

# Subsistence Harvests and Uses of Wild Resources in Chistochina, Alaska, 2009

## An Overview of Study Findings

Division of Subsistence  
Alaska Department of Fish and Game

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### **Background**

The following is a brief overview of research conducted by the Division of Subsistence of the Alaska Department of Fish and Game (ADF&G) in collaboration with Wrangell-St. Elias National Park and Preserve on subsistence harvests of all resources by residents of Chistochina. Funding for this study was provided by the National Park Service through Alaska Regional Natural Resources Project Funds. The study period covers January 1 to December 31, 2009. This study is part of a multiphase study to update the subsistence harvest information for several communities in the Copper River Basin. Year one of this multiyear study documented subsistence uses and harvests as well as demographic and other economic data for the study year of 2009 in Chistochina.

### **Methods**

The primary data gathering method was systematic household surveys using a modified version of the ADF&G Division of Subsistence standard data gathering instrument. The surveys were conducted face-to-face with community residents. The goal was to interview representatives of all households in Chistochina. In total, 27 households were interviewed, approximately 82% of the year-round resident households. With the help of a local research assistant, household interviews were conducted to collect harvest and use information for all wild resources. Each household had accompanying mapping conducted as well, for each resource, including use area and/or harvest location, amount of harvest, and month of harvest. Participation was voluntary, and individual as well as household-level data are confidential, as are mapped harvest locations. In addition, subsistence users were asked to discuss their observations about resource use and abundance, and their concerns relating to subsistence resources and their continuing opportunities to harvest subsistence resources.

### **Findings**

In 2009, all Chistochina households used wild resources, 96% of the households attempted to harvest a resource, and 93% of the households successfully harvested wild resources. Subsistence harvests were lower than in previous study year (1987), but continue to be diverse. The mean total harvest was 522 pounds usable weight per household, or 199 pounds per person. On average, this per person harvest is about 0.6 pounds of wild resources per day.

Figure 1 shows the composition of wild resource harvests in pounds usable weight by category for 2009. The composition of the harvest varied by resource category with salmon and large land mammals (specifically moose) making up the largest portions of the harvest. Many households also harvested and used wood but firewood and some furbearers typically not eaten are excluded from the weight

calculations. Table 1 shows the top ten specific resources harvested and used by Chistochina households in 2009.

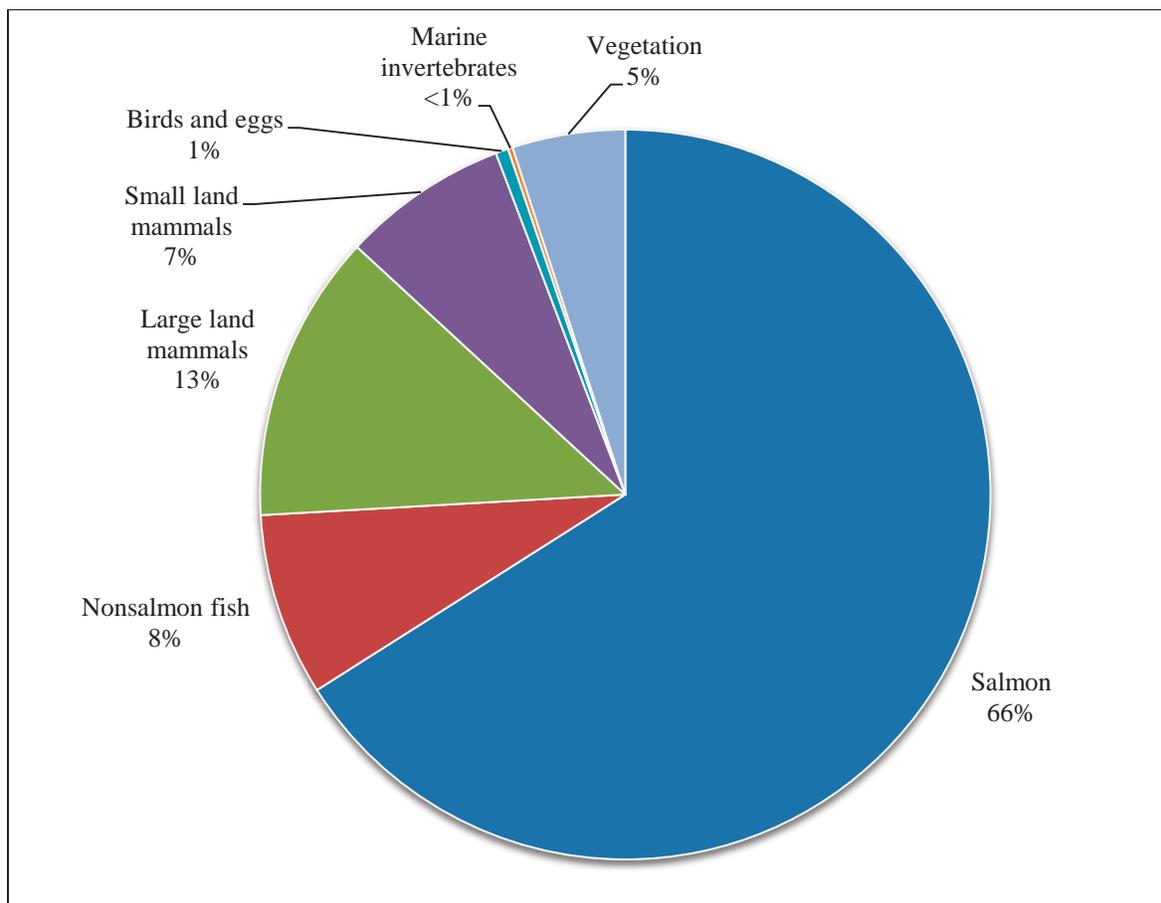


Figure 1.–Chistochina composition of wild resource harvests, pounds usable weight, 2009.

Table 1.–Top ten resources harvested and used, Chistochina, 2009.

Harvested				Used			
Number	Rank	Resource	Pounds per capita	Number	Rank	Resource	Percentage of households using
1	1.	Sockeye salmon	93.5	1	1.	Blueberry	77.8%
2	2.	Chinook salmon	33.7	2	2.	Wood	74.1%
3	3.	Moose	25.4	3	3.	Sockeye salmon	70.4%
4	4.	Snowshoe hare	6.5	4	3.	Moose	70.4%
5	5.	Beaver	5.7	5	5.	Lowbush cranberry	66.7%
6	6.	Burbot	3.9	6	6.	Chinook salmon	59.3%
7	7.	Coho salmon	3.7	7	6.	Spruce grouse	59.3%
8	8.	Blueberry	3.5	8	7.	Lake trout	40.7%
9	9.	Northern pike	3.4	9	7.	Arctic grayling	40.7%
10	10.	Lake trout	2.9	10	7.	Highbush cranberry	40.7%

Source ADF&G Division of Subsistence household survey, 2010.

Although the bulk of the subsistence harvest in 2009 was salmon and moose, almost all households used nonsalmon fish, and vegetation, and many used small land mammals and birds. During the study year, Chistochina households on average used 11 different resources and harvested 9 kinds of resources. The maximum number of resources used by any household was 34. In addition, households gave away an average of 3 kinds of resources and received 5 kinds of resources. In 2009, most Chistochina households (59%) received some resources from the categories of fish and land mammals, while 44% of households reported sharing resources from the category of land mammals. At the species level, moose was the most widely shared land mammal species; 56% of households reported receiving some moose and 33% giving some away. Sharing of the resources bound households together in networks of mutual support and obligation. Further, subsistence activities and uses created a context in which people shared traditional knowledge about harvest locations, fish and wildlife populations and behavior, and respectful relationships with the natural world. In short, subsistence hunting, fishing and gathering were a vital component of the Chistochina economy and way of life in 2009, as they have been for the people living in the area for centuries.

Similar comprehensive subsistence resource use and harvest studies were conducted in Chistochina in 1982, and 1987. In 2009, the total pounds harvested, and the per capita pounds used, were higher than in 1982 but lower than in 1987 (Table 2). When comparing the 2009 total harvests to the 1987 study, there seems to be continuing trends of increasing salmon, and small land mammal harvest, and declining large land mammal harvest. Nonsalmon fish and birds and eggs show a decline in harvest levels as well. In comparison, marine invertebrate harvest has increased slightly but continues to be very small in number of total pounds harvested. When comparing the 2009 total harvest to the 1982 study, large land mammals and vegetation are the only 2 resource categories with a decline in total harvest. At the same time, salmon is the only resource category that has seen continuous increase in harvest and use since the 1982 study.

Table 2.—Total estimated community harvests, pounds usable weight, Chistochina, 1982, 1987, 2009.

Resource category	Harvests by percent usable weight			Harvests by pounds usable weight			Per capita harvests by pounds usable weight		
	1982	1987	2009	1982	1987	2009	1982	1987	2009
Salmon	37.2%	49.5%	66.0%	3,554	10,197	11,371	42.8	129.6	131.0
Nonsalmon fish	7.9%	10.7%	8.1%	758	2,199	1,395	9.1	27.9	16.1
Large land mammals	37.5%	32.1%	12.8%	3,579	6,598	2,200	43.1	83.8	25.4
Small land mammals	4.3%	1.6%	7.4%	408	322	1,269	4.9	4.1	14.6
Birds and eggs	1.3%	0.9%	0.6%	128	186	97	1.5	2.4	1.1
Marine invertebrates	0.0%	0.2%	0.2%	0	34	37	0.0	0.4	0.4
Vegetation	11.7%	5.1%	5.0%	1,118	1,048	860	13.5	13.3	9.9
<b>All resources</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>9,545</b>	<b>20,584</b>	<b>17,229</b>	<b>114.8</b>	<b>261.5</b>	<b>198.5</b>

Sources 1982 and 1987: ADF&G Division of Subsistence, Community Subsistence Information System (CSIS), <http://www.adfg.alaska.gov/sb/CSIS/>; 2009: ADF&G Division of Subsistence household survey, 2010.

### **Continuing research**

The Division of Subsistence, in collaboration with Wrangell St. Elias Park and Preserve staff and local communities, will continue research for this project. Study year two covered the communities of Copper Center, Mentasta Lake, Mentasta Pass, Slana, and Slana–Nabesna Road for subsistence harvests from January 1 through December 31, 2010. During study year three, subsistence harvest and use surveys will be conducted in Chitina, Gakona, Kenny Lake, and McCarthy to cover subsistence harvests from January 1 through December 31, 2012.

### **For More Information**

Complete results for this project appear in: *M. Kukkonen and G. Zimpelman. 2012. Subsistence harvests and uses of wild resources in Chistochina, Alaska, 2009. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 370, Anchorage.*

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