



Subsistence in Alaska: A Year 2010 Update

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Introduction

Subsistence fishing and hunting are important for the economies and cultures of many families and communities in Alaska. Subsistence uses exist alongside other important uses of fish and game in Alaska, including commercial fishing, sport fishing, personal use fishing, and general hunting. This report provides an update on subsistence fishing and hunting in Alaska, including the dual state–federal management system.

What is Subsistence Hunting and Fishing?

State and federal laws define subsistence uses as the “customary and traditional uses” of wild resources for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade. Subsistence uses are central to the customs and traditions of many cultural groups in Alaska, including Aleut, Athabaskan, Alutiiq, Euroamerican, Haida, Inupiat, Tlingit, Tsimshian, and Yup’ik. Subsistence fishing and hunting are important sources of employment and nutrition in almost all rural communities.

Commercial fishing differs from subsistence fishing because it is harvesting fish for sale in commercial markets. Subsistence fish and game cannot be commercially sold. Personal use fishing is similar to subsistence fishing, except that it is fishing with nets for food in areas generally closed to subsistence, particularly by residents of urbanized areas. Sport fishing and sport hunting differ from subsistence in that, although food is one product, they are conducted primarily for recreational values, following principles of “fair chase.” While subsistence harvesting and processing are

productive economic activities which are part of a normal routine of work in rural areas, sport fishing and sport hunting usually are scheduled as recreational breaks from a normal work routine.

Who Qualifies to Participate in Subsistence Harvesting?

Federal and state laws currently differ in who qualifies for participation in subsistence fisheries and hunts. Rural Alaska residents qualify for subsistence harvesting under federal law. About 17% of Alaska’s population (121,170 people in 263 communities) lived in rural areas (outside nonsubsistence areas) in 2010 (Figure 1). Of the rural population, 67,024 (55%) were Alaska Native and 54,146 (45%) were not Alaska Native. Of Alaska’s urban population (589,061 people), about 71,288 (12%) were Alaska Native and 517,773 (88%) were not Alaska Native. Under state law, rural residents qualified for subsistence harvesting from 1978–1989. Since 1989, all state residents have qualified under state law.

Who Participates in Subsistence Uses?

Most rural families in Alaska depend on subsistence fishing and hunting. A substantial proportion of rural households harvest and use wild foods (Figure 2). For surveyed communities in different rural areas, from 92%–100% of sampled households used fish, 79%–92% used wildlife, 75%–98% harvested fish, and 48%–70% harvested wildlife. Because subsistence foods are widely shared, most residents of rural communities use subsistence foods during the course of the year.

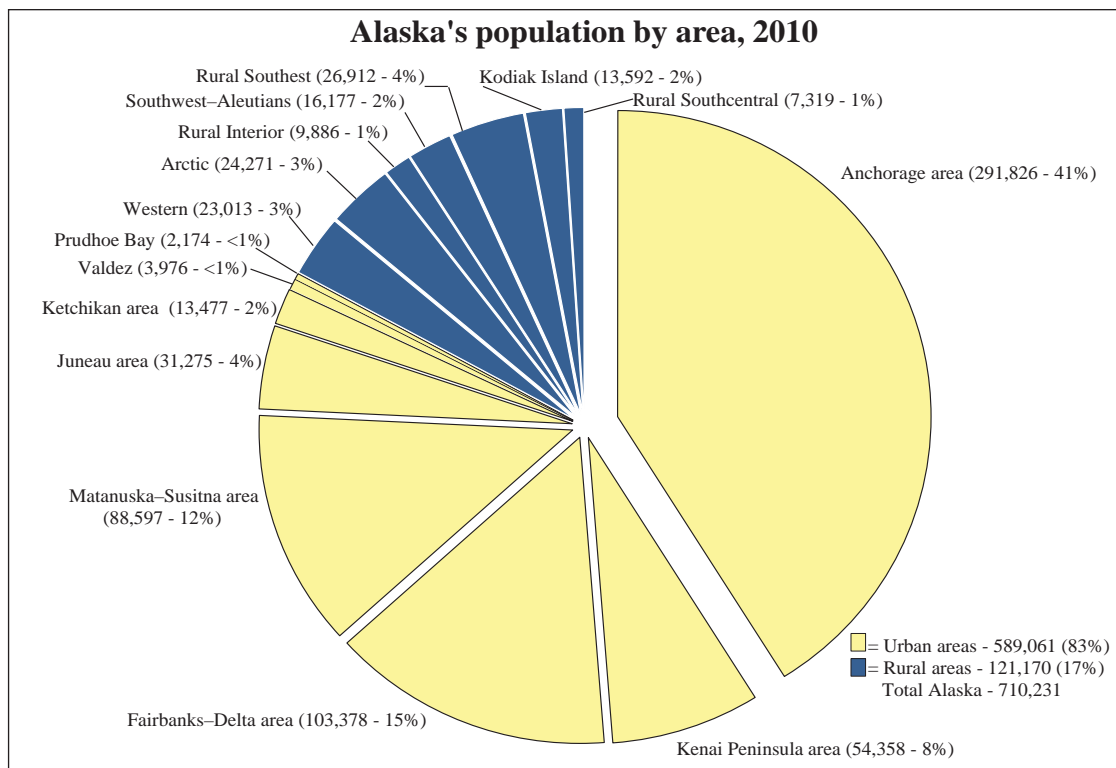


Figure 1

Percent of households participating in subsistence activities in rural areas

Area	Harvesting game	Using game	Harvesting fish	Using fish
Arctic	63%	92%	78%	96%
Interior	69%	88%	75%	92%
Southcentral	55%	79%	80%	94%
Southeast	48%	79%	80%	95%
Southwest	65%	90%	86%	94%
Western	70%	90%	98%	100%
Total rural	60%	86%	83%	95%

Figure 2

What is the Rural Food Harvest?

Most of the wild food harvested by rural families is composed of fish (about 55% by weight), along with land mammals (22%), marine mammals (13%), birds (3%), shellfish (3%), and plants (4%) (Figure 3). Fish varieties include salmon, halibut, herring, and whitefish, among others. Seals, sea lions, walruses, and whales comprise the marine mammal harvest. Moose, caribou, deer, bears, Dall sheep, mountain goats, and beavers are commonly used land mammals, depending on the community and area. These rural subsistence (customary and traditional) harvests occur within a range of regulatory categories, including subsistence and general hunting, and subsistence, personal use, and rod and reel fishing.

How Large is the Subsistence Harvest?

The subsistence and personal use food harvest by Alaska residents (about 39.4 million pounds) represents about 1% of the fish and game harvested annually in Alaska (Figure 4). This total represents all noncommercial harvests of wild food by residents of rural areas plus subsistence and personal use fish harvests by residents of nonsubsistence areas. Commercial fisheries harvest about 98% of the statewide harvest (about 3.5 billion pounds annually), while sport fishing and hunting (general hunting and sport fishing

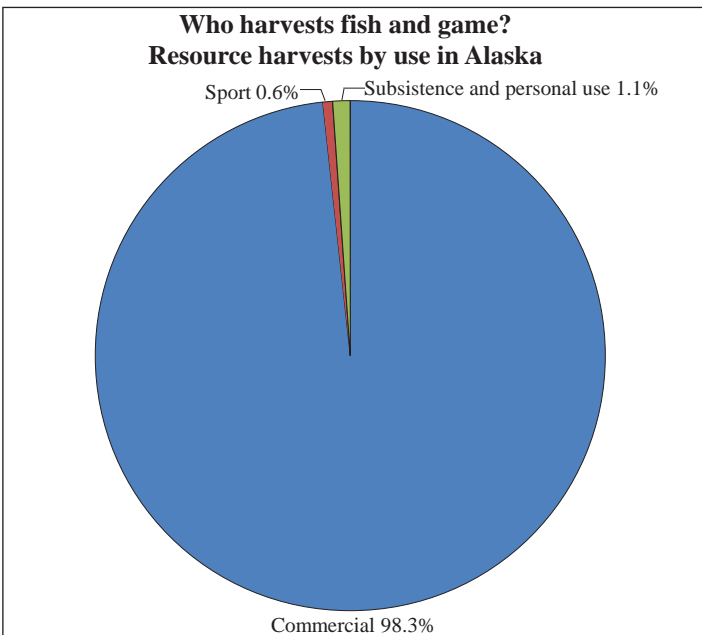


Figure 4

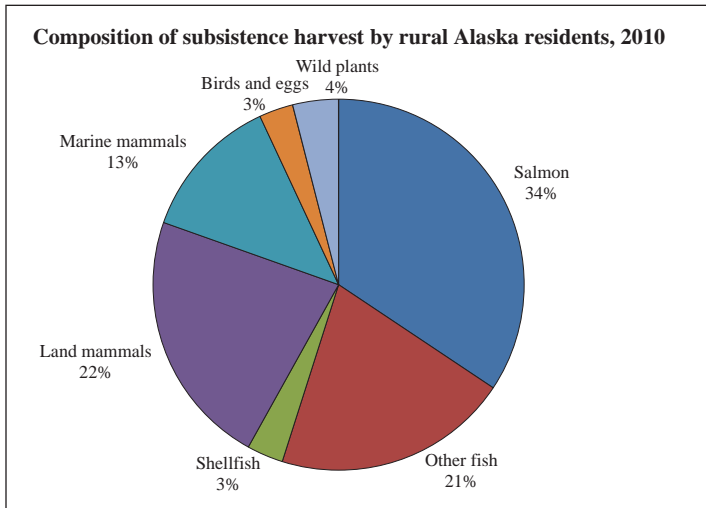


Figure 3

harvests by residents of Alaska nonsubsistence areas and all nonresident harvests) take 0.6% (21.3 million pounds).

Though relatively small in the statewide picture, subsistence fishing and hunting provide a major part of the food supply of rural Alaska (figures 5 and 6). Our best estimate is about 38.3 million pounds (usable weight) of wild foods are harvested annually by residents of rural areas of the state, and 13.8 million pounds by urban residents (Figure 6). On a per person basis, the annual wild food harvest is about 316 pounds per person per year for residents of rural areas (about 0.9 pounds a day per person), and 23 pounds per person per year for urban areas (Figure 5).

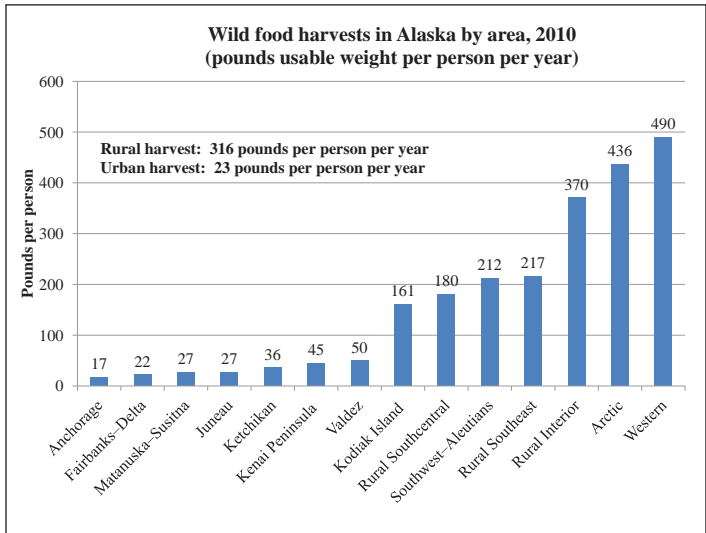


Figure 5

Nutritional Value of Subsistence Harvests

The subsistence food harvest provides a major part of the nutritional requirements of Alaska's rural population, and lesser percentages in urban areas. The annual rural harvest of 316 pounds per person contains 185% of the protein requirements of the rural population (that is, it contains about 94 grams of protein per person per day; about 51 grams is the mean daily requirement (Figure 6). The subsistence harvest contains 31% of the caloric requirements of the rural population (that is, it contains about 698 Kcal daily, assuming a 2,250 Kcal/day mean daily requirement). The urban wild food harvests contain 14% of the protein requirements and 2% of the caloric requirements of the urban population (Figure 6).

Wild food harvests in Alaska: Nutritional and replacement values

	Annual wild food harvest (pounds per person)	Annual wild food harvest (total pounds usable weight)	Percent of population's required:		Estimated wild food replacement value at \$3.50/pound	Estimated wild food replacement value at \$7/pound
			Protein (51 grams/day) (without plants)	Calories (2,250 calories/day) (without plants)		
Rural areas						
Southcentral	180	1,318,594	105%	18%	\$4,615,080	\$9,230,161
Kodiak Island	161	2,190,412	94%	16%	\$7,666,442	\$15,332,885
Southeast	217	5,828,786	125%	21%	\$20,400,751	\$40,801,503
Southwest–Aleutian	212	3,429,130	121%	21%	\$12,001,955	\$24,003,911
Interior	370	3,661,706	221%	36%	\$12,815,971	\$25,631,942
Arctic	436	10,592,409	257%	42%	\$37,073,432	\$74,146,863
Western	490	11,283,234	286%	48%	\$39,491,319	\$78,982,638
Total rural	316	38,304,272	185%	31%	\$134,064,951	\$268,129,902
Urban areas						
Ketchikan area	36	482,607	22%	3%	\$1,689,123	\$3,378,247
Juneau area	27	848,291	17%	3%	\$2,969,019	\$5,938,037
Matanuska–Susitna area	27	2,413,553	17%	3%	\$8,447,434	\$16,894,868
Fairbanks–Delta	22	2,247,598	13%	2%	\$7,866,595	\$15,733,189
Kenai Peninsula	45	2,435,992	27%	4%	\$8,525,972	\$17,051,943
Anchorage area	17	5,082,294	11%	2%	\$17,788,030	\$35,576,059
Valdez	50	200,247	31%	5%	\$700,864	\$1,401,728
Prudhoe Bay	23	50,788	14%	2%	\$177,758	\$355,516
Total urban	23	13,761,370	14%	2%	\$48,164,794	\$96,329,587
Alaska total	73	52,114,490	43%	7%	\$182,400,714	\$364,801,428

Figure 6

Traditional Harvest Areas

Studies show that subsistence hunters, fishers, and gatherers in rural Alaska tend to harvest in traditional use areas surrounding their communities. Subsistence harvest areas are accessible from the community, although seasonal camps are used to access some species. Subsistence harvest areas for communities are definable and relatively predictable (Figure 7).

The Monetary Value of Subsistence Harvests

Subsistence fishing and hunting are important to the rural Alaska economy. Attaching a dollar value to wild food harvests is difficult, since subsistence products do not circulate in markets. However, if families did not have subsistence foods, substitutes would have to be purchased. If one assumes a replacement expense of \$3.50–\$7.00 per pound, the simple “replacement value” of the wild food harvests in rural Alaska may be estimated at \$134–\$268 million dollars annually (Figure 6).

Subsistence and Money

Subsistence is part of a rural economic system, called a “mixed, subsistence-market” economy. Families invest money into small-scale, efficient technologies to harvest wild foods, such as fishwheels, gillnets, motorized skiffs, and snowmachines. Subsistence food

production is directed toward meeting the self-limited needs of families and small communities, not market sale or accumulated profit as in commercial market production. Families follow a prudent economic strategy of using a portion of the household monetary earnings to capitalize in subsistence technologies for producing food. This combination of money from paid employment and subsistence food production is what characterizes the mixed, subsistence-market economies of rural areas. Successful families in rural areas combine jobs with subsistence activities and share wild food harvests with cash-poor households who cannot fish or hunt, such as elders, the disabled, and single mothers with small children.

Dual Subsistence Management

Subsistence fishing and hunting in Alaska are regulated by the State of Alaska and the federal government, depending upon where the harvests occur. This system is called a “dual management system” because there are overlapping state–federal jurisdictions in many areas. The federal government regulates federal subsistence fisheries and hunts on federal public lands and federally-reserved waters in Alaska. The State of Alaska regulates state subsistence fisheries and hunts on all Alaskan lands and waters. A harvester should consult both the federal subsistence regulation booklet and the state subsistence fishing and general hunting regulations

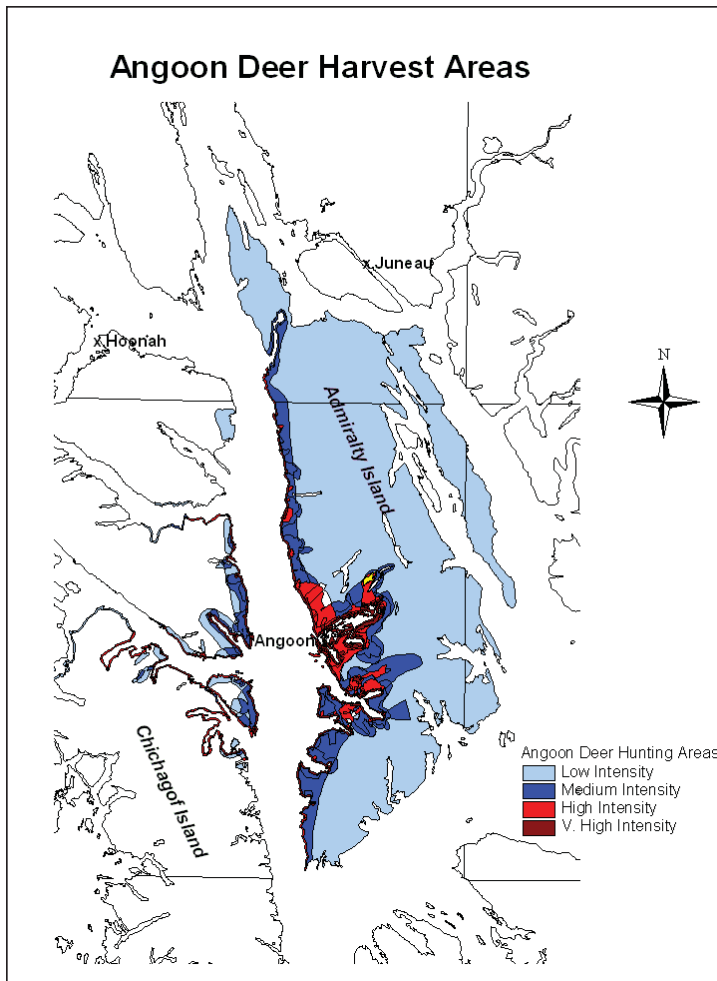


Figure 7

booklets, to be appraised of the complete set of hunting or fishing regulations in a particular area.

The Alaska Board of Fisheries and the Alaska Board of Game create regulations for state subsistence fisheries or hunts. The Federal Subsistence Board creates regulations for federal subsistence fisheries or hunts. In creating regulations, each board follows procedures for obtaining information and comments on proposed regulations from the public, agencies, and other interests.

Hunting of marine mammals is managed by the federal government through the National Marine Fisheries Service (seals, sea lions, and whales) or the U.S. Fish and Wildlife Service (polar bears, sea otters, and walrus). There is an exemption in the federal Marine Mammal Protection Act to allow for the traditional harvest and use of marine mammals by coastal Alaska Natives. Subsistence hunting of migratory waterfowl is managed by the U.S. Fish and Wildlife Service. Federal regulations limit participation to residents of designated rural areas. Subsistence fishing for Pacific halibut is managed by the National Marine Fisheries Service. Federal regulations limit participation to residents of designated rural areas and members of eligible tribes.

Subsistence hunting and fishing are restricted in non-rural areas of Alaska by the federal and state programs. Federal law allows subsistence harvests only by residents of rural areas. State law permits subsistence harvests by any Alaska resident in areas outside the boundaries of “nonsubsistence areas.” The Alaska Joint Board of Fisheries and Game has determined that the areas around

Anchorage, the Matanuska–Susitna Valley, the Kenai Peninsula, Fairbanks, Juneau, Ketchikan, and Valdez are nonsubsistence areas, where fish and game harvests may be allowed under sport, personal use, or commercial regulations, but not under subsistence regulations. The Federal Subsistence Board has defined similar non-rural areas. Also, Prudhoe Bay is non-rural under federal rules.

The Subsistence Priority

Subsistence uses of fish and land mammals are given a priority over commercial fishing and recreational fishing and hunting in state and federal law. This means that when the harvestable portion of a fish stock or game population is not sufficient for all public uses, subsistence uses are restricted last, by regulation.

By and large, urban fishers and hunters have not experienced major changes in harvest opportunities due to the subsistence priority. General hunting and sport fishing regulations continue to provide opportunities for residents and nonresidents. Personal use net fisheries provide for established food fisheries of urban residents in areas closed to subsistence fishing.

For example, during the eleven-year period when the rural priority was being implemented under state management (1978–1989), general resident hunting seasons for caribou increased by 36% (from 5,505 days to 7,500 days), moose hunting days decreased by 10% (from 2,961 days to 2,671 days), and Dall sheep hunting days increased by 2% (from 1,855 days to 1,900 days)—comparing the 1978–1979 resident season with the 1989–1990 resident season. That is, during this period, hunting days by urban hunters for caribou, moose, and sheep were not significantly changed by the rural subsistence priority.

The greatest effect of state and federal subsistence laws has been to legally recognize customary and traditional harvest practices and uses in rural areas. Because of the law, the Alaska Board of Fisheries and Board of Game and the Federal Subsistence Board have created subsistence regulations designed to provide opportunities for the continued harvest of the rural food supply. While impacts on urban residents have been relatively small, the benefits for rural areas have been great. Rural residents have a legally protected opportunity to fish and hunt to feed families following long-term customs and traditions.

Original: Robert J. Wolfe, Division of Subsistence, ADF&G, March 2000; revised by James A. Fall, Division of Subsistence, ADF&G, January 2012.

For a copy of the Alaska Department of Fish and Game OEO statement, see <http://www.adfg.alaska.gov/index.cfm?adfg=home.oestatement>