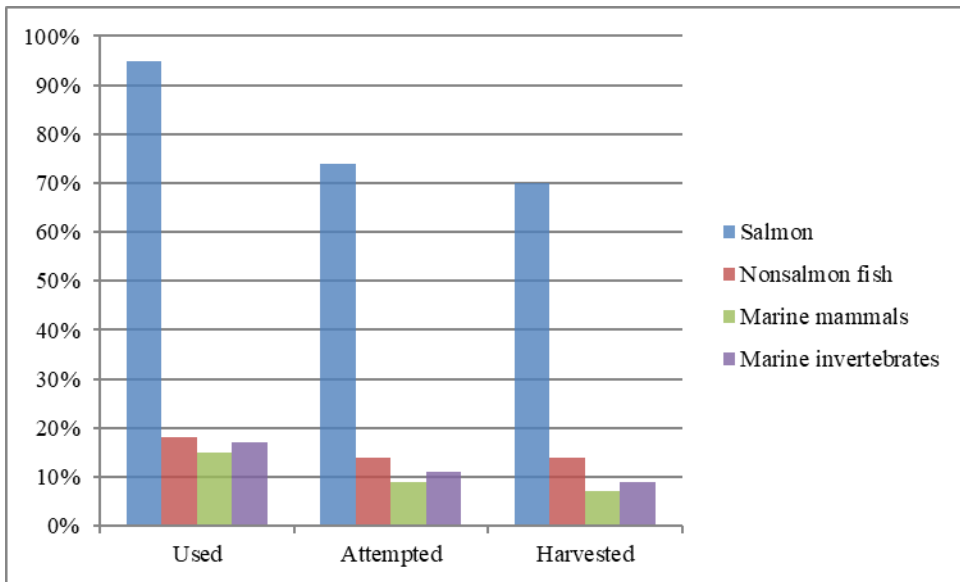

Figure D6. Percentages of households that used, attempted, and harvested wild resources, by category, Southwest Alaska.

Table D4. Harvest and use characteristics by species, Western Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	94.0%	63.0%	61.0%	61.0%	45.0%	130.5
Chum salmon	71.0%	51.0%	48.0%	35.0%	30.0%	49.2
Coho salmon	55.0%	37.0%	35.0%	26.0%	21.0%	21.3
Chinook salmon	77.0%	53.0%	50.0%	41.0%	31.0%	38.7
Pink salmon	10.0%	8.0%	8.0%	4.0%	3.0%	1.3
Sockeye salmon	48.0%	35.0%	34.0%	20.0%	20.0%	19.9
Unknown salmon	3.0%	1.0%	0.0%	2.0%	0.0%	0.2
Nonsalmon fish	84.0%	62.0%	61.0%	62.0%	40.0%	70.4
Pacific herring	14.0%	3.0%	3.0%	11.0%	3.0%	2.5
Pacific halibut	24.0%	6.0%	6.0%	20.0%	5.0%	3.9
Burbot	42.0%	28.0%	26.0%	21.0%	15.0%	10.9
Char	5.0%	4.0%	4.0%	2.0%	2.0%	2.6
Brook trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Dolly Varden	11.0%	10.0%	9.0%	4.0%	3.0%	3.2
Lake trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
Unknown char	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
Arctic grayling	9.0%	8.0%	8.0%	2.0%	3.0%	0.2
Northern pike	46.0%	38.0%	36.0%	16.0%	18.0%	16.4
Sheefish	33.0%	22.0%	21.0%	17.0%	12.0%	10.8
Sturgeon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Longnose sucker	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rainbow trout	8.0%	6.0%	6.0%	3.0%	2.0%	0.3
Unknown trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Broad whitefish	44.0%	27.0%	26.0%	24.0%	16.0%	9.4
Bering cisco	19.0%	12.0%	11.0%	10.0%	7.0%	1.7
Least cisco	13.0%	9.0%	8.0%	6.0%	5.0%	0.5
Unknown cisco	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Humpback whitefish	44.0%	29.0%	28.0%	23.0%	16.0%	7.5
Round whitefish	7.0%	4.0%	3.0%	4.0%	2.0%	0.2
Unknown whitefishes	3.0%	1.0%	1.0%	2.0%	0.0%	0.1
Unknown nonsalmon fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	59.0%	18.0%	14.0%	54.0%	19.0%	27.0
Harbor porpoise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown porpoise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Bearded seal	22.0%	13.0%	9.0%	15.0%	10.0%	11.5
Harbor seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.1
Ribbon seal	1.0%	1.0%	0.0%	0.0%	0.0%	0.2

- Continued -

Table D4, continued. Harvest and use characteristics by species, Western Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine mammals, continued						
Ringed seal	15.0%	10.0%	8.0%	9.0%	7.0%	3.6
Unknown seal oil	7.0%	0.0%	0.0%	7.0%	1.0%	0.0
Unknown seal	31.0%	3.0%	1.0%	31.0%	6.0%	0.0
Steller sea lion	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Walrus	12.0%	3.0%	1.0%	11.0%	3.0%	3.1
Beluga whale	20.0%	5.0%	3.0%	18.0%	5.0%	8.6
Bowhead whale	5.0%	0.0%	0.0%	5.0%	1.0%	0.0
Common minke whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown marine mammals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine invertebrates	8.0%	5.0%	5.0%	5.0%	2.0%	0.3
Butter clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Freshwater clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Razor clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown clams	6.0%	3.0%	3.0%	3.0%	2.0%	0.1
Unknown cockles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Dungeness crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Blue king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Red king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown king crab	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Unknown tanner crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Blue mussels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown mussels	2.0%	2.0%	2.0%	1.0%	1.0%	0.0
Octopus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Shrimp	1.0%	0.0%	0.0%	0.0%	0.0%	0.0
Snails	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown marine invertebrates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
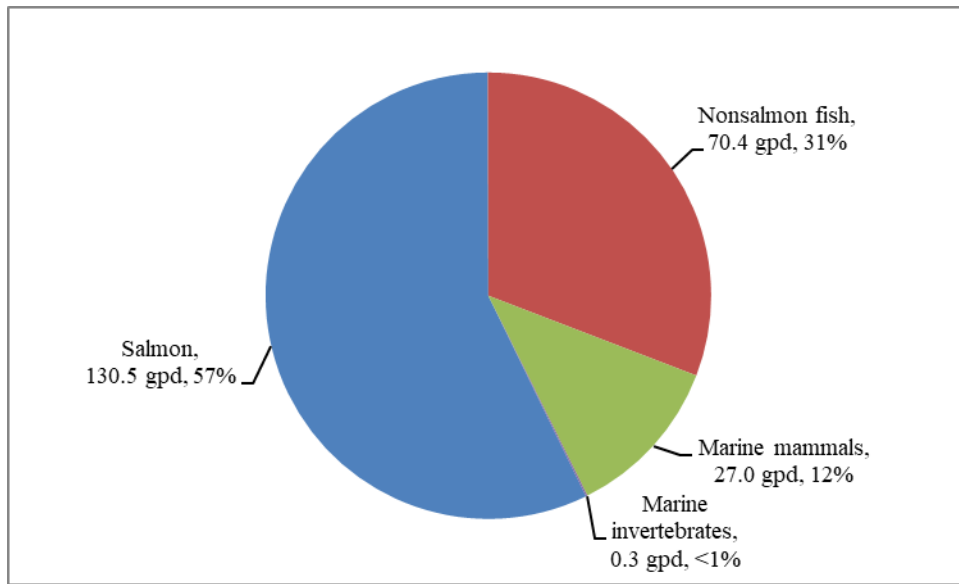*Source* ADF&G Division of Subsistence household surveys, 2009-2016.

Figure D7. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Western Alaska.
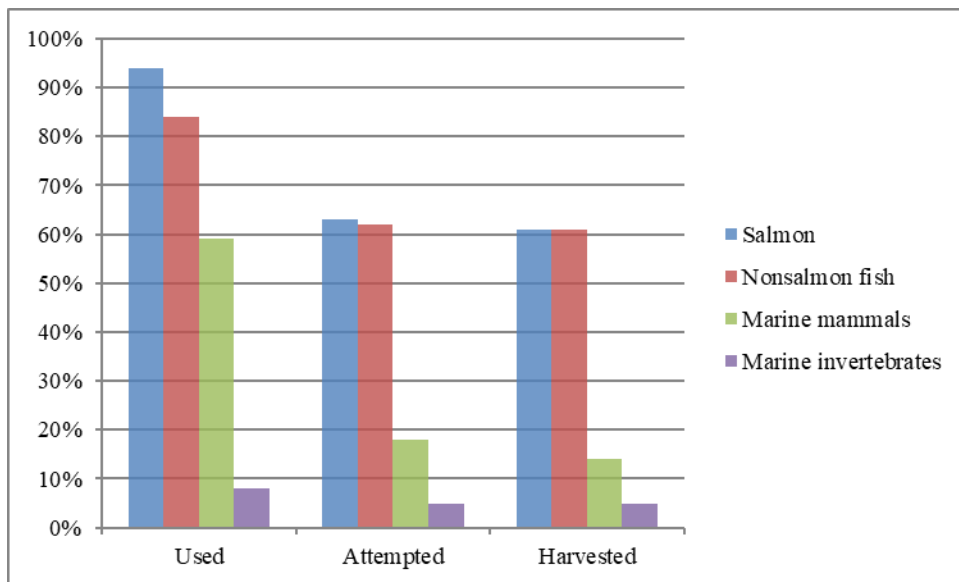

Figure D8. Percentages of households that used, attempted, and harvested wild resources, by category, Western Alaska.

Table D5. Harvest and use characteristics by species, Arctic Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	78.0%	45.0%	43.0%	61.0%	36.0%	58.6
Chum salmon	60.0%	37.0%	35.0%	43.0%	29.0%	41.6
Coho salmon	24.0%	15.0%	14.0%	15.0%	10.0%	9.7
Chinook salmon	13.0%	8.0%	7.0%	8.0%	4.0%	1.2
Pink salmon	18.0%	12.0%	11.0%	10.0%	8.0%	3.7
Sockeye salmon	14.0%	6.0%	5.0%	10.0%	4.0%	2.3
Spawning pink salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown salmon	4.0%	1.0%	1.0%	4.0%	1.0%	0.2
Nonsalmon fish	81.0%	55.0%	53.0%	65.0%	46.0%	77.1
Pacific herring	9.0%	6.0%	6.0%	5.0%	4.0%	3.7
Pacific halibut	5.0%	1.0%	1.0%	4.0%	2.0%	0.4
Burbot	16.0%	11.0%	10.0%	9.0%	6.0%	1.4
Char	3.0%	2.0%	2.0%	2.0%	2.0%	0.6
Dolly Varden	29.0%	19.0%	19.0%	19.0%	12.0%	8.5
Lake trout	2.0%	1.0%	0.0%	1.0%	1.0%	0.1
Arctic grayling	20.0%	12.0%	11.0%	12.0%	8.0%	2.2
Northern pike	14.0%	11.0%	10.0%	7.0%	6.0%	6.7
Sheefish	47.0%	28.0%	27.0%	34.0%	19.0%	14.0
Longnose sucker	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rainbow trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Broad whitefish	38.0%	20.0%	19.0%	28.0%	17.0%	26.8
Arctic cisco	9.0%	3.0%	3.0%	8.0%	5.0%	3.7
Bering cisco	4.0%	2.0%	2.0%	3.0%	1.0%	0.5
Least cisco	9.0%	7.0%	6.0%	5.0%	4.0%	1.4
Unknown cisco	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Humpback whitefish	16.0%	11.0%	10.0%	10.0%	8.0%	7.1
Round whitefish	2.0%	1.0%	1.0%	2.0%	1.0%	0.2
Unknown whitefishes	2.0%	0.0%	0.0%	1.0%	0.0%	0.1
Unknown nonsalmon fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	43.0%	19.0%	13.0%	42.0%	25.0%	126.6
Polar bear	3.0%	1.0%	0.0%	3.0%	1.0%	0.8
Bearded seal	30.0%	15.0%	10.0%	24.0%	17.0%	30.2
Ribbon seal	0.0%	1.0%	0.0%	0.0%	0.0%	0.0
Ringed seal	12.0%	8.0%	6.0%	8.0%	8.0%	5.4
Unknown seal	9.0%	0.0%	0.0%	9.0%	1.0%	0.0
Sea otter	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

- Continued -

Table D5, continued. Harvest and use characteristics by species, Arctic Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine mammals, continued						
Walrus	13.0%	5.0%	2.0%	12.0%	6.0%	9.0
Beluga whale	21.0%	6.0%	2.0%	20.0%	9.0%	12.1
Bowhead whale	32.0%	9.0%	0.0%	32.0%	17.0%	69.0
Gray whale	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Killer whale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine invertebrates	15.0%	6.0%	5.0%	11.0%	5.0%	1.6
Butter clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Razor clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown clams	4.0%	3.0%	2.0%	2.0%	2.0%	0.1
Unknown cockles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Dungeness crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Hair crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Blue king crab	1.0%	1.0%	1.0%	1.0%	1.0%	0.7
Red king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown king crab	10.0%	2.0%	2.0%	9.0%	2.0%	0.7
Hanasaki crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown tanner crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown crab	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Unknown mussels	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Sea anemone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Shrimp	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Snails	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown marine invertebrates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
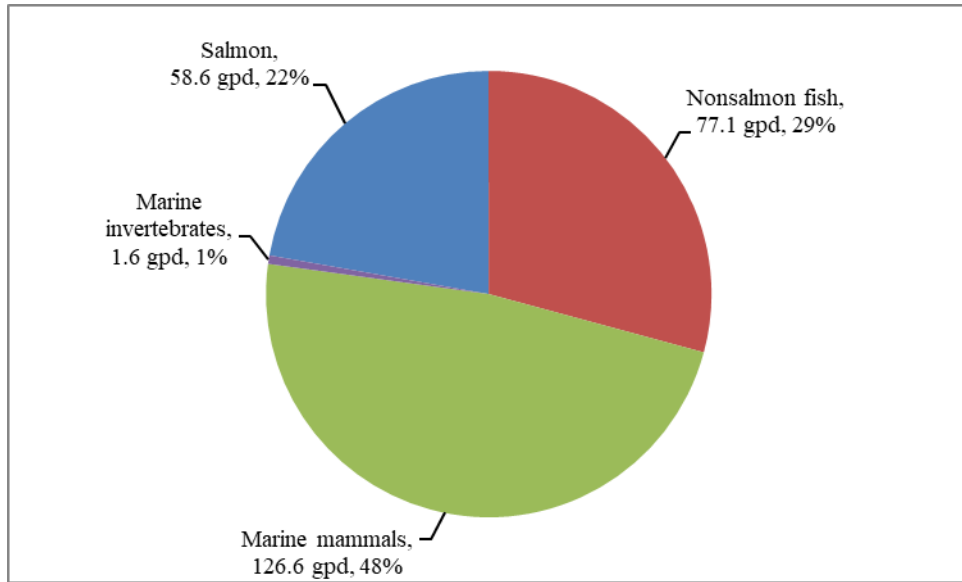*Source* ADF&G Division of Subsistence household surveys, 2009-2016.

Figure D9. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Arctic Alaska.
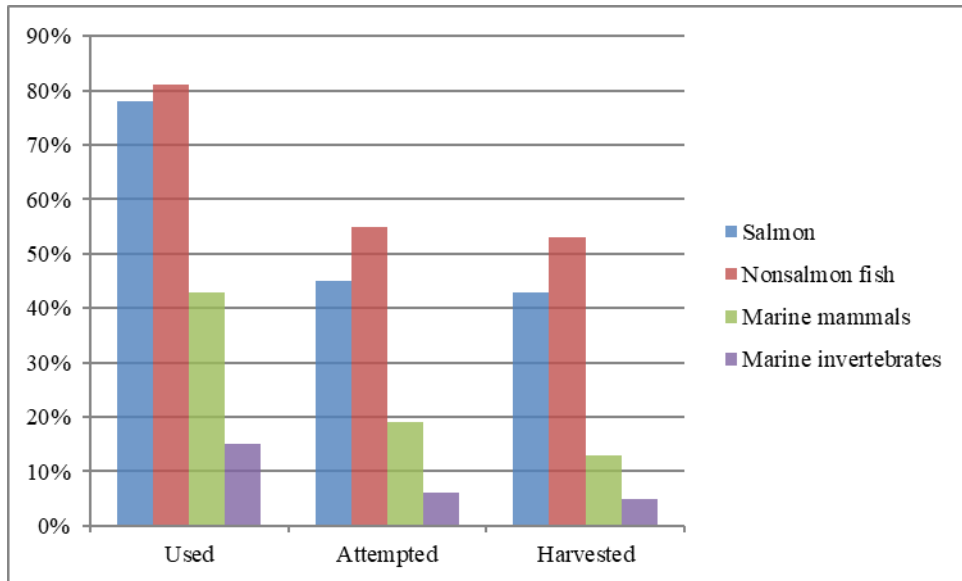

Figure D10. Percentages of households that used, attempted, and harvested wild resources, by category, Western Alaska.

Table D6. Harvest and use characteristics by species, Interior Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Salmon	81.0%	43.0%	39.0%	61.0%	33.0%	77.7
Chum salmon	29.0%	18.0%	15.0%	17.0%	10.0%	18.8
Coho salmon	31.0%	18.0%	16.0%	18.0%	11.0%	17.0
Chinook salmon	54.0%	30.0%	26.0%	36.0%	20.0%	32.2
Pink salmon	3.0%	2.0%	2.0%	1.0%	1.0%	0.7
Sockeye salmon	29.0%	14.0%	12.0%	20.0%	10.0%	8.8
Landlocked salmon	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown salmon spawnouts	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown salmon	4.0%	0.0%	0.0%	4.0%	1.0%	0.2
Nonsalmon fish	72.0%	54.0%	51.0%	47.0%	28.0%	34.3
Pacific herring	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Pacific halibut	22.0%	5.0%	4.0%	19.0%	4.0%	2.6
Burbot	15.0%	11.0%	10.0%	6.0%	4.0%	2.2
Char	1.0%	0.0%	0.0%	0.0%	0.0%	0.1
Dolly Varden	6.0%	5.0%	5.0%	2.0%	1.0%	0.8
Lake trout	5.0%	4.0%	4.0%	1.0%	1.0%	1.1
Unknown char	2.0%	1.0%	1.0%	1.0%	1.0%	0.6
Arctic grayling	29.0%	25.0%	22.0%	10.0%	7.0%	2.6
Northern pike (small, pickle)	1.0%	1.0%	1.0%	0.0%	0.0%	0.3
Northern pike	26.0%	22.0%	20.0%	9.0%	8.0%	4.1
Sheefish	26.0%	19.0%	17.0%	12.0%	9.0%	5.7
Longnose sucker	2.0%	2.0%	1.0%	1.0%	0.0%	0.1
Cutthroat trout	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Rainbow trout	7.0%	6.0%	6.0%	2.0%	1.0%	1.2
Unknown trout	1.0%	1.0%	1.0%	0.0%	0.0%	0.0
Broad whitefish	19.0%	13.0%	12.0%	10.0%	7.0%	4.6
Bering cisco	2.0%	2.0%	1.0%	1.0%	1.0%	0.2
Least cisco	5.0%	4.0%	3.0%	3.0%	2.0%	0.7
Humpback whitefish	22.0%	15.0%	14.0%	10.0%	8.0%	6.9
Round whitefish	3.0%	3.0%	3.0%	1.0%	1.0%	0.3
Unknown whitefishes	4.0%	1.0%	1.0%	3.0%	1.0%	0.3
Unknown nonsalmon fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Marine mammals	11.0%	0.0%	0.0%	11.0%	2.0%	0.0
Bearded seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Fur seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Harbor seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Ringed seal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

- Continued -

Table D6, continued. Harvest and use characteristics by species, Interior Alaska.

Resource	Used	Attempted	Harvested	Received	Gave away	Per capita (gpd)[a]
Marine mammals, continued						
Unknown seal	6.0%	0.0%	0.0%	6.0%	1.0%	0.0
Sea otter	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Steller sea lion	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Walrus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Beluga whale	3.0%	0.0%	0.0%	3.0%	1.0%	0.0
Bowhead whale	3.0%	0.0%	0.0%	3.0%	1.0%	0.0
Unknown whale	3.0%	0.0%	0.0%	3.0%	1.0%	0.0
Marine invertebrates	6.0%	2.0%	2.0%	5.0%	1.0%	0.2
Abalone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Butter clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Freshwater clams	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Razor clams	1.0%	0.0%	0.0%	1.0%	0.0%	0.1
Unknown clams	1.0%	0.0%	0.0%	1.0%	0.0%	0.0
Dungeness crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Blue king crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown king crab	2.0%	0.0%	0.0%	2.0%	0.0%	0.0
Tanner crab, opillio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown tanner crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown crab	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown mussels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Octopus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Oyster	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown scallops	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Shrimp	2.0%	1.0%	1.0%	2.0%	0.0%	0.1
Squid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0
Unknown marine invertebrates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

a. Per capita grams per day are based on harvest amounts divided by the total number of individuals in study communities within the region regardless of consumption status.
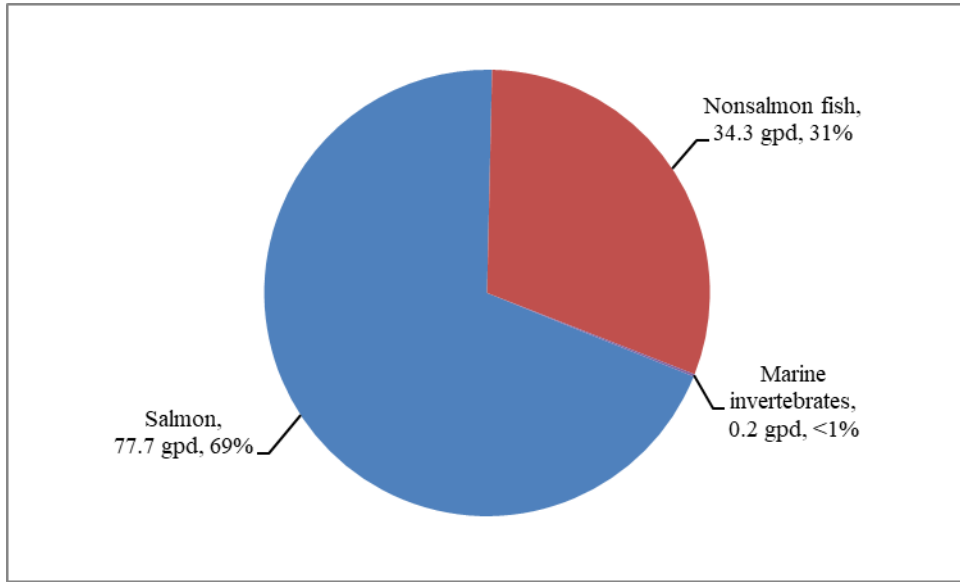*Source* ADF&G Division of Subsistence household surveys, 2009-2016.

Figure D11. Composition of grams per day (gpd) and percentage of total grams per day by resource category, Interior Alaska.
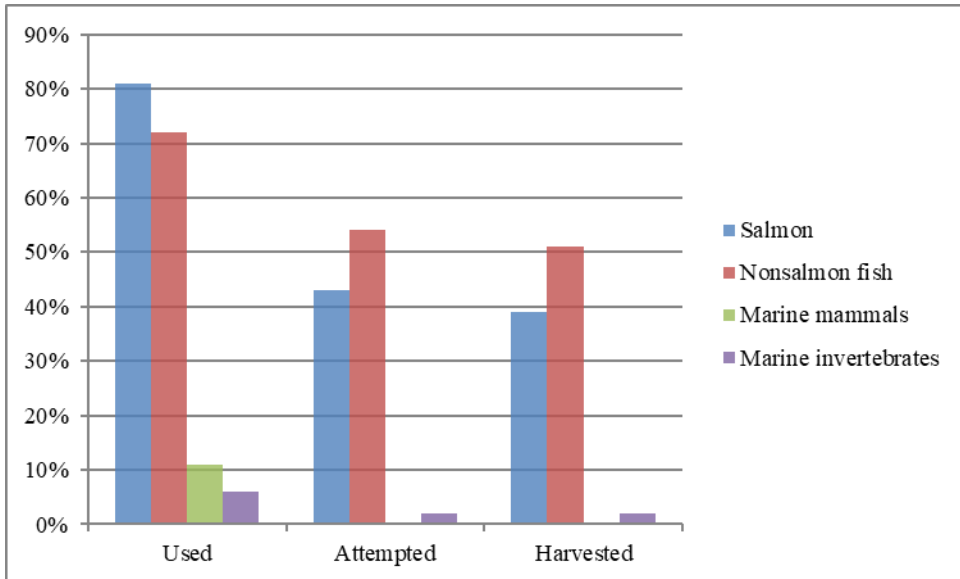

Figure D12. Percentages of households that used, attempted, and harvested wild resources, by category, Interior Alaska.

Appendix E

References

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