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Alaska Subsistence Fisheries 2002 Annual Report

by

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Alaska Department of Fish and Game **Division of Subsistence**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	*e*
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	*E*
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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Annual Report to the U.S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program, to fulfill obligations for Study No. FIS 01-107 under agreement 701811J335 and ADF&G COOP-01-074

The Division of Subsistence Technical Paper Series was established in 1979 and represents the most complete collection of information about customary and traditional uses of fish and wildlife resources in Alaska. The papers cover all regions of the state. Some papers were written in response to specific fish and game management issues. Others provide detailed, basic information on the subsistence uses of particular communities which pertain to a large number of scientific and policy questions. Technical Paper Series reports are available through the Alaska State Library and on the Internet: http://www.subsistence.adfg.state.ak.us/

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ACKNOWLEDGEMENTS

Every year, thousands of Alaska residents who participate in subsistence fisheries take the time to provide harvest information to the Alaska Department of Fish and Game. We gratefully acknowledge their support, because without it, a report like this would be impossible to produce.

We also thank the many Department of Fish and Game staff in the divisions of Commercial Fisheries, Sport Fish, and Subsistence who annually conduct the programs that collect, analyze, and report subsistence fisheries harvest data. They, too, made this report possible.

Many department personnel generously took the time to be interviewed by Division of Subsistence staff about harvest assessment programs and subsistence harvest databases. They provided many insights about these programs that we have relied upon in developing the Alaska Subsistence Fisheries Database and evaluating the data that appear in this report. We very much appreciate their help.

We also thank the Subsistence Fisheries Harvest Assessment Working Group, composed of federal, tribal, and state representatives, for providing guidance in the preparation of this report series, including important commentary on existing harvest assessment programs.

Finally, we thank the Office of Subsistence Management of the US Fish and Wildlife Service for helping to fund the preparation of this report and the supporting database.

As we note in the report itself, this is the fourth in a series of statewide summaries of subsistence fisheries harvest data. While we have received a lot of help in compiling the report, we take full responsibility for any errors or shortcomings it may contain. We encourage the users of the report to share with us their ideas on how we can improve upon this effort in the future.

I. INTRODUCTION

This is the fourth in a series of annual reports on Alaska's subsistence fisheries. It was prepared by the Division of Subsistence of the Alaska Department of Fish and Game (ADF&G). Funding was provided through a cooperative agreement with the US Fish and Wildlife Service, Office of Subsistence Management (Project No. FIS 01-107; USFWS Agreement No.701811J335**;** ADF&G COOP-01-074). "Subsistence fishing" is defined in state law as taking of fish, shellfish, or other fisheries resources by Alaska residents for subsistence uses (AS 16.05.940[30]). "Subsistence uses" of wild resources are defined as "noncommercial, customary and traditional uses" for a variety of purposes, including:

> Direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption, and for the customary trade, barter, or sharing for personal or family consumption (AS 16.05.940[32]).

Under Alaska's subsistence statute, the Alaska Board of Fisheries must identify fish stocks that support subsistence fisheries and, if there is a harvestable surplus of these stocks, adopt regulations that provide reasonable opportunities for these subsistence uses to take place. Whenever it is necessary to restrict harvests, subsistence fisheries have a preference over other uses of the stock (AS 16.05.258).

Also, the Joint Board of Fisheries and Game is required is identify "nonsubsistence areas," where "dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community" (AS 16.05.258 (c)). The Board of Fisheries may not authorize subsistence fisheries in nonsubsistence areas. Personal use fisheries (see below) provide opportunities for harvesting fish with gear other than rod and reel in nonsubsistence areas. The Joint Board has identified five nonsubsistence areas (5 AAC 99.015): Ketchikan Nonsubsistence Area, Juneau Nonsubsistence Area, Anchorage-Matsu-Kenai Nonsubsistence Area, Fairbanks Nonsubsistence Area, and Valdez Nonsubsistence Area.

In addition to subsistence, Alaska law recognizes three other categories of fishing: commercial, sport, and personal use. Commercial fishing is the taking of fish "with the intent of disposing of them for profit, or by sale, barter, trade, in commercial channels" (AS 16.05.940[5]). Sport fishing is defined by Alaska law as the taking "for personal use, and not for sale or barter, any fresh water, marine, or anadromous fish by hook and line held in the hand, or by hook and line with the line attached to a pole or rod which is held in the hand or closely attended, or by other means defined by the Board of Fisheries" (AS 16.05.940[29]). Personal use fishing is defined by statute as the taking of fish "by Alaska residents for personal use and not for sale or barter, with gill or dip net, seine, fish wheel, long line, or other means defined by the Board of Fisheries" (AS 16.05.940[24]). Personal use fisheries differ from subsistence fisheries in that they do not meet the criteria established by the Joint Board for identifying customary and traditional fisheries (5 AAC 99.010) or they occur within nonsubsistence areas.

Every year, ADF&G's Division of Commercial Fisheries prepares "annual management reports" (AMRs) for most fishery management areas in the state. Figure I-1 shows the location of these management areas. Although the AMRs focus primarily on commercial fisheries, they routinely summarize basic data for programs that collect harvest information for subsistence fisheries. In a few areas, more detailed annual reports about subsistence fisheries harvest assessment programs are prepared. These include Northwest Alaska, the Yukon River, and the Kuskokwim River. However, until this annual report series began in 1999, there was no single source that compiled subsistence fisheries harvest data from all management areas. That is the purpose of this report for 2002.

At the outset, it is important to acknowledge the limitations that are faced when trying to present a comprehensive annual report on Alaska's subsistence fisheries. These limitations include the following points.

- Annual harvest assessment programs do not take place for all subsistence fisheries. Programs are in place for most salmon fisheries, but few other finfish fisheries or shellfish fisheries have annual harvest monitoring programs.
- Annual harvest data are mostly, but not entirely, limited to fisheries classified as subsistence by regulation, which for salmon generally means fish taken with nets, seines, or fish wheels. In some parts of the state, substantial numbers of fish for home use are taken with rod and reel (in most areas considered sport gear by regulation) or retained from commercial harvests. With the exceptions noted in the individual chapters on each area, these harvests are not included in the subsistence harvest estimates in this report because they are not covered in annual harvest assessments. Therefore, the harvest data in this report are a conservative estimate of the number of salmon being taken for subsistence use in Alaska. Underestimates of subsistence salmon harvests are particularly an issue in the Southeast Region (see Chapter XIII on the Southeast Region).
- Between management areas, and sometimes between districts within management areas, there is inconsistency in how subsistence harvest data are collected, analyzed, and reported.
- In some areas, there are no routine mechanisms for evaluating the quality of the subsistence harvest data. For example, in some areas it is not known if all subsistence fishers are obtaining permits and providing harvest reports. This can result in a large underestimate of harvests.
- There are also few programs for contextualizing subsistence harvest data each year to provide information to interpret changes in harvests. In some cases, however, AMRs do contain discussions of data limitations and harvest trends.

Despite these limitations, it is possible to present a reasonable, conservative statewide overview of subsistence harvests of salmon. Information for all areas of the state where salmon occur are covered in this report. We have included data for personal use salmon fisheries in the Yukon Management Area and Southeast Region because these fisheries have been classified as subsistence fisheries in the past and because they are administered in the same programs that collect subsistence harvest data. We have not included data from the Cook Inlet Management Area personal use salmon fisheries in this statewide overview, primarily because most of these fisheries have relatively short histories and are administered separately from the Cook Inlet

subsistence fisheries. However, we intend to add data from these personal use fisheries in future versions of the Alaska Subsistence Fisheries Database (see below) and include summaries in future annual reports in order to present a more comprehensive overview of non-recreational fish harvests for home use in the state.

The coverage for other finfish and for shellfish is very uneven. For other finfish, if annual subsistence harvest data are collected, they are reported here if the summary data were available to the Division of Subsistence. In other areas, we have usually noted which are the major species used for subsistence, generally relying on baseline studies conducted by the Division. In a few cases, we have drawn from reports prepared for the Alaska Board of Fisheries.

We have not attempted to provide a comprehensive overview of subsistence shellfish harvests in this report. This is largely because the statewide database development (see immediately below) has not yet located, reviewed, and summarized existing data. Future annual reports will provide historical data for subsistence shellfish as well as overviews of the study year.

In 1988, the Division of Subsistence, ADF&G, prepared the first version of the "Historic Subsistence Salmon Harvest Database" (HSSHDB). As part of the same cooperative agreement that supported the development of this annual report series, this database was updated, upgraded, and renamed the "Alaska Subsistence Fisheries Database" (Caylor and Walker 2003). The database is written for Microsoft Access 2000 software. It is organized by 21 subsistence fisheries, mostly reflecting unique harvest assessment programs and regulatory structures. It contains harvest data by species, year, community of residence of permit holder, and gear type. The number of permits issued and returned each year is reported as well. In developing the database, the most complete data have been sought, which in some cases are more up to date than that reported in AMRs. In most fisheries, reported harvests have been expanded to account for unreturned permits. In a few cases, this results in a larger estimate than in those AMRs that routinely only summarize data from returned permits. Also, the database calculates harvest estimates first for all permit holders living in particular communities represented in the fishery, and then adds these community estimates for a fishery total. This contrasts with the conventional expansion method for a few fisheries (for example, the Glennallen Subdistrict of the Prince William Sound Area) which only considers the total number of issued and returned permits in expansion, and results in a slightly different estimate of the total harvest for those fisheries as reported in AMRs. The goal of this annual report on Alaska's subsistence fisheries is to treat each fishery in a consistent, systematic manner, rather than to reiterate previously published data.

Due to the large size of the database, it is not yet available for downloading from the Internet. The database is presently distributed upon request to the Division of Subsistence on compact disks (CDs) along with the Community Profile Database (CPDB) (Scott et al. 2001), which includes the results of systematic household surveys, and is the primary source for subsistence harvest data for finfish other than salmon and for shellfish.

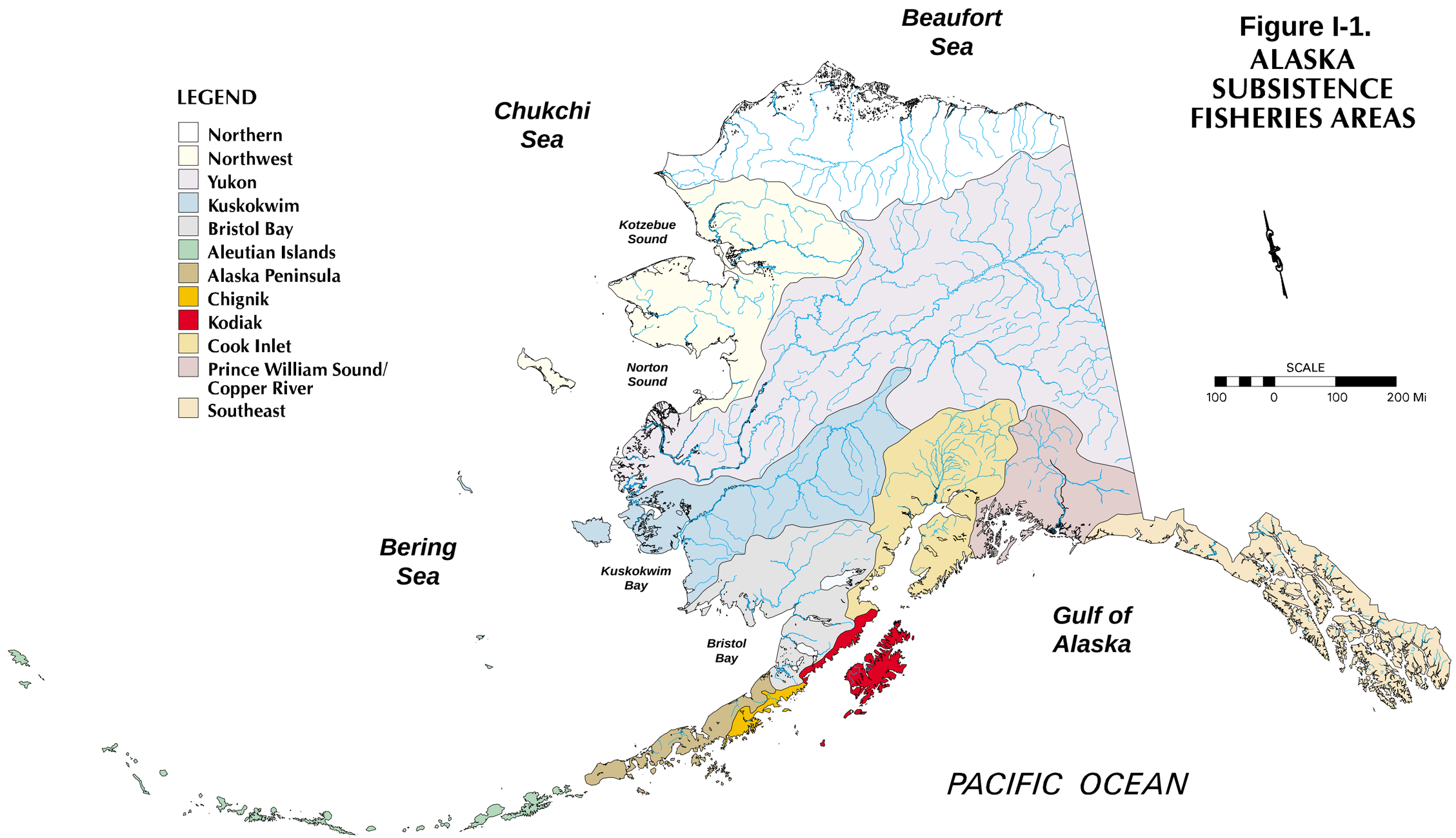
The next chapter of the report is a statewide perspective on subsistence salmon harvests in Alaska in 2002. This is followed by chapters on 11 management areas or, in the case of Southeast Alaska, a region. In a few cases (Northwest, Aleutians, Cook Inlet, and Prince

William Sound) harvest assessment programs within areas with different regulations or histories are discussed separately.

It is important to note that the preparation of an annual report such as this and the supporting database were two of several objectives of the "Statewide Subsistence Fisheries Harvest Monitoring Strategy" project, funded by the US Fish and Wildlife Service's Office of Subsistence Management and implemented jointly by the Division of Subsistence of ADF&G and the Alaska Inter-Tribal Council (AI-TC). A key goal of the project was to develop recommendations for a unified subsistence harvest assessment program for Alaska's subsistence fisheries. These recommendations were developed by a Working Group composed of state, federal, and tribal members. The recommendations are available as a separate document (ADF&G and AI-TC 2000a) and a final report with an overview of all the project activities is also available (ADF&G and AI-TC 2000b). The final report also includes a set of comments on existing subsistence harvest assessment programs, based on interviews of ADF&G staff conducted by the Division of Subsistence as well as Working Group discussions. We have drawn on these comments for most of the evaluations of harvest data in this annual report. As background for the Working Group's efforts, Division of Subsistence staff prepared detailed overviews of current subsistence fisheries harvest assessment programs. These are the basis of the descriptions of these programs that appear in this report.

This annual report is the result of the work of a number of Division of Subsistence staff. James Fall and Dave Caylor were the primary compilers of the information. Robert Walker, and formerly Charles Utermohle and Gretchen Jennings, assisted with developing the harvest database. Several other staff prepared chapters of the report, including Susan Georgette (Northwest), Tracie Krauthoefer (Kuskokwim), Caroline Brown (Yukon), and Amy Paige (Southeast). Other Division of Subsistence staff who administer subsistence fisheries harvest assessment programs include Molly Chythlook and Eunice Dyasuk for Bristol Bay; Ron Stanek for Cook Inlet; and Lisa Hutchinson-Scarbrough for Chignik.

Figure I-1.
ALASKA SUBSISTENCE FISHERIES AREAS



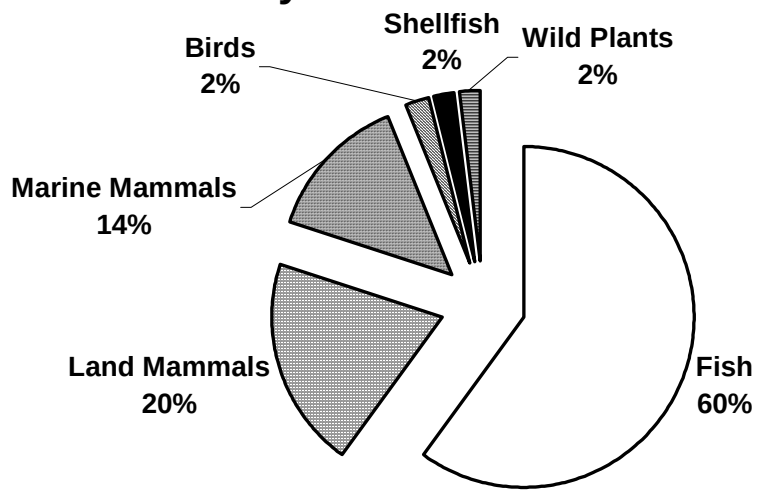
Source: Alaska Department of Fish and Game, Division of Subsistence.

II. OVERVIEW: SUBSISTENCE FISHERIES IN ALASKA

SUBSISTENCE HARVESTS IN RURAL ALASKA

Of the estimated 43.7 million pounds of wild foods produced in rural Alaska communities annually, subsistence fisheries contribute about 62 percent – 60 percent from finfish and 2 percent from shellfish (Fig. II-1). On average, this subsistence fisheries harvest provides about 230 pounds of food per person per year in rural Alaska (Wolfe 2000:2). Although producing a major portion of the food supply, subsistence harvests represent just a small part of the annual harvest of wild resources in Alaska, about 2 percent. Commercial fisheries take 97 percent of the wild resource harvest and sport fisheries and hunts take about 1 percent.

Figure II-1. Composition of Subsistence Harvest by Rural Alaska Residents



N = 44 million usable pounds; Source: Wolfe 2000, based on data in the Community Profile Database (Scott et al. 2001)

SUBSISTENCE SALMON HARVESTS IN 2002

The estimated total subsistence harvest of salmon in Alaska in 2002 based on annual harvest assessment programs was 953,952 fish (Table II-1, Fig. 11-2).[1] The statewide harvest by species was as follows: sockeye, 398,134 (41.7 percent); chum, 229,922 (24.1 percent); chinook, 144,777 (15.2 percent); coho, 94,365 (9.9 percent); and pink, 86,754 (9.1 percent). Table II-2 reports subsistence harvests in 2002 by species by place of resident of participants, with harvests from all subsistence fisheries combined.

In 2002, fisheries in seven management areas accounted for 89.7 percent of the total statewide subsistence salmon harvest (Table II-2; Fig. II-3). These were Kuskokwim (205,599 salmon; 21.8 percent of the state-wide total); Yukon (177,100 salmon; 18.6 percent); Northwest[2] (133,119 salmon; 14.0 percent); Bristol Bay (109,587 salmon; 11.5 percent); the Chitina Subdistrict of the Prince William Sound Management Area (95,665 salmon; 10.0 percent); the Glennallen Subdistrict of the Prince William Sound Management Area (68,161 salmon; 7.1 percent); and Southeast Alaska (66,804 salmon; 7.0 percent).[3] The Chitina Subdistrict fishery was classified as personal use in 1984 and from 1986 through 1999 and was not included in statewide overviews of Alaska Subsistence fisheries prior to 2000. As a result of Alaska Board of Fisheries action in December 1999, beginning in 2000, this fishery was again classified as a subsistence fishery and has been added to statewide totals.[4] The Chitina and Glennallen, the two subdistricts of the Upper Copper River District, accounted for 17.2 percent of the state subsistence salmon harvest in 2002 (163,826 salmon), in combination ranking third after the Kuskokwim and Yukon areas.

The largest subsistence harvests of chinook salmon in 2002 occurred in the Kuskokwim Area (70,219 salmon; 48.5 percent), followed by Yukon (44,384 salmon; 30.7 percent), Bristol Bay (12,936 salmon; 8.9 percent); Northwest (5,624 salmon; 3.9 percent); the Glennallen Subdistrict of the Prince William Sound Area (4,446 salmon; 3.1 percent; and the Chitina Subdistrict of the Prince William Sound Area (2,141 salmon; 1.5 percent) (Fig. II-4). For sockeye salmon, the largest subsistence harvests in 2002 were in the Chitina Subdistrict (91,490 salmon; 23.0 percent of the statewide total); followed by Bristol Bay (81,088 salmon; 20.4 percent), the Glennallen Subdistrict of the Prince William Sound Area (63,028 salmon; 15.8 percent), Southeast (56,379

[1] Personal use fisheries that take place in the Nonsubsistence Area of the Cook Inlet Management Area are not included in these statewide totals. Personal use salmon fisheries in Southeast Alaska and the Yukon Management Area are included. For background, see Chapter 1.

[2] Subsistence harvest estimates for Northwest Alaska for 2002 do not include the regional center of Kotzebue, which since 1994 had been included in the harvest assessment program. Therefore, the estimated 2002 harvest total for Northwest as reported here is incomplete. See also Chapter III.

[3] As discussed further in Chapter XIII, state subsistence regulations for the Southeast Region focus on sockeye salmon. Small harvests of Chinook and coho are reported on permit returns as incidental to sockeye catches. The major portion of coho and Chinook harvests for home use in Southeast is taken with rod and reel (sport gear). Thus the Southeast Region is particularly underrepresented in statewide overviews based on permit data.

[4] In February 2003, the Alaska Board of Fisheries reversed its decision of December 1999 and reclassified the Chitina Subdistrict dip net fishery as a personal use fishery. Nevertheless, in future Annual Reports, the Chitina Subdistrict harvests will be included in the statewide subsistence salmon harvest totals. Also, beginning in 2002, the National Park Service, on behalf of the Federal Subsistence Board, began issuing federal subsistence permits for the Chitina and Glennallen subdistricts. Harvests reported from federal permit returns are included in the totals discussed in this chapter. For additional discussion, see Chapter XII.

salmon; 14.2 percent), Kodiak (32,977 salmon; 8.3 percent); and Kuskokwim (27,733 salmon; 7.0 percent) (Fig. II-5). In past recent years, three areas dominated the subsistence chum salmon harvest in 2002: Yukon (107,739 salmon; 46.9 percent of the statewide harvest), Kuskokwim (73,234 salmon; 31.9 percent); and Northwest (37,396 salmon; 16.3 percent) (Fig. II-6). Of the statewide subsistence harvest of coho salmon in 2002, the most were taken in the Kuskokwim drainage (34,413 salmon; 36.5 percent), followed by Northwest (17,838 salmon; 18.9 percent), Yukon (16,551 salmon; 17.5 percent), Bristol Bay (6,565 salmon; 7.0 percent), Kodiak Island (6,057 salmon; 6.4 percent), Alaska Peninsula (3,188 salmon; 3.4 percent); and Southeast (3,176 salmon; 3.4 percent) (Fig. II-7). Finally, by far the largest portion of the statewide pink salmon subsistence harvest in 2002 occurred in Northwest Alaska (67,756 salmon; 78.1 percent), followed by Yukon (8,425 salmon; 9.7 percent); Southeast (3,210 salmon; 3,7 percent), Bristol Bay (2,341 salmon; 2.7 percent); and the Port Graham Subdistrict of the Cook Inlet Management Area (1,831 salmon; 2.1 percent) (Fig. II-8).

STATEWIDE SUBSISTENCE SALMON HARVESTS, 1994 - 2002

Table II-3 reports estimated statewide subsistence salmon harvests for 1994 through 2002 based on annual harvest assessment programs. Harvest estimates for the Chitina Subdistrict have been included for the years 1994 through 1999, although the fishery was classified as personal use during that period. Statewide estimates for years prior to 1994 are not available based on annual harvest assessment programs because data for key fisheries, such as most of the Northwest Alaska fisheries, were not regularly collected. There appears to be a downward trend in the statewide total over the nine-year period reported in Table II-3. The estimate for 2002 of 953,952 salmon was the lowest over the nine-year period and below the recent five-year average of 1,041,363 salmon**.** Accounting for much of this decline is a drop in subsistence harvests in the Yukon Area (from 344,049 salmon in 1994 to 152,300 salmon in 2000 and 177,100 salmon in 2002; see Chapter IV) and the Kuskokwim Area (from 251,112 salmon in 1994 to 204,714 salmon in 2000 and 205,599 salmon in 2001; see Chapter V). Subsistence salmon harvests in the Bristol Bay Management Area have also dropped substantially, from 157,787 in 1994 to 109,587 in 2002, the third lowest on record (see Chapter VI).

Table II-1. Alaska Subsistence Salmon Harvests, 2002

	Households / Permits		Estimated Salmon Harvest					
Fishery[1]	Total[2]	Included	Chinook	Sockeye	Coho	Chum	Pink	Total
Adak District	3	3	0	150	0	0	0	150
Alaska Peninsula Management Area	157	133	345	9,384	3,188	1,603	532	15,052
Batzulnetas Fishery	1	1	0	208	0	0	0	208
Bristol Bay Management Area	1,093	994	12,936	81,088	6,565	6,658	2,341	109,587
Chignik Management Area	120	86	74	10,092	1,401	23	390	11,980
Chitina Subdistrict: State	6,804	5,736	2,093	90,655	2,034	0	0	94,782
Chitina Subdistrict: Federal	122	90	48	835	0	0	0	883
Copper River Flats	355	331	589	3,289	30	2	0	3,910
Glennallen Subdistrict[3]	1,308	1,162	4,446	63,028	686	1	0	68,161
Kodiak Management Area	2,271	2,271	593	32,977	6,057	350	1,665	41,642
Kuskokwim Management Area	4,339	2,798	70,219	27,733	34,413	73,234	0	205,599
Northwest Alaska	1,327	1,204	5,624	4,504	17,838	37,396	67,756	133,119
Port Graham & Koyuktolik Subdistricts	79	79	346	10,620	1,057	488	1,831	14,342
Prince William Sound (General)	11	9	0	38	0	9	11	57
PWS Eastern District (Tatitlek)	19	8	6	437	278	66	71	858
PWS Southwestern District (Chenega Bay)	10	5	10	142	123	60	83	418
Seldovia Fishery	20	20	124	234	13	11	31	413
Southeast / Yakutat Region	3,326	2,732	1,857	56,379	3,176	2,183	3,210	66,804
Tyonek Fishery	101	71	1,080	209	115	4	9	1,417
Unalaska District	231	180	3	5,678	707	65	385	6,837
Upper Yentna Fishery	25	22	0	454	133	31	14	632
Yukon Management Area	2,775	1,254	44,384	0	16,551	107,739	8,425	177,100
Totals	**24,497**	**19,189**	**144,777**	**398,134**	**94,365**	**229,922**	**86,754**	**953,952**

[1] Estimates for the Yukon and Southeast fisheries include both subsistence and personal use harvests.

[2] Because the numbers of permits issued for the Kodiak and Port Graham/Koyuktolik fisheries are unknown, the numbers of permits returned are used in place of these values.

[3] Includes harvests with state and federal subsistence permits.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table II-2. Alaska Subsistence Salmon Harvests by Species and Place of Residence of Fisher, 2002

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Adak Station	4	4	0	230	0	0	0	230
Afognak Island	2	2	0	61	0	0	0	61
Akhiok	12	12	0	206	16	9	49	280
Akiachak	132	102	6,860	2,440	1,620	5,048	0	15,968
Akiak	71	55	3,340	1,195	1,113	2,527	0	8,175
Alakanuk	131	39	1,773	0	183	7,860	130	9,946
Alatna	6	5	3	0	0	25	0	28
Aleknagik	21	18	306	1,082	72	57	0	1,517
Alexander Creek	2	2	0	0	0	0	0	0
Allakaket	49	13	200	0	56	6,342	0	6,598
Anchor Point	2	2	0	20	0	0	0	20
Anchorage	2,197	1,872	1,755	38,719	934	137	76	41,621
Anderson	8	7	1	145	20	0	0	166
Angoon	91	58	0	1,178	63	33	105	1,379
Aniak	166	164	2,994	725	2,628	3,002	23	9,372
Anvik	33	30	708	0	0	1,490	0	2,198
Atmautluak	56	46	1,282	1,015	591	2,189	0	5,077
Auke Bay	26	18	0	116	6	2	0	124
Barrow	12	6	5	316	0	0	0	321
Bear Lake	1	1	0	115	0	0	0	115
Beaver	26	18	702	0	17	78	0	797
Beluga	2	2	2	0	27	0	0	29
Bethel	1,501	1,313	19,305	7,350	12,966	15,082	0	54,703
Bettles	25	20	0	50	0	0	0	50
Big Lake	43	35	20	711	10	2	0	743
Birch Creek	8	5	67	0	0	0	0	67
Bird Creek	1	0						
Brevig Mission	71	67	65	2,127	1,741	1,534	2,347	7,814
Buckland	1	1	0	0	0	0	0	0
Cantwell	2	2	0	30	0	0	0	30
Central	19	17	262	77	0	0	0	339
Chalkyitsik	40	27	26	0	0	4	0	30
Chefornak	93	0						
Chickaloon	6	5	3	160	5	0	0	168
Chicken	1	1	1	29	0	0	0	30
Chignik Bay	17	15	9	1,306	170	0	0	1,485
Chignik Lagoon	32	22	32	2,396	68	0	0	2,496
Chignik Lake	23	20	8	2,979	75	0	0	3,062
Chiniak	27	27	6	361	242	17	10	636
Chisana	1	1	4	73	0	0	0	77

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chistochina	1	1	1	1	0	0	0	2
Chitina	49	32	107	2,794	14	0	0	2,915
Chuathbaluk	30	22	663	337	607	1,553	0	3,160
Chugiak	139	124	122	2,567	111	2	29	2,831
Circle	29	27	1,655	0	0	85	0	1,740
Clarks Point	13	10	176	553	165	20	51	965
Clear AFB	4	4	1	76	0	0	0	77
Coffman Cove	31	29	0	141	0	0	0	141
Cold Bay	21	20	0	497	0	15	0	512
College	1	1	0	0	0	0	0	0
Cooper Landing	5	3	1	241	0	0	0	242
Copper Center	146	129	459	7,449	77	1	0	7,986
Cordova	7	6	10	403	0	0	0	413
Craig	181	149	0	2,161	18	197	129	2,505
Crooked Creek	34	28	790	413	420	1,266	0	2,889
Delta Junction	269	237	127	4,539	36	0	0	4,702
Denali Park	8	6	1	26	6	0	0	33
Dillingham	333	300	5,595	12,070	3,588	2,072	1,051	24,376
Dot Lake	8	7	5	35	0	0	0	40
Douglas	48	34	0	408	11	9	0	428
Dutch Harbor	113	88	2	2,408	197	35	65	2,707
Eagle	43	38	2,195	0	1	416	0	2,612
Eagle River	387	354	403	7,407	126	11	2	7,949
Edna Bay	2	2	0	0	0	0	0	0
Eek	73	54	2,432	748	904	1,259	0	5,343
Egegik	18	15	12	468	406	13	4	903
Eielson AFB	127	102	36	1,604	22	0	0	1,662
Ekwok	21	21	1,049	1,044	111	522	9	2,735
Elfin Cove	5	5	0	15	5	0	0	20
Elim	82	76	565	14	1,801	1,451	8,345	12,176
Elmendorf AFB	22	21	7	228	0	0	0	235
Emmonak	161	61	1,750	0	514	9,719	39	12,022
Ester	65	46	27	852	31	0	0	910
Fairbanks	2,352	2,001	2,770	33,085	1,741	547	0	38,143
False Pass	14	10	32	662	269	78	41	1,082
Fort Richardson	21	14	52	385	0	0	0	437
Fort Wainwright	113	83	33	1,407	16	0	0	1,456
Fort Yukon	166	47	2,348	0	14	5,355	0	7,717
Gakona	43	40	186	2,474	0	0	0	2,660
Galena	171	54	1,525	60	169	1,061	50	2,865

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Gambell	1	0						
Girdwood	33	29	25	630	3	0	0	658
Glennallen	152	135	462	6,620	175	0	0	7,257
Golovin	47	39	42	66	979	1,144	7,827	10,058
Goodnews Bay	55	43	703	794	202	312	0	2,011
Grayling	47	16	2,249	35	30	1,363	33	3,710
Gulkana	3	2	15	395	0	0	0	410
Gustavus	13	10	0	132	0	1	1	134
Haines	335	310	88	5,572	604	513	806	7,583
Healy	36	33	7	312	3,047	831	0	4,197
Hollis	23	19	0	52	5	0	202	259
Holy Cross	60	23	1,813	0	0	155	0	1,968
Homer	38	37	18	1,325	2	12	1	1,358
Hoonah	141	71	0	1,579	4	191	159	1,933
Hooper Bay	201	63	282	0	125	9,824	5,475	15,706
Houston	6	6	0	86	0	0	0	86
Hughes	20	18	67	0	100	1,089	0	1,256
Huslia	81	22	222	0	60	3,178	0	3,460
Hydaburg	47	34	0	796	0	0	0	796
Igiugig	8	8	8	2,138	5	13	1	2,165
Iliamna	37	34	79	4,674	15	0	0	4,768
Indian	4	4	2	22	2	0	0	26
Ivanof Bay	1	0						
Juneau	589	418	39	5,571	113	60	90	5,873
Kake	156	140	2	2,315	0	138	78	2,533
Kaktovik	1	1	1	24	0	0	0	25
Kalskag (Upper)	60	44	1,420	485	1,032	2,333	0	5,270
Kaltag	58	18	1,435	0	212	548	0	2,195
Karluk	5	5	2	295	10	0	10	317
Kasaan	15	15	0	351	0	0	0	351
Kasigluk	136	5	381	59	142	306	0	888
Kasilof	8	8	14	78	2	5	3	102
Kenai	22	19	4	323	21	7	0	355
Kenny Lake	49	40	234	2,276	18	0	0	2,528
Ketchikan	380	334	205	4,970	49	694	1,219	7,137
King Cove	62	53	35	4,390	2,424	415	77	7,341
King Salmon	90	83	165	4,486	199	106	97	5,053
Kipnuk	176	1	1	11	69	5	0	86
Klawock	175	134	1	3,705	24	76	20	3,826
Klukwan	3	3	1	78	0	0	2	81

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Kodiak (city)	1,739	1,734	286	25,925	3,374	156	932	30,673
Kokhanok	29	26	19	10,150	6	15	7	10,197
Koliganek	16	15	1,155	659	19	1,263	1	3,097
Kongiganak	81	51	808	774	596	1,965	0	4,143
Kotlik	90	26	1,686	0	542	6,229	849	9,306
Kotzebue	4	4	13	100	0	4	0	117
Koyuk	84	76	557	0	509	3,971	6,049	11,086
Koyukuk	27	22	323	0	249	681	4	1,257
Kwethluk	156	113	6,429	1,993	2,515	7,434	0	18,371
Kwigillingok	95	0						
Lake Creek	1	1	0	28	2	5	0	35
Lake Minchumina	1	1	0	15	0	0	0	15
Larsen Bay	24	24	162	431	31	0	4	628
Levelock	7	7	1	700	303	304	409	1,717
Lime Village	17	0						
Loring	2	2	0	0	0	0	0	0
Lower Kalskag	69	56	1,210	247	241	1,187	0	2,885
Lower Tonsina	7	5	44	680	15	0	0	739
Manley Hot Springs	13	12	556	30	1,764	1,153	0	3,503
Manokotak	26	25	224	2,874	128	27	2	3,255
Marshall (Fortuna Ledge)	76	24	2,290	0	386	2,824	473	5,973
McCarthy	54	34	5	349	0	0	0	354
McGrath	137	119	700	323	1,067	665	0	2,755
Mekoryuk	95	19	13	213	114	1,292	0	1,632
Mentasta	2	2	1	219	0	0	0	220
Metlakatla	6	6	0	20	0	0	0	20
Meyers Chuck	1	1	0	0	0	0	0	0
Minto	46	43	21	15	281	236	0	553
Moose Pass	1	1	0	0	0	0	0	0
Mountain Village	149	38	1,523	0	240	7,004	745	9,512
Nabesna Road	2	2	0	5	0	0	0	5
Naknek	104	86	266	9,647	299	253	445	10,910
Nanwalek	56	56	96	10,203	967	414	1,681	13,361
Napakiak	90	66	1,931	1,201	578	2,391	0	6,101
Napaskiak	83	60	3,856	1,292	716	3,720	0	9,584
Naukati Bay	5	4	0	6	0	0	0	6
Nelchina	2	2	23	117	0	0	0	140
Nelson Lagoon	4	3	7	187	95	0	0	289
Nenana	59	53	707	671	4,499	2,169	0	8,046
New Stuyahok	35	33	2,571	2,265	344	1,074	11	6,265

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Newhalen	18	18	0	5,125	0	0	0	5,125
Newtok	79	5	13	85	0	20	0	118
Nightmute	68	3	0	0	0	0	0	0
Nikiski	5	5	1	69	5	1	2	78
Nikolaevsk	1	1	0	177	3	0	0	180
Nikolai	36	30	507	0	105	171	0	783
Ninilchik	5	4	6	110	0	1	1	118
Noatak	101	90	0	0	11	2,937	0	2,948
Nome	188	152	28	272	763	1,159	3,752	5,974
Nondalton	21	18	0	5,527	0	0	0	5,527
Noorvik	115	101	3	9	44	13,943	8	14,007
North Pole	661	563	453	9,231	203	40	10	9,937
Northway	13	12	0	35	0	0	0	35
Nulato	95	27	1,773	0	78	269	50	2,170
Nunam Iqua (Sheldon Point)	32	24	393	0	56	2,182	13	2,644
Nunapitchuk	102	81	3,883	1,382	790	6,917	0	12,972
Old Harbor	40	40	6	792	1,063	110	535	2,506
Oscarville	13	12	953	377	119	1,121	0	2,570
Ouzinkie	40	40	34	1,868	440	51	74	2,467
Palmer	462	412	384	9,321	165	50	4	9,924
Paxson	2	2	8	116	0	4	1	129
Pedro Bay	16	16	0	2,687	0	0	0	2,687
Pelican	7	7	0	120	0	0	0	120
Perryville	30	25	11	1,692	1,058	23	390	3,174
Petersburg	118	113	1	1,149	385	13	9	1,557
Pilot Point	7	7	19	397	218	2	1	637
Pilot Station	102	37	2,530	0	230	7,170	22	9,952
Pitka's Point	25	20	566	0	47	655	35	1,303
Platinum	16	12	154	256	95	95	0	600
Point Baker	1	1	0	27	20	16	6	69
Point Hope	2	2	1	59	0	0	0	60
Point Lay	1	1	1	9	0	0	0	10
Port Alexander	2	2	0	0	0	0	0	0
Port Alsworth	22	20	1	1,403	0	0	0	1,404
Port Graham	23	23	250	417	90	74	150	981
Port Heiden	3	3	120	34	50	6	0	210
Port Lions	47	47	33	2,447	702	1	25	3,208
Portage Creek	1	1	78	42	0	13	0	133
Quinhagak	139	101	2,475	855	1,099	1,839	0	6,268
Rampart	16	12	852	0	0	14	0	866

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Red Devil	14	10	248	92	413	325	0	1,078
Ruby	67	21	954	0	69	1,484	87	2,594
Russian Mission	63	17	1,887	0	115	559	0	2,561
Saint Marys (Andreafsky)	118	41	2,045	0	209	7,387	8	9,649
Saint Michael	93	90	227	20	989	1,136	583	2,955
Salcha	62	56	175	676	83	204	0	1,138
Sand Point	32	25	105	2,060	283	1,007	375	3,830
Saxman	26	18	0	308	3	17	17	345
Scammon Bay	82	25	840	0	123	5,256	417	6,636
Selawik	1	0						
Seldovia	25	21	124	234	13	11	31	413
Seward	15	11	5	162	0	2	0	169
Shageluk	33	24	439	0	0	1,956	0	2,395
Shaktoolik	59	57	1,230	4	2,169	800	8,769	12,972
Shishmaref	2	1	0	20	0	0	0	20
Sitka	569	502	22	19,312	64	86	121	19,605
Skagway	8	6	0	265	0	28	25	318
Skwentna	10	9	0	242	46	13	3	304
Slana	24	24	9	760	0	0	0	769
Sleetmute	34	27	516	603	689	1,105	0	2,913
Soldotna	22	22	4	195	0	2	0	201
South Naknek	40	35	207	2,990	190	142	152	3,681
Stebbins	122	108	469	300	2,324	3,586	7,459	14,138
Sterling	5	4	50	11	0	0	0	61
Stevens Village	28	20	1,036	0	0	4	0	1,040
Stony River	15	13	293	460	517	560	0	1,830
Sutton	28	25	3	572	8	0	0	583
Takotna	20	16	9	0	20	1	0	30
Talkeetna	19	19	9	254	35	2	3	303
Tanacross	8	7	0	0	0	0	0	0
Tanana	102	35	2,379	0	2,032	9,576	0	13,987
Tazlina	14	10	165	1,132	0	0	0	1,297
Telida	2	0						
Teller	77	71	50	1,440	433	1,152	1,043	4,118
Tenakee Springs	3	3	3	25	1	0	0	29
Thorne Bay	92	82	0	763	23	0	30	816
Togiak	35	34	718	2,358	241	605	10	3,932
Tok	68	65	49	1,643	0	25	1	1,718
Toksook Bay	136	8	54	32	74	657	0	817
Tonsina	4	3	1	23	0	0	0	24

[continued]

Table II-2. [continued]

Community	Households / Permits		Estimated Salmon Harvest					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Trapper Creek	1	1	0	0	0	0	0	0
Tuluksak	82	56	2,364	1,011	1,181	3,042	0	7,598
Tuntutuliak	76	64	3,632	972	1,153	3,845	0	9,602
Tununak	110	5	1	8	49	0	0	58
Two Rivers	21	20	7	309	11	0	0	327
Tyonek	81	52	948	189	85	4	9	1,235
Uganik Bay	1	1	8	11	0	0	0	19
Ugashik	5	5	16	362	132	9	0	519
Unalakleet	225	222	2,367	280	5,490	3,877	15,557	27,571
Unalaska	114	90	1	3,211	510	30	320	4,072
Valdez	213	180	223	5,023	1	0	0	5,247
Venetie	40	27	77	0	12	693	0	782
Wainwright	2	2	2	31	0	0	0	33
Ward Cove	4	4	0	50	0	0	0	50
Wasilla	678	592	761	14,535	294	7	15	15,612
Whale Pass	1	1	0	0	0	0	0	0
White Mountain	65	59	27	0	581	706	6,014	7,328
Willow	34	30	9	641	17	0	0	667
Wrangell	113	98	136	1,282	11	100	31	1,560
Yakutat	103	97	1,342	3,609	1,768	6	155	6,880
Other USA	30	28	0	61	4	0	0	65
Unknown Community	460	416	617	4,739	503	137	165	6,161
Totals1	24,497	19,189	144,781	398,138	94,363	229,921	86,756	953,959

[1] Due to rounding, state totals in this table do not match exactly the state totals in Table II-1 and Table II-3. Please refer to Table II-1 for precise estimates of statewide subsistence harvests by species.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table II-3. Historic Alaska Subsistence and Personal Use Salmon Harvests: 1994 - 2002[1]

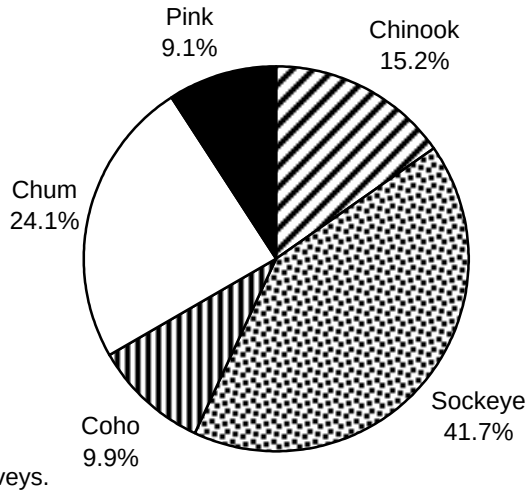
	Households / Permits		Estimated Salmon Harvest					
Year	Total[2]	Included	Chinook	Sockeye	Coho	Chum	Pink	Total
1994	22,553	16,492	188,134	445,109	138,101	417,199	94,469	1,283,012
1995	22,358	15,770	186,422	386,034	125,909	499,992	54,908	1,253,264
1996	23,708	18,751	161,976	416,467	124,786	498,525	80,928	1,282,682
1997	26,754	21,782	182,174	525,417	99,043	347,808	41,543	1,195,985
1998	27,774	22,264	177,017	466,386	95,211	302,037	74,216	1,114,867
1999	27,854	22,993	161,333	511,044	91,896	339,242	33,253	1,136,768
2000	25,365	20,983	134,270	422,002	103,212	248,598	52,710	960,791
2001	28,641	21,907	165,039	487,570	101,291	242,035	44,501	1,040,436
2002	24,497	19,189	144,777	398,134	94,365	229,922	86,754	953,952
1998-2002 Average	26,826	21,467	156,487	457,027	97,195	272,367	58,287	1,041,363
All Years Average	25,500	20,015	166,794	450,907	108,201	347,262	62,587	1,135,751

[1] Does not include personal use salmon fisheries in the Cook Inlet Area (within the Nonsubsistence Area). Does include personal use fisheries in the Southeast Region and Yukon Area. Also includes estimates for the Seldovia, Yentna River, and Chitina Subdistrict fisheries, that were classified as subsistence fisheries in 2001, for prior years when they were classified as personal use fisheries.

[2] In this version of the table, the number of returned permits issued includes permits returned from the Kodiak and Port Graham/Koyuktolik fisheries. (The number of permits issued is not accurately tracked for these fisheries.)

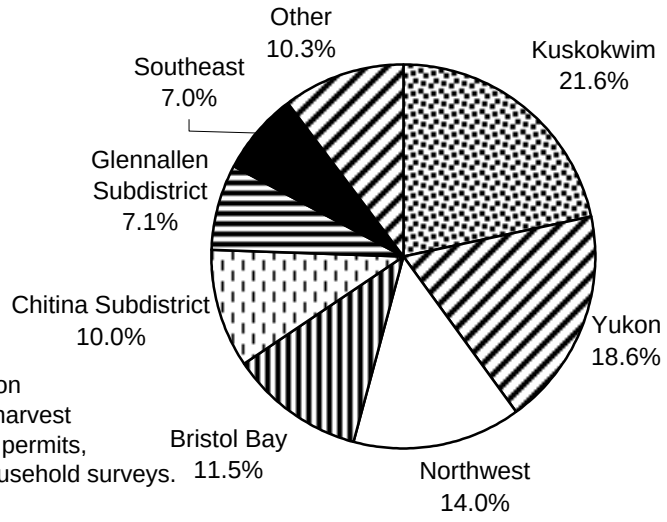
SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Figure II-2. Alaska Subsistence Salmon Harvest by Species, 2002



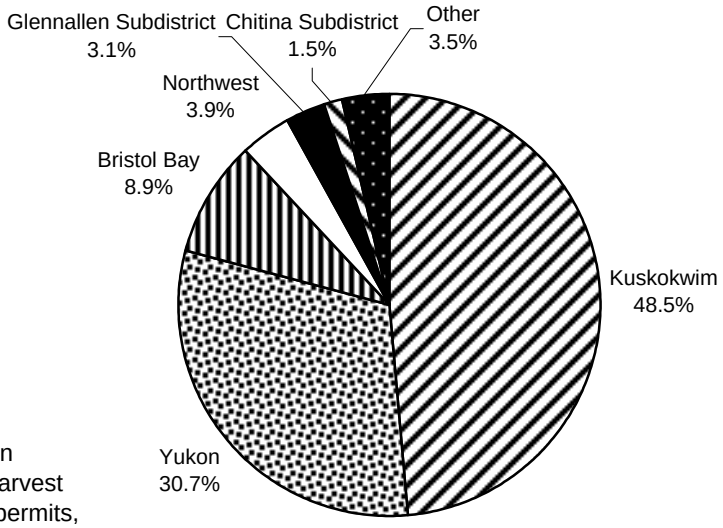
N = 953,952 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-3. Alaska Subsistence Salmon Harvest by Area, 2002



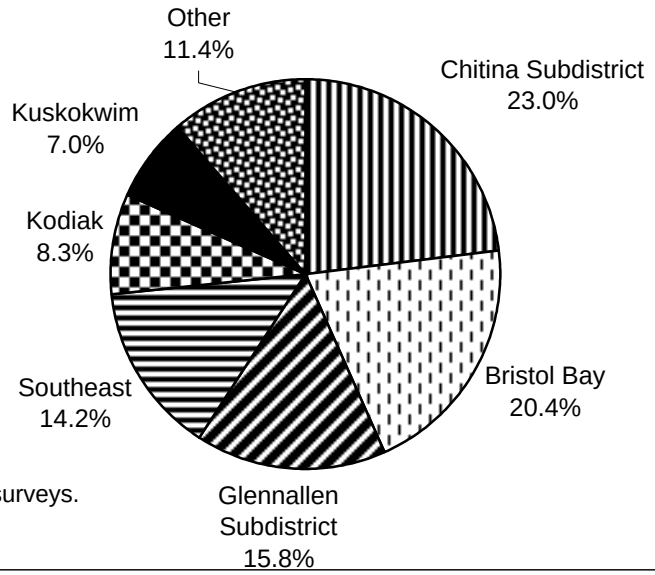
N = 953,952 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-4. Alaska Subsistence Chinook Salmon Harvest by Area, 2002



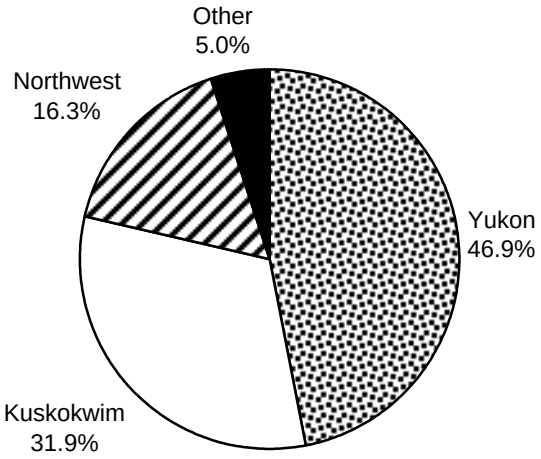
N = 144,777 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-5. Alaska Subsistence Sockeye Salmon Harvest by Area, 2002



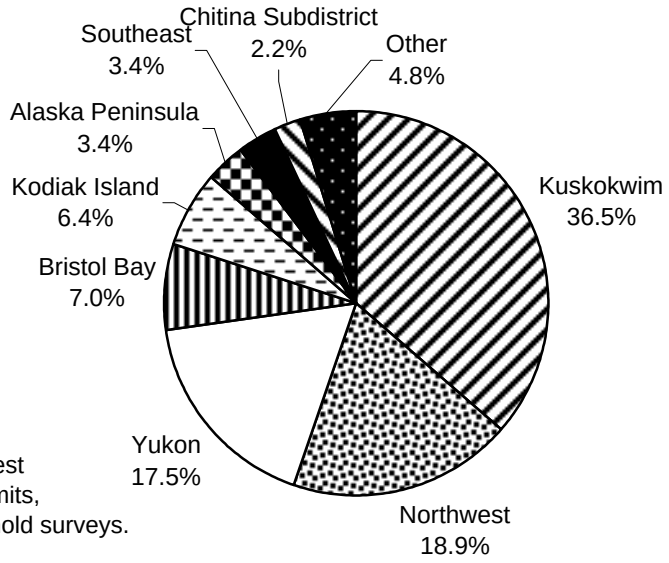
N = 398,134 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-6. Alaska Subsistence Chum Salmon Harvest by Area, 2002



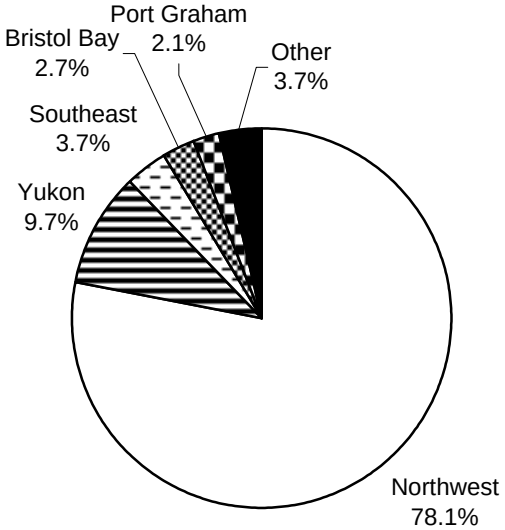
N = 229,922 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-7. Alaska Subsistence Coho Salmon Harvest by Area, 2002



N = 94,365 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-8. Alaska Subsistence Pink Salmon Harvest by Area, 2002



N = 86,754 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

III. NORTHWEST ALASKA

NORTON SOUND AND PORT CLARENCE AREA SALMON

Background

Subsistence salmon fishing has been a major feature of life in northwest Alaska for centuries. In the early 21st century, most local residents in the region continue to participate in a mixed subsistence-cash economy, depending on local wild foods for cultural and nutritional sustenance. In summer subsistence fishers harvest salmon with gillnets or seines in the main Seward Peninsula rivers and in the coastal marine waters. Beach seines are used near the spawning grounds to catch schooling or spawning salmon and other species of fish. The major portion of fish taken during the summer months is air dried or smoked for later consumption by local residents. Chum, pink, and coho salmon are found throughout the Norton Sound and Port Clarence districts, with chinook salmon more common in eastern and southern Norton Sound and sockeye salmon more common in Port Clarence drainages.

Regulations

In most of the Port Clarence District, subsistence salmon fishing has few restrictions other than the general statewide provisions. Salmon may be taken in most areas at any time with no harvest limits and no required permits. The exception to this is the Pilgrim River drainage including Salmon Lake where permits are required, harvests are limited, and specified areas are closed to subsistence salmon fishing.

The Norton Sound District has considerably more complex regulations, particularly in Subdistricts 1 (Nome) and 6 (Unalakleet), where restrictions exist on gear, fishing periods, and areas opened to fishing. In Subdistrict 1, chum salmon runs have been depressed for approximately 20 years. Upstream portions of most rivers are closed to protect spawning salmon, and harvests are limited in all subdistrict rivers. In regulation, subsistence fishing in fresh water is open during two 48-hour periods each week, but during the last 15 years subsistence fishing has been regulated primarily by emergency order, and openings have been much less frequent than in regulation. Fishing periods in marine waters are also limited. Since 1999, chum salmon fishing in Subdistrict 1 has been managed on a Tier II system, the only such fishery in the state.[1] In 2002, 40 Tier II permits were issued. In Subdistrict 6, subsistence fishing is closed one day a week through July 15 to ensure adequate chinook salmon escapement. In Subdistricts 2-5, salmon may be taken at any time with no harvest limits. However, restrictions exist on commercial fishermen's participation in subsistence salmon fishing.

[1] A "Tier II" subsistence permit system is necessary when the number of participants in a subsistence fishery or hunt must be limited because the harvestable surplus of the fish stock or wildlife population is less than the amount necessary to provide for subsistence uses. Individuals are scored based on their history of use of the particular resource and availability of alternative resources; those with the highest scores receive Tier II permits.

In 2001, a regulatory change by the Board of Fisheries made rod-and-reel a legal subsistence fishing gear in the area from Cape Espenberg on the northern Seward Peninsula to Bald Head between Elim and Koyuk. This includes most of the subsistence fishing areas used by residents of Elim, Golovin, White Mountain, Nome, Teller, Brevig Mission, Wales, and Shishmaref. Sport fish bag and possession limits still apply, except when fishing through the ice or when a subsistence salmon permit is required. In the latter case, the harvest limits specified in the permit apply.

In-Season Management in 2002

In Subdistrict 1 (Nome), subsistence salmon fishing was initially closed to all households. On June 25 salmon fishing opened three days per week in the marine waters east of Cape Nome for households with Tier II permits. Beginning July 4, the fresh waters of the Eldorado-Flambeau rivers east of Cape Nome also were opened three days per week for Tier II permit holders. This was the earliest opening for a fresh water subsistence fishing period in over five years in Subdistrict 1. Beginning in the first week of July, restricted gillnet fishing by Tier I permit holders was allowed in the marine waters east of Cape Nome. Tier I beach seining for pink salmon opened periodically in the fresh waters of Safety Sound beginning July 6. West of Cape Nome, Tier I beach seining for pink salmon opened on the Nome River beginning in mid-July. On July 22, all fresh water subsistence harvest areas in Subdistrict 1 were opened to all Tier I and Tier II fishermen. The Nome River, however, was restricted to beach seining only and chum salmon were required to be returned to the water.

On July 29, Subdistrict 1 opened in both marine and fresh waters to all Tier I and Tier II fishermen to target coho salmon. The coho salmon return turned out to be well below average, and in mid-August Subdistrict 1 and the Port Clarence District were closed for two weeks to subsistence salmon fishing. In late August, the subdistrict and the Port Clarence District reopened to subsistence fishing, except for the Snake and Solomon rivers.

In Subdistrict 2, subsistence fishing on the Niukluk and Fish rivers was restricted to four days per week during three weeks in late August and early September due to a weak coho return. The normal seven days per week subsistence fishing schedule in fresh waters resumed the second week of September.

In Subdistricts 3-6 subsistence fishing continued as normal throughout the season.

Subsistence Salmon Harvest Collection Methods

Two methods were used to assess subsistence salmon harvests in the Norton Sound and Port Clarence districts in 2002: 1) fishing permits in Subdistrict 1 (Nome) and in the Salmon Lake-Pilgrim River drainage, and 2) post-season household surveys in 12 communities.

Norton Sound Subdistrict 1 Fishing Permits

Permits have been required for subsistence salmon fishing in Norton Sound Subdistrict 1 (Nome) since 1974. Beginning in 1999, Tier II chum salmon fishing permits also were issued to a limited number of Nome households with the intent that these households would have first priority over other subsistence fishermen if only a small number of chum salmon were available for harvest. This priority would allow these households to fish earlier in the season when weather conditions are more suitable for drying salmon. Tier I fishing permits were available to all other households when run strength was determined to be adequate. In 2002, 141 permits (103 Tier I and 38 Tier II permits) were issued for Subdistrict 1, 113 (80%) of which were returned to the department. Two persons selected for the Tier II fishery did not pick up a permit. In addition, 17 permits were issued for the Niukluk and Fish rivers in Subdistrict 2, although regulations do not require fishermen to obtain these. Fourteen (82%) of these permits were returned to the department.

Since 1998, the Nome permit data have not been expanded to account for households whose permits were not returned. This contrasted with earlier years when permit data were expanded by drainage with expansion factors based upon the fraction of unreturned permits for that drainage. Department staff believed that expansion of the permit data led to an overestimation of the salmon harvest because the unreturned permits were most likely from households that did not fish.

Salmon Lake and Pilgrim River Fishing Permits

Permits were required for subsistence salmon fishing in Salmon Lake and the Pilgrim River drainage in the Port Clarence District. In 2002, 28 households requested permits for this area, 21 (75%) of which were returned to the department.

Household Surveys

In the Norton Sound and Port Clarence districts, household surveys were jointly conducted by Kawerak, Inc. and ADF&G in Brevig Mission, Teller, Golovin, White Mountain, Elim, Koyuk, Shaktoolik, Unalakleet, St. Michael, and Stebbins. Surveys were not conducted in Gambell or Savoonga. Kawerak obtained approval for the research from tribal councils in the study communities, and hired a local resident in each community to assist ADF&G staff with the surveys. Researchers attempted to contact 100% of the households in each of the surveyed communities. Actual sample rates ranged from 83% of households in Golovin to 99% of households in Unalakleet. Overall, 94% of the households in the surveyed communities were interviewed. The salmon survey data were expanded by community to account for the households not contacted.

The goals of the post-season household survey were to:

1) collect harvest data that would result in a total harvest estimate for subsistence salmon by species by community, and

2) compile information on gear types, participation rates, sharing, household size, and use of salmon for dog food.

2002 Subsistence Salmon Harvests

Norton Sound District Subsistence Salmon Harvest

The estimated 2002 subsistence harvest of salmon by study communities in the Norton Sound District was 104,012 fish (Table III-1, Table III-2). This was the highest subsistence salmon harvest in the district since 1996 (Table III-3). Pink salmon returns are strongest in even-numbered years, accounting in large part for this year's higher subsistence harvest. In 2002, pink salmon returns were highly variable in the district, with some districts having very high returns and some very low returns when compared to the historical averages (Menard 2002). Coho, chum, and chinook returns were generally below average. Of the total salmon harvest, 5% were chinook, 17% were chum, 62% were pink, 1% were sockeye, and 15% were coho (Fig. III-1). Very little of the documented subsistence salmon harvest was taken by residents from outside the district (Table III-4). Combined harvest estimates for the Norton Sound District, Port Clarence District, and Kotzebue Area for the period 1975-2002 are presented in Table III-5. However, the methodology used in determining harvests prior to 1994 is substantially different from that used since 1994, and as a consequence the data are not directly comparable.

The estimated mean harvest was about 111 salmon per household in the Norton Sound District; the estimated breakdown of this harvest was 6 chinook, 19 chum, 69 pink, 1 sockeye, and 16 coho. Mean household harvests in the subdistricts ranged from 36 salmon in Subdistrict 1 (Nome) to 220 salmon in Subdistrict 5 (Shaktoolik).

In Nome, the 2002 subsistence salmon harvest as reported on Subdistrict 1 and Pilgrim River permits was 5,244 fish compared to 1,709 fish in 2001. The increased harvest in 2002 was largely due to the strong pink salmon return in even-numbered years. Subdistrict 1 and Pilgrim River permits account for only a portion of Nome's actual salmon harvest because some Nome residents fish in areas (e.g., Teller, Woolley Lagoon, and Niukluk River) or with gear (i.e., rod and reel) not requiring permits. Kawerak, Inc. and the Alaska Department of Fish and Game jointly conducted a study in 2001 to estimate Nome's total subsistence salmon harvest, including the portion not documented by permits. Results indicated that Nome residents harvested an estimated total of 6,138 salmon in 2001, 47% of which were taken outside the Nome permit areas, primarily in the Port Clarence and White Mountain-Golovin areas. Nets accounted for 78% of Nome's total estimated salmon harvest, and rod-and-reel for 22% (Magdanz, Tahbone, Kamletz, and Ahmasuk 2003).

Port Clarence District Subsistence Salmon Harvest

The estimated 2002 subsistence harvest of salmon by the two communities in the Port Clarence District was 12,152 fish (Table III-1, Table III-2). This was the highest harvest since 1998 (Table III-3). Of the total harvest, 1% were chinook, 22% were chum, 28% were pink, 31% were sockeye, and 18% were coho (Fig. III-1). The estimated mean harvest in the Port Clarence

District was about 69 salmon per household; the estimated breakdown of this harvest was 1 chinook, 15 chum, 19 pink, 21 sockeye, and 13 coho.

Participation in Subsistence Fishing

In the Norton Sound District (only permit holders included in Nome), about 65% of households subsistence fished for salmon and an additional 9% assisted other households in processing subsistence-caught salmon. Participation in subsistence salmon fishing in the district ranged from 34% of households in St. Michael to 87% in Elim.

In the Port Clarence District, 55% of households subsistence fished for salmon in 2002. About 8% helped other households process subsistence-caught fish. Overall, participation in subsistence salmon fishing in these two districts has been fairly stable over the past eight years, with no clear trend upward or downward.

Participation in Commercial Fishing

In the Norton Sound District (excluding Nome), less than 2% of households participated in commercial salmon fishing, and less than 1% of all households removed salmon from their commercial catches for subsistence use. In the Port Clarence District no surveyed households participated in commercial salmon fishing. In 2002, commercial salmon fishing in the region was at its lowest in the past 40 years with a total harvest worth less than $3,000 (Menard 2002). In the Norton Sound District, an estimated total of 542 salmon were retained from commercial catches for subsistence use. The salmon retained from commercial catches comprised 0.6% of the district's estimated subsistence harvest.

Gear Type

In the Norton Sound District (excluding Nome), set gillnets were the most common gear for harvesting salmon for subsistence, used by about 82% of fishing households. Rod and reel was the next most widely used gear, used by 63% of fishing households. Seines were used by 29% of fishing households. Rod and reel fishing accounted for 9% of the total salmon harvest in the surveyed communities in the Norton Sound District. Coho salmon were the primary target of rod and reel fishing.

In the Port Clarence District, set gillnets were used by 95% of the households that subsistence fished for salmon. Seines were used by 6% of the fishing households, and rod and reel by 7%.

Salmon for Dog Food

In 2002 an estimated 2,863 salmon, or about 3% of the total subsistence catch, were harvested specifically for dog food in the surveyed communities (excluding Nome) in the two districts. The mean number of salmon fed per dog was about 15 fish per year. Overall, about 3% of all the surveyed households in the two districts (excluding Nome) caught salmon for dog food.

Assessment of Fishing Season

When asked whether subsistence chum salmon fishing was very good, average, or poor in 2002, 47% of the fishing households in the Norton Sound District (excluding Nome) responded "poor," 38% responded "average," and 15% responded "very good." This was the most favorable assessment of the fishing season since 1997.

In the Port Clarence District, 16% of the fishing households responded that the chum fishing season was "poor" in 2002, 58% said it was "average," and 26% said "very good." This was by far the most favorable assessment of the fishing season in the past six years.

KOTZEBUE AREA SALMON

Background

Kotzebue Sound residents have relied on fish for cultural and nutritional sustenance for thousands of years. Most local residents in the region continue to participate in a mixed subsistence-cash economy, harvesting a wide variety of wild foods. In the Kotzebue Area, salmon's role in the wild food diet varies from community to community, affected primarily by salmon abundance. Along the Noatak and Kobuk rivers, where runs of chum salmon are strong, many households' activities in middle and late summer revolve around the catching, drying, and storing of salmon for use during the winter. Chum salmon predominate in the district, with small numbers of other salmon species present.

Regulations

In the Kotzebue Area, subsistence salmon fishing has few restrictions other than the general statewide provisions. Salmon may be taken in the district at any time with no harvest limits and no required permits. Commercial fishermen, however, are not allowed to subsistence fish for salmon during the commercial season.

In-Season Management

Subsistence salmon fishing in the Kotzebue Area proceeded as normal in 2002. No emergency orders were issued affecting this fishery.

Subsistence Salmon Harvest Collection Methods

In 2002, subsistence salmon harvests in the Kotzebue Area were assessed using a post-season household survey in 2 communities.

Household Surveys

In the Kotzebue Area, household surveys were conducted in Noatak and in Noorvik. Although normally surveyed, Ambler, Kiana, Kobuk, and Shungnak were not surveyed in 2002. The communities of Wales, Diomede, Shishmaref, Deering, Buckland, Selawik, Kivalina, and Point Hope are not routinely surveyed due to little availability of salmon, the lack of competing commercial salmon uses, or limited staff time and funding. Researchers attempted to contact 100% of the households in each of the surveyed communities. Overall, about 88% of the households in the two surveyed communities were interviewed. The salmon survey data were expanded by community to account for the households not contacted.

The goals of the post-season household survey were to:

1) collect harvest data that would result in a total harvest estimate for subsistence salmon by species by community, and
2) compile information on gear types, participation rates, sharing, household size, and use of salmon for dog food.

Kotzebue Postcard Survey

Due to funding constraints, Kotzebue was not surveyed in 2002. In past years, Kotzebue's subsistence salmon harvests have been assessed through a mail-out postcard survey, essentially an abbreviated version of the household survey instrument.

2002 Subsistence Salmon Harvests

Kotzebue Area Subsistence Salmon Harvest

The 2002 subsistence salmon harvest in the two surveyed communities in the Kotzebue Area was 16,955 fish, nearly all of which were chum salmon (Table III-1, Table III-2, Fig. III-1). For the same communities, the 2002 subsistence salmon harvest was the second lowest since 1995.

The estimated mean salmon harvest was about 79 salmon per household, nearly all of which were chum. Noorvik had a mean household harvest of 122 salmon, while Noatak's mean household harvest was 29 salmon.

Participation in Subsistence Fishing

In the Kotzebue Area, 64% of households in the two surveyed villages subsistence fished for salmon in 2002 and about 7% assisted other households in processing subsistence-caught salmon. Because communities that typically have lower participation rates, such as Kotzebue, were not surveyed, the overall estimated participation rate in the Kotzebue Area was higher in 2002 than in previous years.

Participation in Commercial Fishing

In the Kotzebue Area, no households in the surveyed communities participated in commercial salmon fishing in 2002. The Kotzebue Sound commercial salmon fishery had a record low harvest and participation in 2002, with only 3 permit holders fishing (Jones 2002).

Gear Type

In the Kotzebue Area, set gillnets were the most common gear for harvesting salmon for subsistence, used by 49% of fishing households. Rod and reel was the next most widely used gear (48% of fishing households), although it accounted for less than 4% of the salmon harvest in the two surveyed communities. Seines were used by 24% of fishing households.

Salmon for Dog Food

In the Kotzebue Area, an estimated 2,266 salmon were harvested specifically for dog food in the two surveyed communities in 2002. All of these were taken by Noorvik households. This harvest for dog food was about 16% of the total subsistence salmon catch in Noorvik. The mean number of salmon fed per dog was about 22 fish per year. Overall, 6% of Noorvik households caught salmon specifically for dog food.

Assessment of Fishing Season

In the Kotzebue Area, 11% of fishing households responded that their chum fishing season was "poor" in 2002, 53% said "average," and 36% said "very good." Assessment of the fishing season has been fairly stable over the past four years. In general, satisfaction with subsistence chum salmon fishing in the Kotzebue Area is determined largely by weather and water conditions. Salmon stocks continue to be fairly abundant in this area, particularly compared to the Norton Sound area.

KOTZEBUE AREA SHEEFISH, WHITEFISH, AND CHAR

Background

In addition to salmon, major subsistence fisheries take place in northwest Alaska for sheefish, whitefish, and char (Dolly Varden). In the Kotzebue Area, subsistence fishing for these species has few restrictions other than the general statewide provisions. Fish may be taken at any time with no harvest limits and no required permits. Gillnets used to take sheefish have length, depth, and mesh size restrictions.

Harvest Collection Methods

Household surveys were conducted in two communities, Noatak and Noorvik. Ambler, Kiana, Kobuk, and Shungnak were not surveyed in 2002, although normally they are. The household surveys primarily collected subsistence salmon harvest information, but also asked about

harvests of sheefish and whitefish in Noorvik and harvests of char and whitefish in Noatak. Researchers attempted to contact 100% of the households in each of the surveyed communities. Overall, about 88% of the households in the two surveyed communities were interviewed. The survey data were expanded by community to account for the households not contacted.

2002 Sheefish and Whitefish Harvests

In 2002 an estimated 4,310 sheefish were harvested by Noorvik households (Table III-6). This was the second highest sheefish harvest in Noorvik in the past eight years. The mean household harvest in Noorvik was 38 sheefish.

In 2002 an estimated 25,607 whitefish were harvested for subsistence in the two surveyed communities in the Kotzebue Area (Table III-6). About 89% of this harvest was taken by Noorvik households. This was Noorvik's third highest harvest of whitefish in the past six years. The mean household harvest in Noorvik was 197 whitefish, and in Noatak 29 whitefish.

In 2002 an estimated 3,242 char (Dolly Varden) were harvested for subsistence by the community of Noatak for a mean household harvest of 32 fish (Table III-7). This was higher than the previous year's harvest, but lower than the 1995-2000 harvests.

Table III-1. 2002 Northwest Alaska Subsistence Salmon Harvests by District and Species

	Total	Harvests in Numbers of Fish					
	Households	Chinook	Chum	Pink	Sockeye	Coho	Total
Norton Sound District	935	5,488	17,817	64,354	763	15,589	104,012
Port Clarence District	176	133	2,699	3,394	3,732	2,194	12,152
Kotzebue Area[1]	216	3	16,880	8	9	56	16,955
Total Northwest Alaska	**1,327**	**5,624**	**37,396**	**67,756**	**4,504**	**17,838**	**133,119**

[1] Only the communities of Noatak and Noorvik were surveyed in 2002.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, household surveys, 2002.

Table III-2. 2002 Northwest Alaska Subsistence Salmon Harvests by Community

	Total	HH's	Harvests in Numbers of Fish*					
	HH's	Contacted	Chinook	Chum	Pink	Sockeye	Coho	Total
Nome Permits[1]	141	113	4	1,114	3,161	79	666	5,024
Subdistrict 1	**141**	**113**	**4**	**1,114**	**3,161**	**79**	**666**	**5,024**
Golovin	47	39	42	1,144	7,827	66	979	10,058
Niukluk R. Permits[1]	17	14	0	32	589	0	80	701
White Mountain	65	59	27	706	6,014	0	581	7,328
Subdistrict 2	**129**	**112**	**69**	**1,882**	**14,430**	**66**	**1,640**	**18,087**
Elim	82	76	565	1,451	8,345	14	1,801	12,177
Subdistrict 3	**82**	**76**	**565**	**1,451**	**8,345**	**14**	**1,801**	**12,177**
Koyuk	84	76	557	3,971	6,049	0	509	11,086
Subdistrict 4	**84**	**76**	**557**	**3,971**	**6,049**	**0**	**509**	**11,086**
Shaktoolik	59	57	1,230	800	8,769	4	2,169	12,972
Subdistrict 5	**59**	**57**	**1,230**	**800**	**8,769**	**4**	**2,169**	**12,972**
Unalakleet[2]	225	222	2,367	3,877	15,557	280	5,490	27,572
Subdistrict 6	**225**	**222**	**2,367**	**3,877**	**15,557**	**280**	**5,490**	**27,572**
Stebbins	122	108	469	3,586	7,459	300	2,324	14,137
St. Michael	93	90	227	1,136	583	20	989	2,957
South Norton Sound	**215**	**198**	**697**	**4,722**	**8,043**	**320**	**3,313**	**17,094**
NORTON SOUND	**935**	**854**	**5,488**	**17,817**	**64,354**	**763**	**15,589**	**104,012**
Brevig Mission	71	67	65	1,534	2,347	2,127	1,741	7,815
Pilgrim R. Permits[1]	28	21	18	13	4	165	20	220
Teller	77	71	50	1,152	1,043	1,440	433	4,117
PORT CLARENCE	**176**	**159**	**133**	**2,699**	**3,394**	**3,732**	**2,194**	**12,152**
Noatak	101	90	0	2,937	0	0	11	2,948
Noorvik	115	101	3	13,943	8	9	44	14,007
KOTZEBUE SOUND[3]	**216**	**191**	**3**	**16,880**	**8**	**9**	**56**	**16,955**
TOTALS	**1,327**	**1,204**	**5,624**	**37,396**	**67,756**	**4,504**	**17,838**	**133,119**

* Data from contacted households were expanded to households not contacted. If fewer than 30 and less than 50% of households in a community harvest strata were contacted, then the harvest for that community is the reported harvest, not an expanded estimate.

[1] Alaska Department of Fish and Game, Division of Commercial Fisheries, permit returns, 2002. Data not expanded.

[2] Estimated salmon harvest in Unalakleet includes 42 chinook, 692 chum, 1,522 pink, and 353 coho from the ADF&G test net fishery in addition to the survey results.

[3] Only Noatak and Noorvik were surveyed in 2002. Normally Ambler, Kiana, Kobuk, Kotzebue, Noatak, Noorvik, and Shungnak are surveyed.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, household surveys, 2002.

Table III-3. Northwest Alaska Subsistence Salmon Harvests by District, 1994-2002

Norton Sound District

	Number of Households	Chinook	Chum	Pink	Sockeye	Coho	Total
1994	839	7,212	24,776	70,821	1,161	22,108	126,077
1995	851	7,766	43,014	38,594	1,222	23,015	113,612
1996	858	7,255	34,585	64,724	1,182	26,304	134,050
1997[1]	1,113	8,998	26,803	27,200	1,892	16,476	81,370
1998[1]	1,184	8,295	20,032	51,933	1,214	19,007	100,480
1999	898	6,144	19,398	20,017	1,177	14,342	61,078
2000	860	4,149	17,283	38,308	682	17,062	77,485
2001	878	5,576	20,213	30,261	767	14,550	71,367
2002	935	5,488	17,817	64,354	763	15,589	104,012

Port Clarence District

	Number of Households	Chinook	Chum	Pink	Sockeye	Coho	Total
1994	151	203	2,294	4,309	2,220	1,892	10,918
1995	151	76	6,011	3,293	4,481	1,739	15,600
1996	132	194	4,707	2,236	2,634	1,258	11,029
1997	163	158	2,099	755	3,177	829	7,019
1998	157	289	2,621	7,815	1,696	1,759	14,179
1999	177	89	1,936	786	2,392	1,030	6,233
2000	163	72	1,275	1,387	2,851	935	6,521
2001	160	84	1,910	1,183	3,692	1,299	8,167
2002	176	133	2,699	3,394	3,732	2,194	12,152

Kotzebue Area[2]

	Number of Households	Chinook	Chum	Pink	Sockeye	Coho	Total
1994[3]	557	135	48,175	3,579	33	478	52,400
1995[4]	1,327	228	102,880	2,059	935	2,560	108,662
1996	1,187	550	99,740	951	471	317	102,029
1997	1,122	464	57,906	1,181	528	848	60,925
1998	1,279	383	48,979	2,116	392	461	52,330
1999	1,277	9	94,342	841	478	1,334	97,004
2000	1,227	211	65,975	75	75	2,557	68,893
2001[5]	1,149	11	49,014	36	14	768	49,844
2002[6]	216	3	16,880	8	9	56	16,955

[1] Includes Gambell and Savoonga.

[2] Normally includes Ambler, Kiana, Kobuk, Kotzebue, Noatak, Noorvik, and Shungnak.

[3] Includes Deering and Wales; does not include Kotzebue.

[4] Includes Shishmaref.

[5] Does not include Ambler.

[6] Includes only Noatak and Noorvik.

Table III-4. 2002 Northwest Alaska Subsistence Salmon Harvests by Resident Community of Fishing Household

COMMUNITY[2]	Households / Permits		Estimated Salmon Harvest[1]					
	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Anchorage	2	0						
Brevig Mission	71	67	65	2,127	1,741	1,534	2,347	7,815
Eagle River	1	1	0	14	3	0	2	19
Elim	82	76	565	14	1,801	1,451	8,345	12,177
Golovin	47	39	42	66	979	1,144	7,827	10,058
Koyuk	84	76	557	0	509	3,971	6,049	11,086
Noatak	101	90	0	0	11	2,937	0	2,948
Nome	183	147	22	230	763	1,159	3,752	5,926
Noorvik	115	101	3	9	44	13,943	8	14,007
Saint Michael	93	90	227	20	989	1,136	583	2,957
Shaktoolik	59	57	1,230	4	2,169	800	8,769	12,972
Stebbins	122	108	469	300	2,324	3,586	7,459	14,137
Teller	77	71	50	1,440	433	1,152	1,043	4,117
Unalakleet	225	222	2,367	280	5,490	3,877	15,557	27,572
White Mountain	65	59	27	0	581	706	6,014	7,328
Totals	1,327	1,204	5,624	4,504	17,838	37,396	67,756	133,119

[1] Includes subsistence harvests, commercial harvests retained for home use, and fish distributed from Alaska Department of Fish and Game test fisheries.

[2] Harvest information from residents of non-local communities (i.e., Anchorage and Eagle River) is available only for Norton Sound Subdistrict 1 and Pilgrim River permits. Non-local residents might subsistence fish in other northwest Alaska areas, but these harvests are not documented in the regional household surveys.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table III-5. Northwest Alaska Historic Subsistence Salmon Harvests, 1975-2002.

	Households / Permits		Estimated Salmon Harvest[1]					
Year	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total
1975	117	79	3	225	102	3,698	7,298	11,326
1976	138	104	6	0	275	1,856	5,472	7,609
1977	195	181	35	64	623	12,222	2,839	15,783
1978	168	126	31	0	242	4,035	10,697	15,005
1979	138	119	519	0	1,007	3,419	5,842	10,787
1980	232	161	135	0	2,075	5,839	21,728	29,777
1981	236	169	47	88	1,844	9,251	6,100	17,330
1982	230	182	33	6	2,093	5,719	20,480	28,331
1983	243	189	74	40	1,950	7,013	8,499	17,576
1984	240	189	85	0	1,890	4,945	18,067	24,987
1985	215	198	56	114	1,054	5,717	2,117	9,058
1986	279	240	157	127	788	8,494	9,011	18,577
1987	235	173	97	102	812	7,265	705	8,981
1988	192	166	67	171	1,089	6,379	2,543	10,249
1989	173	130	24	131	549	3,456	924	5,084
1990	188	165	60	234	542	4,525	2,413	7,774
1991	155	128	83	166	1,279	3,715	194	5,437
1992	163	132	152	163	1,720	2,030	7,746	11,811
1993	142	104	51	74	1,780	1,578	758	4,241
1994[2]	1,547	1,169	7,713	3,414	24,494	75,489	78,954	190,063
1995[3]	2,329	1,445	8,070	6,639	27,314	151,905	43,947	237,874
1996	2,177	1,454	7,999	4,287	27,879	139,032	67,911	247,108
1997[4]	2,398	1,645	9,620	5,597	18,153	86,808	29,135	149,314
1998[4]	2,620	1,730	8,967	3,301	21,226	71,632	61,863	166,989
1999	2,351	1,300	6,242	4,046	16,706	115,676	21,644	164,315
2000	2,247	1,336	4,399	3,612	20,654	84,196	40,499	153,360
2001[5]	2,192	1,259	5,671	4,473	16,617	71,138	31,480	129,378
2002[6]	1,327	1,204	5,624	4,504	17,838	37,396	67,756	133,119
1998-2002 Average	2,147	1,366	6,181	3,987	18,608	76,008	44,648	149,432
1993-2002 Average	1,933	1,265	6,436	3,995	19,266	83,485	44,395	157,576
All Years Average	817	553	2,358	1,485	7,593	33,372	20,594	65,402

[1] Includes selected communities in the Norton Sound District, Port Clarence District, and Kotzebue Area.

[2] Beginning in 1994, ADF&G initiated a new annual subsistence salmon harvest assessment effort in northwest Alaska that provided more extensive, complete, and reliable estimates than existed previously. Harvest estimates prior to 1994 cannot be directly compared to those after 1994. Communities routinely included in harvest estimates since 1994 are all the communities in the Norton Sound and Port Clarence districts except Gambell and Savoonga, and 7 communities (Ambler, Kiana, Kobuk, Kotzebue, Noatak, Noorvik, and Shungnak) in the Kotzebue Area. However, 1994 estimates include Deering and Wales, and do not include Kotzebue.

[3] Includes Shishmaref.

[4] Includes Gambell and Savoonga.

[5] Does not include Ambler.

[6] For the Kotzebue Area, includes only Noatak and Noorvik.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table III-6 Sheefish and Whitefish Harvests by Community in the Kotzebue District, 2002

	Total Households	Number of Fish Harvested	
		Sheefish	Whitefish
Noatak	101	NA	2,919
Noorvik	115	4,310	22,688
Total	**216**	**4,310**	**25,607**

NA = not available

Table III-7. Sheefish, Whitefish, and Char Harvests in Kotzebue District, 1995-2002

	Sheefish[1]		Whitefish[2]		Char[3]	
	Total Households	Number of Fish	Total Households	Number of Fish	Total Households	Number of Fish
1995	385	9,465	*	*	92	5,762
1996	389	6,953	*	*	88	5,692
1997	398	9,805	482	84,851	84	4,763
1998	392	5,350	489	39,754	97	3,872
1999	445	8,256	445	56,326	*	*
2000	448	7,446	448	70,097	102	3,315
2001[4]	267	3,838	363	30,976	96	2,702
2002[5]	115	4,310	216	25,607	101	3,242

* Data not collected.

[1] Normally includes Noorvik, Kiana, Ambler, Shungnak, and Kobuk.

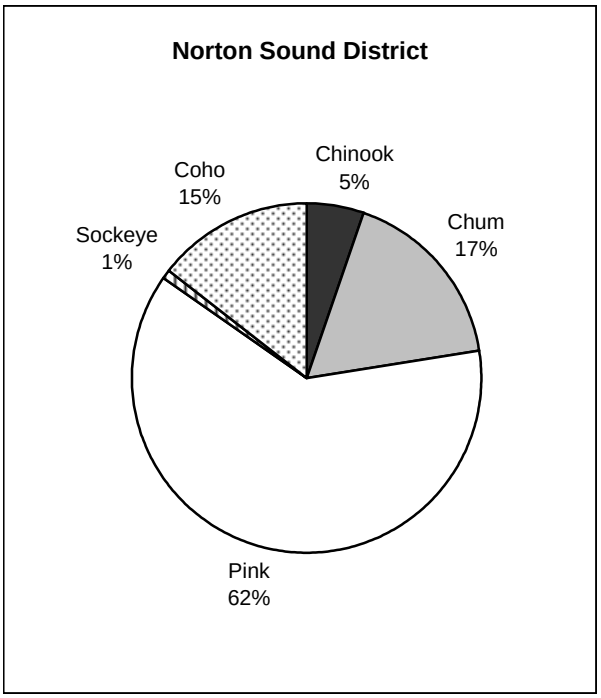
[2] Normally includes Noorvik, Kiana, Ambler, Shungnak, Kobuk, and Noatak.

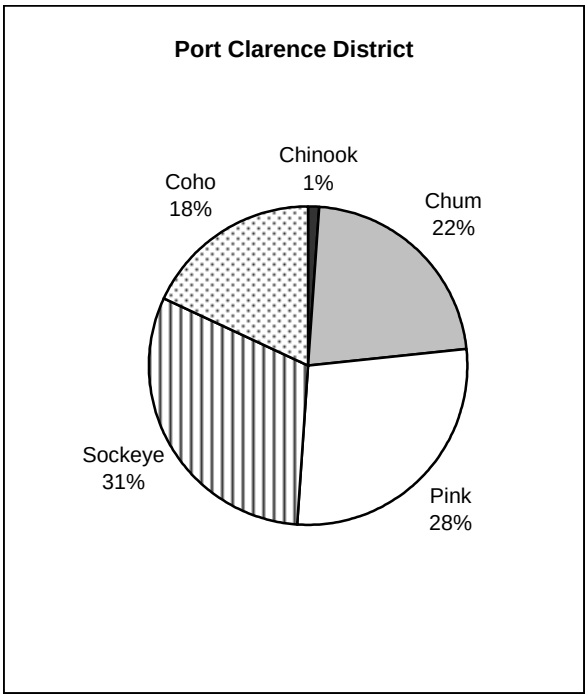
[3] Includes Noatak.

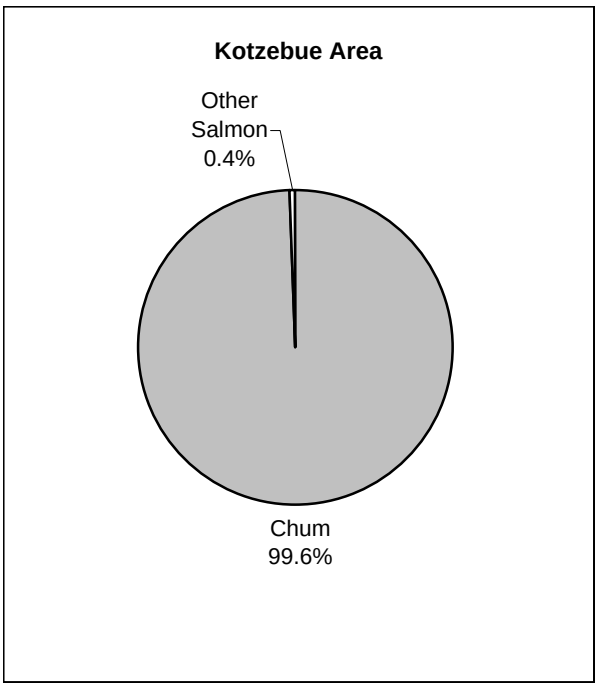
[4] Does not include Ambler.

[5] Includes only Noorvik for sheefish, and Noorvik and Noatak for whitefish.

Figure III-1. Species Composition of Subsistence Salmon Harvests, 2002, Norton Sound, Port Clarence, and Kotzebue Districts







IV: YUKON AREA

BACKGROUND

Residents of the Yukon River area have relied heavily upon fish for human food for generations. While non-salmon fish species provide an important component of the overall fish harvest, salmon comprises the bulk of the fish harvested for subsistence. Chinook, summer chum, fall chum, and coho salmon comprise the majority of the subsistence salmon harvests in the Yukon River drainage and the number of salmon harvested for subsistence in this region is significant. Unlike many marine and coastal fisheries where commercial harvests predominate, within the Yukon drainage subsistence salmon harvests often exceed commercial, sport and personal use harvests combined.

Drift gillnets, set gillnets, and fish wheels are used by Yukon Area fishermen to harvest the majority of salmon. Set gillnets are utilized throughout the Yukon Area, in the main rivers and coastal marine waters, while drift gillnets are used extensively in some parts of the river (i.e., by regulation, that portion of the Yukon drainage 18 miles below Galena). Fish wheels are a legal gear type throughout the Yukon drainage, although due to river conditions and the availability of wood, they are most commonly used on the upper Yukon and Tanana Rivers.

Depending on the area of the drainage, subsistence fishing occurs from late May through early October. Fishing activities are either based from a fish camp or from the home village: fishing patterns and preferred sites vary from community to community. Extended family groups, typically representing several households, often undertake subsistence salmon fishing together. Households and related individuals typically cooperate to harvest, process, preserve, and store salmon for subsistence use. (For more detail on subsistence uses of Yukon River salmon, see the three articles on this topic in the Division of Subsistence "Wildlife Use Notebook Series" [ADF&G n.d.a, n.d.b, n.d.c]).

The majority of the subsistence salmon harvest is preserved for later use by freezing, drying, or smoking, while the head, cutting scraps and viscera are often fed to dogs. Chinook salmon are harvested and processed primarily for human consumption, although those fish deemed not suitable for human consumption (due to presence of the fungus, *Ichthyophonous hoferi,* or some other disease or disfigurement) are often fed to dogs. In addition, while chum and coho salmon are primarily taken for human consumption, relatively large numbers are harvested and processed to feed sled dogs. Fall chum and coho salmon typically arrive in the upper portion of the drainage to coincide with freezing weather, allowing fish to be "cribbed" for use as dog food. This method involves the natural freezing of whole (un-cut) fish. The practice of keeping sled dogs is much more common in communities along the Upper Yukon River.

REGULATIONS

The Alaska Joint Board of Fisheries and Game has defined a portion of the Yukon River drainage as lying within the Fairbanks Nonsubsistence Area (5 AAC 99.015). Subsistence fisheries may not be authorized within non-subsistence areas and the harvest of fish for home use in these areas occurs under personal use and sport fishing regulations.

Over the last decade, several regulatory changes have affected the subsistence salmon fishery on the Yukon River drainage. In 1993 the Alaska Board of Fisheries adopted regulations which separated subsistence and commercial salmon fishing times in Districts 1, 2, and 3 and in the lower portion of District 4 (Subdistrict 4-A) (Fig. IV-1). In these districts, subsistence salmon fishing is allowed seven days per week, but may not occur 24 hours prior to and immediately following the commercial salmon fishing season. By regulation, once the commercial season is open, subsistence salmon fishing may not occur 18 hours immediately before, during, and 12 hours after each District 1, 2, or 3 summer season commercial fishing period. During the fall season, in Districts 1, 2, and 3, subsistence fishing may not occur 12 hours immediately before, during, and 12 hours after each commercial fishing period. In Subdistrict 4A, subsistence salmon fishing may not occur 12 hours immediately before, during, and 12 hours after each commercial salmon fishing period throughout the season. In the Upper portion of District 4 (Subdistricts 4-B and 4-C) and in Subdistricts 5-B and 5-C, subsistence salmon fishing is allowed 7 days per week until 24 hours prior to and immediately following the commercial salmon fishing season. In these areas, subsistence salmon fishing periods coincide with commercial salmon fishing periods. Additional, subsistence-only salmon fishing periods may be allowed during the commercial salmon fishing season. In Subdistrict 5-D, subsistence salmon fishing is allowed 7 days per week, regardless of commercial activities. In Subdistrict 5-A, subsistence fishing is allowed seven days per week until 24 hours prior to the commercial fishing season. Since 1994, with the exception of 1998[1], the subsistence salmon fishing schedule in Subdistrict 5-A allows subsistence salmon fishing five days per week following the closure of the commercial salmon fishing season. Since 1988, subsistence fishing in the lower Tanana River drainage in Subdistricts 6-A and 6-B is allowed for two 42-hour periods per week unless altered by emergency order.[2] In the Upper Tanana River drainage, subsistence fishing is allowed seven days per week.

In 2000, for the first time in history, restrictions were imposed on the summer portion of the subsistence salmon fishery to protect chinook and summer chum salmon populations. Poor returns and subsequent restrictions on subsistence fishing resulted in an 80 percent reduction of fishing opportunity in most districts.

In 2001, as a result of the declared disaster, the Alaska Board of Fisheries (BOF) instituted a new subsistence schedule on the Yukon River. The schedule was intended to fulfill several goals: 1) increase the quality of escapement, 2) equalize subsistence opportunity among users in years with no commercial fishing, and 3) and reduce the impact of harvest on any one species by spreading the harvest throughout the run, thereby providing windows of time that salmon may migrate upriver with less exploitation. The schedule was based on past fishing schedules and is believed to provide reasonable opportunity for subsistence users to meet their needs when

[1] In 1998, the Alaska Board of Fisheries relaxed restrictive elements of the Toklat River Fall Chum Salmon Rebuilding Management Plan and allowed Subdistrict 5-A to subsistence salmon fish seven days per week. When the escapement objectives were not subsequently met, the restrictive elements of the salmon rebuilding plan were reinstated and subsistence fishing in Subdistrict 5-A was reduced during the 1999 season.

[2] In the lower Tanana River drainage, Subdistrict 6-C is a personal use salmon fishery. Its regulations match those of the 6-A and 6-B subsistence salmon fishery; namely, that personal use fishing is allowed for two 42-hour periods per week unless altered by emergency order.

salmon runs are below average, and is implemented chronologically up river. The new schedule directs subsistence fishing as follows:

Geographic Area/District	Opening	Start Date
Coastal District	7 days/week	June 1
District 1	two 36-hour periods	May 31
District 2	two 36-hour periods	June 3
District 3	two 36-hour periods	June 6
District 4	two 48-hour periods	June 13
Subdistrict 5-A	two 42-hour periods	June 22
Subdistricts 5-B, C	two 48-hour periods	June 22
Subdistrict 5-D	7 days/week	June 1
District 6	two 42-hour periods	June 1
Koyukuk River	7 days/week	June 1

Subsistence fishing is allowed seven days per week in all areas prior to the established schedule dates.

2002 marks the second year of implementing the window schedule. There was also a small commercial fishery for chinook and summer chum.

SUBSISTENCE HARVEST ASSESSMENT METHODS

For the majority of villages within the Yukon Area, there are no regulatory requirements to report subsistence salmon harvests. For these villages, ADF&G utilizes a voluntary survey program to estimate the total subsistence salmon harvest. Harvest information is collected using a combination of subsistence harvest calendars mailed out prior to fishing activities, post-season household interviews, postseason household telephone interviews, and postcards. In road-accessible portions of the Yukon Area, including the majority of the Tanana River drainage (Subdistricts 6-A, 6-B and the Upper Tanana River drainage), the Yukon River drainage between Hess Creek and the Dall River (known as the Yukon River bridge area), and the upper portion of Subdistrict 5-D between the upstream mouth of Twenty-two Mile Slough and the U.S. Canada border, subsistence fishermen are required to obtain an annual household permit prior to fishing. In these areas, fishermen are required to document their subsistence salmon harvest on the household permit and return it to ADF&G at the end of the season.

Prior to salmon fishing activities, subsistence harvest calendars are mailed out to all identified fishing households within the survey communities. The lower Yukon Area calendars contain the months of May through September and the upper Yukon Area contain the months of June through October. Additional calendars are made available to households upon request from ADF&G offices in Emmonak and Fairbanks. The calendars provide space for fishermen to record their daily subsistence catch of salmon by species. Surveyors who travel through villages following the completion of salmon fishing activities pick up calendars. Posters are sent to village post offices and announcements on local radio stations remind fishermen to have their calendars available for pick up by surveyors. In 2002, an estimated 700 calendars were distributed (440 to lower Yukon River villages and 260 to Upper Yukon River villages). This is

a departure from previous years' methods of sending calendars to every household in the drainage. According to the Division of Commercial Fisheries, the change was made in response to the expense of mass mailings with very low return rates. Households that had returned a calendar at least once in the last ten years were sent a calendar in 2002; calendars were made available to additional households on request. About 30 percent of these (210) were either returned to the department by mail, or picked up by surveyors during their fall surveys. Calendars provide important run timing information that is not obtained by any other data collection method.

In addition to the catch calendars, ADF&G's Division of Commercial Fisheries personnel conduct post-season personal interviews with a stratified random sample of all fishing households within the Yukon River drainage. Survey questions focus on chinook, summer chum, fall chum and coho salmon, but households are also asked about other species as well such as pink salmon (primarily taken by coastal communities), pike, whitefish, and sheefish. Some households that are not personally contacted by the surveyors are contacted by telephone. Those households not contacted by telephone are mailed a survey questionnaire including a postage paid return envelope. In 2002, 913 households were interviewed concerning their subsistence salmon harvests (Brase and Hamner 2003:8).

In road-accessible portions of the Yukon River drainage (see area description above), a subsistence permit is required. Subsistence fishermen record their salmon catches on a household permit and return the permit at the end of the season. Subsistence permit applications are mailed to all permitees who return the prior year's permit. Subsistence permit applications are mailed to rural communities along with a letter explaining how to apply by mail. In addition, ADF&G staff travel to select villages so that applicants can be issued permits in person. Permits are also issued in person or by mail throughout the season from numerous ADF&G offices. Permit holders are required to keep a record of their daily fish harvest on their permit and return it to the department within ten days of the expiration date on the permit. Permit holders who do not send in their permits within ten days are sent up to two reminder letters. Telephone contacts with households that do not respond to the reminder letters are attempted as a final measure.

Subsistence salmon permit-holders in a portion of Subdistrict 6-B (the Tanana River drainage above a point three miles upstream of Tolchaket Slough to the boundary with 6-C) are required to report their harvests weekly for in-season management purposes. To maximize the return of permits, ADF&G staff also sends reminder letters to these households. The annual return rate for permits is typically over 80 percent. A total of 367 subsistence and personal use permits were issued in 2002, and 340 (92.6%) were returned (Brase and Hamner 2003:Table17).

SUBSISTENCE SALMON HARVESTS IN 2002

In 2002, 913 households (81% of the total selected for surveys), 281 subsistence permit holders (92% of the 305 issued), and 59 personal use permit holders (95% of the 62 issued) provided harvest data for the Yukon Area subsistence/personal use salmon fishery (Brase and Hamner 2003). The estimated 2002 subsistence/personal use salmon harvest for the entire Yukon area broken down by species included 44,384 chinook (25%), 87,599 summer chum (50%), 20,140

fall chum (11%), 16,551 coho (9%) and 8,425 pink salmon (5%) for a total of 177,100 salmon (Fig. IV-2; Table IV-1). (Note that this is an estimated total based on household surveys and returned permits, and includes subsistence harvests, personal use harvests, commercial harvests retained for home use, and fish distributed from ADF&G test fisheries.) The 2002 subsistence salmon harvest shows a marginal increase over the disastrous 2000 levels but a significant decline from 2001 harvests, except for summer chum. The 2002 estimates fall below the recent five-year averages for all species, except summer chum. Nonetheless, summer chum, fall chum, and coho averages still show considerable declines compared to harvests averaged for the last two decades. While low abundance figures in 2001 closed commercial fishing in the Alaska portion of the Yukon River drainage, there was a small commercial fishery for chinook and summer chum in 2002 while the commercial fishery for fall chum and coho salmon remained closed.

As shown in Table IV-2, the estimated subsistence harvest of 44,384 chinook salmon in 2002 is below both the most recent five-year Yukon Area average of 48,394 chinook salmon and the most recent 10 year average of 51,319 chinook salmon. However, the estimated 2002 subsistence harvest of 87,599 summer chum salmon showed a marked increase over 2001 harvests and the most recent five year average of 80,884 summer chum. The fall chum salmon harvest of 20,140 is both a significant decrease from the previous year and falls below the most recent five year average 44,405 fall chum salmon. It should be noted that the 1998-2002 average harvest includes years when regulatory restrictions were imposed on fishers to protect fall chum salmon stocks due to poor returns. Comparison with average fall chum salmon harvest for all years begins to show the true magnitude of the harvest decline in this fishery between 2000 and 2002; the average harvest of fall chum salmon between 1976 and 2002 was 124,483 fish (see also Figure IV-3).

Subsistence harvests of coho salmon in 2002 were also slightly below average at 16,551 compared to the recent five year average of 18,908 coho salmon and the most recent ten year average of 23,486 coho salmon. Pink salmon harvest information is collected in several communities in the Yukon Area. Although pink salmon can be abundant in coastal and near-coastal communities of the lower Yukon area, they are not typically targeted by fishers and their harvest in the subsistence fishery remained low until 2002. The estimated 2002 subsistence pink salmon harvest was 8,425 fish. While these fish are primarily harvested exclusively by communities in the coastal district, 2002 estimates showed harvests by communities in the middle Yukon River region.

An estimated 66% percent of the total households who participated in the 2002 subsistence fishery owned dogs. Figure IV-4 provides a breakdown of number of dogs by fishing district. Of the estimated 1,730 households (drainage wide) owning dogs, about 11% (193 households) are estimated to have fed their dogs whole salmon in 2001. Of the 5,744 dogs owned by fishing households, about 62% percent (3,531 dogs) were owned by households in the upper Yukon River, which includes Districts 4, 5, and 6 (Brase and Hamner 2003:74). In surveyed Districts 4 and 5, where species specific data were collected, an estimated 10,542 summer chum, 7,172 fall chum and 2,090 coho salmon were retained for dog food from both subsistence and commercial-related salmon harvests. This marks a significant increase in using summer chum for dog food in light of declining fall chum returns.

Primary gear types used by fishing households in surveyed villages included set gillnet (58%), drift gillnet (29%) and fish wheel (8%), and other gear (5%) (Brase and Hamner 2002:8). Figure IV-5 provides a breakdown of the subsistence salmon harvest gear types.

Since 1992, ADF&G has inquired as to whether surveyed households were meeting their subsistence salmon needs for that year. The disastrous fishing year in 2000 resulted in restrictions and closures in subsistence salmon fishing schedules and made it extremely difficult for fishing families to meet their needs (64% of surveyed households reported not meeting their needs in 2000). Though salmon numbers were generally up from 2000, 56% of all surveyed households reported that they were unable to meet their subsistence salmon needs in 2001, while 55% of households reported not meeting their needs in 2002.

In 1993, the Board of Fisheries (BOF) made a positive finding for Customary and Traditional Use for all salmon in the Yukon-Northern Area. The Amount Necessary for Subsistence Use determination (ANS) was established at 348,000-503,000 salmon for all species combined. Within the context of the last twenty years (since 1982), the overall total subsistence salmon harvest has declined by just over 50%. According to these figures, 1992 marks the last year when total subsistence salmon harvests fell within the ANS range. In 2001, the BOF broke this figure down by species in order to better represent the pattern of use in the subsistence fishery. While the post-season survey question does not attempt to address "needs" by species, it is significant to note, through retrospective comparison, that in the last five years (since 1998), chinook salmon harvest levels have fallen below the Amounts Necessary for Subsistence use determinations (ANS) twice (2000 and 2002), summer chum salmon harvest levels have fallen below the ANS three times (1999, 2000, 2001), fall chum salmon harvest levels have fallen below the ANS all five years, and finally, coho salmon harvests have not fallen within the ANS except for 2001 (see Table IV-3). Across species, harvest levels have not fallen within ANS 70% of the time. A species-specific ANS range provides one index for measuring the extent to which reasonable opportunity was provided in the subsistence fishery. Harvests below the lower bound of the ANS range may indicate, with other evidence, that there was not a reasonable opportunity for subsistence uses during the previous season. Harvests consistently lower than the lower bound of the ANS are an indication to the BOF to consider whether additional management actions are necessary to provide reasonable subsistence opportunities.

Table IV-1. 2002 Subsistence Harvests by Community: Yukon Management Area

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	INCLUDED	ESTIMATED SALMON HARVEST[1] CHINOOK	SUMMER CHUM	FALL CHUM	COHO	PINK	TOTAL SALMON
Alakanuk	131	39	1,773	7,637	222	183	130	9,946
Alatna	6	5	3	15	10	0	0	28
Allakaket	49	13	200	6,242	100	56	0	6,598
Anvik	33	30	708	1,089	401	0	0	2,198
Beaver	25	18	702	77	1	17	0	796
Bettles	22	17	0	0	0	0	0	0
Birch Creek	8	5	67	0	0	0	0	67
Central	10	10	258	0	0	0	0	258
Chalkyitsik	40	27	26	0	4	0	0	30
Circle	29	27	1,655	5	79	0	0	1,740
College	1	1	0	0	0	0	0	0
Delta Junction	4	4	0	0	0	0	0	0
Denali Park	1	1	0	0	0	0	0	0
Dot Lake	6	5	0	0	0	0	0	0
Eagle	43	38	2,195	27	389	1	0	2,613
Eagle River	1	1	42	2	0	0	0	44
Emmonak	161	61	1,750	8,458	1,261	514	39	12,023
Ester	4	2	0	0	0	0	0	0
Fairbanks	105	104	1,839	298	247	1,089	0	3,473
Fort Yukon	165	46	2,348	1,832	3,523	14	0	7,717
Gakona	1	1	0	0	0	0	0	0
Galena	168	53	1,522	712	349	169	50	2,802
Grayling	46	15	2,249	1,311	52	30	30	3,671
Healy	6	6	0	0	831	3,034	0	3,865
Holy Cross	60	23	1,813	155	0	0	0	1,967
Hooper Bay	201	63	282	9,780	44	125	5,475	15,706
Hughes	20	18	67	1,089	0	100	0	1,256
Huslia	81	22	222	3,178	0	60	0	3,461
Kaltag	58	18	1,435	234	314	212	0	2,195
Kotlik	90	26	1,686	6,115	114	542	849	9,306
Koyukuk	27	22	323	426	255	249	4	1,256
Manley Hot Springs	12	11	556	120	1,033	1,764	0	3,473
Marshall (Fortuna Ledge)	76	24	2,290	2,484	341	386	473	5,974
Minto	45	42	21	11	225	281	0	539
Mountain Village	149	38	1,523	6,657	347	240	745	9,511
Nenana	33	32	696	696	1,473	4,493	0	7,358
North Pole	18	18	196	40	0	0	0	235
Northway	11	11	0	0	0	0	0	0
Nulato	94	27	1,773	269	0	78	50	2,170
Nunam Iqua (Sheldon Point)	32	24	393	1,898	284	56	13	2,643
Pilot Station	102	37	2,530	6,490	680	230	22	9,952
Pitka's Point	25	20	566	639	16	47	35	1,303
Rampart	16	12	852	14	0	0	0	866
Ruby	67	21	954	1,406	78	69	87	2,594
Russian Mission	63	17	1,887	394	164	115	0	2,561

[continued]

Table IV-1. 2002 Subsistence Harvests by Community: Yukon Management Area

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST[1] CHINOOK	SUMMER CHUM	FALL CHUM	COHO	PINK	TOTAL SALMON
Saint Marys (Andreafsky)	118	41	2,045	7,284	103	209	7	9,648
Salcha	9	9	155	204	0	20	0	379
Scammon Bay	82	25	840	5,016	240	123	417	6,636
Shageluk	33	24	439	1,956	0	0	0	2,395
Stevens Village	28	20	1,036	4	0	0	0	1,040
Tanacross	7	7	0	0	0	0	0	0
Tanana	102	35	2,379	3,321	6,255	2,032	0	13,987
Tok	10	10	11	0	25	0	0	36
Venetie	40	27	77	13	680	12	0	782
Wasilla	1	1	0	0	0	0	0	0
Totals	2,775	1,254	44,384	87,599	20,140	16,551	8,425	177,100

[1]Includes subsistence harvests, personal use harvests, commercial harvests retained for home use, and fish distributed fro
Alaska Department of Fish and Game test fisheries.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table IV-2: Historic Subsistence Salmon Harvests: Yukon Management Area

	HOUSEHOLDS / PERMITS		ESTIMATED SALMON HARVEST					
YEAR	ISSUED	RETURNED	CHINOOK	SUMMER CHUM	FALL CHUM	COHO	PINK	TOTAL
1975			12,724			10,992		23,716
1976			17,530		1,375	12,737		31,642
1977			16,007		4,099	16,333		36,439
1978			30,785	213,953	95,532	7,965		348,235
1979			31,005	202,772	233,347	9,794		476,918
1980			42,724	274,883	172,657	20,158		510,422
1981			29,690	210,785	188,525	21,228		450,228
1982			28,158	260,969	132,897	35,894		457,918
1983			49,478	240,386	192,928	23,905		506,697
1984			42,428	230,747	174,823	49,020		497,018
1985			39,771	264,828	206,472	32,264		543,335
1986			45,238	290,825	164,043	34,468		534,574
1987			55,039	300,042	226,990	46,213		628,284
1988	2,700	1,865	45,495	229,838	157,075	69,679		502,087
1989	2,211	983	48,462	169,496	211,303	40,924		470,185
1990	2,666	1,121	48,587	115,609	167,900	43,460		375,556
1991	2,521	1,261	46,773	118,540	145,524	37,388		348,225
1992	2,751	1,281	47,077	142,192	107,808	51,980		349,057
1993	3,028	1,397	63,915	125,574	76,882	15,812		282,183
1994	2,922	1,386	53,902	124,807	123,565	41,775		344,049
1995	2,832	1,391	50,620	136,083	130,860	28,377		345,940
1996	2,869	1,293	45,671	124,738	129,258	30,404		330,071
1997	2,825	1,309	57,117	112,820	95,141	23,945		289,023
1998	2,986	1,337	54,124	87,366	62,901	18,121		222,512
1999	2,888	1,377	50,515	79,250	83,420	19,984		233,169
2000	3,209	1,341	36,844	77,813	19,402	16,650	1,591	152,300
2001	3,072	1,355	56,103	72,392	36,164	23,236	403	188,298
2002	2,775	1,254	44,384	87,599	20,140	16,551	8,425	177,100
1998-2002 Average	2,986	1,333	48,394	80,884	44,405	18,908	3,473	194,676
1993-2002 Average	2,941	1,344	51,319	102,844	77,773	23,486	3,473	256,464
All Years Average	2,817	1,330	42,506	171,772	124,483	28,545	3,473	344,828

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

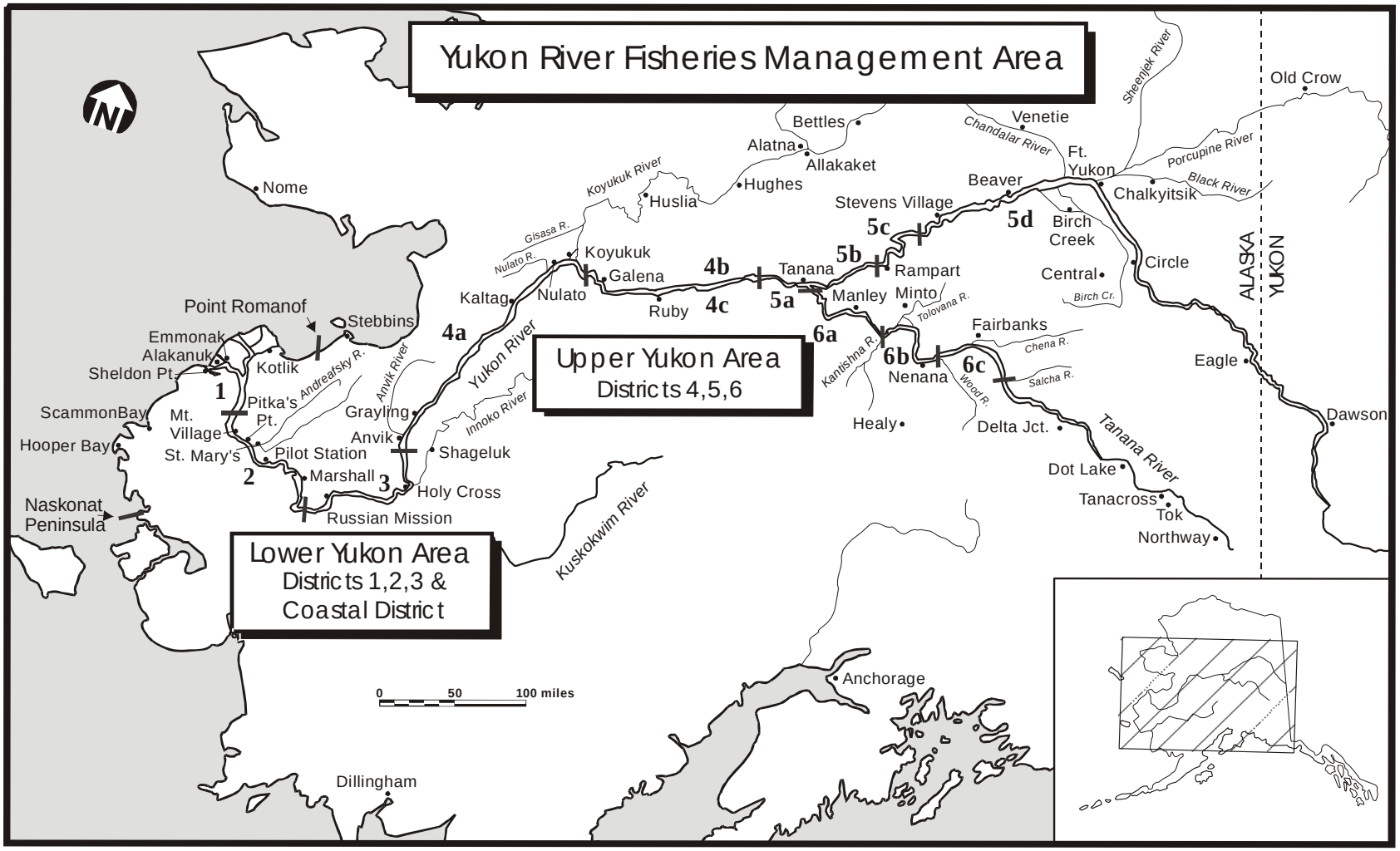
Table IV-3

Comparison of Amounts Necessary for Subsistence (ANS) Determinations and Estimated Subsistence Harvests, 1998-2002

*shaded boxes indicate where harvests fell below ANS

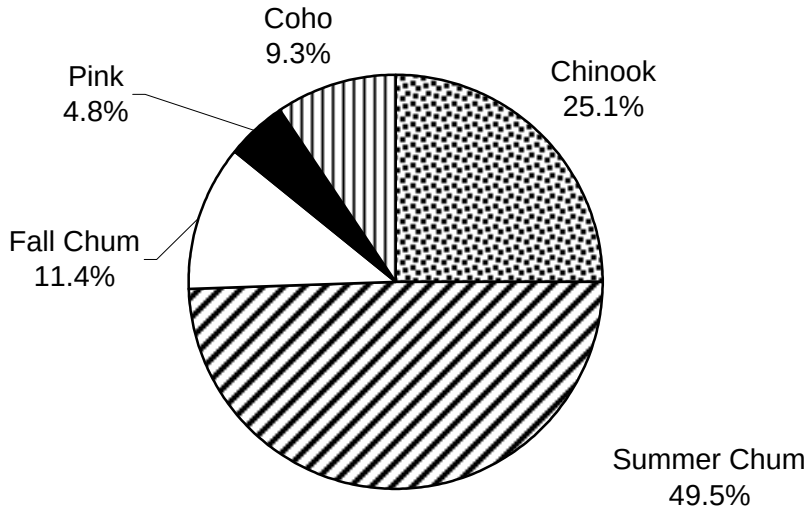
Species	Amount Necessary for Subsistence (ANS)	1998	1999	2000	2001	2002
Chinook	45,500-66,704	54,124	50,515	36,844	56,103	44,384
Summer Chum	83,500-142,192	87,366	79,250	77,813	72,392	87,599
Fall Chum	89,500-167,100	62,901	83,420	19,402	36,164	20,140
Coho	20,500-51-980	18,121	19,984	16,650	23,236	16,551

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, version 3.2



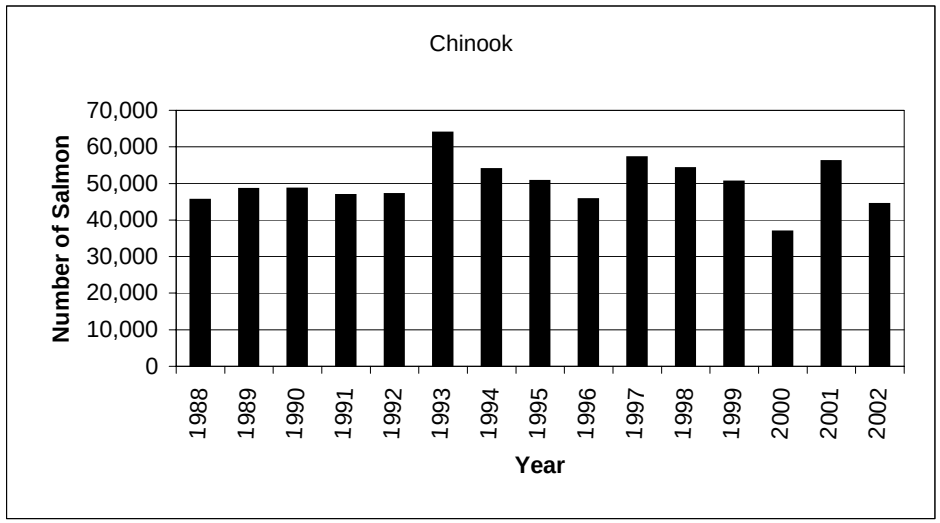
Map of the Alaskan portion of the Yukon River drainage showing communities and fishing districts.

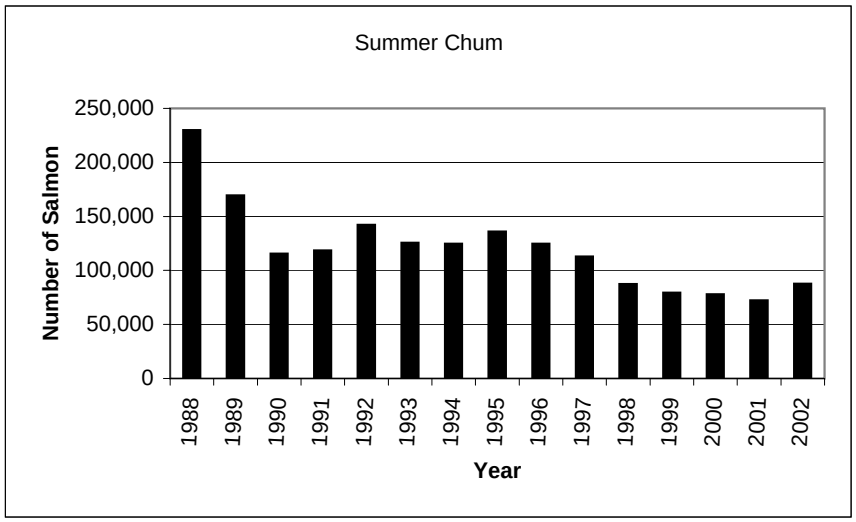
Figure IV-2. Yukon Area Subsistence Salmon Harvests, 2002

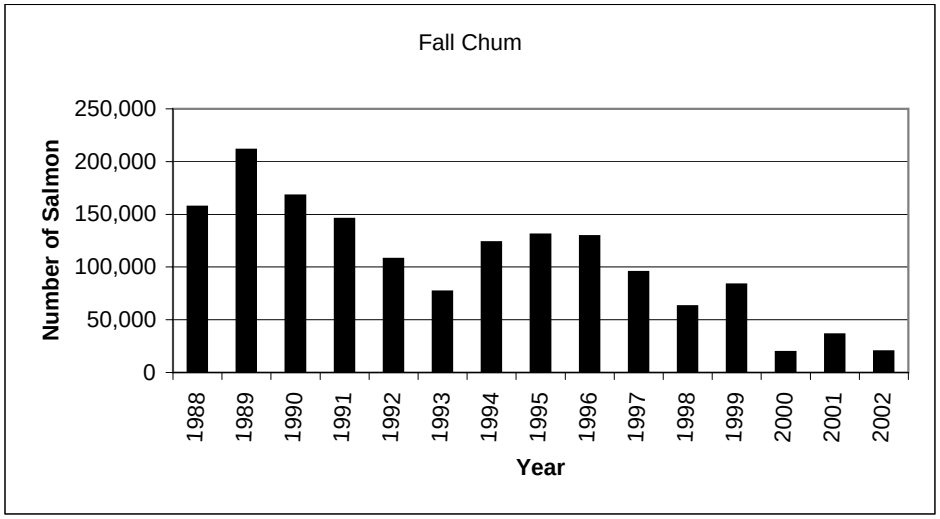


N = 177,100 salmon; based on annual harvest assessment program using permits, calendars, and household surveys.

Figure IV-3. Yukon River Subsistence Salmon Harvests by Species, 1988 - 2002







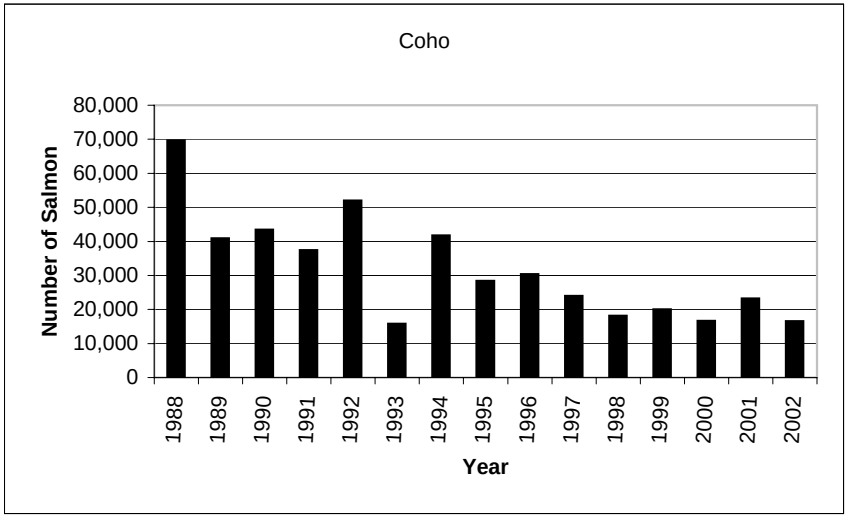


Figure IV-4. Estimated Number of Dogs by Fishing District, Yukon Area, 2002

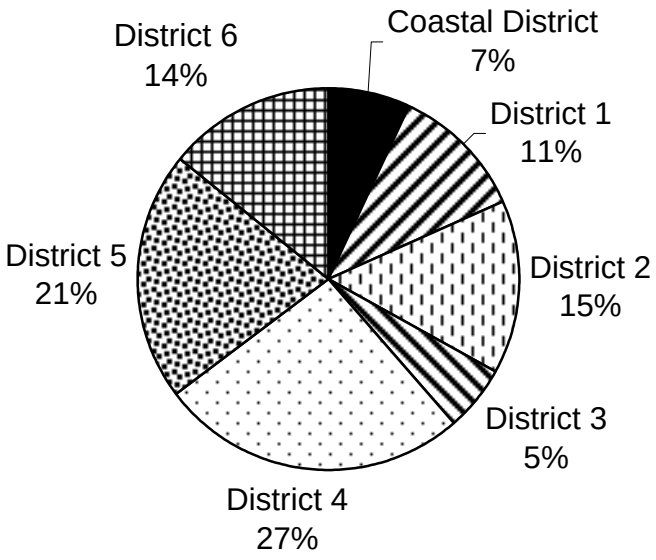
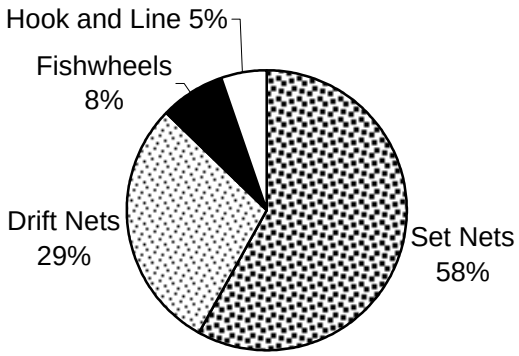


Figure IV-5. Primary Gear Type Utilized for Subsistence Salmon Fishing, Yukon Area, 2002



V: KUSKOKWIM AREA

BACKGROUND

The subsistence salmon fishery in the Kuskokwim region is one of the largest and most important in the state. From early June through August, the day-to-day activities of many Kuskokwim Area households revolve around the harvesting, processing and preserving of salmon for subsistence use. The seasonal movement of families from permanent winter communities to summer fish camps situated along rivers and sloughs continues to be a significant element of the annual subsistence harvest effort. Division of Subsistence studies in the region indicate that fish contribute as much as 85 percent of the total pounds of fish and wildlife harvested in a community annually, and salmon as much as 53 percent of the total annual harvest (Coffing 1991). The harvest of salmon for subsistence use is a much as 650 pounds per capita in some Kuskokwim River communities.

More than 1,500 households in the region annually harvest salmon for subsistence use. Many other households not directly involved in catching salmon participate by assisting family and friends with cutting, drying, smoking, and associated preservation activities (salting, canning, and freezing). Annual subsistence harvest surveys have been aimed at gathering data on chinook, chum, sockeye, and coho salmon. Subsistence catches of Chinook salmon in the Kuskokwim Area often exceed the commercial catch of this species.

There are 38 communities consisting of approximately 4,500 households within the Kuskokwim Area. The majority (75 percent) of the area households are situated within the drainage of the Kuskokwim River. Bethel is the largest community in the region, containing approximately 1,700 households. Roughly 350 households are located in the northern Kuskokwim Bay communities of Kwigillingok, Kongiganak, and Kipnuk. Residents of these three communities harvest subsistence salmon from the Kuskokwim River as well as from areas closer to the communities. Residents of Quinhagak, Goodnews Bay, and Platinum, located along the southern shore of Kuskokwim Bay, harvest salmon stocks primarily from the Kanektok, Arolik, and Goodnews river systems. Residents of Toksook Bay, Nightmute, Tununak, Newtok, Chefornak, and Mekoryuk, situated near the Bering Sea Coast, harvest salmon from coastal waters as well as local tributaries.

REGULATIONS

Statewide eligibility criteria require individuals be Alaskan residents for the proceeding 12 consecutive months before harvesting salmon for subsistence use. Prior to 1990 there were additional restrictions on participation in the fishery, described in earlier annual management reports. The majority of those individuals subsistence fishing for salmon in the Kuskokwim Area are residents of the area. People living in other parts of the state who have family or friends in the region sometimes return to the Kuskokwim area to harvest or help process salmon.

Licenses and permits have never been required for subsistence salmon fishing in the Kuskokwim Area, nor were any required during 2002. With the exception of the Aniak River, there were also no restrictions on the number of salmon that could be harvested by individual fishers or

households. Salmon harvested for subsistence use could be caught using set and drift gill nets, beach seines, fish wheels, and rod and reel. Spears could be used in the Holitna, Kanektok, Arolik, and Goodnews river drainages only. The total length of set or drift gill nets in use by an individual fisher could not exceed 50 fathoms. Unless changed by emergency order, gill nets used for harvesting salmon could be of any size mesh, however nets with six inch or smaller mesh could not be more than 45 meshes deep and nets with greater than six-inch mesh could not be more than 35 meshes deep. Fishers were required to have their name and address attached to their gill nets and fish wheels. Rod and reel fishers upstream of Doestock Creek on the Aniak River had a combined daily bag limit of six fish, no more than three of which could be salmon.

Subsistence Salmon Fishing Schedule

As in 2001, subsistence salmon fishing throughout the Kuskokwim River drainage was regulated by a fishing schedule as part of the salmon management rebuilding plan adopted by the Board of Fisheries in January 2001. The fishing schedule provided for periods of four consecutive days per week that were opened to subsistence salmon fishing and three consecutive days per week when subsistence salmon fishing was closed to gillnet and fish wheel gear. The department polled the communities throughout the Kuskokwim River drainage for guidance on which three days would be the most desirable. Based on community response and the recommendation of the Kuskokwim River Salmon Management Working Group (KRSWMG), Wednesday through Saturday was selected for the open period. Subsistence fishing with rod and reel was not included in this schedule nor were other Kuskokwim Area salmon fisheries.

The schedule started June 2 in District 1, was expanded to include all waters downstream of Chuathbaluk starting June 9, and was further expanded to include all waters of the entire Kuskokwim River drainage starting June 16. Some non-salmon tributaries in the lower and middle Kuskokwim drainage were not closed by this schedule and waters outside of the Kuskokwim drainage were not affected by the schedule. The schedule was lifted June 30, when the department opened the commercial salmon fishing season in Districts 1 and 2.

Compliance with the schedule was excellent. Department staff made specific efforts to inform the public through the newspaper and radio media starting in late March 2002 and continued through late June.

In-Season Subsistence Closures

Areas within the commercial salmon fishing districts were periodically closed to subsistence salmon fishing using net gear and fish wheels 16 hours before, during, and 6 hours after commercial salmon fishing periods. The purpose of these closures was to discourage illegal commercial fishing and to help discourage the sale of subsistence caught salmon in the commercial fishery. Many of the commercial fishers are local residents who also subsistence fish. The specific waters closed to subsistence fishing varied district to district. During 2002, these closures in District 1 began August 1 and lasted until August 3. Three additional closures occurred in District 1, from August 4 to August 13. There were numerous periodic subsistence fishing closures in both district 4 (Quinhagak) and District 5 (Goodnews Bay and Platinum) areas from June through August.

Also in 2002, the department issued an emergency order which modified the periodic subsistence fishing closure time in Kuskokuak Slough. By regulation, Kuskokuak Slough remains open to subsistence salmon fishing seven days per week after July 31. The modified regulation established periodic subsistence salmon fishing closures in Kuskokuak Slough 16 hours before, during and 6 hours after each commercial fishing period anywhere in District 1, consistence with the remainder of District 1 waters. This change was also proposed for the upcoming 2004 Arctic-Yukon-Kuskokwim Board of Fisheries meeting.

SUBSISTENCE SALMON HARVEST ASSESSMENT METHODS

Data on the subsistence harvest of salmon are collected annually. Commercial Fisheries Division began conducting subsistence salmon harvest surveys along the Kuskokwim River in 1960. Surveys were initiated in Quinhagak (1967) and Goodnews Bay and Platinum (1979). The Division of Subsistence took over the annual subsistence salmon harvest surveys in 1988 under a reimbursable services agreement and has been responsible for collecting and analyzing the data since then. During the early survey years, prior to 1985, subsistence salmon catch data were lumped into two primary categories, "king salmon" and "small salmon." Survey methods were further refined during the 1988 field season that have resulted in more complete data for all salmon species harvested.

For 2002, three methods were used to gather subsistence salmon harvest data in the Kuskokwim Area. These methods include subsistence salmon catch calendars, post-season community household surveys, and postcard surveys.

Catch Calendars

In May 2002, subsistence salmon catch calendars were mailed to all Kuskokwim Area households that had been identified as "usually fish" and to all households that fished the previous fishing season. Three similar, but unique, catch calendars were designed for recording the daily catch of each salmon species harvested for subsistence use. One style of calendar was sent to households in communities along the Lower and Middle regions of the Kuskokwim river, to communities along the Bering Sea Coast and North Kuskokwim Bay, and to those communities in the Upper Kuskokwim river region upstream as far as the community of Stony River. A second style of calendar was sent to the remaining households in the Upper Kuskokwim River region, and a third style was sent to households in Quinhagak, Goodnews Bay, and Platinum. Differences in the style of calendar sent to households take into account the species available, salmon run-timing, and timing of subsistence fishing activities. Where mailing addresses were available, the calendars were mailed to post office boxes; otherwise calendars were sent general delivery for the post office clerk to distribute. Each calendar was postage paid and addressed for return to the Division of Subsistence office in Bethel. Subsistence salmon catch calendars were mailed to 2,504 households.

Household Surveys

The second method, which is the primary method of collecting subsistence salmon harvest information, was the post-season household surveys. For these surveys, staff traveled to communities in the Kuskokwim Area and went house-to-house interviewing residents about their 2002 fishing efforts. Similar to the approach used in developing the catch calendars, three color-coded survey instruments were used to survey the majority of the communities. Except for local terms used for the salmon species the survey questions asked in each region were identical. The survey form used when interviewing Bethel and Aniak households also included a space for recording the household's resident address and quantified harvests by gear type and harvest locations for fish caught with hook and line gear. Both Bethel and Aniak surveys included questions aimed at collecting subsistence harvest information for non-salmon species.

During 2002, the Division of Subsistence staff conducted house-to-house surveys in 27 communities. Budget constraints have precluded attempts to conduct house-to-house surveys in Mekoryuk, Newtok, Nightmute, Toksook Bay, Tununak, Chefornak, and Telida. As in past years, house-to-house surveys were also not done in the communities of Kwigillingok, Kipnuk, and Kasigluk. These communities have not consented to allow the house-to-house surveys to be done. For the first time in several years, surveys were not done in Lime Village because of weather and logistical difficulties. Through funding administered through the US Fish and Wildlife Service Office of Subsistence Management, the Orutsararmiut Native Council (ONC) located in Bethel, hired survey technicians to conduct the house-to-house surveys in Bethel. The Kuskokwim Native Association (KNA), through a similar funding arrangement with US Fish and Wildlife Service Office of Subsistence Management, hired technicians to conduct the post-season surveys in Aniak. In both of these cooperative efforts, the Division of Subsistence trained the hired technicians and oversaw the survey efforts. The data collected by both ONC and KNA followed the methods and protocols developed by the Division.

Survey efforts in these communities occurred over a two-month period, beginning in early October after most residents had completed salmon fishing for the season and after most hunters had returned home from fall moose and caribou hunting. Communities in which residents usually harvest salmon through October were surveyed in November. Time spent in any one community ranged from one-half to two days depending on the size of the community. Surveys in Bethel were conducted over an 11-week period.

Households were surveyed systematically. Prior to beginning the community surveys, efforts were made to inform and prepare residents for the arrival of staff conducting the surveys. This was done weeks or days in advance of their arrival through letters to city, tribal, or traditional council offices in each community, radio announcements, posters in public buildings, and phone calls to community officials. Prior to traveling to each community, staff identified households that had already mailed in or returned their salmon harvest calendars.

In Bethel, survey staff used a map of the community originally developed by the Bethel Fire Department. This map identified the street addresses of much of the community and was used to divide the community into areas that could be assigned to each of the two survey staff. This map was edited and modified using aerial photos taken in late August by the Division of

Subsistence SRS III in Bethel. Survey staff working in Bethel also had access to a list of all Bethel households identified through previous surveys and a list of households that had been sent and had returned their salmon fishing calendar.

Upon arrival in a community, staff checked in with the city or council office to introduce themselves and outline their task. Staff used these household checklists to help them identify households they needed to contact while conducting household surveys. Each "checklist" contained a listing of all known households in the community, identified those households which were reported to have subsistence fished for salmon the previous year (2001), and households which were mailed 2002 catch calendars. Knowledgeable individuals in the community helped staff update the community household list and identify which households "usually fished" and which households "usually did not fish." These individuals also helped to identify households that subsistence fished for salmon in 2002.

Attempts were made to contact all households that were either identified as "usually fish" or were known to have fished during 2002. In Bethel, an effort was made to contact every household (a census) so that a more accurate list of the total number of households in Bethel could be established. Unlike the other communities, there was no one agency or organization that could provide a current Bethel household list. Structured interviews were conducted with these households through the use of the survey instrument. Subsistence salmon catch calendars that had not been mailed back to the department were also collected during the interview if available. If time permitted, other households on the community list were contacted about their salmon fishing activities. In 2002, 2,631 Kuskokwim Area households were surveyed using this method.

Postcard Surveys

The third method of collecting subsistence salmon harvest information was through the use of postcard surveys. The postcard survey simply asked if the household harvested salmon from the Kuskokwim Area for subsistence use, the type of fishing gear used, and how fishing was for each of the four salmon species usually harvested. The postcard could be separated in half and returned postage paid to the department. This type of survey was the primary method for obtaining harvest data from households in Kipnuk, Kwigillingok, Kasigluk, Mekoryuk, Newtok, Nightmute, Toksook Bay, Tununak, and households in other communities which were not available at the time of the community surveys.

In Bethel, several postcard surveys were also left at occupied homes where multiple attempts to contact the residents failed. As a final effort to contact households in Bethel, those individuals on the "usually fish" strata for which the department had a mailing address were also mailed a survey postcard. Overall, 300 postcards were distributed to Bethel residents. Several postcards were returned with an address correction indicating that the individual had moved away. If the address correction included a current address, a follow-up postcard was then sent to determine if the individual harvested salmon in the Kuskokwim Area during 2002. Overall, 1,655 households in the region were mailed postcard surveys.

2002 SAMPLING SUMMARY

Of the estimated 4,339 households located in the Kuskokwim Area, 2,798 households were contacted through calendar returns, returned postcards, or household surveys (Table V-1). Additionally, fishing and harvest information was obtained for other households from another household's survey form or in consultation with village officials. This increased to 2,806 the number of households for which some information was available. Of this total, harvest data (whether did not fish or harvest numbers) was obtained for 2,767 households; community and area harvest estimates are based upon this set of households. Of all households for which information is available, 1,696 (39 percent of total households) were identified as harvesting salmon during 2002 for subsistence use (although harvest numbers were not available for all of these fishing households).

Within the Kuskokwim River drainage (including North Kuskokwim Bay communities) 2,603 (73 percent) of the 3,549 households in the region were contacted. Households that were determined not to have fished during 2002, were not targeted for the survey, however, some were contacted. This region contains 82 percent of the total households in the Kuskokwim Area and 92 percent of the identified subsistence fishing households.

In the South Kuskokwim Bay region (Quinhagak, Goodnews Bay, and Platinum), 156 (74 percent) of the 210 households were contacted. A total of 114 (54 percent) households harvested salmon in 2002 for subsistence use, of the households contacted, 73 percent harvested salmon in 2002 for subsistence use.

In total, 580 households have been estimated in the Bering Sea Coast communities of Mekoryuk, Newtok, Nightmute, Toksook Bay, Tununak, and Chefornak. A complete list of households was not available for these communities. Because house-to-house surveys were not conducted in these communities, data were obtained only by postcard surveys and calendar returns. 39 households in this region provided information, and 27 reported harvesting salmon. Based on data gathered in previous years, actual participation in salmon harvesting activities by households in this region is thought to be much greater than that reported by catch calendars and postcards. For most communities, house-to-house surveys continue to be the primary vehicle for gathering data on harvest and use of subsistence salmon.

In total, 12 percent (304) of the 2,504 subsistence salmon calendars which were mailed pre-season were used and returned or picked up during household surveys. There were 139 (8 percent) responses to the 1,655 postcard surveys mailed to Kuskokwim Area households.

2002 SUBSISTENCE SALMON HARVEST SUMMARY

A summary of the subsistence salmon harvest estimates by community and fishing area is presented in Table V-1. The 2002 total subsistence salmon harvest estimates for the Kuskokwim Area were 70,219 chinook (34 percent), 73,234 chum (36 percent), 27,733 sockeye (13 percent), and 34,413 coho (17 percent), a total of 205,599 salmon. Seventy-six percent of the overall subsistence salmon harvest in the Kuskokwim was taken by residents of communities located

from Tuluksak downstream to Eek. Residents of Bethel harvested 27 percent of the overall Kuskokwim Area subsistence salmon harvest.

The harvest of chinook in the entire Kuskokwim Area decreased slightly in 2002 compared to 2001 harvests (Table V-2). When compared to the 1989 – 2001 average, the 2002 chinook harvest was down about 17 percent for the Kuskokwim Area. Although the 2002 harvest of chum salmon increased by 43 percent over the 2001 harvest, which was a relatively low harvest, the 2002 chum salmon harvest was still about 8 percent below the 1989 to 2001 average harvest for the entire area. In contrast, the 2002 sockeye harvest was 46 percent lower than the 2001 sockeye harvest, and 30 percent lower than the 1989 to 2001 average. The 2002 coho harvest increased 8 percent over the 2001 harvest, but was still 12 percent below the 1989 to 2001 average.

Harvest trends described above were also true for the Kuskokwim River drainage, where most of the salmon harvested in the area are caught. While chinook harvests in the Lower and Middle Kuskokwim declined slightly, chinook harvest in the Upper Kuskokwim River increased by 39 percent from 2001. Chinook harvests in both Quinhagak and Goodnews Bay/Platinum also declined from 2001.

Sockeye salmon harvests in 2002 were down in each region of the Kuskokwim River by 49 percent to 54 percent from 2001. In contrast, the 2002 sockeye harvest in the South Kuskokwim Bay was slightly up (1%) from 2001, and significantly up (260%) on the Bering Sea Coast. The Bering Sea Coast numbers likely reflect the change in contacted households, 39 contacted in 2002 and only 6 contacted in 2001.

The stronger chum salmon return in 2002 resulted in increased harvests ranging from 18 percent over the 2001 harvest in the Middle Kuskokwim area to 21 percent in the Upper Kuskokwim River. The reported chum salmon harvest in Quinhagak, Goodnews Bay and Platinum was up 131 percent from 2001.

Coho salmon harvests in 2002 were up 9 percent to 32 percent from 2001 on the River, but down 33 percent to 35 percent in the North and South Kuskokwim Bay communities.

Dog Food

Historically, the harvest of salmon for use as dog food was a significant portion of the overall subsistence harvest of salmon, specifically for chum and coho salmon. Over the past 10 years, the number of households harvesting salmon specifically for dog food has declined. During 2002, 71 households reported harvesting salmon specifically to process and use as dog food. Chum salmon represented the majority of the reported harvest for dog food at 5,918 fish. Coho salmon accounted for 1,321 fish and sockeye contributed a reported 513. Households do not target chinook salmon for dog food; however, some chinook salmon unfit for human consumption may be fed to dogs so the fish is not wasted. It is common for most households to feed scraps, backbones, entrails, and salmon unfit for human consumption to their dogs so nothing is wasted. 247 households responded that they fed scraps, backbones, and entrails to their dogs, but they did not harvest or put up any salmon specifically for dog food.

Gear Types

Subsistence fishing households often use more than one type of gear (i.e. set gillnet, drift gillnet, fish wheel, or rod and reel) when harvesting salmon (Table V-3). Households that harvested salmon were asked to provide information on the types of gear they used. The most common gear type used throughout the Kuskokwim Area is the drift gillnet, which is the primary gear used by households from Crooked Creek to downriver, including the coastal communities. During the 2002 season, 1,087 households reported using drift gillnets for harvesting subsistence salmon. Set gillnets area also used throughout the Kuskokwim Area; however they are used in a greater proportion in the upper Kuskokwim communities of Red Devil, Lime Village, Stony River, McGrath and Nikolai, as well as Mekoryuk located on Nunivak Island. Overall, 304 households reported using set gillnets for harvesting salmon.

Rod and Reel gear is also used for subsistence fishing by many communities throughout the area. Rod and reel is used by families who may not have access to other gear types, by fishers in areas were other gear types are not as effective or efficient, and to harvest fewer fish when less is needed. Chinook and coho salmon are the two salmon species most frequently harvested by rod and reel gear. For McGrath and Nikolai residents, rod and reel is the primary gear type used for harvesting subsistence chinook salmon. During 2002, 369 households in 23 communities reported using rod and reel to harvest salmon for subsistence use.

Fish wheels are used in the middle and upper Kuskokwim areas for harvesting salmon, most frequently by fishers in Aniak, Stony River, Lime Village, and McGrath. Fish wheels in the Kuskokwim are used primarily for harvesting sockeye, chum, and coho salmon. During 2002, two households reported using fish wheel gear for harvesting subsistence salmon, both were in Aniak. Generally one or two fish wheels are operated by households in McGrath; however, during 2002 none of the households in McGrath reported harvest using a fish wheel. It is possible that the households that usually use a fish wheel were missed by the 2002 survey effort.

During 2002, no households reported using spears for harvesting subsistence salmon. In Mekoryuk, three households reported using seine gear to harvest subsistence salmon.

Salmon Retained from Commercial Fishing for Subsistence Use

Households that are involved in commercial salmon fishing sometimes keep some salmon caught through their commercial fishing activities to bring home for subsistence use. The number of salmon retained from commercial fishing activities for subsistence use is usually relatively low. During 2002, there were no commercial salmon fishing periods in the Kuskokwim River drainage until early August. There were, however, commercial fishing periods in Districts 4 and 5 during June and July as well as August. Forty-one households reported retaining salmon for subsistence use from commercial fishing activities in 2002. The amount of salmon reportedly kept for subsistence use amounted to 56 chinook, 15 chum, 77 sockeye, and 177 coho salmon.

Quality of Fishing

Fishing households that were interviewed in person and those that were mailed a survey postcard were asked to respond to a qualitative question about their subsistence salmon fishing for the season. The purpose of this question was to learn how households viewed their 2002 subsistence fishing success. Households were asked to rate their subsistence fishing success for each of the four species surveyed (chinook, sockeye, coho, and chum) as "Very Good," "Average," or "Poor." A total of 1,198 households responded to this survey question.

The majority of responding households rated their subsistence fishing during 2002 as very good or average. Harvest success was highest for coho (88 percent), chum (85 percent) and chinook salmon (83 percent). Sixty-three percent of responding households indicated 2002 sockeye fishing was very good or average; with most (44 percent) indicating only average fishing success, 19 percent indicating very good fishing success. Thirty-seven percent rated sockeye fishing during 2002 as poor.

A total of 166 households who rated their 2002 chinook fishing as poor also provided reasons for their rating. Sixty-nine households reported not enough fish, seven households indicated that it was too sunny and hot and the fish were deeper than usual, and eight households reported gear problems. Twenty-two households reported that the subsistence fishing schedule prevented them from harvesting enough chinook salmon. Other reasons given were of a personal nature.

One hundred and eleven households reported chum salmon fishing as poor. Forty-three of these households indicated the low numbers of returning fish as the reason. Thirteen households identified the subsistence salmon fishing schedule as the reason that their chum fishing was poor, seven identified gear or equipment problems, and the rest of were of a personal nature.

A total of 296 households rated their sockeye salmon fishing as poor. Most (169) indicated that there were relatively few sockeye available during the 2002 fishing season. Few (17) indicated the subsistence schedule as the reason. The remaining indicated personal reasons for the poor sockeye fishing. Seventy-four households rated coho salmon fishing as poor for 2002, 35 of these households pointed to weak coho returns as the reason, and personal reasons accounted for the rest.

OTHER FISH

In 2002, there was no annual non-salmon fisheries harvest assessment project in place uniformly throughout the Kuskokwim Area. In most communities, harvest assessment for non-salmon does not occur, however, in 2002, both Bethel and Aniak non-salmon harvests were surveyed in conjunction with the post-season salmon harvest household surveys (see following summaries). Harvest estimates for non-salmon are also available for a few other communities, such as Kwethluk, Nunapitchuk, and Akiachak, based on community-based surveys conducted in the region in the 1980's and 1990's. Surveys of herring harvested for subsistence use were conducted in the mid 1980's through the early 1990's in the Nelson Island region. These data are in the Community Profile Database (Scott et al. 2001).

STUDY FINDINGS FOR BETHEL

During 2002, harvest assessment of non-salmon species by Bethel households occurred in conjunction with the post-season salmon harvest surveys. The Division of Subsistence, for the second year in a three year project, directed a study of the Bethel area through the work of Orutsararmiut Native Council (ONC) in Bethel to conduct subsistence fish harvest surveys of households in the Bethel community during October and November 2002. The purpose of the survey was to contact Bethel households to gather information about their harvest of fish, identify households that participated in the subsistence fisher, estimate the number of fish harvested by the community, and identify gear used for subsistence fishing. The survey focused on salmon harvested during the period from May through September 2002, and non-salmon species harvested during the period October 1 2001 through September 30, 2002.

2002 Bethel Sampling Summary

Using the 2001 list of Bethel housing units, and results from the 2001 Bethel survey, an updated list of Bethel housing units was created for 2002. Survey results indicate that there were a total of 1,499 occupied household units in 2002. Of these 1,499 households, 1,312 were contacted through calendar returns, postcard returns, or household survey. Face-to-face surveys were conducted at 1,263 of these households, for a participation rate of 84 percent.

2002 Bethel Subsistence Harvest Participation Summary

Of all the households contacted, a total of 579 households (39 percent of total households) reported harvesting salmon during the study period (Table V-4). Of these households, 507 reported harvesting chinook, 395 reported harvesting coho, 433 reported harvesting chums, 392 reported harvesting sockeye, and 48 harvested pinks. Of non-salmon species, smelt, northern pike, whitefish, burbot, and sheefish were reported as being harvested most often and in largest numbers, with smelt being reported harvested by the most households (16 percent). Roughly 4 percent of households reported harvesting blackfish, grayling, Dolly Varden, and rainbow trout; and few households (1%) reported harvesting lake trout.

Bethel Harvest Amounts

Based on the Bethel household surveys, total community estimates were made of the amount of each fish species harvested for subsistence use during the study period (Table V-4). An estimated 55,424 salmon were harvested for subsistence use by Bethel residents in 2002, and estimated 28,500 non-salmon fish (excluding blackfish and smelt) were harvested. Approximately 2,191 gallons of smelt were harvested, along with 711 gallons of blackfish. Of the salmon harvest, 34.8 percent were chinook, 27.2 percent were chum, 13.3 percent were sockeye, 23.4 percent were coho, and 1.3 percent were pinks. Northern pike and whitefish were the primary non-salmon species harvested, representing 37 percent and 34 percent of the total non-salmon harvest (excluding blackfish and smelt).

Bethel Harvest Gear

In 2002, the majority of the salmon harvested by Bethel residents (89.2 percent) were caught with drift gillnets (Table V-4). Set gillnets, which are generally used when fishers are targeting chinook salmon early in the run, were used to harvest approximately 7.7 percent of the salmon harvested. Rod and reel gear accounted for 3.1 percent of salmon harvest. In contrast to salmon, drift gillnets were reported as being used to harvest only 1.5 percent of non-salmon species, while 43.6 percent of the non-salmon harvest resulted from hook and line gear (mainly for northern pike and burbot) and 21.2 percent from set gillnet in open water (mainly for whitefish). Eighteen percent of the non-salmon harvest was done using nets set under the ice (mainly for sheefish and whitefish), and 16.9 percent of the non-salmon harvest was accomplished using rod and reel (all non-salmon species excluding smelt and blackfish). Smelt were harvested exclusively with dip nets, and blackfish were harvested using small, locally made fish traps called *taluyat*.

STUDY FINDINGS FOR ANIAK

During October and November, 2002, ADF&G in partnership with Kuskokwim Native Association (KNA), conducted subsistence salmon and non-salmon harvest surveys of households in the community of Aniak. The purpose of the survey was to gather information from Aniak households about their harvest of fish, to identify households that participated in the subsistence fishery, to estimate the number of salmon and non-salmon resident fish harvested by the community for subsistence, and to identify gear used for subsistence fishing as well as the harvest areas where hook and line gear was used for each species harvested. The survey focused on salmon harvested during the period of May to September 2002, and non-salmon species harvested during the period of October 1, 2001 through September 30, 2002.

2002 Aniak Sampling Summary

An updated list of households in Aniak was generated using the 2001 household list and results from the 2001 household survey in Aniak. Kuskokwim Native Association staff verified household locations and addresses, adding and removing households as appropriate. The updated list indicated a total of 165 occupied household units in the community of Aniak. During the 2002 survey effort, face-to-face surveys were conducted at 163 of these units, for a participation rate of 99 percent.

2002 Aniak Subsistence Harvest Participation Summary

A total of 120 households (74 percent of surveyed households) reported harvesting fish for subsistence use during the study period (Table V-5). Of these households, 86 reported harvesting chinook salmon, 97 harvested coho, 56 harvested chum, and 51 harvested sockeye. Only four households reported harvesting pink salmon. Of non-salmon species, whitefish, sheefish, and northern pike were each reported as being harvested by 25 to 30 households, with northern pike being harvested by the most households. Rainbow trout was harvested by 20 households, Dolly Varden by 17, and Grayling by 15. Three households reported harvesting

smelt, one household reported harvesting lake trout, and no households reported harvesting blackfish.

Aniak Harvest Amounts

Based on the 163 households surveyed, total community estimates were made of the amount of each fish species harvested for subsistence use during the study period (Table V-5). An estimated 9,379 salmon and 3,938 resident species (excluding smelt) were harvested by Aniak residents in 2002. Chinook salmon represented 31.9 percent of the salmon harvest, coho salmon represented 27.9 percent, sockeye represented 7.7 percent, chum represented 32.0 percent, and pink salmon represented 0.5 percent. The majority of non-salmon fish harvested were whitefish, representing 79 percent of the total non-salmon harvest. Sheefish and northern pike represented 5 percent and 6 percent respectively, with remaining species representing less than 5 percent each of the total non-salmon harvest.

Aniak Harvest Gear

In 2002, the majority of salmon harvested (63.3 percent), were caught with drift gillnets (Table V-5). Set gillnets were used to harvest approximately 14.6 percent of the salmon caught, and 15.3 percent of salmon were caught with rod and reel. Large mesh gear continues to be used by the majority of subsistence fishers targeting chinook salmon. Forty-one households reported using gillnets with 8-inch mesh or greater. In contrast to salmon, drift gillnets were used to harvest only two percent of non-salmon species. Approximately 14 percent of resident species were harvested with rod and reel gear and 16 percent (primarily whitefish and sheefish) with set gillnet in open water. Sixty-seven percent of resident species (primarily whitefish), were harvested with other gear, such as fish wheel or fish trap. Few households reported fishing with hook and line gear through the ice. Smelt were harvested exclusively with dip nets.

Table V-1. 2002 Kuskokwim Area Subsistence Salmon Harvests

			Chinook		Chum		Sockeye		Coho		Total	
	Total HH's	HH's Contacted	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total
Kipnuk	176	1	1	1	5	5	11	11	69	69	86	86
Kwigillingok	95	0	0	0	0	0	0	0	0	0	0	0
Kongiganak	81	51	772	808	1883	1965	739	774	568	596	3962	4143
N. KUSKOKWIM BAY	352	52	773	809	1888	1970	750	785	637	665	4048	4229
Tuntutuliak	76	64	3081	3632	3260	3845	824	972	981	1153	8146	9602
Eek	73	54	1959	2432	1004	1259	604	748	704	904	4271	5343
Kasigluk	136	5	381	381	306	306	59	59	142	142	888	888
Nunapitchuk	102	81	3206	3883	5703	6917	1122	1382	644	790	10675	12972
Atmautluak	56	46	1215	1282	2125	2189	987	1015	536	591	4863	5077
Napakiak	90	66	1931	1931	2391	2391	1201	1201	578	578	6101	6101
Napaskiak	83	60	2729	3856	2632	3720	908	1292	503	716	6772	9584
Oscarville	13	12	953	953	1121	1121	377	377	119	119	2570	2570
Bethel	1499	1312	16748	19305	13078	15082	6382	7350	11274	12966	47482	54703
Kwethluk	156	113	4902	6429	5682	7434	1501	1993	1920	2515	14005	18371
Akiachak	131	101	5540	6860	4089	5048	1996	2436	1321	1620	12946	15964
Akiak	71	55	2632	3340	2008	2527	942	1195	881	1113	6463	8175
Tuluksak	80	55	1920	2364	2470	3042	822	1011	963	1181	6175	7598
LOWER KUSKOKWIM	2566	2024	47197	56648	45869	54881	17725	21031	20566	24388	131357	156948
Lower Kalskag	69	56	1088	1210	1072	1187	221	247	221	241	2602	2885
Upper Kalskag	59	44	1251	1420	2153	2333	433	485	909	1032	4746	5270
Aniak	165	163	2959	2994	2967	3002	715	723	2585	2616	9226	9335
Chuathbaluk	30	22	493	663	1156	1553	250	337	455	607	2354	3160
MIDDLE KUSKOKWIM	323	285	5791	6287	7348	8075	1619	1792	4170	4496	18928	20650
Crooked Creek	34	28	713	790	1212	1266	401	413	405	420	2731	2889
Red Devil	14	10	180	248	236	325	67	92	300	413	783	1078
Sleetmute	34	27	426	516	913	1105	498	603	569	689	2406	2913
Stony River	15	13	262	293	507	560	412	460	466	517	1647	1830
Lime Village	17	0	0	0	0	0	0	0	0	0	0	0
McGrath	136	118	649	700	634	665	309	323	996	1067	2588	2755
Takotna	20	16	8	9	1	1	0	0	20	20	29	30
Nikolai	36	30	484	507	171	171	0	0	105	105	760	783
Telida	2	0	0	0	0	0	0	0	0	0	0	0
UPPER KUSKOKWIM	308	242	2722	3063	3674	4093	1687	1891	2861	3231	10944	12278
KUSKOKWIM RIVER	3549	2603	56483	66807	58779	69019	21781	25499	28234	32780	165277	194105
Quinhagak	139	101	1880	2475	1381	1839	650	855	844	1099	4755	6268
Goodnews Bay	55	43	561	703	247	312	630	794	162	202	1600	2011
Platinum	16	12	112	154	69	95	187	256	70	95	438	600
S. KUSKOKWIM BAY	210	156	2553	3332	1697	2246	1467	1905	1076	1396	6793	8879
Mekoryuk	94	18	12	12	1292	1292	204	204	114	114	1622	1622
Newtok	79	5	13	13	20	20	85	85	0	0	118	118
Nightmute	68	3	0	0	0	0	0	0	0	0	0	0
Toksook Bay	136	8	54	54	657	657	32	32	74	74	817	817
Tununak	110	5	1	1	0	0	8	8	49	49	58	58
BERING SEA COAST	487	39	80	80	1969	1969	329	329	237	237	2615	2615
Chefornak	93	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4,339	2,798	59,116	70,219	62,445	73,234	23,577	27,733	29,547	34,413	174,685	205,599

* If less than 30 or 50% of households in a stratum in a community were contacted, then reported harvest is used for estimated harvest.
NOTE: Includes harvests using rod and reel and the removal of salmon from commercial harvests as well as subsistence nets.

Table V-2. Historic Subsistence Salmon Harvest Kuskokwim Area, 1960 - 2002.

	Households		Estimated Salmon Harvest					
Year	Total	Included	Chinook	Sockeye	Chum	Coho	"Small Salmon"	Total Salmon
1960			18,887				303,153	322,040
1961			28,934				183,186	212,120
1962			13,582				163,554	177,136
1963			34,482				138,669	173,151
1964			29,017				190,191	219,208
1965			24,697				250,878	275,575
1966			49,325				180,054	229,379
1967			61,262				221,419	282,681
1968			35,698				278,008	313,706
1969			40,617				238,798	279,415
1970			69,612				258,678	328,290
1971			43,013				123,290	166,303
1972			38,176				121,641	159,817
1973			38,451				203,005	241,456
1974			26,665				309,950	336,615
1975			47,569				176,389	223,958
1976			58,055				228,104	286,159
1977			58,158				215,590	273,748
1978			38,145				137,489	175,634
1979			57,053				190,567	247,620
1980			62,047				216,322	278,369
1981			64,274				191,855	256,129
1982			61,141				240,872	302,013
1983			51,020				76,059	127,079
1984			60,668				103,144	163,812
1985			45,720	33,632	95,999	24,524	154,155	199,875
1986			54,256	20,239	142,930	29,742	192,911	247,167
1987			71,804	25,180	70,709	18,085	113,974	185,778
1988			75,107	33,102	153,980	43,866	230,948	306,055
1989	3,422	2,135	85,322	37,088	145,106	57,847	240,041	325,363
1990	3,317	1,830	92,678	39,662	131,469	50,713	221,844	314,522
1991	3,347	2,024	90,224	56,404	96,308	55,581	208,293	298,517
1992	3,314	1,724	68,665	34,159	99,576	44,496	178,231	246,896
1993	3,274	1,816	91,721	51,363	61,726	35,295	148,384	240,105
1994	3,179	1,821	98,378	39,279	76,951	36,504	152,734	251,112
1995	3,652	1,894	100,159	28,622	68,942	39,165	136,729	236,888
1996	3,643	1,837	81,598	35,036	90,238	34,698	159,972	241,570
1997	3,510	1,831	85,506	41,270	40,976	30,714	112,960	198,466
1998	3,495	1,849	86,115	37,578	67,665	27,239	132,482	218,597
1999	4,180	2,523	77,660	49,388	47,612	27,753	124,753	202,413
2000	4,441	2,750	68,841	44,832	55,371	35,670	135,873	204,714
2001	4,483	2,297	77,570	51,965	51,117	31,686	134,768	212,338
2002	4,339	2,798	70,219	27,733	73,234	34,413	135,380	205,599
1998-2002 Average	4,188	2,443	76,081	42,299	59,000	31,352	132,651	208,732
1993-2002 Average	3,820	2,142	83,777	40,707	63,383	33,314	137,404	221,180
All Years Average	3,685	2,081	58,886	38,141	87,217	36,555	182,681	241,567

Note: Prior to 1985, subsistence salmon harvest information was collected using two basic categories, king salmon and small salmon. Small salmon were comprised of primarily chum and sockeye salmon with some coho salmon and very few pink salmon. In 1985 survey methods were modified to identify chum, sockeye and coho salmon harvests in the subsistence catch. Pink salmon are harvested primarily on even number years and have not been included in the subsistence surveys. Data for 1983, 1984, 1986 and 1987 are estimates based on surveys in a sample of communities. Survey methods were revised beginning in 1988.

Table V-3: 2002 Kuskokwim River Subsistence Salmon Project: Gear Types

Community		Fishing HH'S*	Gear Types** Setnet	Drift Net	Fish Wheel	Rod and Reel	Seine	Spear	Not Reported
Kipnuk		1	0	0	0	0	0	0	1
Kwigillingok		0	0	0	0	0	0	0	0
Kongiganak		46	1	35	0	0	0	0	10
N KUSKOKWIM BAY	Totals	47	1	35	0	0	0	0	11
Tuntutuliak		56	3	40	0	4	0	0	14
Eek		47	13	30	0	8	0	0	7
Kasigluk		5	0	0	0	0	0	0	5
Nunapitchuk		69	3	56	0	0	0	0	12
Atmautluak		33	0	23	0	0	0	0	10
Napakiak		58	15	39	0	1	0	0	14
Napaskiak		43	13	32	0	4	0	0	10
Oscarville		11	1	11	0	0	0	0	0
Bethel		579	55	397	0	121	0	0	90
Kwethluk		91	31	65	0	32	0	0	14
Akiachak		91	22	67	0	9	0	0	17
Akiak		47	20	27	0	3	0	0	13
Tuluksak		50	18	42	0	17	0	0	5
LOWER KUSKOKWIM	Totals	1,180	194	829	0	199	0	0	211
Lower Kalskag		34	8	23	0	2	0	0	7
Upper Kalskag		29	7	19	0	6	0	0	6
Aniak		120	10	49	2	75	0	0	12
Chuathbaluk		17	7	11	0	3	0	0	3
MIDDLE KUSKOKWIM	Totals	200	32	102	2	86	0	0	28
Crooked Creek		24	4	16	0	5	0	0	6
Red Devil		8	6	1	0	4	0	0	1
Sleetmute		17	6	12	0	5	0	0	1
Stony River		9	5	1	0	4	0	0	1
Lime Village		0	0	0	0	0	0	0	0
McGrath		51	17	6	0	25	0	0	10
Takotna		3	0	0	0	3	0	0	0
Nikolai		16	8	0	0	9	0	0	2
Telida		0	0	0	0	0	0	0	0
UPPER KUSKOKWIM	Totals	128	46	36	0	55	0	0	21
Quinhagak		77	6	43	0	19	0	0	22
Goodnews Bay		30	6	24	0	4	0	0	4
Platinum		7	4	6	0	0	0	0	1
S KUSKOKWIM BAY	Totals	114	16	73	0	23	0	0	27
Mekoryuk		15	11	2	0	6	3	0	0
Newtok		4	0	4	0	0	0	0	0
Nightmute		0	0	0	0	0	0	0	0
Toksook Bay		5	2	5	0	0	0	0	0
Tununak		3	2	1	0	0	0	0	1
BERING SEA COAST	Totals	27	15	12	0	6	3	0	1
Chefornak		0	0	0	0	0	0	0	0
OTHER	Totals	0	0	0	0	0	0	0	0
TOTAL		1,696	304	1,087	2	369	3	0	299

* Data on households which subsistence fished based upon in-person surveys, returned postcards, or returned calendars.

** A household may use multiple gear types.

Table V-4. 2002 Estimated Subsistence Harvest of Fish: Bethel Surveys

TOTAL NUMBER OF HOUSEHOLDS: 1499

	Households*		Number of Fish Harvested for Subsistence**						
Species	#	%	Set Net	Drift Net	Net Under Ice	Other Gear	Hook and Line	Rod and Reel	TOTAL
Chinook	507	33.82%	2,146	16,923		0		236	19,305
Chum	395	26.38%	972	14,004		0		106	15,082
Sockeye	392	26.14%	511	6,700		0		139	7,350
Coho	433	28.90%	586	11,144		0		1,236	12,966
Pink	47	3.17%	77	641		0		2	721
TOTAL SALMON			4,293	49,412		0		1,719	55,424
Northern Pike	222	14.81%	617	4	190	0	7,747	1,225	9,783
Burbot	172	11.48%	261	10	826	23	3,674	1,015	5,809
Whitefish	198	13.23%	4,800	278	3,519	11	823	1,157	10,588
Sheefish	115	7.69%	283	113	224	0	76	91	787
Grayling	69	4.59%	0	1	0	0	12	540	553
Dolly Varden	74	4.91%	76	15	1	0	13	373	478
Rainbow Trout	64	4.27%	2	7	0	0	44	304	357
Lake Trout	19	1.27%	0	0	0	0	31	114	145
TOTAL NON-SALMON			6,039	428	4,760	34	12,420	4,819	28,500
TOTAL FISH BY GEAR TYPE			10,332	49,840	4,760	34	12,420	6,538	83,924

	Households		Trap
	#	%	(Gallons)
Blackfish	63	4.20%	711

	Households		Dipnet
	#	%	(Gallons)
Smelt	241	16.08%	2,191

* Household number and percentage estimates expanded from household surveys only.

** Salmon harvest estimates from all sources reallocated to gear types according to survey distribution.

NOTE: Salmon harvest data are for summer 2002. Data for other species is from 1 October 2001 to 30 September 2002.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence and Orutsaramiut Native Council, Household Surveys, 2002.

Table V-5. 2002 Estimated Subsistence Harvest of Fish: Aniak Surveys

TOTAL NUMBER OF HOUSEHOLDS: 165

	Households*		Number of Fish Harvested for Subsistence**						
Species	#	%	Set Net	Drift Net	Net Under Ice	Other Gear	Hook and Line	Rod and Reel	TOTAL
Chinook	86	51.99%	591	2,252		0		151	2,994
Chum	56	34.07%	518	2,096		183		205	3,002
Sockeye	51	30.98%	110	505		56		52	723
Coho	97	58.73%	150	1,084		390		991	2,616
Pink	4	2.48%	0	0		10		34	44
TOTAL SALMON			1,369	5,937		639		1,433	9,379
Northern Pike	30	17.94%	61	0	0	2	13	110	186
Burbot	6	3.72%	0	0	0	72	0	7	79
Whitefish	26	15.49%	442	9	0	2,560	5	93	3,109
Sheefish	25	14.87%	115	86	0	0	0	31	232
Grayling	15	9.29%	0	0	0	4	5	101	110
Dolly Varden	17	10.54%	0	0	0	10	3	134	147
Rainbow Trout	20	12.38%	0	0	0	1	10	60	71
Lake Trout	1	0.62%	0	0	0	0	0	4	4
TOTAL NON-SALMON			618	95	0	2,649	36	540	3,938
TOTAL FISH BY GEAR TYPE			1,987	6,032	0	3,288	36	1,973	13,317

	Households		Trap
	#	%	(Gallons)
Blackfish	0	0.00%	0

	Households		Dipnet
	#	%	(Gallons)
Smelt	3	1.85%	30

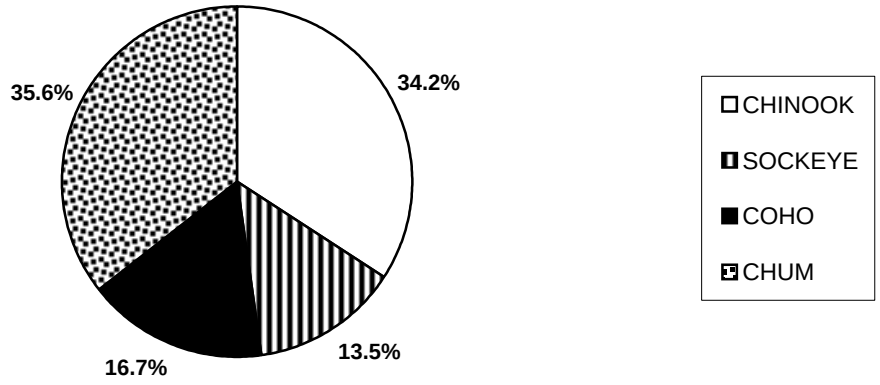
* Household number and percentage estimates expanded from household surveys only.

** Salmon harvest estimates from all sources reallocated to gear types according to survey distribution.

NOTE: Salmon harvest data are for summer 2002. Data for other species is from 1 October 2001 to 30 September 2002.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence and Orutsaramiut Native Council, Household Surveys, 2002.

Figure V-1. Composition of Subsistence Harvest by Species, Kuskokwim Area, 2002



N = 205,599 salmon; based on annual harvest assessment program using calendars and household surveys.

VI. BRISTOL BAY AREA

BACKGROUND

In spite of numerous social, economic, and technological changes, Bristol Bay residents continue to depend on salmon and other fish species as an important source of food. Residents have relied on fish to provide nourishment and sustenance for thousands of years. Subsistence harvests still provide important nutritional, economic, social, and cultural benefits to most Bristol Bay households. All five species of salmon are utilized for subsistence purposes in Bristol Bay, but the most popular are sockeye, chinook, and coho. Many residents continue to preserve large quantities of fish through traditional methods such as drying and smoking, and fish are also frozen, canned, salted, pickled, fermented, and eaten fresh.

REGULATIONS

Permits are required to harvest salmon for subsistence purposes in Bristol Bay. Since 1990, under state regulations, all Alaska State residents have been eligible to participate in subsistence salmon fishing in all Bristol Bay drainages (but see below). In 2002, with two exceptions, only gillnets were recognized as legal subsistence gear. In the Togiak District, spear fishing was also allowed. In 1998, the Board of Fisheries adopted new regulations for the taking of "redfish" (spawned sockeye salmon) in portions of the Naknek District. Gillnets, spears, and dip nets may be used along a 100 yard length of the west shore of Naknek Lake near the outlet to the Naknek River from August 20 through September 30; at Johnny's Lake from August 15 through September 25; and at the mouth of the Brooks River from October 1 through November 15. In the Bristol Bay Area in 2002, gillnet lengths were limited to 10 fathoms in the Naknek, Egegik, and Ugashik rivers, Dillingham beaches, and within the Nushagak commercial district during emergency openings. Up to 25 fathoms could be used in the remaining areas, except that nets were limited to 5 fathoms in the special "redfish" harvest areas in the Naknek District.

In Dillingham and the Naknek, Egegik, and Ugashik rivers, subsistence fishing was limited to several fishing periods per week during the peak of the sockeye run. All commercial districts were open for subsistence fishing during commercial openings. In addition, all commercial districts were open for subsistence fishing in May and September, from Monday to Friday. In recent years, declining chinook and coho stocks resulted in longer commercial closures and some residents had an increasingly difficult time obtaining fish for home use. The Nushagak commercial district, starting in 1988, has been opened for subsistence fishing by emergency order during extended commercial closures.

On May 21, 2001, Deborah Liggett, the superintendent of Lake Clark National Park and Preserve, announced that the National Park Service (NPS) was prohibiting subsistence fishing with nets in the park and preserve, including all of Lake Clark, except by federally qualified local rural residents. This prohibition was a new enforcement action of a NPS regulation and applied to anyone who was not a permanent resident of Iliamna, Lime Village, Newhalen, Nondalton, Pedro Bay, or Port Alsworth, or who did not have a Section 13.44 subsistence use permit issued by the park superintendent.

The Alaska Department of Fish and Game has continued to issue Bristol Bay subsistence salmon permits to any Alaska resident who requests one. However, the department informs permit applicants that unless they live in one of the above-named communities or have a 13.44 permit, they need to take this NPS closure into account when they subsistence fished in waters of the park and preserve. The department also informs permittees that waters outside of national park and preserve boundaries remain open for subsistence salmon fishing to all permit holders.

INSEASON MANAGEMENT

Due to extended closures to the commercial fishery in the Nushagak commercial fishing district, an emergency order opened the Nushagak commercial fishing district to subsistence salmon harvesting on 12:01 a.m. June 1, 2002. The commercial district was closed by emergency order to subsistence salmon fishing, except during commercial openings, effective 9 p.m. June 20. The Nushagak Section was reopened effective 3 p.m. on July 5 for the remainder of the season. By emergency orders, the Igushik Section of the Nushagak area was opened to subsistence fishing effective 8 p.m. June 30 and closed at 8 p.m. on July 1. It was reopened effective July 4 for the remainder of the season. Because of a planned commercial opening, the Wood River Special Harvest Area was closed to subsistence fishing by emergency order effective July 5. It opened again for subsistence fishing effective July 23 at 9 a.m.

Effective 9 a.m. August 15, an emergency order restricted subsistence fishing for salmon in the Nushagak commercial fishing district, local Dillingham beaches, the entire Nushagak River drainage and its tributaries, and the Wood River downstream of the Dragnet dock to three 24-hour periods per week. The restriction was intended to conserve coho salmon for spawning escapement in the Nushagak River because the spawning escapement was projected to be below 60,000 coho salmon. This action was in accordance with the Nushagak River Coho Salmon Management Plan (5 AAC 06.358[d][3]).

Because of an extended closure to commercial salmon fishing in the Togiak District, an emergency order opened subsistence fishing within the commercial fishing district from 3 p.m. June 21 until 9 p.m. June 23. Other emergency orders opened subsistence fishing in the Togiak commercial fishing district from 9 p.m. June 27 until 9 p.m. June 30; from 9 p.m. July 5 until July 7 at 9 p.m.; and from noon on July 13 until 9 p.m. on July 21. Effective 9 a.m. August 10, an emergency order opened the Togiak commercial fishing district to subsistence salmon fishing until further notice.

An emergency order opened the Naknek Section of the Naknek/Kvichak District and the Naknek River to subsistence fishing for three 24-hour periods per week, from 9 a.m. Saturdays until 9 a.m. Sundays, from 9 a.m. Mondays to 9 a.m. Tuesdays, and from 9 a.m. Wednesdays until 9 a.m. Thursdays, effective 9 a.m. Saturday June 29. This was to allow subsistence fishing opportunity when the Naknek/Kvichak District was closed to commercial fishing and commercial fishing was occurring in the Naknek River Special Harvest Area.

In the Egegik District, an additional subsistence fishing period was opened by emergency order at 2:00 p.m. on June 14 until 8:00 a.m. June 17. The department had been informed that some Egegik residents were having difficulty obtaining subsistence fishing locations within the district

when the commercial fishery was open. These emergency orders provided subsistence fishing time during a commercial closure. Additional subsistence openings in the Egegik District were established by emergency orders from 10 a.m. June 17 to 3:00 p.m. June 18; 3:00 p.m. June 18 to 3:30 p.m. June 19; 3:30 p.m. June 19 to 4:00 p.m. June 20; 4:00 p.m. June 20 to 5:00 p.m. June 21; 5:00 p.m. June 21 until 5:00 p.m. June 22; 5:00 p.m. June 22 to 7:00 p.m. June 23; and 7:00 p.m. June 23 to 7:30 p.m. June 24.

No emergency orders were issued for the Ugashik subsistence fishery in 2002.

SALMON HARVEST ASSESSMENT PROGRAM

A permit system was gradually introduced throughout the Bristol Bay region in the late 1960s to document the harvest of salmon for subsistence. Much of the increase in the number of permits issued during these years reflects: 1) a greater compliance with the permitting and reporting requirements, 2) an increased level of effort expended by the department in making permits available (including a local system of vendors), contacting individuals, and reminding them to return the harvest forms, and 3) a growing regional population. Most fishermen are obtaining permits and reporting their catches, and overall permit returns have averaged between 85% and 90%. However, fish removed for home use from commercial catches are not included in most reported subsistence harvest totals. Also, fish caught later in the season, such as coho and spawning salmon are probably not documented as consistently as chinook and sockeye.

In 2002, a total of 1,093 permits were issued for the Bristol Bay Management Area, and of these, 994 (90.9 percent) were returned to the Department with harvest data (Table VI-1, Table VI-3). The largest number of permits was issued for the Nushagak (520 permits) and Naknek/Kvichak (471 permits) districts. For the Nushagak District more permits were issued in 2002 than the long-term 20-year average (478), due in part to permits being available to all state residents since 1990. Compared to the last five years, however, the number of permits issued was down for the Nushagak District. Fewer permits were issued in the Naknek/Kvichak district than in any year since 1990, likely reflecting the National Park Service prohibition against non-drainage residents' subsistence fishing in the waters of Lake Clark National Park. About the same number of permits were issued for the Egegik District in 2002 (53) compared to the average for the past 10 years (51), while the number issued in the Ugashik District (23) was lower than the recent ten-year average (29). The number of permits issued for the Togiak District in 2002 (36) was lower than recent averages (44 permits on average for 1992 – 2001). In 2001, permit data for the Togiak District were supplemented by post-season household surveys conducted by the Division of Subsistence. Although these surveys were also conducted for 2002, they were still underway when the data were prepared for the annual management report. Of all Bristol Bay Area subsistence permits issued in 2002, 917 (83.9 percent) were issued to residents of Bristol Bay communities, and 176 (16.1 percent) were issued to other Alaska residents (Table VI-3).

SUBSISTENCE SALMON HARVESTS IN 2002

The estimated total Bristol Bay subsistence salmon harvest in 2002 was 109,587 fish (Table VI-1). This number was down from the 119,856 salmon estimated for 2001, and is the lowest estimated subsistence salmon harvest for the Bristol Bay Area since 1973, when 88,400 salmon

were harvested, and the third-lowest since harvest records have been kept beginning in 1963 (the estimated subsistence harvest was 93,000 salmon in 1972). The 2002 harvest was 26.2% below the recent 10-year average of 148,583 salmon and about 31.2% below the recent 20-year average of 159,311 salmon (Table VI-2).

The area-wide chinook harvest of 12,936 salmon was down from the recent ten-year average of 16,268 chinook. The area-wide harvest of 81,088 sockeye salmon was the lowest since 1973. The 2002 sockeye harvest was 30.3% below the recent 10-year average of 116,407 sockeyes. Compared to recent 10-year averages, subsistence harvests of pink and coho salmon were also down in 2002, while chum harvests were higher (Table VI-2).

In 2002, the Bristol Bay subsistence salmon harvest was composed of 74.0% sockeye, 11.8% chinook, 6.1% chum, 2.1% pink, and 6.0% coho salmon (Fig. VI-1). Of the entire Bristol Bay Area subsistence salmon harvest, residents of Bristol Bay communities harvested 101,543 salmon (92.7%), and other Alaska residents harvested 8,044 salmon (8.3%) (Table VI-3).

In 2002 as over the last several decades, most of the Bristol Bay Area subsistence harvest was taken in the Naknek/Kvichak (51.7%) and the Nushagak (41.0%) districts (Fig. VI-2). The Naknek/Kvichak total harvest of 56,632 salmon was the lowest since 1973 (when 43,000 salmon were harvested) and the third-lowest on record (the estimated harvest was 53,800 salmon in 1972). The 2002 subsistence salmon harvest in this district was 34.3% below the recent 10-year average of 86,174 fish.

In 2002, Kvichak drainage residents, and other permit holders fishing in the Kvichak drainage portion of the Naknek/Kvichak District, harvested an estimated 33,001 sockeye salmon, compared to a recent 10-year average of 56,085 sockeyes and a 20-year average of 66,472 sockeyes. The 2002 subsistence harvest of sockeye salmon in the Kvichak drainage was the second-lowest since records have been kept beginning in 1963, just slightly above the estimate for 2001 of 32,808 sockeye. (The previous lows were 36,990 sockeyes in 2000 and 39,100 sockeyes in 1973.) Of Kvichak drainage communities, estimated sockeye harvests were down substantially at Levelock, Pedro Bay, Kokhanok, Iliamna/Newhalen, Nondalton and Port Alsworth compared to recent 10-year averages. The number of permits issued to households with Port Alsworth addresses dropped to 22, from 30 in 2001 and 37 in 2000. This may be the result of seasonal Port Alsworth residents not obtaining permits because of the NPS prohibition against subsistence fishing in Lake Clark by non-local residents (see above). Sockeye salmon harvests by Port Alsworth subsistence permit holders dropped to 1,201 fish, compared to a recent 10-year average of 2,990 sockeyes. The number of permits issued to households with non-Kvichak drainage addresses dropped in 2002 to 33, from 37 in 2001 and 48 in 2000, and the sockeye salmon harvest by these permittees fell to 1,578 fish compared to a recent 10-year average of 2,856. The NPS closure is likely at least partly responsible for this change as well.

In the Nushagak District, the total estimated subsistence harvest in 2002 was 44,897 salmon. The recent 10-year average is 49,499. The Nushagak chinook harvest in 2002 of 11,760 was about the same as 2001 (11,760) but still below the recent 10-year average of 13,529 chinook. The sockeye harvest of 22,777 was below the 10-year average (26,106) and the 20-year average

(31,852). In 2002, subsistence salmon harvests in several Nushagak District communities were substantially lower than recent averages, most notably Ekwok and Koliganek.

The estimated total subsistence salmon harvest for the Togiak District in 2002 of 3,878 fish was lower than both the recent 10-year average (4,401) and the 20-year average (5,135). This may reflect less participation in the harvest reporting program than in other recent years rather than an actual drop in subsistence harvests. The estimated subsistence harvest in the Ugashik District in 2002 was 1,821, lower than the 10-year average of 2,234. In the Egegik District, the estimated subsistence salmon harvest of 2,359 was down from the estimate of 3,653 salmon for 2001 and was lower than the recent ten-year average of 3,464 salmon.

OTHER SUBSISTENCE FISHERIES

There were no annual harvest assessment programs in the Bristol Bay Area for non-salmon subsistence fisheries in 2002.[1] The following overview derives primarily from a report that the Division of Subsistence, ADF&G, prepared for the Alaska Board of Fisheries in November 1997 (Fall and Chythlook 1997).

Subsistence Regulations

The Alaska Board of Fisheries has determined that all finfish of the Bristol Bay Management Area support customary and traditional uses (5 AAC 01.336). The Board determined that approximately 250,000 pounds (usable weight; about 41 pounds per person) is the amount necessary to provide for these uses. This amount was based upon estimates of fish harvests derived from systematic household surveys conducted by the Division of Subsistence (Scott et al. 2001). Amounts for specific species or more specific stocks were not established.

For the most part, subsistence fishing for fish other than salmon and rainbow trout is open year-round in the Bristol Bay Area with gear listed in 5 AAC 01.010(a). There are no seasonal limits established by regulation. The following regulations apply to subsistence fishing for fish other than salmon in the area.

- A permit is required for harvesting trout and char (5 AAC 01.330). However, the department has no program for issuing such permits, and virtually all subsistence fishing for these resources takes place without permits.
- Rainbow trout taken incidentally in other subsistence net fisheries or through the ice are lawfully taken and may be retained for subsistence uses (5 AAC 01.310(g)).
- Subsistence fishing with a line attached to a rod or pole is prohibited except when fishing through the ice (5 AAC 01.320(l)).
- Subsistence fishing with nets is prohibited in 18 waters of the Kvichak/Iliamna Lake drainage and within one-fourth mile of the terminus of those waters from September 1 through June 14.

[1] Beginning in 2003, subsistence fishing for rainbow trout in the Bristol Bay Area under federal subsistence regulations required a federal permit. When available, any harvest data resulting from that permit program will be included in future annual reports.

Subsistence Harvests and Uses

A detailed description of subsistence uses of freshwater fish in the Bristol Bay Area appears in Fall et al. (1996). Wright and Chythlook (1985) describe uses of herring spawn on kelp in the Togiak District. Harvests of fish other than salmon contribute about 10 percent of the annual subsistence harvests of wild foods in the Bristol Bay region, about 42.5 pounds per person. In the villages, the per capita harvest is 72.6 pounds per person (Fall and Chythlook 1997).

Subsistence harvests of fish other than salmon are not annually monitored by the Department of Fish and Game. Harvest and use data are available for most communities through Division of Subsistence household harvest surveys (Scott et al. 2001; BBNA and ADF&G 1996; Kenner et al. 2003). Some of the findings of this research regarding non-salmon fish are summarized in Table VI-4. The vast majority of households in the Bristol Bay area use fish other than salmon for subsistence purposes. Most households also participate in the harvest of these fish. Harvests as measured in pounds useable weight per person for available study years vary from community to community, but are generally substantial. Harvests range from a low of 12 pounds per person (Port Alsworth in 1983) to 175 pounds per person (Nondalton in 1983). Harvests in nine communities exceeded 50 pounds per person per year; these harvests exceeded 20 pounds per person per year in an additional eight communities. Fish other than salmon generally rank third behind salmon and land mammals in their contribution to the total subsistence harvests in Bristol Bay communities.

Harvests and uses of the non-salmon fish listed in Table VI-5 have been documented in Bristol Bay communities through Division of Subsistence research. Uses of other species may occur.

Harvest quantities of particular species vary between communities, subregions, and from year to year. Generally, fish taken in the largest quantities in the area as a whole include smelt, whitefish, Dolly Varden, grayling, and pike (see Fall et al. 1996 for a summary of harvest data).

In the Bristol Bay Area, harvests of non-salmon finfish occur throughout the year. Harvest effort for these fish is generally lower among Bristol Bay residents in the summer as attention is focused on salmon. Spring is important for herring, herring spawn-on-kelp, and smelt. Substantial harvests of non-salmon fish occur through the ice in winter. Smelting is a popular activity in October and in late winter when they can be caught by jigging through the ice. Halibut are mostly taken in June and July (Wright et al. 1985:34).

Many gear types are used to harvest non-salmon fish for home use in the Bristol Bay Area. Rod and reel is used for most fish and some, such as Dolly Varden/Arctic char, herring, and other marine fish are removed from commercial catches. Various other methods are used, including (but not necessarily limited to) the following:

- Traps: blackfish, burbot
- Set hooks: burbot
- Handline jigging through the ice: grayling, Dolly Varden/Arctic char, lake trout, smelt, rainbow trout, whitefish, pike

- Set gill nets: grayling, Dolly Varden/Arctic char, lake trout, suckers, rainbow trout, herring, pike, burbot, whitefish
- Beach seining: Dolly Varden/Arctic char, lake trout, smelt, herring, whitefish
- Hand line in open water: halibut, rainbow trout
- Dip nets: smelt, herring

Herring spawn on kelp is usually picked by hand, although rakes, knives, and *uluaqs* (woman's knife) are also used (Schichnes and Chythlook 1988:127).

Maps of areas used by Bristol Bay communities to harvest non-salmon fish appear in the Alaska Habitat Management Guide Reference Atlas Series (ADF&G 1985), and in Wright et al. (1985). Harvest activities occur throughout in region in most rivers, lakes, and along shorelines. It is likely that most effort occurs near each community and near seasonal camps at such locations as Kulukak. (See Wright and Chythlook (1985) and Schichnes and Chythlook (1988) for maps of herring camps at Kulukak Bay.) For frequency of use of various areas for freshwater fishing by Nushagak River communities, see Schichnes and Chythlook (1991) and by Togiak and Manokotak, see BBNA and ADF&G (1996).

Bristol Bay residents use a wide variety of methods to process and preserve their harvests of fish other than salmon. These vary by species and community. Some freezing of harvests of most species occurs. Some examples of other methods include the following:

- Grayling: dried, half-dried, fresh frozen, aged frozen and eaten with seal oil
- Dolly Varden: dried, smoked, half dried (*egamaarrluk*)
- Pike: dried, half-dried, fresh frozen, aged frozen and eaten with seal oil
- Rainbow trout: dried, half dried, smoked
- Whitefish: dried, fresh frozen, aged frozen and eaten with seal oil

Much dry fish is eaten with seal oil. Some use of brown bear fat with dry fish also occurs. Smelt are fried, boiled, dried, or eaten frozen with seal oil (Fall et al. 1986:100). Herring are salted, or split, dried, and smoked (Schichnes and Chythlook 1988:126). Pike heads and stomachs are boiled and eaten (Schichnes and Chythlook 1991:139). Freshwater fish that are usually eaten frozen with seal oil also form a category called *kumlaneq*. This includes grayling, whitefish, and pike (Fall et al. 1986:102).

Much traditional knowledge is associated with subsistence uses of nonsalmon fish in the Bristol Bay area. For example, a Yup'ik classification system for some types of freshwater fish exists that is different from that developed by Western science. Three kinds of fish separately named in Central Yup'ik all are classed by biologists as "Dolly Varden." Distinctions are made in Yup'ik depending upon the condition of the flesh for aging, freezing, and/or drying; harvest locations; and harvest methods (Fall et al. 1996). The Division of Subsistence of ADF&G has compiled a database with traditional knowledge about the fish of Bristol Bay based on interviews with area residents (ADF&G 2001).

Table VI-1. Subsistence salmon harvest by species, in numbers of fish, by district and location fished, Bristol Bay, 2002. [a]

Area and River System	Permits Issued [b]	Estimated Number of Salmon Harvested					
		Sockeye	Chinook	Chum	Pink	Coho	Total
NAKNEK-KVICHAK DISTRICT	471	52,805	837	909	1,137	943	56,632
Naknek River [c]	290	19,297	692	517	717	607	21,830
Kvichak River/Iliamna Lake:	180	33,001	134	388	420	337	34,280
Alagnak (Branch) River	3	35	0	0	0	0	35
Chekok	1	288	0	0	0	0	288
Igiugig	11	2,042	8	13	1	5	2,069
Iliamna Lake	28	3,913	3	0	0	0	3,917
Kijik	4	150	0	0	0	0	150
Kokhanok	28	10,221	32	21	10	16	10,300
Kvichak River	9	427	3	2	9	15	456
Lake Clark: General	28	2,365	0	0	0	0	2,365
Levelock	5	519	0	300	400	300	1,519
Newhalen River	40	6,634	88	52	0	0	6,774
Pedro Bay	15	2,590	0	0	0	0	2,590
Port Alsworth	6	422	0	0	0	0	422
Six Mile Lake	14	3,395	0	0	0	0	3,395
Naknek or Kvichak Unspecified	6	507	11	4	0	0	522
EGEGIK DISTRICT [d]	53	1,892	65	34	12	356	2,359
UGASHIK DISTRICT [e]	23	1,294	51	14	2	460	1,821
NUSHAGAK DISTRICT	520	22,777	11,281	5,096	1,179	4,565	44,897
Wood River [f]	117	4,377	1,411	370	188	612	6,957
Lower Nushagak River [g]	39	1,285	1,217	383	78	156	3,119
Upper Nushagak River [h]	74	3,346	4,104	2,540	10	490	10,489
Dillingham Beaches [i]	232	7,963	3,598	1,505	785	2,671	16,522
Nushagak Bay Commercial [j]	66	2,556	717	260	93	496	4,121
Igushik/Snake River	30	3,029	213	29	2	129	3,402
Nushagak, Site Unspecified	5	221	22	9	23	12	287
TOGIAK DISTRICT [k]	36	2,319	703	605	10	241	3,878
TOTAL BRISTOL BAY	1,093	81,088	12,936	6,658	2,341	6,565	109,587

[a] Harvests are extrapolated for all permits issued, based on those returned and on the area fished as recorded on the permit. Due to rounding, the sum of columns and rows may not equal the estimated total. Of 1,093 permits issued for the management area, 994 were returned (90.9%).

[b] Sum of sites may exceed district totals, and sum of districts may exceed area total, because permittees may use more than one site.

[c] Includes Mile 5 North, Naknek River General, Powerline-North, North and South Savonoski, South Naknek Beach, and Telephone Point-North.

[d] Includes Egegik river and beach

[e] Includes Pilot Point and Ugashik

[f] Includes Dragnet, Aleknagik, Muklung River, Red Bluff, and Upper and Lower Wood River General

[g] Includes Black Point, Grassy Island, and Lewis Point

[h] Includes Ekwok, Kokwok River, New Stuyahok, Koliganek, Mulchatna River, and Portage Creek

[I] Includes Bradford Point, City Dock, Kanakanak, Scandinavia, Skinner, Snag Point, and Squaw Creek

[j] Includes Clark's Point, Ekuk, Etolin Point, Nushagak Point, Protection Point, and Queen's Slough.

[k] Includes Togiak village and Togiak River

Table VI-2. Historic Subsistence Salmon Harvests: Bristol Bay Management Area, 1979 - 2002[1]

	Permits		Estimated Salmon Harvest					
YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1979	829		10,300	116,500	7,300	7,700	500	142,300
1980	1,243		14,100	168,600	7,300	13,100	10,000	213,100
1981	1,121		13,000	132,100	12,200	11,500	2,600	171,400
1982	806		13,700	110,800	11,500	12,400	8,600	157,000
1983	829	674	13,268	143,639	7,477	11,646	1,073	177,104
1984	882	698	11,537	168,803	16,035	13,009	8,228	217,612
1985	1,015	808	9,737	142,755	8,122	5,776	825	167,215
1986	930	723	14,893	129,487	11,005	11,268	7,458	174,112
1987	996	866	14,424	135,782	8,854	8,161	673	167,894
1988	938	835	11,848	125,556	7,333	9,575	7,341	161,652
1989	955	831	9,678	125,243	12,069	7,283	801	155,074
1990	1,042	870	13,462	128,343	8,389	9,224	4,455	163,874
1991	1,194	1,045	15,245	137,837	14,024	6,574	572	174,251
1992	1,203	1,028	16,425	133,605	10,722	10,661	5,325	176,739
1993	1,206	1,005	20,527	134,050	8,915	6,539	1,051	171,082
1994	1,193	1,019	18,873	120,782	9,279	6,144	2,708	157,787
1995	1,119	990	15,921	107,717	7,423	4,566	691	136,319
1996	1,110	928	18,072	107,737	7,519	5,813	2,434	141,575
1997	1,166	1,051	19,074	118,250	6,196	2,962	674	147,156
1998	1,234	1,155	15,621	113,289	8,126	3,869	2,424	143,330
1999	1,219	1,157	13,009	122,281	6,143	3,653	420	145,506
2000	1,219	1,109	11,547	92,050	7,991	4,637	2,599	118,824
2001	1,226	1,137	14,412	92,041	8,406	4,158	839	119,856
2002	1,093	994	12,936	81,088	6,565	6,658	2,341	109,587
1998-2002 Average	1,198	1,110	13,505	100,150	7,446	4,595	1,725	127,421
1991-2002 Average	1,182	1,052	15,972	113,394	8,443	5,519	1,840	145,168
All Years Average	1,074	946	14,234	124,514	9,121	7,786	3,110	158,764

[1] Data for 1983 through 1998 may differ from data previously reported in annual management reports. The number of permits issued and returned has been updated. Also, data have been expanded to reflect community of residence of permit holders.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.30.

Table VI-3. 2002 Subsistence Harvests by Community and Species: Bristol Bay Management Area

Community	Permits Issued	Permits Returned	Estimated Subsistence Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Aleknagik	21	18	306	1,082	72	57	0	1,517
Clarks Point	13	10	176	553	165	20	51	963
Dillingham	331	299	5,595	12,070	3,588	2,072	1,051	24,376
Egegik	18	15	12	468	406	13	4	902
Ekwok	21	21	1,049	1,044	111	522	9	2,735
Igiugig	8	8	8	2,138	5	13	1	2,165
Iliamna	36	34	79	4,674	15	0	0	4,769
King Salmon	89	82	165	4,486	199	106	97	5,052
Kokhanok	29	26	19	10,150	6	15	7	10,196
Koliganek	16	15	1,155	659	19	1,263	1	3,098
Levelock	7	7	1	700	303	304	409	1,717
Manokotak	26	25	224	2,874	128	27	2	3,254
Naknek	104	86	266	9,647	299	253	445	10,909
New Stuyahok	35	33	2,571	2,265	344	1,074	11	6,265
Newhalen	18	18	0	5,125	0	0	0	5,125
Nondalton	20	17	0	5,508	0	0	0	5,508
Pedro Bay	15	15	0	2,687	0	0	0	2,687
Pilot Point	7	7	19	397	218	2	1	637
Port Alsworth	22	20	1	1,403	0	0	0	1,404
Portage Creek	1	1	78	42	0	13	0	133
South Naknek	40	35	207	2,990	190	142	152	3,680
Togiak	35	34	718	2,358	241	605	10	3,932
Ugashik	5	5	16	362	132	9	0	519
Bristol Bay Subtotal	917	831	12,663	73,681	6,440	6,510	2,249	101,543
Anchorage	89	82	149	3,735	68	109	20	4,080
Aniak	1	1	0	2	12	0	23	37
Bethel	1	1	0	0	0	0	0	0
Chugiak	7	7	4	516	27	2	29	578
Cooper Landing	2	0						
Craig	1	1	0	50	0	0	0	50
Eagle River	7	7	19	430	1	0	0	450
Fairbanks	10	10	9	354	0	1	0	364
Healy	1	1	0	0	0	0	0	0
Homer	6	5	7	644	0	10	1	662
Juneau	3	3	2	14	0	0	0	16
Kasilof	2	2	7	15	2	3	3	30
Kenai	4	4	1	221	0	0	0	222

continued

Table VI-3. 2002 Subsistence Harvests by Community and Species: Bristol Bay Management Area, continued

	Permits		Estimated Subsistence Salmon Harvest					
Community	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Kodiak (city)	7	6	2	84	0	1	0	88
Kotzebue	1	1	12	56	0	4	0	72
Moose Pass	1	1	0	0	0	0	0	0
Nikiski	1	1	0	49	5	1	2	57
Ninilchik	1	1	6	27	0	1	1	35
Nome	1	1	0	22	0	0	0	22
North Pole	1	1	0	30	1	0	10	41
Palmer	5	4	5	280	0	0	0	285
Paxson	1	1	6	93	0	4	1	104
Petersburg	1	1	0	0	0	0	0	0
Sand Point	1	1	3	41	0	7	0	51
Seward	1	1	0	58	0	2	0	60
Sitka	2	1	0	0	0	0	0	0
Soldotna	3	3	1	51	0	2	0	54
Talkeetna	1	1	0	0	0	0	0	0
Valdez	1	1	0	0	0	0	0	0
Wasilla	13	13	39	635	9	1	2	686
Other, Subtotal	176	163	272	7,407	125	147	92	8,044
Area Totals	1,093	994	12,936	81,088	6,565	6,658	2,341	109,587

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table VI-4. Uses and Harvests of Fish Other Than Salmon, Bristol Bay Communities[1]

Community and Year	Percentage of Households					Average Pounds Harvested	
	Use	Fish for	Harvest	Receive	Give	Per Household	Per Person
Aleknagik 89	94.7	89.5	89.5	73.7	71.1	208.3	61.4
Clark's Point 89	94.1	82.4	82.4	82.4	70.6	113.4	34.4
Dillingham 84	75.0	56.2	54.9	39.9	19.6	51.6	17.5
Egegik 84	64.0	60.0	60.0	24.0	40.0	36.5	15.7
Ekwok 87	75.9	72.4	62.1	62.1	37.9	229.4	68.6
Igiugig 92	100.0	100.0	100.0	80.0	80.0	392.0	100.5
Iliamna 91	87.0	73.9	73.9	65.2	43.5	249.7	76.6
King Salmon 83			76.7			48.1	15.9
Kokhanok 92	91.7	86.1	86.1	72.2	61.1	469.9	105.7
Koliganek 87	92.9	81.0	81.0	69.0	57.1	369.7	95.3
Levelock 92	90.0	76.7	73.3	76.7	63.3	186.6	65.9
Manokotak 99	86.4	77.8	76.5	76.5	75.3	163.8	37.3
Naknek 83			75.0			58.0	18.6
New Stuyahok 87	100.0	85.0	82.5	82.5	62.5	171.9	36.0
Newhalen 91	100.0	96.2	92.3	73.1	46.2	185.1	37.6
Nondalton 83		90.5	90.5	23.8		906.4	174.6
Pedro Bay 96	76.9	53.8	53.8	53.8	30.8	85.6	25.9
Pilot Point 87	94.1	94.1	94.1	35.3	58.8	55.8	15.5
Port Alsworth 83		61.5	61.5	7.7		42.0	11.6
Port Heiden 87	91.9	62.2	62.2	70.3	45.9	32.6	11.7
South Naknek 92	85.7	77.1	74.3	68.6	48.6	64.4	20.1
Togiak 99	89.0	83.5	83.5	56.6	66.4	185.1	44.8
Twin Hills 99	91.7	91.7	91.7	75.0	91.7	302.9	101.0
Ugashik 87	100.0	100.0	100.0	0.0	40.0	72.2	36.1

[1] Information for the most recent year for which data are available.

Source: Scott et al. 2001; BBNA and ADF&G 1996; Kenner et al. 2003

Table VI-5. Nonsalmon Finfish Known to be Used for Subsistence Purposes in the Bristol Bay Area

Common English Name	Scientific Name	Yup'ik Name	Dena'ina Name
Arctic Grayling	*Thymallus arcticus*	*Nakrullugpak* *Culugpauk*	*Ch'dat'an*
Blackfish	*Dallia pectoralis*	*Can'giiq*	*Huzhegh*
Burbot	*Lota lota*	*Manignaq*[a] *Atgiaq*[b]	*Ch'unya*
Dolly Varden[c]	*Salvelinus malma*	*Yugyaq*[d] *Anerrluaq* *Anyuk*	*Qak'elay*
Lake Trout	*Salvelinus namaycush*	*Cikignaq*	*Zhuk'udghuzha*
Longnose Sucker	*Catosomus catostomus*	*Cungartak*	*Duch'ehdi*
Northern Pike	*Esox lucius*	*Cuukvak*	*Ghelguts'i*
Rainbow Smelt	*Osmerus mordax*	*Iqalluaq*	
Rainbow Trout	*Oncorhynchus mykiss*	*Talaariq*	*Tuni*
Broad Whitefish[e]	*Coregonus nasus*	*Akakiik*	*Telay*
Humpback Whitefish[e]	*Coregonus pidschian*	*Uraruq*	*Q'untuq'*
Round Whitefish[e]	*Prosopium cylindraceum*	*Uraruq*	*Hesten*
Least Cisco	*Coregonus sardinella*	*Cavirrutnaq*	*Ghelguts'i k'una*
Herring, Pacific	*Clupea harengus pallasi*	*Iqalluarpak*	
Herring Spawn on Kelp		*Melucuaq*	
Starry Flounder	*Platichthys stellatus*	*Naternaq*	
Halibut	*Hippoglossus stenolepis*	*Naternarpak*	
Pacific Cod	*Cadus macrocephalus*	*Ceturrnaq*	
Sculpin	Unknown	*Kayutaq*	
Capelin	*Mallotus villosus*	*Cikaaq*	
Yellowfin Sole	*Limanda aspera*	*Sagiq*	

[a] Nushagak River villages.

[b] Manokotak, Aleknagik, Twin Hills, Togiak.

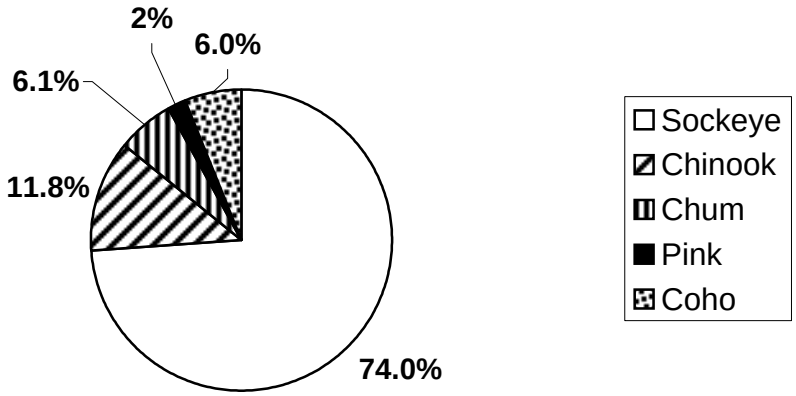
[c] Also includes the closely related Arctic char, *Salvelinus alpinus*.

[d] At Togiak, Manokotak, and Aleknagik, and perhaps elsewhere, there are three Yup'ik names for Dolly Varden/Arctic char. *Yugyak* probably refers to resident Dolly Varden/char. *Anerrluak*, called "Togiak trout" in the local English dialect, probably refers to anadromous fish taken in fresh water. Finally, *anyuk* or "sea run dollies" are Dolly Varden or char taken in salt water. See Fall et al. 1996:16-20 for further discussion of these distinctions.

[e] Broad whitefish are rare to absent in the Bristol Bay region. "*Akakiik*" is the word used at Aleknagik and Manokotak to refer to whitefish they receive from Kuskokwim River communities, where broad whitefish are common. Humpback whitefish are caught in the Iliamna Lake subregion and called "*uraruq*." "*Uraruq*" is used for round whitefish in the Togiak and Nushagak drainages.

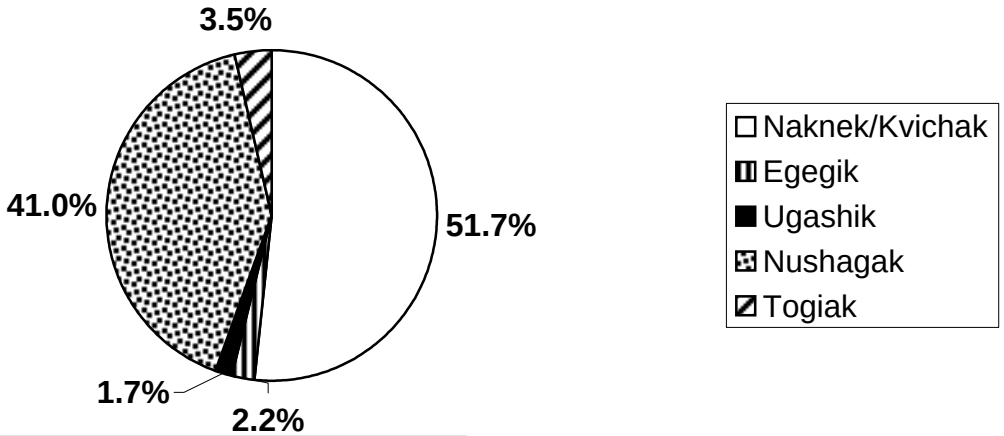
Source: Fall et al. 1996

Figure VI-1. Composition of Bristol Bay Area Subsistence Salmon Harvest by Species, 2002



N = 109,587 salmon, based on annual harvest assessement program with subsistence permits

Figure VI-2. Subsistence Salmon Harvests by District, Bristol Bay Management Area, 2002



N = 109,587 salmon, based on annual harvest assessement program with subsistence permits

VII. CHIGNIK AREA

BACKGROUND

The Chignik Management Area includes all waters of Alaska on the south side of the Alaska Peninsula enclosed by 156°20.22' west longitude (the longitude of the southern entrance to Imuya Bay near Kilokak Rocks) and a line extending 135° southeast from the tip of Kupreanof Point. The communities of the Chignik Area are Chignik (also called Chignik Bay) (estimated population 79 in 2000), Chignik Lagoon (population 103), Chignik Bay (population 145), Ivanof Bay (population 22), and Perryville (population 107) (US Census Bureau 2001). All of these communities are within the Lake and Peninsula Borough.

In the early 1990s, the Division of Subsistence of ADF&G conducted detailed research on patterns of subsistence use of fisheries resources in the Chignik Management Area. The research findings are summarized in Hutchinson-Scarbrough and Fall (1996). More recent updates with more detail on subsistence uses of salmon by Perryville residents are also available (Hutchinson-Scarbrough and Fall 1999; ADF&G 2002a).

REGULATIONS

A subsistence permit is required for fishing within the Chignik Management Area, which must be used to record daily salmon harvests. Permits must be returned to the department by December 31. There is a 250 salmon annual limit. Legal gear includes seine and gillnets. Purse seines may not be used in Chignik Lake. There is no closed season for subsistence salmon fishing. However, commercial fishing license holders may not subsistence fish for salmon from 48 hours before the first commercial salmon fishing opening through September 30. Salmon may not be taken in the Chignik River upstream from the department weir site or counting tower, in Black Lake, or any tributary to Black and Chignik lakes.

By emergency order, ADF&G announced a special subsistence fishing opening for commercial fishing license holders from 8 a.m. until 8 p.m. daily beginning Wednesday June 26 and ending Saturday June 29, 2002. This action as taken because of a new management strategy for commercial fishing in 2002 (a cooperative commercial fishery operated for the first time in the Chignik Area in 2002), slow movement of fish prior to the first open commercial fishing period, and adverse weather conditions the prevented subsistence fishing opportunities before the first commercial fishing period.

HARVEST ASSESSMENT PROGRAM

The Division of Commercial Fisheries conducted the first subsistence salmon fisheries harvest assessment in the Chignik Area in 1976. Subsistence harvest assessments for salmon have been conducted annually since then. The Division of Subsistence took over responsibility for running the harvest assessment program in 1993. Permits are issued on request in each community. The method of permit issuance in the communities varies by community and year, depending on the availability of vendors and other arrangements in place with local organizations. Permits are

also issued on request at the Chignik River fish weir by Division of Commercial Fisheries seasonal staff.

Chignik subsistence salmon permits must be returned by mail to the Division of Subsistence office in Anchorage by December 31. Permits include a harvest report that fishers are required to complete. The report asks for the dates fished, the specific locations fished, and the number of each species of salmon caught on each day. Non-responses are followed up with reminder letters, and phone calls are made where phone numbers are known if further follow-up is required. Also, face-to-face household interviews have been conducted since 1997 to collect harvest information from households that do not obtain permits and to add late season harvest information not recorded on permits. Local survey technicians attempt to contact all households in the Chignik area. The surveys are generally conducted during January, February, and March. Respondents are asked questions similar to those on the permit, but additional questions regarding late season harvests and whether or not their subsistence needs were met are also asked.

In 1993, the Division of Subsistence, ADF&G, obtained copies of all available subsistence permits for the Chignik Management Area from the Division of Commercial Fisheries archive in Kodiak. Permits issued prior to 1980 and for 1987 could not be located. All permit data were entered into a database. The estimated harvests developed in this database and reported in subsequent AMRs differ slightly from that reported in earlier AMRs for several reasons. There are small discrepancies in some years for the number of permits issued or returned. Estimated harvests in earlier AMRs were based on a simple expansion from harvests reported on returned permits to the total number of permits issued. Since 1993, harvest data from returned permits have been expanded by community of residence to estimate the harvest by all permit holders. Data from returned permits are tabulated by species and fishing area. Increases in permits issued and returned beginning in 1993, and consequently higher harvest estimates, reflect the use of local vendors to issue permits and post-season surveys by department staff and local research assistants.

Comparisons of household survey data and permit data collected for 1984 and 1989 suggested that permit data underestimated subsistence harvests in the Chignik Area subsistence salmon fishery (Hutchinson-Scarbrough and Fall 1996:27). With the assistance of local permit vendors, research assistants, and local governments, subsistence salmon harvest assessments for most recent years, with some exceptions, hare resulted in more reliable estimates of the total harvest.

SUBSISTENCE SALMON HARVESTS IN 2002

Since 1980, the number of subsistence salmon permits issued for the Chignik Area has averaged 100 per year, with 65.1 percent returned. Since 1993, the average has been 137 permits issued and 76.2 percent returned. The recent 5-year average (1998 through 2002) is 119 permits issued, and 80.7 percent returned. In 2002, 120 permits were issued and 86 were returned (71.7 percent) (Table VII-1). Of all permits issued for 2002, 102 (85 percent) were issued to residents of Chignik Area communities, and 18 (15 percent) were issued to residents of other Alaska communities (Table VII-2).

In 2002, the estimated subsistence salmon harvest for the Chignik Area was 11,980 fish (Table VII-1). This was slightly above the long-term average (11,141 salmon) but lower than the average since 1993 (14,523 salmon). The 2002 subsistence harvest was made up of 84.2 percent sockeye, 11.7 percent coho, 3.3 percent pink, 0.6 percent chinook, and 0.2 percent chum salmon (Fig. VII-1). The relative contribution of sockeye salmon to the total subsistence harvest in the Chignik Area was particularly high in 2002 compared to other recent years, and reflects a lower than average harvest of coho, pink, and chum salmon. Of the total harvest, local residents took 10,216 salmon (85.3 percent) and other Alaska residents harvested 1,764 salmon (14.7 percent) (Table VII-2; Fig. VII-2).

In 2002, the largest number of salmon (6,583; 54.9 percent) was harvested in Chignik Bay and Chignik Lagoon (Table VII-3). Most of this harvest was sockeyes (96.1 percent). Subsistence harvests in the Perryville and Western districts numbered 1,946 salmon (16.2 percent), with most of this coho (59.6 percent), accounting for most of the Area's subsistence harvest of coho and pink salmon. Estimated subsistence harvests in Chignik Lake totaled 3,451 salmon (28.8 percent), mostly sockeye salmon. This total includes spawning sockeye salmon, locally called "redfish," which are harvested in the fall and early winter.

OTHER CHIGNIK AREA SUBSISTENCE FISHERIES

Although state regulations require a subsistence permit for harvesting trout and char, there are no annual harvest assessment programs for the other subsistence fisheries of the Chignik Area. The Alaska Board of Fisheries, in an update of its customary and traditional use finding in January 2002, has identified subsistence uses of all finfish in the Chignik Area. Table VII-4 lists the finfish other than salmon for which subsistence uses have been documented through systematic household interviews.

For purposes of subsistence shellfish management, the Chignik Finfish Management Area is within the Alaska Peninsula – Aleutian Islands Area. The Alaska Board of Fisheries has identified subsistence uses of all shellfish stocks in the Alaska Peninsula – Aleutian Islands Area. There are no subsistence harvest assessment programs for these shellfish stocks in the Chignik Area. Table VII-5 lists the shellfish for which subsistence uses have been documented through systematic household interviews.

The reader should consult Morris 1987, Fall et al. 1995, Hutchinson-Scarbrough and Fall 1996, and ADF&G 2002a for more background on these subsistence fisheries for nonsalmon finfish and for shellfish. For harvest estimates based on systematic household interviews, see the Division of Subsistence Community Profile Database (Scott et al. 2001).

Table VII-1. Historic Subsistence Harvests of Salmon, Chignik Management Area, 1976 - 2002

	Number of Permits		Percentage	Estimated Number	Percentage	Estimated Harvests					
Year	Issued	Returned	Returned	Fished	Fished	Chinook	Sockeye	Coho	Pink	Chum	Total
1976						100	6,000	1,500	500	150	8,250
1977						50	9,700	2,400	1,800	600	14,550
1978						50	6,000	500	2,100	600	9,250
1979						14	7,750	34	262	0	8,060
1980	82	37	45.1%	70.0	85.4%	6	12,475	32	478	169	13,160
1981	29	7	24.1%	18.0	62.1%	0	2,049	0	0	0	2,049
1982	59	15	25.4%	56.0	94.9%	3	8,532	12	2	0	8,548
1983	32	21	65.6%	26.5	82.8%	0	3,078	1,319	1,250	850	6,497
1984	77	64	83.1%	57.7	74.9%	23	8,747	464	330	204	9,768
1985	59	48	81.4%	49.0	83.1%	1	7,177	50	26	25	7,279
1986	74	38	51.4%	70.0	94.6%	4	10,347	205	98	77	10,730
1987	NA	NA	NA	NA	NA	10	7,021	278	204	261	7,774
1988	80	34	42.5%	77.0	96.3%	9	9,073	1,455	54	142	10,733
1989	68	23	33.8%	46.8	68.8%	24	7,552	384	81	147	8,187
1990	72	23	31.9%	62.0	86.1%	103	8,099	210	470	115	8,996
1991	95	58	61.1%	83.0	87.4%	42	11,483	13	275	81	11,893
1992	98	19	19.4%	85.8	87.5%	55	8,648	709	305	145	9,862
1993	202	141	69.8%	163.6	81.0%	122	14,710	3,765	1,265	642	20,503
1994	219	122	55.7%	159.9	73.0%	165	13,978	4,055	1,720	382	20,300
1995	111	95	85.6%	95.2	85.8%	98	9,563	1,191	723	150	11,725
1996	119	104	87.4%	104.1	87.5%	48	7,357	2,126	2,204	355	12,090
1997	126	103	81.7%	118.7	94.2%	28	13,442	2,678	2,035	840	19,023
1998	104	72	69.2%	89.6	86.2%	91	7,750	1,390	1,007	186	10,424
1999	106	88	83.0%	99.1	93.5%	243	9,040	1,679	1,191	136	12,290
2000	130	112	86.2%	111.0	85.4%	163	9,561	1,802	1,185	517	13,227
2001	135	122	90.4%	115.4	85.5%	171	8,633	1,859	2,787	213	13,663
2002	120	86	71.7%	104.5	87.1%	74	10,092	1,401	390	23	11,980
Average	99.9	65.1	65.2%	84.7	84.8%	63	8,809	1,167	842	260	11,141
Average 1993-02	137.2	104.5	76.2%	116.1	84.6%	120	10,413	2,195	1,451	344	14,523
Average 1998-02	119.0	96.0	80.7%	103.9	87.3%	148	9,015	1,626	1,312	215	12,317

Sources: Quimby and Owen 1994:90, for 1976 - 1979 and 1987; Division of Subsistence, ADF&G, Alaska Subsistence Fisheries Database, Version 3.30, for the remaining years.

Table VII-2. Chignik Area Subsistence Salmon Harvests by Species and Community of Residence, 2002

Community of Residence	Permits Issued	Permits Returned	Estimated Number of Salmon Harvested Chinook	Sockeye	Coho	Pink	Chum	Total
Chignik	17	15	9	1,306	170	0	0	1,485
Chignik Lagoon	31	21	32	2,396	68	0	0	2,496
Chignik Lake	23	20	8	2,979	75	0	0	3,061
Ivanof Bay	1	0	0	0	0	0	0	0
Perryville	30	25	11	1,692	1,058	390	23	3,174
Subtotal, Chignik Area Communities	102	81	60	8,373	1,371	390	23	10,216
Anchorage	6	2	6	900	30	0	0	936
Cordova	1	0	0	0	0	0	0	0
Kodiak	6	3	8	820	0	0	0	828
Petersburg	1	0	0	0	0	0	0	0
Seldovia	2	0	0	0	0	0	0	0
Seward	2	0	0	0	0	0	0	0
Subtotal, Other Alaska Communities	18	5	14	1,720	30	0	0	1,764
Grand Total	120	86	74	10,092	1,401	390	23	11,980

Source: ADF&G, Division of Subsistence, Alaska Subsistence Fisheries Database Version 3.30

Table VII-3. Chignik Area Subsistence Salmon Harvests by Species and Subarea of Harvest, 2002

Subarea of Harvest[1]	Estimated Number of Salmon Harvested[2]					
	Chinook	Sockeye	Coho	Pink	Chum	All Salmon
Chignik Bay and Lagoon	40	6,324	219	0	0	6,583
Chignik Lake	28	3,401	22	0	0	3,451
Perryville	6	367	1,160	390	23	1,946
Grand Total	74	10,092	1,401	390	23	11,980

[1] The Chignik Bay/Lagoon Subarea corresponds to the portion of the Chignik Bay District downstream of the ADF&G weir in the Chignik River, and the Central District. The Chignik Lake Subarea includes subsistence harvests above the weir. The Perryville Subarea corresponds to the Perryville and Western districts, including Ivan Bay, Mitrofania Bay, the Kametolook River and other streams near Perryville, and Ivanof Bay. In recent years there have been no subsistence harvests reported for the Eastern District.

[2] Estimated based on extrapolating harvests recorded on returned permits. In 2002, 120 permits were issued and 86 were returned (71.7 percent).

Table VII-4. Finfish Other Than Salmon Used for Subsistence Purposes in Communities of the Chignik Management Area, 1989

Common English Name	Scientific Name	Percentage of Households Using in: Chignik Bay	Chignik Lagoon	Chignik Lake	Ivanof Bay	Perryville
Herring	*Clupea harengus pallasi*	22.9	46.7	28.6	28.6	14.8
Herring Spawn on Kelp	---	14.3	0.0	4.8	0.0	3.7
Pollock	*Theragra chalcogramma*	2.9	0.0	0.0	0.0	0.0
* Rainbow Smelt	*Osmerus mordax*	11.4	0.0	47.6	0.0	0.0
Halibut	*Hippoglossus stenolepis*	88.6	100.0	66.7	100.0	96.3
Rainbow Trout	*Salmo gairdneri*	2.9	0.0	23.8	57.1	7.4
Dolly Varden	*Salvelinus malma*	22.9	6.7	38.1	85.7	55.6
Eulachon (Candlefish)	*Thaleichthys pacificus*	22.9	40.0	33.3	100.0	77.8
Pacific Cod (Gray)	*Gadus macrocephalus*	28.6	60.0	47.6	85.7	63.0
Sculpin	*Hemilepidotus sp.*	11.4	0.0	4.8	0.0	29.6
Starry Flounder	*Platichthys stellatus*	5.7	0.0	19.0	14.3	0.0
Greenling	*Hexagrammos decagrammus*	11.4	0.0	9.5	0.0	29.6
Grayling	*Thymallus arcticus*	0.0	0.0	0.0	14.3	0.0
Black Cod	*Anoplopoma fimbria*	0.0	6.7	4.8	0.0	0.0
Steelhead	*Salmo gairdneri*	0.0	13.3	4.8	0.0	0.0
Black Rockfish	*Sebastes melanops*	0.0	6.7	0.0	0.0	22.2
Red Rockfish	*Sebastes ruberrimus*	2.9	0.0	0.0	0.0	3.7
Any Fish Other Than Salmon		89.0	100.0	86.0	100.0	96.0

* Most likely harvested outside the Chignik Management Area; Chignik area households receive gifts of rainbow smelt from relatives and friends in Pilot Point, Ugashik, and Naknek, among other communities.

Source: Scott et al. 2001; Hutchinson-Scarbrough and Fall 1996

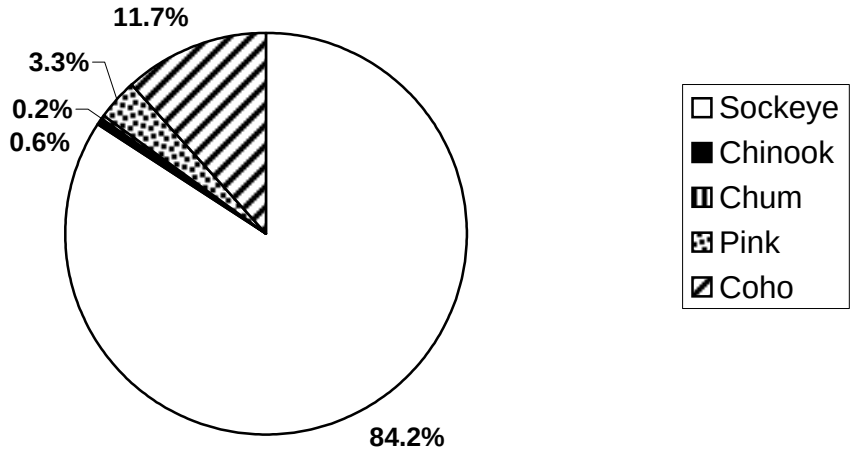
Table VII-5. Marine Invertebrates Used for Subsistence Purposes in Communities of the Chignik Area, 1989

Common English Name	Scientific Name	Percentage of Households Using in: Chignik Bay	Chignik Lagoon	Chignik Lake	Ivanof Bay	Perryville
Razor Clams	*Siliqua patula*	14.3	33.3	23.8	42.9	37.0
Butter Clams	*Saxidomus giganteus*	71.4	66.7	52.4	71.4	40.7
Horse Clams	*Tresus capax*	11.4	0.0	0.0	0.0	3.7
Cockles	*Clinocardium sp.*	37.1	6.7	47.6	100.0	70.4
Pinkneck Clams (redneck)	*Spicula polynuma*	0.0	0.0	0.0	71.4	3.7
Littleneck (Steamer) Clams	*Protothaca staminea**	11.4	0.0	0.0	28.6	11.1
Chitons, Black	*Katharina tunicata*	48.6	26.7	57.1	100.0	92.6
Chitons, Red	*Cryptochiton stelleri*	0.0	0.0	0.0	85.7	11.1
Mussels (blue)	*Mytilus edulis*	8.6	6.7	0.0	14.3	14.8
Octopus	*Octopus dolfleini*	42.9	20.0	47.6	71.4	51.9
Sea Urchins	*Stronglyocentrotus sp.*	28.6	0.0	47.6	100.0	88.9
Sea Cucumber	Unidentified	0.0	0.0	0.0	0.0	3.7
Shrimp	*Pandalus sp.*	8.6	0.0	4.8	0.0	0.0
Scallops	*Pecten caurinus*	2.9	0.0	0.0	0.0	0.0
King Crab	*Paralithades camtschatica*	40.0	20.0	33.3	42.9	0.0
Dungeness Crab	*Cancer magister*	37.1	40.0	47.6	100.0	51.9
Tanner Crab	*Chionoecetes bairdi*	62.9	66.7	14.3	0.0	3.7
Snails	*Neptunea sp.*	2.9	0.0	0.0	0.0	3.7
Limpets	*Acmaeidae sp.*	2.9	0.0	0.0	0.0	3.7
Any Marine Invertebrate		89.0	87.0	81.0	100.0	96.0

* May also include smaller-sized individuals of other species and softshell clams of the genus *Mya*.

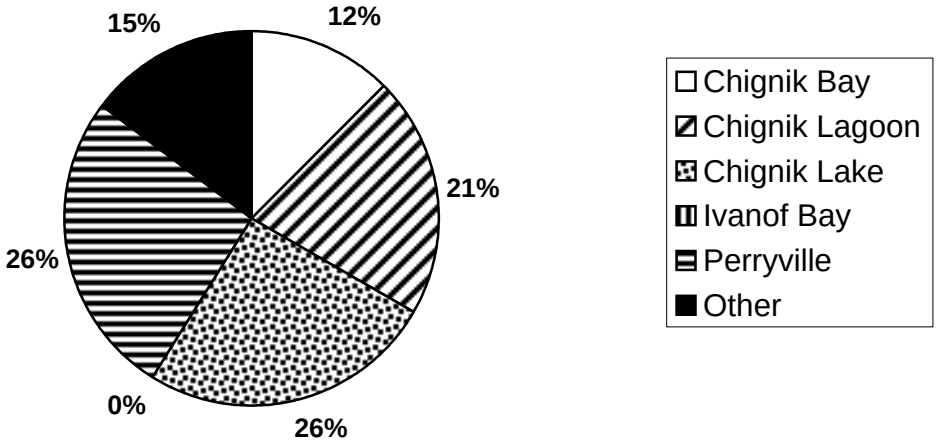
Source: Scott et al. 2001; Hutchinson-Scarbrough and Fall 1996

Figure VII-1. Composition of Chignik Area Subsistence Salmon Harvest by Species, 2002



N = 11,980 salmon, based on annual harvest assessment program with permits and household surveys.

Figure VII-2. Subsistence Salmon Harvests by Community, Chignik Management Area, 2002



N = 11,980 salmon, based on annual harvest assessment program with permits and household surveys.

VIII: ALASKA PENINSULA AREA

BACKGROUND

The Alaska Peninsula Area includes all Pacific Ocean waters of Alaska between a line extending southeast from the tip of Kupreanof Point and the longitude of the tip of Cape Sarichef, and all Bering Sea waters of Alaska east of the longitude of the tip of Cape Sarichef and south of the latitude of the tip of Cape Menshikof. The communities of the Alaska Peninsula Area are Port Heiden (estimated population 119 in 2000), Nelson Lagoon (population 83), False Pass (population 64), Cold Bay (population 88), King Cove (population 792), and Sand Point (population 952) (US Census Bureau 2001). Port Heiden is in the Lake and Peninsula Borough; the other communities are in the Aleutians East Borough (which also includes Akutan in the Aleutian Islands Area).

REGULATIONS

A subsistence permit is required for fishing in the Alaska Peninsula Area, which must be used to record daily harvests. There is a 250 salmon annual limit. Legal gear includes seine and gillnets. Set gillnets may not exceed 100 fathoms in length. Salmon may be taken at any time except within 24 hours before and within 12 hours following each open weekly commercial salmon fishing period within a 50-mile radius of the area open to commercial salmon fishing. A few small areas closed to subsistence salmon fishing are listed in 5 AAC 01.425.

Federal regulations governing subsistence salmon fishing in waters under the jurisdiction of the Federal Subsistence Board were generally identical to the state regulations summarized above, except rod and reel, in addition to gill nets and seines, was legal subsistence gear under federal rules. There was no separate federal subsistence permit; a state permit was required for subsistence fishing under the federal regulations.

HARVEST ASSESSMENT PROGRAM

The Division of Commercial Fisheries of ADF&G has issued subsistence permits for the Alaska Peninsula Area since 1979. Except for residents of Sand Point and Cold Bay, permits are mailed each year to fishers who turned in their permits at the end of the previous fishing season. Sand Point and Cold Bay residents are issued permits on request at the Sand Point and Cold Bay ADF&G offices. Permits are also issued on request at other ADF&G offices and by mail to people who call in and request them. Regulations require that permits be turned in to ADF&G by October 31. Reminder letters are sent around November 1 to people who have not yet returned their permits. If a person does not return the permit, their name is dropped from the mailing list for the next year. Data from returned permits are tabulated by species and fishing area. Harvest data from returned permits are expanded by community of residence to estimate the harvest by all permit holders.

SUBSISTENCE SALMON HARVESTS IN 2002

Since 1985, the number of subsistence salmon permits issued for the Alaska Peninsula Area has averaged 207 per year (Table VIII-1). The recent five-year average (1998 through 2002) was 188 permits. In 2002, 157 subsistence salmon fishing permits were issued for the Alaska Peninsula Area, a sharp decrease from 2001 (185 permits issued) and continuing a downward trend that began in 1999. The response rate was 84.7 percent in 2002 (133 of 157 permits were returned). Of all permits issued, 134 (85.4 percent) were issued to residents of Alaska Peninsula Area communities, and 23 (14.6 percent) were issued to other Alaska communities (Table VIII-2). Most non-local residents fish at Mortensen's Lagoon on the Cold Bay road system.

In 2002, the estimated subsistence salmon harvest for the Alaska Peninsula Area was 15,052 fish. This was a substantial drop from the year before (harvest of 19,912 salmon) and quite lower than the long-term average (19,612 salmon) and the recent five-year average (20,150 salmon) (Table VIII-2). The 2002 subsistence harvest was made up of 62 percent sockeye, 21 percent coho, 11 percent chum, 4 percent pink, and 2 percent chinook salmon (Fig. VIII-1). Of the total harvest, local residents took 13,320 salmon (88.5 percent) and other Alaska residents harvested 1,731 salmon (11.5 percent) (Table VIII-2; Fig. VIII-2).

In interviews with Division of Subsistence staff, fisheries managers stated that in their view, the subsistence permit system does completely document all subsistence salmon harvesting activities because some fishers fail to obtain permits. A comparison of permit and household interview data for 1992 for King Cove found that about 31 percent of interviewed households that reported subsistence fishing did not have permits. The estimated total subsistence salmon harvest for the community based on the interviews was 7,036 (+/-1,773), compared to 5,856 based on permit returns (Fall et al. 1993a:58-62). At Sand Point in the same year, 41 percent of interviewed households who reported that they harvested salmon with subsistence methods did not have permits. The estimated total subsistence salmon harvest for Sand Point based on the interviews was 11,338 (+/-2,551), compared to 7,833 based on permit returns (Fall et al. 1993b:61).

Another limitation is that the subsistence permit system for the Alaska Peninsula Area does not account for salmon withheld from commercial catches for home use. Fisheries managers believe that this number is substantial, especially in years when commercial salmon prices are low. For 1992, it was estimated that 51 percent of the salmon harvested for home use at King Cove and 39 percent at Sand Point were removed from commercial harvests (Fall et al. 1993a:56, Fall et al. 1993b:58).

OTHER SUBSISTENCE FISHERIES

There are no annual harvest assessment programs for the other finfish and shellfish subsistence fisheries of the Alaska Peninsula Area.[1] The Division of Subsistence has conducted one round of systematic household harvest surveys in each of the Area's communities except Cold Bay. The findings of these surveys, including species used, percentage of households harvesting each species in the study year, and estimated harvest quantities for the study year, appear in the

[1] In May 2003, federal regulations authorizing subsistence harvests of halibut in Alaska were finalized. A harvest assessment program for subsistence halibut will be implemented in 2003.

Community Profile Database (Scott et al. 2001). Table VIII-3 reports the percentage of households in the surveyed communities that used selected non-salmon finfish species in the study year. Generally, Pacific cod, halibut, and Dolly Varden/char were used by the most households. Survey data for marine invertebrates will be reported in future annual reports.

Table VIII-1. Historic Subsistence Salmon Harvests, Alaska Peninsula Area, 1985 - 2002

	Permits		Estimated Salmon Harvest					
YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1985	161	95	74	4,037	7,504	1,566	574	13,755
1986	147	84	101	5,396	2,996	1,455	1,779	11,727
1987	191	144	193	5,777	4,259	1,943	1,547	13,719
1988	183	114	257	5,501	5,646	1,692	1,666	14,762
1989	188	139	88	10,404	3,505	2,104	1,213	17,314
1990	201	157	246	8,588	4,029	1,589	736	15,188
1991	249	185	458	11,345	5,551	3,551	1,878	22,783
1992	229	177	385	10,739	4,267	2,574	1,840	19,805
1993	262	215	615	12,478	5,753	1,997	1,189	22,032
1994	256	213	674	11,884	6,086	4,406	2,206	25,256
1995	260	198	492	12,716	5,021	3,369	2,653	24,251
1996	234	178	362	12,176	7,743	2,728	2,569	25,578
1997	217	172	420	15,224	4,612	2,885	2,955	26,096
1998	233	153	407	12,920	5,820	1,326	2,286	22,759
1999	185	148	391	15,119	4,961	2,235	2,136	24,843
2000	180	152	341	9,955	5,239	1,699	950	18,185
2001	185	155	570	12,259	3,940	1,963	1,181	19,912
2002	157	133	345	9,384	3,188	1,603	532	15,052
1998-2002 Average	188	148	411	11,927	4,629	1,765	1,417	20,150
1993-2002 Average	217	172	462	12,411	5,236	2,421	1,866	22,396
All Years Average	207	156	357	10,328	5,007	2,260	1,661	19,612

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table VIII-2. Estimated Subsistence Salmon Harvests, Alaska Peninsula Area, by Community and Species, 2002

	Permits		Estimated Salmon Harvest					
Community	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Bear Lake	1	1	0	115	0	0	0	115
Cold Bay	21	20	0	497	0	15	0	511
False Pass	14	10	32	662	269	78	41	1,082
King Cove	60	52	35	4,385	2,424	415	77	7,336
Nelson Lagoon	4	3	7	187	95	0	0	288
Port Heiden	3	3	120	34	50	6	0	210
Sand Point	31	24	102	2,019	283	1,000	375	3,778
Subtotal: Area Communties	134	113	296	7,899	3,121	1,514	493	13,320
Anchorage	4	3	3	165	60	20	33	281
Eagle River	1	1	0	34	0	3	0	37
Fairbanks	1	1	36	8	0	0	0	44
Girdwood	1	1	0	22	3	0	0	25
Homer	3	3	0	350	0	1	0	351
Kalskag (Upper)	1	0	0	0	0	0	0	0
Kenai	1	0	0	0	0	0	0	0
Kodiak (city)	6	6	2	194	0	13	0	209
Nikolaevsk	1	1	0	177	3	0	0	180
Palmer	2	2	9	411	0	50	4	474
Talkeetna	1	1	0	45	1	2	2	50
Unknown Community	1	1	0	80	0	0	0	80
Subtotal: Other	23	20	50	1,486	67	89	39	1,731
Totals	157	133	345	9,384	3,188	1,603	532	15,052

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table VIII-3. Percentage of Households Using Selected Non-Salmon Finfish, Alaska Peninsula Area Communities

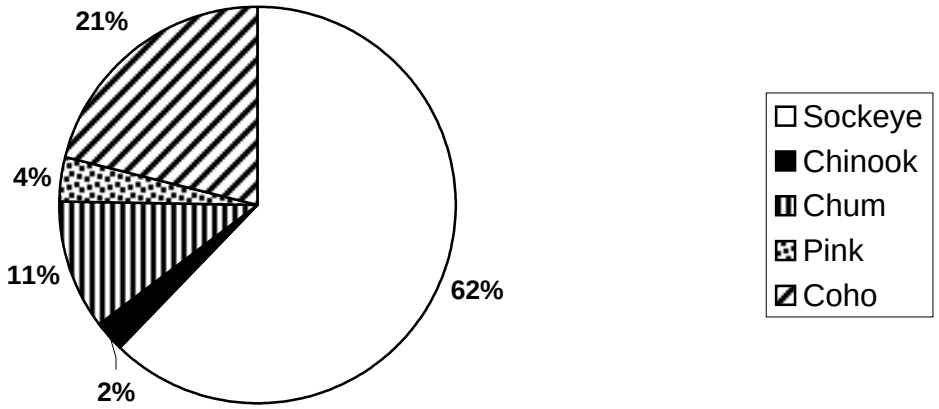
	Percentage of Households Using in Study Year[2]				
Resource[1]	False Pass	King Cove	Nelson Lagoon	Port Heiden	Sand Point
Pacific Cod	65.0%	44.0%	0.0%	2.7%	60.6%
Sablefish	15.0%	8.0%			12.5%
Greenling	10.0%	5.3%			6.7%
Flounder	20.0%	4.0%	7.7%	10.8%	3.8%
Halibut	95.0%	73.3%	0.0%	21.6%	89.4%
Herring	30.0%	22.7%		2.7%	13.5%
Herring Spawn on Kelp	0.0%	2.7%		2.7%	1.0%
Smelt	0.0%	1.3%		48.6%	4.8%
Rockfish	5.0%	36.0%			60.6%
Sculpin	35.0%	6.7%			3.8%
Pollock		2.7%			1.9%
Lake Trout				10.8%	
Dolly Varden/Char	75.0%	66.7%	53.8%	75.7%	51.0%
Rainbow Trout/Steelhead	5.0%	4.0%		2.7%	30.8%

[1] Most commonly used types in the study year; uses of other species occurred, or may occur in other years. Blank cells indicate no data for that resource.

[2] Study year = 1987/88 for False Pass; 1986/87 for Nelson Lagoon and Port Heiden; 1992 for King Cove and Sand Point.

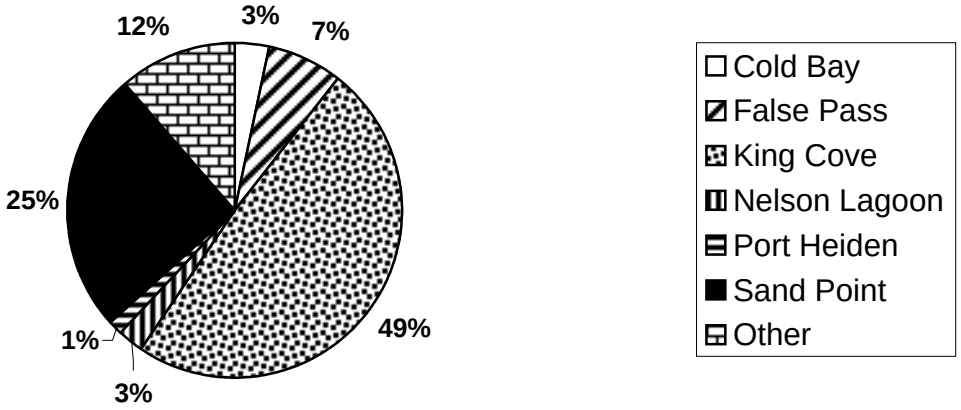
Source: Scott et al. 2001

Figure VIII-1. Composition of Alaska Peninsula Area Subsistence Salmon Harvest by Species, 2002



N = 15,052 salmon; based on annual harvest assessment program with permits.

Figure VIII-2. Subsistence Salmon Harvests by Community, Alaska Peninsula Management Area, 2002



N = 15,052 salmon; Nelson Lagoon includes Bear Lake; based on annual harvest assessment program with permits.

IX. ALEUTIAN ISLANDS AREA

UNALASKA DISTRICT: SUBSISTENCE SALMON FISHERY

Background

The Aleutian Islands Area includes all waters of Alaska west of the longitude of the tip of Cape Sarichef, east of 172° east longitude, and south of 54° 36' north latitude (5 AAC 01.350). For subsistence purposes, the Aleutian Islands Area is divided into five management districts. From east to west, they are the Akutan District, Unalaska District, Umnak District, Atka-Amlia Islands District, and the Adak District. The major communities of the Aleutian Islands Area are Akutan (population 713 in 2000, but 638 live in group quarters [fish processor]; population in households is 75), Unalaska/Dutch Harbor (population 4,283; 2,091 living in households, the remainder in group quarters), Nikolski (population 39), Atka (population 92), and Adak (population 316) (US Census Bureau 2001). Akutan is part of the Aleutians East Borough; the other communities are not part of any organized borough.

The Unalaska District includes all waters west of Akutan Pass to and including Umnak Pass (5 AAC 12.200(b).

Regulations

A permit is required for subsistence salmon fishing in the Unalaska District. Fishers must record their daily harvests on the permit, and return it to ADF&G by October 31. Permit holders may harvest no more than 25 salmon, plus an additional 25 salmon for each member of the same household who are listed on the permit. Also, as specified in 5 AAC 01.380(b)(2), "a permit holder may obtain an additional permit from the department to harvest more salmon." Salmon may be taken from 6 a.m. until 9 p.m. from January 1 through December 31, except from June 1 through September 15, a salmon seine vessel may not be used to take salmon for subsistence purposes 24 hours before, during, or 24 hours after an open commercial fishing period within a 50-mile radius of the area open to commercial fishing. Salmon may be taken by seine or gillnet, but from June 1 through September 15, a purse seine vessel may be used to take subsistence salmon only with a gillnet. Subsistence gillnets must be attended at all times while fishing. Waters with in the Unalaska District that are closed to subsistence fishing for salmon are defined in 5 AAC 01.375.

Harvest Assessment Program

The Division of Commercial Fisheries of ADF&G has issued subsistence salmon harvest permits for the Unalaska District since 1979. Permits are issued only in person at the ADF&G office in Dutch Harbor. Unalaska District permits may be dropped off or mailed back to the ADF&G office in Dutch Harbor at the end of the fishing season. They are required by regulation to be returned by October 31. Reminder letters are sent around the first of November to all permit holders who have not turned in their permits by that time. Data from returned permits are tabulated by species and fishing area. Data from successfully fished permits are then expanded to represent fish taken by all permit holders, including those who did not return permits.

Subsistence Salmon Harvests in 2002

In 2002, 231 subsistence salmon permits were issued for the Unalaska District, slightly above other recent years (recent five-year average of 212 permits) but notably above the long-term average of 148 permits since 1985. The return rate in 2002 was 77.9 percent (180 of 231 permits) (Table IX-1). Individuals with Unalaska/Dutch Harbor addresses obtained 225 permits (97.4 percent) and other Alaska residents obtained the balance, 6 permits (2.6 percent) (Table IX-2).

The estimated subsistence harvest of salmon in the Unalaska District in 2002 was 6,837 fish. This is second-highest annual harvest on record (after the 1986 harvest of 7,139 salmon), well above the long-term average of 4,620 salmon and also higher than the recent five-year average of 5,4,74 salmon. The 2002 subsistence harvest in the Unalaska District was composed of 83.0 percent sockeye, 10.3 percent coho, 5.6 percent pink, 1.0 percent chum, and 0.04 percent chinook (Fig. IX-1). Permit holders with Unalaska/Dutch harbor addresses harvested all but 80 fish (98.8 percent) of the Unalaska District total subsistence catch in 2002 (Table IX-2).

In interviews with Division of Subsistence personnel, ADF&G fisheries managers expressed the view that the permit system covers most subsistence salmon fishing occurring in the Unalaska District. In their view, most subsistence fishers obtain permits. They cite the local presence of Fish and Wildlife Protection officers and a population that is self-enforcing (likely to report violators) as reasons for this belief. Unlike other in other areas, fisheries managers in the Unalaska District feel that commercially caught salmon withheld for subsistence purposes is not a major factor in the Aleutian Islands Area. This is because most commercial fishing occurring in the area is for shellfish and ground fish, not for salmon. Results of a survey of randomly-selected Unalaska households conducted by the Division of Subsistence, found that about 4 percent of all salmon harvested for home use were removed from commercial catches, 62 percent were harvested with noncommercial nets, and 34 percent were taken with rod and reel (Scott et al. 2001).

ADAK DISTRICT

Background

The Adak District of the Aleutian Islands Area consists of waters west of Atka Pass at 175° 23.00’ west longitude to the terminus of the Aleutian Islands.

Until phased out from 1993 to 1996, Adak was the site of a navy base and military community, with a population of 4,633 in 1990. With the base closure complete, the population was estimated at 0 in 1997. Since then, a new civilian community has been established. In 2000, the Alaska Boundary Commission approved Adak’s application to become a second class city. The estimated population in 2000 was 316 (US Census Bureau 2001).

Regulations

Prior to 1988, the non-commercial salmon net fishery at Adak was classified as a subsistence fishery. Beginning in 1988, this fishery operated as a personal use fishery. The Alaska Board of Fisheries reclassified it again as a subsistence fishery beginning in 1998.

Subsistence regulations in place in 2001 required that fishers obtain a permit from ADF&G. Fishers must record their daily harvests on the permit, and return it to ADF&G by October 31. Permit holders may harvest no more than 25 salmon, plus an additional 25 salmon for each member of the same household who are listed on the permit. Also, as specified in 5 AAC 01.380(b)(2), "a permit holder may obtain an additional permit from the department to harvest more salmon." Salmon may be taken at any time. The following waters of and around Adak Island and Kagalaska Island were closed to subsistence fishing for salmon (5 AAC 01.375(6)):

A. all freshwater
B. all salt waters within 100 yards of a stream terminus.

Harvest Assessment Program

Subsistence salmon permits are issued by ADF&G out of the Cold Bay office and are faxed upon request to Adak residents. Permits must be returned by mail or fax to Cold Bay by October 31, after which reminder letters are sent to those who have yet to report their harvests. ADF&G fisheries managers believe that the program provides reliable data on subsistence salmon fishing effort and harvests at Adak.

Subsistence Salmon Harvests in 2002

Only three subsistence salmon permits were issued for the Adak District in 2002, a notable drop from the 13 and 17 permits issued in 2000 and 2001, respectively. All three permits were issued to residents of Adak and all were returned. The estimated harvest was 150 salmon, all sockeyes. This was the lowest total since the reclassification to a subsistence fishery in 1998. For the period 1988 through 1993 during which the navy base operated at Adak, an average of about 49 personal use permits were issued annually. The average annual harvest during that period was 611 salmon. Since the establishment of the civilian population at Adak in 1997, an average of 11.5 personal use/subsistence permits have been issued and the average annual harvest has been 310 salmon (Table IX-3).

OTHER SUBSISTENCE SALMON FISHERIES IN THE ALEUTIAN ISLANDS

Permits are not required for subsistence salmon fishing in the waters fished by the communities of Atka, Akutan, and Nikolski, and there are no annual harvest assessment programs in place. The Division of Subsistence of ADF&G conducted post-season household interviews in Akutan and Nikolski pertaining to 1991 subsistence harvests (all resources), and in Atka pertaining to harvests in 1992 (salmon only) and 1994 (all resources). The results of these interviews for salmon are reported in Table IX-4. Subsistence salmon harvests in Akutan in 1991 totaled 3,268 fish. This harvest consisted primarily of sockeye (1,872 fish), pink (915 fish), and coho (429).

At Nikolski in 1991, subsistence salmon harvests totaled 1,902 fish, with sockeye (957 fish), coho (547 fish), and pink (327 fish) making up most of the total. At Atka in 1992, the subsistence salmon harvest totaled 1,454 fish, composed of about equal numbers of sockeye (502 fish), coho (465 fish), and pink salmon (459). Subsistence salmon harvests at Atka were higher in 1994, with a total of 2,387 fish. A substantially larger harvest of pink salmon in 1994 (1,267) accounted for most of the difference from the 1992 estimates.

OTHER SUBSISTENCE FISHERIES IN THE ALEUTIAN ISLANDS AREA

Finfish

There are no annual harvest assessment programs for the other subsistence finfish fisheries of the Aleutian Islands Area.[1] Permits are required for the taking of trout and char, but no permit system is in place. Fish other than salmon may be taken by gear specified in 5 AAC 01.010(a), except that halibut may be taken only a single handheld line with no more than two hooks attached. The Division of Subsistence has conducted systematic household surveys pertaining to a single year's harvests in Akutan (pertaining to 1991), Atka (1994), Nikolski (1991), Saint George (1994), Saint Paul (1994), and Unalaska/Dutch Harbor (1994). Results, including harvest estimates for finfish and shellfish, can be found in the Community Profile Database (Scott et al. 2001).

Shellfish

Permits for the taking of shellfish for subsistence purposes are only required for king and Tanner crab in the portion of the Alaska Peninsula-Aleutian Islands area west of Scotch Cap Light and east of 168° west longitude. Future annual reports will summarize subsistence harvest data from this permit program. As noted above, estimates of subsistence harvests of all marine invertebrates for single study years based on systematic household surveys are available in the Community Profile Database (Scott et al. 2001).

[1] In May 2003, federal regulations authorizing subsistence harvests of halibut in Alaska were finalized. A harvest assessment program for subsistence halibut will be implemented in 2003.

Table IX-1. Historic Subsistence Salmon Harvests, Unalaska District, 1985- 2002

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1985	65	22	0	897	208	20	1,293	2,418
1986	121	28	0	3,449	847	375	2,468	7,139
1987	81	49	0	1,097	378	151	1,780	3,406
1988	77	45	3	966	390	83	2,627	4,069
1989	74	42	2	1,112	470	36	1,292	2,912
1990	94	37	4	2,357	681	100	1,428	4,570
1991	89	48	0	1,294	666	45	1,075	3,080
1992	144	102	7	2,739	587	11	1,723	5,067
1993	139	102	17	2,831	697	136	587	4,268
1994	150	120	1	2,759	774	48	1,053	4,635
1995	160	129	23	4,484	484	23	791	5,805
1996	189	123	5	1,107	1,033	49	492	2,686
1997	221	163	8	4,192	864	110	554	5,728
1998	206	161	4	3,317	731	26	729	4,807
1999	208	154	0	2,485	1,234	16	1,044	4,779
2000	212	167	10	3,935	603	26	580	5,154
2001	204	165	6	4,202	724	77	784	5,793
2002	231	180	3	5,678	707	65	385	6,837
1998-2002 Average	212	165	5	3,923	800	42	704	5,474
1993-2002 Average	192	146	8	3,499	785	58	700	5,049
All Years Average	148	102	5	2,717	671	78	1,149	4,620

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table IX-2. Estimated Subsisence Salmon Harvests, Unalaska District, by Community and Species, 2002

	Permits		Estimated Salmon Harvest					
Community	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Adak Station	1	1	0	80	0	0	0	80
Anchorage	1	0						
Dutch Harbor	111	86	1	2,387	196	35	65	2,683
Eagle River	1	1	0	0	0	0	0	0
Kodiak (city)	3	2	0	0	0	0	0	0
Unalaska	114	90	1	3,211	510	30	320	4,074
Totals	231	180	3	5,678	707	65	385	6,837

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table IX-3. Estimated Subsistence and Personal Use Harvests of Salmon, Adak District, 1988 - 2002

	Permits[1]		Estimated Harvest in Numbers of Salmon					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1988	43	29	0	503	23	0	150	676
1989	64	47	0	382	0	0	117	499
1990	61	29	0	800	47	0	41	888
1991	37	31	0	281	6	0	34	321
1992	52	41	0	572	30	0	4	606
1993	36	26	0	638	12	0	26	676
1994 [2]	0	0	0	0	0	0	0	0
1995	4	3	0	156	0	0	0	156
1996	6	6	0	91	0	0	0	91
1997 [3]	18	12	0	229	0	4	0	233
1998	13	10	0	399	0	0	25	424
1999	5	5	0	164	4	0	0	168
2000	13	13	0	270	4	0	75	349
2001	17	15	14	489	18	0	16	537
2002	3	3	0	150	0	0	0	150
1988-1993 Average	49	34	0	529	20	0	62	611
1997-2002 Average	12	10	2	284	4	1	19	310
All Years Average	25	18	1	342	10	0	33	385

[1] Personal Use fishery, 1988 to 1997; subsistence fishery, 1998 to present

[2] US Navy presence at Adak was reduced beginning in 1994; no requests for personal use permits in 1994.

[3] In 1997, a substantial number of civilians were hired by the Navy to work on a clean-up effort at Adak.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

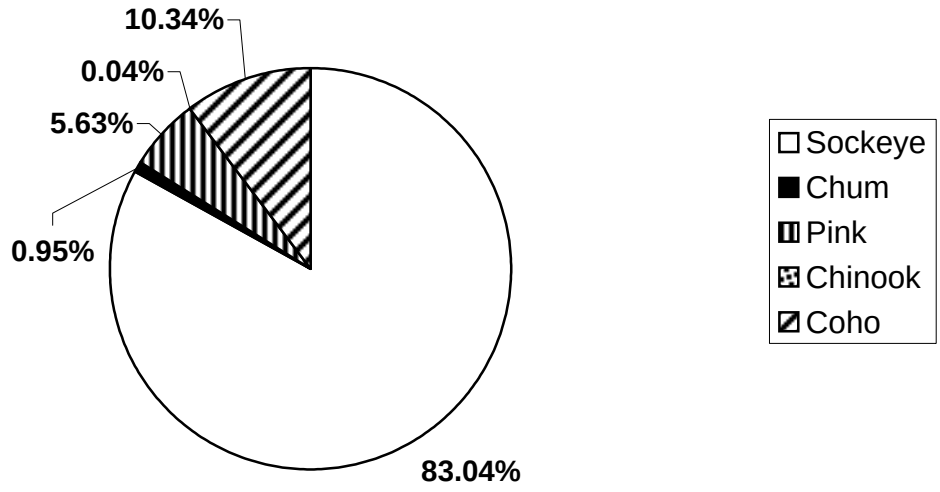
Table IX-4. Estimated Subsistence Harvests of Salmon, Akutan, Atka, and Nikolski

Community	Year	Estimated Number of Households Harvesting	Estimated Harvests in Number of Salmon[1]						
			Chum	Coho	Chinook	Pink	Sockeye	Other/ Unknown	All Salmon
Akutan	1991	24	36	429	10	915	1,872	6	3,268
Atka	1992	18	24	465	4	459	502	0	1,454
Atka	1994	23	133	583	10	1,267	394	0	2,387
Nikolski	1991	12	54	547	0	327	957	17	1,902

[1] Includes harvests for home use by all methods, including subsistence nets, rod & reel, and removal from commercial harvests.

Source: ADF&G, Division of Subsistence Household Surveys; Scott et al. 2001

Figure IX-1. Composition of Unalaska District Subsistence Salmon Harvest by Species, 2002



N = 6,837 salmon; based on annual harvest assessment program with permits.

X: KODIAK AREA

INTRODUCTION

The Kodiak Management Area encompasses the waters of the western Gulf of Alaska surrounding the Kodiak Archipelago and along that portion of the Alaska Peninsula that drains into Shelikof Strait between Cape Douglas and Kilokak Rocks. It also includes Chirikof Island. The major communities within the Area include Akhiok, Chiniak, the Coast Guard Base, Karluk, and Kodiak City. Larsen Bay, Old Harbor, Ouzinkie, and Port Lions. All are within the Kodiak Island Borough, which had an estimated population in 2000 of 13,913 (US Census Bureau 2001).

REGULATIONS

Permits have been required to harvest salmon for subsistence purposes in the Kodiak Management Area since 1962. Since 1990, all Alaska state residents have been eligible to participate in subsistence salmon fishing in the Kodiak Management Area. In 2001, legal gear for subsistence salmon fishing under state regulations included gillnets and seines, and fishers were required to be physically present while the net was being fished. Generally, fishing was open year-round from 6:00 a.m. to 9:00 p.m. daily. From June 1 through September 15, salmon seine vessels could not be used for subsistence salmon fishing 24 hours before, during, and 24 hours after any open commercial salmon fishing period. During the same time span, only gillnets could be operated for subsistence purposes from purse seine vessels. Permits allowed fishers to harvest 25 salmon plus 25 additional salmon for each member of the permit holder's household. An additional permit could be obtained if the fisher could demonstrate a need for more fish. Permit holders are required to keep a record of their harvest on the permit. A list of waters closed to subsistence fishing within the Kodiak Management Area appears in 5 AAC 01.525.

Federal regulations governing subsistence salmon fishing in waters under the jurisdiction of the Federal Subsistence Board were generally identical to the state regulations summarized above, except rod and reel, in addition to gill nets and seines, was legal subsistence gear under federal rules. There was no separate federal subsistence permit; a state permit was required for subsistence fishing under the federal regulations.

HARVEST ASSESSMENT PROGRAM

ADF&G's Division of Commercial Fisheries runs the subsistence salmon harvest assessment program for this management area out of the Kodiak regional office. Permits are mailed each year to people who turned in their permits at the end of the previous fishing season. Subsistence permits are also issued on request at ADF&G offices and by mail to people who call in and request one. In addition, field camp staff at Karluk and Olga Bay issue permits on request. In June 2001, staff from the Division of Commercial Fisheries and the Division of Subsistence of ADF&G traveled to the six small Kodiak Island Borough communities (Akhiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions) to implement a local permit vendor system. A resident in each community was trained to issue subsistence fishing permits. Outreach occurred in each community as well to encourage subsistence fishers to obtain permits, record their

harvests, and return the permits at the end of the season. The vendor program also operated in 2002.

Subsistence fishers mail permits with a harvest record to ADF&G at the end of the season or drop the permits off at the Kodiak office. ADF&G sends reminder letters in February to those permit holders who have not returned their permits by then.

SUBSISTENCE SALMON HARVESTS IN 2002

In 2002, subsistence fishers returned 2,271 subsistence permits to the Department (Table X-1). Of all returned permits, 1,912 (84.2 percent) were held by residents of Kodiak Island Borough communities, and 359 (15.8 percent) were issued to other Alaska residents (Table X-2). Individuals and families with Kodiak city addresses accounted for a very large number of the total permits in 2002 (1,715; 75.5 percent of all permits returned).

In the Kodiak Area, tabulated subsistence harvest data are not expanded. Results of the assessment program reflect only the reported harvests of subsistence fishers who obtained and returned permits. The reported total Kodiak Area subsistence salmon harvest in 2002 was 41,642 fish (Table X-1). This number is higher than both the recent 5-year average of 35,229 salmon and recent 10-year average of 33,826 salmon. Of the entire management area harvest, 39,592 salmon (95.1 percent) were harvested by residents of Kodiak Island Borough communities, and 2,050 salmon (4.9 percent) were harvested by other Alaska residents (Table X-2).

In 2002, the Kodiak Area subsistence salmon harvest was composed of 79.2 percent sockeye, 14.5 percent coho, 4.0 percent pink, 1.4 percent chinook, and 0.8 percent chum salmon (Fig. X-1).

In interviews with Division of Subsistence staff, fisheries managers within Division of Commercial Fisheries expressed uncertainty about the extent to which subsistence salmon harvests in the Kodiak Management Area are documented by the permit system. They suspected that a substantial amount of subsistence harvesting occurs without permits, especially in areas off of the road system. Comparisons of subsistence harvests based on returned permits with those from household harvest surveys (as reported in the Community Profile Database; Scott et al. 2001) suggest that subsistence salmon harvests are substantially higher than permit return indicate. Delivery of permits to subsistence fishers living in the six communities off the island road system has been problematic in the past, but as noted above, in recognition of this problem, a local permit vendor system was implemented in 2001. This outreach appeared to result in increased participation in the permit system in the six smaller communities: 189 households from these communities returned subsistence permits in 2001and 167 in 2002 (Table X-2), compared to 100 in 2000 (ADF&G 2002c:105). The reported subsistence salmon harvest for the six communities was 9,034 in 2001 and 9,386 in 2002, compared to 6,299 in 2000 (Table X-2, ADF&G 2002c:105). Additional research and outreach need to take place to assess these recent harvest data.

The permit system in this management area might also be improved by adding documentation of rod and reel fishing as subsistence take method. This gear type is allowed for subsistence salmon

fishing under federal subsistence rules. Accounting of fish removed from commercial harvests needs to also occur for a full picture of home use salmon harvests in the Kodiak Management Area.

OTHER SUBSISTENCE FISHERIES

There are no annual harvest assessment programs for the other subsistence finfish fisheries of the Kodiak Management Area.[1] Harvest estimates based on systematic household surveys conducted by the Division of Subsistence are available for resident and marine species for multiple years for each Kodiak Island Borough community. These estimates can be found in the Community Profile Database (Scott et al. 2001). Fish harvested in the largest quantities and used by the most households include Pacific cod, lingcod, flounder, halibut, rockfish, and Dolly Varden.

Subsistence permits are required for the harvest of king, Tanner, and Dungeness crab in the Kodiak Area (5 AAC 02.410). Regulations also establish size, bag and possession limits for each type of crab. Only male crab may be taken. In addition to crab, other marine invertebrates used for subsistence purposes in the Kodiak Area include, but are limited to, clams, cockles, mussels, chitons, octopus, and sea urchins. Future annual reports will summarize the subsistence harvest data for marine invertebrates based on permit programs and household surveys.

[1] In May 2003, federal regulations authorizing subsistence harvests of halibut in Alaska were finalized. A harvest assessment program for subsistence halibut will be implemented in 2003.

Table X-1. Historic Subsistence Salmon Harvests, Kodiak Management Area, 1986 - 2002

	Permits		Reported Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1986	1,244	1,002	90	14,391	6,998	605	2,371	24,455
1987	1,124	880	101	13,198	6,463	1,299	2,421	23,482
1988	1,098	699	108	10,081	4,291	377	1,320	16,177
1989	2,800	717	43	12,638	4,123	419	1,553	18,776
1990	2,900	1,167	131	17,959	8,627	655	1,605	28,977
1991	1,406	1,225	177	21,835	8,208	714	1,743	32,677
1992	1,561	1,195	318	20,684	8,643	643	1,646	31,934
1993	1,496	959	243	19,471	7,176	838	2,696	30,424
1994	2,550	1,464	205	17,962	7,491	440	1,758	27,856
1995	1,950	1,194	175	19,416	5,603	293	1,548	27,035
1996	1,567	1,390	253	28,287	5,117	381	1,125	35,163
1997	2,098	1,638	383	33,293	6,369	234	1,458	41,737
1998	1,841	1,126	350	20,459	5,348	214	1,412	27,783
1999		1,438	397	26,497	4,932	388	1,266	33,480
2000		1,376	273	24,873	5,399	341	742	31,628
2001		2,153	273	33,833	5,920	427	1,158	41,611
2002		2,271	593	32,977	6,057	350	1,665	41,642
1998-2002 Average		1,673	377	27,728	5,531	344	1,249	35,229
1993-2002 Average		1,501	315	25,707	5,941	391	1,483	33,836
All Years Average		1,288	242	21,638	6,280	507	1,617	30,285

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table X-2. Reported Subsistence Salmon Harvests, Kodiak Area, by Community and Species, 2002

Community	Permits Issued	Permits Returned	Reported Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Afognak Island		2	0	61	0	0	0	61
Akhiok		11	0	186	16	9	49	260
Chiniak		27	6	361	242	17	10	636
Karluk		5	2	295	10	0	10	317
Kodiak (city)		1,715	270	24,772	3,374	142	932	29,490
Larsen Bay		24	162	431	31	0	4	628
Old Harbor		40	6	792	1,063	110	535	2,506
Ouzinkie		40	34	1,868	440	51	74	2,467
Port Lions		47	33	2,447	702	1	25	3,208
Uganik Bay		1	8	11	0	0	0	19
Subtotal, Kodiak Island Borough		1,912	521	31,224	5,878	330	1,639	39,592
Anchor Point		2	0	20	0	0	0	20
Anchorage		149	57	738	121	3	22	941
Bettles		1	0	0	0	0	0	0
Big Lake		2	0	0	0	0	0	0
Chickaloon		1	0	0	0	0	0	0
Chignik Lagoon		1	0	0	0	0	0	0
Chugiak		1	0	0	0	0	0	0
Copper Center		1	0	0	0	0	0	0
Cordova		4	0	0	0	0	0	0
Craig		1	0	0	0	0	0	0
Delta Junction		1	0	0	0	0	0	0
Dutch Harbor		1	0	1	1	0	0	2
Eagle River		15	1	45	1	6	0	53
Elmendorf AFB		1	0	0	0	0	0	0
Fairbanks		31	3	233	0	1	0	237
Fort Wainwright		1	0	0	0	0	0	0
Girdwood		3	0	0	0	0	0	0
Glennallen		1	0	0	0	0	0	0
Grayling		1	0	35	0	0	3	38
Homer		22	0	251	2	1	0	254
Indian		1	0	0	0	0	0	0
Juneau		4	1	58	0	0	0	59
Kasilof		4	7	28	0	2	0	37
Kenai		12	1	20	21	7	0	49
Ketchikan		1	0	0	0	0	0	0

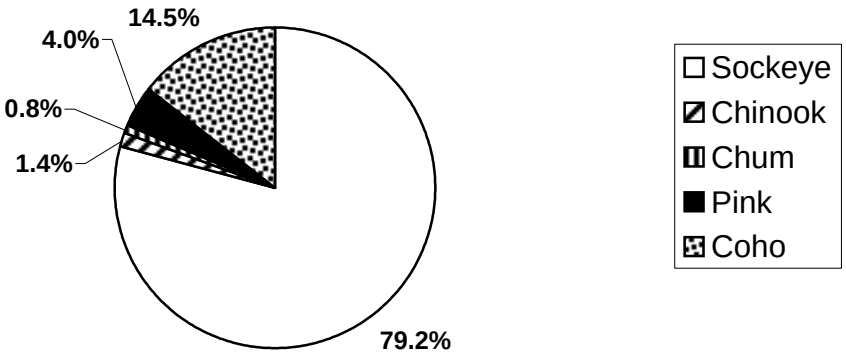
continued

Table X-2. Reported Subsistence Salmon Harvests, Kodiak Area, by Community and Species, 2002 (continued)

Community	Permits Issued	Permits Returned	Reported Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
King Salmon		1	0	0	0	0	0	0
Nikiski		3	0	0	0	0	0	0
Ninilchik		1	0	0	0	0	0	0
North Pole		5	0	0	0	0	0	0
Other USA		27	0	55	4	0	0	59
Palmer		20	0	105	0	0	0	105
Pedro Bay		1	0	0	0	0	0	0
Seldovia		1	0	0	0	0	0	0
Seward		3	0	0	0	0	0	0
Sitka		3	0	0	0	0	0	0
Soldotna		9	0	26	0	0	0	26
Sterling		2	0	0	0	0	0	0
Talkeetna		3	2	1	29	0	1	33
Tok		1	0	0	0	0	0	0
Valdez		2	0	50	0	0	0	50
Wasilla		14	0	87	0	0	0	87
Wrangell		1	0	0	0	0	0	0
Subtotal, Other		359	72	1,753	179	20	26	2,050
Totals		2,271	593	32,977	6,057	350	1,665	41,642

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Figure X-1. Composition of Kodiak Area Subsistence Salmon Harvest by Species, 2002



N = 41,642 salmon; based on annual harvest assessment program with permits.

XI. COOK INLET AREA

INTRODUCTION

Most of the waters of the Cook Inlet Management Area are within the Anchorage-MatSu-Kenai Nonsubsistence Area as established by the Joint Boards of Fisheries and Game (5 AAC 99.015(3)). Subsistence fisheries are not authorized within these nonsubsistence areas. Non-commercial harvesting opportunities are provided under sport and personal use fishing regulations. Harvest summaries for the personal use dip net and set net fisheries of the Kenai Peninsula can be found in annual management reports prepared by the ADF&G divisions of Sport Fish and Commercial Fisheries.

Waters outside the nonsubsistence area include the Tyonek Subdistrict and the western portion of the Susitna River drainage in Upper Cook Inlet, plus those waters north of Point Bede which are west of a line from the eastern most point of Jakolof Bay north of the westernmost point of Hesketh Island including Jakolof Bay and south of a line west of Hesketh Island and the waters south of Point Bede which are west of the easternmost point of Rocky Bay, which are in Lower Cook Inlet.

Communities within the areas outside the nonsubsistence zone include Skwentna (population 111 in 2000), Alexander (population 39 [in 1999] [ADLWD 2000]), Tyonek (population 193), Seldovia (population 430 in city and village CDP), Port Graham (population 171) and Nanwalek (English Bay) (population 177). The population of the entire Cook Inlet Area in 2000 was 369,296, including the Anchorage Municipality (population 260,283), the Kenai Peninsula Borough (49,691), and the Matanuska-Susitna Borough (59,322). This represents 58.9 percent of the state's total population in 2000 (US Census Bureau 2001).

PORT GRAHAM AND KOYUKTOLIK SUBDISTRICTS

History and Regulations

A separate set of subsistence regulations for this subsistence setnet fishery was first established by the Alaska Board of Fisheries in 1980. The fishery is located along the southern shore of outer Kachemak Bay in the Port Graham and Koyuktolik subdistricts of the Southern District and, beginning in 2002, the Port Chatham and Wind Bay subdistricts. Two Alaska Native communities, Nanwalek and Port Graham, are located in the Port Graham Subdistrict. For detailed description of this subsistence fishery and other subsistence harvests and uses in Nanwalek and Port Graham, see Stanek (1985).

The fishery opens April 1st and closes in the Port Chatham and Windy Bay subdistricts on August 1st, and in the Port Graham and Koyuktolik subdistricts on September 30th. There have been frequent emergency closures and openings during July when escapements of sockeye salmon into the English Bay River are being closely monitored to achieve minimum escapement goals. Throughout the season two 48-hour openings occur each week. The area open to subsistence set netting includes the entire shoreline of the subdistrict to a regulatory marker near the head of Port Graham Bay. There are no season or household bag or possession limits. The

three primary species harvested include sockeye, pink, and coho salmon. The gear allowed includes set gillnets no longer than 35 fathoms, no deeper than 45 meshes, and no larger than a six-inch stretched mesh. A lead may be used on the shoreward end of the net.

Harvest Assessment Methods

Household permits are issued by the Department of Fish and Game, Division of Subsistence through cooperative agreements with the Port Graham and Nanwalek village councils prior to fishing. When permits are issued, a separate monthly catch calendar is also issued for recording daily household harvests. (Due to changes in personnel, there was a disruption in distribution of harvest calendars in Port Graham in 2002, and reported harvests for that community are likely minimum estimates.) Home use salmon harvests by the two communities occur with the use of setnet and rod and reel gear. While the recording of harvests in the setnet fishery is mandatory, it is not in the rod and reel fishery. Therefore, fishermen are asked to voluntarily record their rod and reel harvests. In order to accommodate the recording of harvests in both fisheries, the recording device has two pages, one for each gear type, and is issued separately from the permit. Local assistants hired by each village council collect the calendars periodically throughout the season. Dolly Varden harvests are also recorded on the calendars. (Future annual reports will summarize the Dolly Varden data.)

The sockeye salmon run to the English Bay Lakes was severely depressed for much of the late 1980s and early 1990s, with returns failing to achieve the minimum escapement goal for nine consecutive years between 1985 and 1993. Returns in the late 1990s were enhanced as a result of a rehabilitation/enhancement project initiated by ADF&G and subsequently run by the Nanwalek Salmon Enhancement Project in association with the Chugach Regional Resources Commission (CRRC) and the village of Nanwalek (Hammarstrom and Dickson 2003:62). In-season escapement monitoring has taken place since 1994, and openings and closures in the subsistence and commercial fisheries controlled by emergency order.

Harvest Estimates

A strong return of 30,000 sockeye salmon was forecast for the English Bay lakes in 2002. The strong run allowed the subsistence fishery to continue with regular openings until the regulatory closing date of September 30 (Hammarstrom and Dickson 2002:62).

In 2002, subsistence salmon harvests in the Port Graham and Koyuktolik subdistricts totaled 14,342 salmon, including both set net and rod and reel harvests (Table XI-1). This is, by far, the highest subsistence salmon harvest recorded for this fishery since the present harvest assessment program began in 1981. (The previous record of 9,313 salmon in 2000.) This was due to a strong return of sockeye salmon to the English Bay River, resulting in a record subsistence harvest of 10,620 sockeyes.

In 2002, residents of Nanwalek, with 56 permits, harvested 13,361 salmon and residents of Port Graham, with 23 permits, took the balance of 981 salmon (Table XI-2). (As noted above, distribution of harvest calendars was disrupted in Port Graham, and this reported harvest is likely

well below the actual number.) Of the total harvest, sockeye salmon were by far the most numerous species (10,620 salmon; 74.0 percent), followed by pink (1,831 salmon; 12.8 percent), coho (1,057 salmon; 7.4 percent), chum (488 salmon; 3.4 percent), and chinook (346 salmon; 2.4 percent) (Fig. XI-1).

SELDOVIA SUBSISTENCE FISHERY

History and Regulations

This is a subsistence set gillnet fishery that was established in the fall of 1995 by the Alaska Board of Fisheries. The fishery is located on the south side of Kachemak Bay in the vicinity of the community of Seldovia in the Southern District of the Lower Cook Inlet Area. The fishery targets chinook salmon runs passing through lower Cook Inlet and a separate enhanced chinook run returning to Seldovia Bay. Coho salmon are targeted in a fall fishery.

The fishery operates in a split season with two parts, the first occurring from April 1 through May 30 and the second occurring during the first two weekends in August. In the early season fishing is allowed during two 48-hour periods each week, while in the late season fishing is continuous during the two-day weekends. There is a guideline harvest limit of 200 chinook salmon set for the early season and an annual possession limit of 20 chinook per household. There are no seasonal limits for the other species.

The area open to subsistence set gillnetting includes those waters along the eastern shore of Seldovia Bay as well as a short stretch outside Seldovia Bay proper to the west of Point Naskowhak. The gear allowed includes set gillnets no longer than 35 fathoms, no deeper that 45 meshes, and no larger than a six inch stretched mesh.

Harvest Assessment Methods

A household permit is issued by the Department of Fish and Game prior to fishing, and catches are recorded on the permit. Permits are also available from the harbormaster in Seldovia. Fishermen are required to call in daily to report their catch to ADF&G and return their permit after each of the two segments of the season. ADF&G sends reminder letters to permit holders if harvest records have not been returned in a timely manner, and phone calls are also made to enhance permit returns. ADF&G considers the harvest data for this fishery to be very reliable.

The 2002 Season

There were 20 permits issued for the Seldovia subsistence fishery in 2002. All the permits were returned to the Department as required by regulation (100 percent). The total harvest was 124 chinook salmon, 234 sockeyes, 13 coho, 11 chum, and 31 pink (Table XI-3). All of the permits were issued to residents of Seldovia.

The 1998, 1999, 2000, 2001, and 2002 harvests increased from the first two years of the fishery, and this increase can be attributed to the longer season for the fourth straight year. Beginning with the 1998 season, the Board of Fisheries lengthened the season by 10 days in May. The

additional fishing time resulted in increased harvests of both chinook and sockeye salmon (Table XI-3).

TYONEK SUBDISTRICT

History and Regulations

A separate set of subsistence salmon fishing regulations was first established for the Tyonek Subdistrict by court order in 1980, and subsequently established permanently by the Alaska Board of Fisheries. This setnet fishery is located in the Tyonek Subdistrict of the Northern District of upper Cook Inlet. The subdistrict includes the area from one mile south of the mouth of the Chuitna River south to the eastern-most part of Granite Point and from the mean high tide to the mean lower low tide. The area is unique in that all the lands within the subdistrict are owned by the Tyonek Native Corporation. This feature often raises issues of trespass for those individuals living outside the Tyonek area who do not seek permission to land their boats or set their nets on the privately owned land. For a detailed discussion of this fishery and other subsistence uses at Tyonek, see Fall et al. (1984).

The season in this subsistence fishery operates in two parts. The first part, which focuses on chinook salmon, opens May 15th and runs through June 15th with daily openings on Tuesdays, Thursdays, and Fridays. The second part opens on Saturdays from June 16th through October 15th. A 4,200 chinook salmon limit in set for the early season. If this limit is reached, the second season does not open until July 1st. In the more than 20 years of operation of this fishery, the chinook salmon limit has never been reached.

Allowable gear for the Tyonek Subdistrict subsistence fishery includes set gillnets 10 fathoms in length, no deeper than 45 meshes, and a stretched mesh sized no larger than 6 inches. When fishing, permit holders are required to be present at the net site.

Harvest Assessment Methods

A household permit is issued by the Department of Fish and Game prior to fishing, and catches are recorded on the permit. Two separate permits are required, one for the early season and one for the late season. Permits are available in the Anchorage ADF&G office or in the Tyonek village office. Reported harvests are not expanded in this fishery. Because of the high compliance with the permit requirement and the strong assistance from the Tyonek village government, ADF&G views the harvest estimates for this fishery as very reliable.

The 2002 Season

In 2002, 101 subsistence permits were issued for the Tyonek District, including 81 permits issued to Tyonek residents (80.2 percent) and 20 permits issued to other Alaska residents (18.8 percent), mostly residents of Anchorage (9 permits) (Table XI-4). The total reported subsistence salmon harvest was 1,417 fish, with 1,080 chinook, 209 sockeye, 115 coho, and 4 chum. Residents of Tyonek accounted for 87.2 percent of the harvest total (1,235 salmon), including 87.8 percent of the chinook harvest (948 salmon). The total 2002 harvest was lower than the

long-term average for this fishery of 1,633 salmon, but was slightly above the recent five and ten-year averages (Table XI-5)

UPPER YENTNA RIVER FISH WHEEL FISHERY

History and Regulations

This is a subsistence fish wheel fishery that began in 1996 as a personal use fishery and was reclassified as a subsistence fishery by the Board of Fisheries beginning in 1998. It is located in the main stem of the Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River. The fishery occurs from July 15 through July 31. Fishing periods are from 4 a.m. to 8 p.m. Monday, Wednesday, and Friday.

Legal gear includes a fish wheel with a live box. Permit holders must be present at the fish wheel while fishing. A season limit of 2,800 salmon is established for the fishery. Chinook salmon and rainbow trout must be returned alive to the water. Seasonal limits for households are 25 salmon for a head of household and 10 salmon for each dependent.

Harvest Assessment Methods

A permit issued by the ADF&G is required prior to fishing. Permits are available through the Division of Sport Fish office in Palmer. Permit holders must record their harvests on the permit and return it to the department. In the view of ADF&G, compliance with the permit requirement is high and harvest estimates for this fishery are very reliable.

Harvests in 2002

Twenty-five subsistence permits were issued for the Yentna River subsistence fish wheel fishery in 2002. All but three were returned to ADF&G (88.0 percent). In 2002, 10 of the 25 permit holders resided in the Skwentna area, with the remaining 15 permits held by residents of Anchorage (4 permits), Wasilla (three permits), Chugiak (three permits), Willow (2 permits), Big Lake (one permit), Lake Creek (one permit), and Palmer (one permit) (Table XI-6). The total harvest in 2002 was 632 salmon, including 454 sockeye (71.8 percent), 133 coho (21.0 percent), 31 chum (4.9 percent), and 14 pink (2.2 percent). (Chinook salmon may not be retained in this fishery.) The 2002 harvest was slightly higher than the five-year average (594 salmon), and also above the long-term average of 585 salmon (Table XI-7).

Table XI-1. Historic Subsistence Salmon Harvests: Port Graham/Koyuktolik Subdistricts, 1981 - 2002

	Permits		Reported Salmon Harvests					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1981		57	138	2,670	825	177	874	4,684
1982		61	124	2,354	1,493	220	2,932	7,123
1983		46	67	2,480	471	95	187	3,300
1984		24	45	3,262	510	6	673	4,496
1985		24	146	1,177	621	26	345	2,315
1986		44	125	647	481	14	1,062	2,329
1987		55	21	901	914	114	714	2,664
1988		48	104	1,021	844	110	1,756	3,835
1989		44	51	157	1,155	74	1,495	2,932
1990		60	265	1,162	1,417	151	2,960	5,955
1991		63	163	688	2,053	221	4,587	7,712
1992		71	200	535	1,150	236	1,421	3,542
1993		56	277	1,148	913	257	2,663	5,258
1994		70	300	830	1,370	504	1,979	4,983
1995		87	585	1,795	538	376	1,273	4,567
1996		75	310	1,744	939	276	749	4,018
1997		26	202	325	203	153	511	1,394
1998		19	169	289	243	240	459	1,400
1999		74	485	3,157	1,747	1,104	2,023	8,516
2000		67	259	4,664	1,831	953	1,606	9,313
2001		49	133	1,085	1,295	228	1,454	4,195
2002		79	346	10,620	1,057	488	1,831	14,342
1998-2002 Average		58	278	3,963	1,235	603	1,475	7,553
1993-2002 Average		60	307	2,566	1,014	458	1,455	5,799
All Years Average		55	205	1,941	1,003	274	1,525	4,949

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-2. 2002 Subsistence Salmon Harvests by Community, Port Graham/Koyuktolik Subdistricts

	Permits		Reported Salmon Harvest					
Community	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Nanwalek		56	96	10,203	967	414	1,681	13,361
Port Graham		23	250	417	90	74	150	981
Totals		79	346	10,620	1,057	488	1,831	14,342

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-3. Historic Subsistence Salmon Harvests: Seldovia Fishery, 1996 - 2002

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1996	43	42	51	9	0	0	0	60
1997	20	17	52	22	0	0	0	74
1998	22	20	143	65	0	8	0	216
1999	16	16	136	130	0	38	0	304
2000	22	22	179	252	0	16	0	447
2001	19	16	149	142	0	0	0	290
2002	20	20	124	234	13	11	31	413
1998-2002 Average	20	19	146	165	3	15	6	334
All Years Average	23	22	119	122	2	10	4	258

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-4. Tyonek Subdistrict Subsistence Salmon Harvests by Community, 2002

	Permits		Reported Salmon Harvest					
Community	Total	Included	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Alexander Creek	2	2	0	0	0	0	0	0
Anchorage	9	9	80	17	3	0	0	100
Beluga	2	2	2	0	27	0	0	29
Eagle River	3	3	0	0	0	0	0	0
Sterling	1	1	50	3	0	0	0	53
Tyonek	81	52	948	189	85	4	9	1,235
Wasilla	2	2	0	0	0	0	0	0
Unknown Community	1	0						
Totals	101	71	1,080	209	115	4	9	1,417

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-5. Historic Subsistence Salmon Harvests: Tyonek Subdistrict, 1980 - 2002

	Permits		Reported Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1980	67		1,757	235	0	0	0	1,992
1981	70		2,002	269	64	32	15	2,382
1982	69		1,590	310	113	4	14	2,031
1983	75		2,665	187	59	6	0	2,917
1984	75		2,200	266	79	23	3	2,571
1985	76		1,472	164	91	10	0	1,737
1986	65		1,676	203	223	46	50	2,198
1987	64	61	1,610	166	149	24	10	1,959
1988	47	42	1,587	91	253	12	8	1,951
1989	49	47	1,250	85	115	1	0	1,451
1990	42	37	781	66	352	12	20	1,231
1991	57	54	902	20	58	0	0	980
1992	57	44	907	75	234	19	7	1,242
1993	62	54	1,370	57	77	17	19	1,540
1994	58	49	770	85	101	22	0	978
1995	70	55	1,317	45	153	15	0	1,530
1996	73	49	1,039	68	137	7	21	1,272
1997	70	42	639	101	137	8	0	885
1998	74	49	1,027	163	64	2	1	1,257
1999	77	54	1,230	144	94	11	32	1,511
2000	60	59	1,157	63	87	0	6	1,313
2001	84	58	976	172	49	6	4	1,207
2002	101	71	1,080	209	115	4	9	1,417
1998-2002 Average	79	58	1,094	150	82	5	10	1,341
1993-2002 Average	73	54	1,061	111	101	9	9	1,291
All Years Average	67	52	1,348	141	122	12	10	1,633

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-6. Subsistence Salmon Harvests, Upper Yentna River Fish Wheel Fishery by Community, 2002

	Permits		Estimated Salmon Harvest					
Community	Total	Included	Chinook[1]	Sockeye	Coho	Chum	Pink	Total Salmon
Anchorage	4	3	0	24	29	5	0	59
Big Lake	1	1	0	40	3	2	0	45
Chugiak	3	3	0	58	16	0	0	74
Lake Creek	1	1	0	28	2	5	0	35
Palmer	1	1	0	0	0	0	0	0
Skwentna	10	9	0	242	46	13	3	304
Wasilla	3	3	0	42	27	5	11	85
Willow	2	1	0	20	10	0	0	30
Totals	25	22	0	454	133	31	14	632

[1] Regulations prohibit the retention of chinook salmon in this fishery (5 AAC 01.593).

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XI-7. Historic Subsistence and Personal Use Salmon Harvests, Upper Yentna River Fish Wheel Fishery, 1996 - 2002 [1]

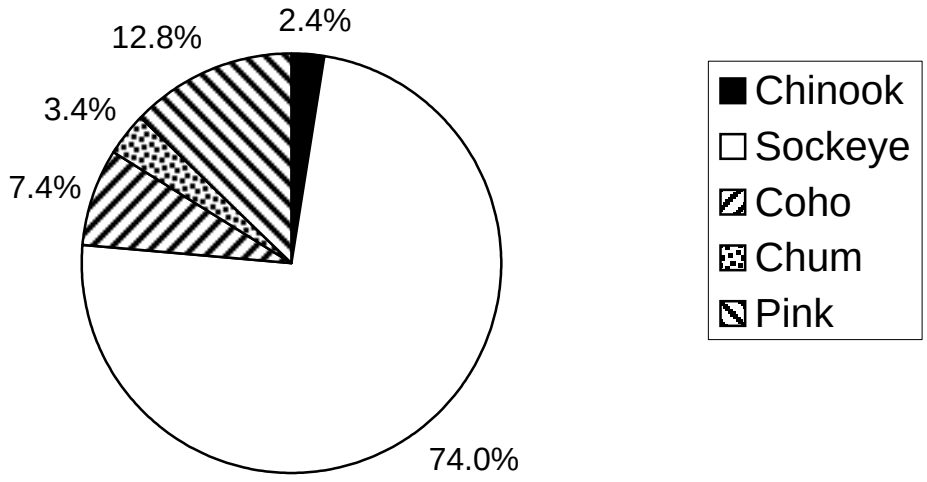
	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook[2]	Sockeye	Coho	Chum	Pink	Total
1996	17	17	0	242	46	51	115	454
1997	24	21	0	549	83	10	30	672
1998	21	18	0	495	113	15	30	653
1999	18	16	0	516	48	13	18	595
2000	19	19	0	379	92	7	4	482
2001	16	15	0	545	50	4	10	608
2002	25	22	0	454	133	31	14	632
1998-2002 Average	20	18	0	478	87	14	15	594
All Years Average	20	18	0	454	81	19	32	585

[1] This fishery was classified as personal use in 1996 and 1997, and as a subsistence fishery since 1998.

[2] Regulations prohibit the retention of chinook salmon in this fishery (5 AAC 01.593).

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Figure XI-1. Composition of Subsistence Salmon Harvest, Port Graham/Koyuktolik Subdistricts, 2002



N = 14,342 salmon, based on annual harvest assessment program with harvest calendars.

XII: PRINCE WILLIAM SOUND AREA

INTRODUCTION

The Prince William Sound Management Area includes all waters of Alaska between the longitude of Cape Fairfield and the longitude of Cape Suckling. In 2002, there were nine subsistence fisheries with annual harvest assessment programs in the Prince William Sound Management Area:

1. Upper Copper River: Glennallen Subdistrict, state permit system
2. Upper Copper River: Glennallen Subdistrict, federal permit system
3. Upper Copper River: Chitina Subdistrict, state permit system
4. Upper Copper River: Chitina Subdistrict, federal permit system
5. Batzulnetas Fishery
6. Copper River Flats / Prince William Sound
7. Prince William Sound: Eastern District / Tatitlek
8. Prince William Sound: Southwestern District / Chenega
9. Prince William Sound: General

Each of these fisheries will be discussed in turn. 2002 was the first year in which there were separate state and federal permit systems for the Glennallen and Chitina subdistricts. It should also be noted that the dip net fishery that takes place in the Chitina Subdistrict of the Upper Copper River District under state regulations was classified as a personal use fishery through 1999. The Alaska Board of Fisheries reclassified this fishery as a subsistence fishery beginning in 2000 and therefore it is discussed in this report. Historical data for this fishery, including years when it was classified as personal use, are included as well (but see footnote, below).

UPPER COPPER RIVER SUBSISTENCE FISHERY: GLENNALLEN SUBDISTRICT

Background and History

The Upper Copper River District of the Prince William Sound Management Area consists of all waters of the mainstem Copper River from the mouth of the Slana River downstream to an east-west line crossing the Copper River approximately 200 yards upstream of Haley Creek as designated by ADF&G regulatory markers. There are two subdistricts:

1. The Chitina Subdistrict consists of all waters of the Upper Copper River District downstream of the downstream edge of the Chitina-McCarthy Road Bridge; and
2. The Glennallen Subdistrict consists of all remaining waters of the Upper Copper River District.

The Glennallen and Chitina subdistricts were established in 1977. Prior to that time, the Upper Copper River was treated as one unit for management purposes. For a detailed discussion of the history of these fisheries, see Simeone and Fall (1996).

Regulations

In the Glennallen Subdistrict, permits are required to participate in subsistence fishing for salmon and freshwater fish species. ADF&G issues state permits under the authority of 5 AAC 01.630. Permits are issued on request at ADF&G offices. Beginning in 2002, the Federal Subsistence Board created a federal permit requirement for qualified rural residents (primarily residents of Copper River Basin and Upper Tanana communities). This permit system is administered by the National Park Service. While state subsistence permits limit fishers to one choice of gear (either fish wheel or dip net), federal permit holders may use fish wheels, dip nets, and rod and reel. Holders of state permits for the Glennallen subsistence may not also obtain a permit for the Chitina Subdistrict, but federally qualified rural resident households may hold permits for both subdistricts (as well as the Balzulnetas area), although seasonal limits for the subdistricts are not additive. Also, there is no prohibition against a federally-qualified rural resident household obtaining both a state and federal subsistence permit for these subdistricts, but again the seasonal limits for the two permits are not additive.

Legal subsistence gear in the Glennallen Subdistrict under state regulations includes fish wheels and dip nets. Federal subsistence permit holders may also use rod and reel. The state season runs from June 1 through September 30; the federal season opens May 15 and also closes September 30. Annual limits are the same under state and federal regulations: 30 salmon for a household with one person, of which no more than five may be chinook salmon if taken with a dip net; 60 salmon for a household of two persons, with the same chinook limit for dipnetters; and 10 salmon for each additional person in the household, again with the chinook limit for dipnetters. Upon request, permits will be issued for additional salmon, with limits of 200 salmon for 1 person households and 500 for households of two or more persons. Dipnetters are still limited to 5 chinook per year. An additional federal rule is that in addition to the five chinook salmon limit for dipnetting, federal permit holders may take up to five chinook with rod and reel.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been conducted for Upper Copper River since 1960, originally by the Division of Commercial Fisheries, but currently by the Division of Sport Fish of ADF&G. Permits include harvest reports, and fishers are required to record the dates they fish and the number of each species harvested each day. Reminder letters are mailed to those permittees who do not return permits at the end of the season. Total harvest estimates for the fishery are made based on reported harvests expanded to all permit holders. Beginning in 2002, the National Park Service, on behalf of the Federal Subsistence Board, compiles the data from federal permit returns in a program separate from that administered by ADF&G.

The creation of a dual permit system for subsistence fishing in the Upper Copper River creates challenges for the compilation of a single subsistence harvest estimate for this subsistence fishery, which is the goal of this annual report. Issues include the following:

1. As noted above, federal permits allow fishing with multiple gear types, including rod and reel, but state permits allow fishing with only one gear type--either dip net or fish wheel. Thus while past years' annual report summaries for the Glennallen Subdistrict

showed the number of permits issued by gear type, this is not possible for the combined state and federal data summaries reported here.

2. Some households obtain both state and federal permits for the Glennallen Subdistrict. Of these "dual-permitted" households, some report only on their state permits (not returning the federal permit), some report only on their federal permits (not returning the state permit), some report identical harvests on both permits, some report fishing on one permit but not the other, and some return neither permit. Controlling for double-counting of salmon requires making two assumptions: a) permittees returning only one permit did not harvest on the other, and b) permittees reporting identical harvests on both permits reported the same harvests twice rather than split their harvests between permits. [These assumptions were employed in the analysis only after discussing the dual-permitted households with the program administrators for ADF&G Division of Sport Fish and the National Park Service.] All households obtaining both state and federal permits were counted as receiving only one permit in the summary tables for the Glennallen Subdistrict included here.

3. State permits collect only the permit holder's mailing address city, but federal permits collect this and the "community of primary residence." Since the Copper River area has a number of smaller communities without their own post offices, state permits issued to residents of these communities do not provide adequate information to assure analysis results accurately reflect the true residence communities of harvesters. But because of the precision of the federal permit regarding place of residence, the federal permit place of residence data were used to compile the harvest tables, in combination with the mailing address data from state permits. Since there were several dual-permitted households in the Glennallen Subdistrict fishery, the federal residence community was used as the default where this information differed.

Under the provisions of 5 AAC 01.630(h), a village council or other similarly qualified organization, may obtain a permit to operate a fish wheel on behalf of its members upon approval of a harvest assessment plan submitted to ADF&G. These organizations may also issue household permits and register fish wheels. Table XII-1 summarizes data for the permits issued for village fish wheels by ADF&G in 1997, 1999, 2000, 2001, and 2002. Harvests for village fish wheels are also included in the subdistrict totals.

Subsistence Salmon Harvests in 2002

As shown in Table XII-2, ADF&G issued a total of 1,121 subsistence salmon permits for the Glennallen Subdistrict for 2002. Of these, 662 were for using fish wheels and 459 were for using dip nets. In addition, 201 federal subsistence salmon permits for the Glennallen Subdistrict were issued for 2002 (these allow use of fish wheels, dip nets, or rod and reel). Because federally-qualified households could obtain both a state and federal permit, the analysis for this annual report identified households with two permits. In total, 1,308 households held subsistence salmon permits for the Glennallen Subdistrict for 2002. This is the total that is comparable with data on the number of permits issued in previous years (when households were limited to a single permit).

As reported in Table XII-3, the estimated total subsistence salmon harvest in the Glennallen Subdistrict in 2002 was 68,161 salmon, including 63,028 sockeye (92.5 percent), 4,446 chinook (6.5 percent), and 686 coho (1.0 percent). (There are no pink or chum salmon in the upper Copper River although 1 chum was reported harvested, as shown in Table XII-3.) The estimated subsistence salmon harvest in 2002 was down notably from the record estimated harvest in the Glennallen Subdistrict in 2001 of 86,601 salmon. Of the total harvest in 2002, 58,446 salmon were taken with fish wheels (85.7 percent), 9,694 salmon with dip nets (14.2 percent), and 22 with rod and reel (less than 0.1 percent) (Table XII-4). Table XII-5 reports subsistence salmon harvests in the Glennallen Subdistrict by place of residence of permit holders in 2002, while Table XII-6, Table XII-7, and Table XII-8 show harvests by community by gear type: fish wheel, dip net, or rod and reel, respectively. Copper Basin residents caught 38.3 percent of the harvest, including 43.4 percent of the fish wheel harvest but only 7.2 percent of the dip net harvest in the Glennallen Subdistrict (Table XII-3).

UPPER COPPER RIVER SUBSISTENCE FISHERY: THE CHITINA SUBDISTRICT

Background and History

As noted above, the Chitina Subdistrict is one of two (along with the Glennallen Subdistrict) within the Upper Copper River District. It consists of all waters of the Upper Copper River District downstream of the downstream edge of the Chitina-McCarthy Road Bridge to an east-west line crossing the Copper River approximately 200 yards upstream of Haley Creek. The Glennallen and Chitina subdistricts were separated in 1977. Prior to that time, the Upper Copper River was treated as one unit for management purposes. In 1984 and from 1986 through 1999, the Chitina Subdistrict was closed to subsistence fishing, and the dip net fishery there operated as a personal use fishery. At its December 1999 meeting, the Alaska Board of Fisheries reversed its earlier decision and determined that the Chitina Subdistrict supported customary and traditional uses of salmon, changing the classification of the fishery back to subsistence.[1] For a detailed discussion of the history of these fisheries, see Simeone and Fall (1996) and ADF&G 2002b.

Regulations

There are state and federal permit programs for the Chitina Subdistrict. Under state regulations, a household permit is required for subsistence fishing in the Chitina Subdistrict, issued by ADF&G. Households may not possess state subsistence permits for both the Glennallen and Chitina subdistricts in the same year. Under state rules, dip nets are the only legal gear in the Chitina Subdistrict. Annual limits are 15 salmon for a one-person household and 30 salmon for households with more than one person. Only one chinook salmon may be harvested annually. Households that achieve their annuals limits may obtain supplemental permits for 10 additional sockeye salmon if ADF&G determines that a weekly surplus of 50,000 salmon or more will be present in the subdistrict. Qualified Alaska rural residents may obtain federal subsistence

[1] In February 2003, the Alaska Board of Fisheries reconsidered the classification of the Chitina dip net fishery, and reversed its decision of 1999, making a negative customary and traditional use finding and changing the fishery back to personal use. No other regulatory changes were made. Despite this shift back to the personal use category, future annual reports will continue to include harvest data for the Chitina Subdistrict.

permits for the Chitina Subdistrict from the National Park Service. Legal gear includes fish wheels, dip nets, and/or rod and reel. Federal seasonal limits for the Chitina Subdistrict are the same as for the Glennallen Subdistrict, but are not additive.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been conducted for Upper Copper River since 1960 by ADF&G, currently by the Division of Sport Fish. Chitina Subdistrict permits include harvest reports, and fishers are required to record the dates they fish and the number of each species harvested each day. Reminder letters are mailed to those permittees who do not return permits at the end of the season. Total harvest estimates for the Chitina Subdistrict are made based on reported harvests expanded to all permit holders. As noted above, qualified rural Alaska residents may obtain a federal subsistence permit for the Chitina Subdistrict in a program administered by the National Park Service.

Subsistence Salmon Harvests in 2002

As reported in Table XII-9, the estimated total salmon harvest in the state-administered Chitina Subdistrict subsistence fishery in 2002 was 94,782 salmon, including 90,655 sockeye (95.6 percent), 2,093 chinook (2.2 percent), and 2,034 coho (2.1 percent), by 6,804 permit holders. (There are no pink or chum salmon in the upper Copper River.) An additional 883 salmon (835 sockeye [94.6 percent] and 48 chinook [5.4 percent]) were taken in the federal subsistence fishery, with 122 permit issued (Table XII-10), giving a total subsistence salmon harvest in the subdistrict in 2002 of 95,665 salmon. As reported in Table XII-9, the 2002 total harvest for the Chitina Subdistrict was well below the recent 10-year average of 122,087, and well below the record harvest levels of 1997 through 1999 and 2001, which ranged at around 150,000 salmon.

Table XII-11 reports subsistence salmon harvests in the Chitina Subdistrict by place of residence of state permit holders in 2002; most participants in this fishery live in Fairbanks, Anchorage, or the Matanuska-Susitna Borough. Only 21 Copper Basin residents obtained state subsistence salmon permits for the Chitina Subdistrict in 2002. Table XII-12 reports subsistence harvests by place of residence, gear type, and species in the federal permit fishery in 2002. Of the estimated total of 883 salmon harvested in this fishery, 683 (77.3 percent) were taken with dip nets and 200 (22.7 percent) with fish wheels. There was no rod and reel harvest in this fishery.

BATZULNETAS SUBSISTENCE FISHERY

The Batzulnetas subsistence salmon fishery includes all waters from the regulatory markers near the mouth of Tanada Creek and approximately on-half mile downstream from that mouth, and in Tanada Creek between ADF&G regulatory markers. The fishery may begin after June 1. Fishing periods during the month of June are one 48 hour period per week. Beginning in July fishing periods are 84-hours per week until September 1 when the fishery closes. This fishery was created in 1987 through an emergency regulation to settle the United States District Court case of John vs. Alaska.

Since 1987, subsistence permits have been issued in nine years (Table XII-13). In 2002, one permit was issued with a total reported harvest of 208 sockeye salmon. The long-term average harvest for this fishery is 123 sockeye salmon, with the highest harvest occurring in 1994 with a take of 997 sockeyes. Participants in this fishery are largely from the community of Mentasta.

COPPER RIVER DISTRICT SUBSISTENCE FISHERY

Background and Regulations

This fishery takes place in the Copper River District at the mouth of the Copper River (Copper River Flats) near the community of Cordova. Permits are required to participate in subsistence fishing for salmon and freshwater fish species under the authority of 5 AAC 01.630. Permits are issued on request at the ADF&G office in Cordova or they may be obtained by calling and requesting them by phone. Legal gear is set or drift gillnet. Annual limits are 15 salmon for a one person household; 30 salmon for a two person household; and 10 salmon for each additional person in the household. There is a limit of five king salmon per permit.

Harvest Assessment Program

A permit system with annual subsistence salmon harvest assessments has been in place for Prince William Sound at least since 1960. Permits are either dropped off at the Cordova ADF&G office or mailed in at the end of the fishing season. Permits include a harvest report, and fishers are required to fill in the dates fished and the number of each species of fish harvested caught each day. There is one version of the permit, but fishers need to declare whether they want to fish the Copper River Flats area or in Prince William Sound. An issued permit is only valid for one of these locations.

Subsistence Salmon Harvests in 2002

As reported in Table XII-14, 355 permits were issued for this fishery in 2002, and 331 (87.3 percent) were returned. Both numbers were down from the record number of permits issued for this fishery in 2001. The estimated harvest was 3,910 salmon, including 3,289 sockeye (84.1 percent), 589 chinook (15.1 percent), 30 coho (0.8 percent), and 2 chum (<0.1 percent). Most permit holders lived in Cordova, although place of residence data are not presently available in the database. The 2002 harvest was the third highest on record, exceeded only by the 5,318 salmon harvest in 2000 and the 4,232 salmon harvest in 2001, and substantially above the recent 10-year average of 2,512 salmon.

EASTERN DISTRICT SUBSISTENCE SALMON FISHERY

The present set of subsistence regulations the Eastern District of Prince William Sound has been in place since 1988. The primary participants in this fishery are residents of Tatitlek. Prior to 1992, permits were only issued in Tatitlek. Since 1992, they have also been issued at the ADF&G office in Cordova. Permits may be dropped off at the Cordova ADF&G office, the Tatitlek Village Council office, or mailed in at the end of the fishing season. Permits include a

harvest report, and fishers are required to fill in the dates fished and the number of each species of salmon caught each day.

Legal gear for this fishery includes seines up to 50 fathoms in length and 100 meshes deep with a maximum mesh size of four inches, or gillnets up to 150 fathoms in length with a maximum size of six and one-quarter inches. Pink salmon may be taken in fresh water with dip nets. The season is May 15 through October 31, seven days per week before and after the commercial salmon season, and during commercial fishing openings. There are no bag or possession limits for this fishery.

In 2002, 19 permits were issued for this fishery. Eight permits were returned. Because of the historically low permit return rate for this fishery, data in Table XII-15 are reported harvests only. The reported harvest for 2002 was 858 salmon, mostly sockeye (437; 50.9 percent) and coho (278; 32.4 percent). It is likely that the harvest assessment program for this fishery consistently underestimates harvests. As shown in Table XII-16, household surveys in Tatitlek for 1998 provided an estimate of 830 salmon taken with subsistence methods in 1998, compared to just 105 based on returned permits for that year. Rod and reel and removal from commercial harvests also provide salmon for home use in Tatitlek.

SOUTHWESTERN DISTRICT SUBSISTENCE SALMON FISHERY

The present set of subsistence regulations the Southwestern District of Prince William Sound has been in place since 1988. For subsistence fishing purposes, the waters around Green Island are included in this area. The primary participants in this fishery are residents of Chenega Bay. Prior to 1992, permits were only issued in Chenega Bay. Since 1992, they have also been issued at the ADF&G office in Cordova. Permits may be dropped off at the Cordova ADF&G office, the Chenega Village Council office, or mailed in at the end of the fishing season. Permits include a harvest report, and fishers are required to fill in the dates fished and the number of each species of salmon caught each day.

Legal gear for this fishery includes seines up to 50 fathoms in length and 100 meshes deep with a maximum mesh size of four inches, or gillnets up to 150 fathoms in length with a maximum size of six and one-quarter inches. Pink salmon may be taken in fresh water with dip nets. The season is May 15 through October 31, seven days per week before and after the commercial salmon season, and during commercial fishing openings. There are no bag or possession limits for this fishery.

In 2002, 10 permits were issued for this fishery. Five permits were returned. Because permit return rates for this fishery have been low in the past, data in Table XII-17 are reported harvests only. The reported harvest for 2002 was 418 salmon, consisting of sockeye (142; 34.0 percent), coho (123; 29.4 percent), pink (83; 19.9 percent), chum (60; 14.4 percent), and chinook (10; 2.4 percent). Historically, sockeye have been the most abundant species in this fishery, but only 142 sockeyes were reported for 2002, compared to a long-term average of 245 sockeye salmon. It is likely that the harvest assessment program for this fishery consistently underestimates harvests. As shown in Table XII-18, household surveys in Chenega Bay for 1998 provide an estimate of 1,571 salmon taken with subsistence methods in 1998, compared to just 331 based on returned

permits for that same year. Rod and reel and removal from commercial harvests also provide salmon for home use in Chenega Bay.

PRINCE WILLIAM SOUND: GENERAL DISTRICTS

Subsistence fishing for salmon in the other districts of the Prince William Sound Area (other than the Upper Copper River, Copper River, Eastern, and Southwestern districts) is open in conformance with commercial fishing regulations regarding gear, open areas, and open periods. Permits are required and may be obtained from the Cordova office of ADF&G. Annual limits are 15 salmon for a one person household; 30 salmon for a two person household; and 10 salmon for each additional person in the household. There is a limit of five king salmon per permit.

Since the creation of separate regulations for the waters fished by Tatitlek and Chenega Bay residents in 1988, there has been very limited participation in this fishery. Since 1994, there has been only two years with any reported harvest. In 2002, 11 permits were issued and 9 were returned. The estimated harvest was 57 salmon, mostly sockeye (38 fish; 66.7 percent) (Table XII-19).

OTHER SUBSISTENCE FISHERIES IN THE PRINCE WILLIAM SOUND AREA

In 2002, there were no harvest assessment programs for other subsistence finfish fisheries in the Prince William Sound Area. In the upper Copper River watershed, resident species such as grayling, burbot, and whitefish, among other species, are harvested for home use. Harvest estimates based on household surveys are available in the Community Profile Database (Scott et al. 2001).

Residents of Cordova, Chenega Bay, Tatitlek, Valdez, and Whittier take a variety of shellfish and marine finfish for subsistence use. Harvest estimates are available in the Community Profile Database (Scott et al 2001) based upon systematic household surveys.

Table XII-1. Subsistence Harvests by Village Fish Wheel Permit Holders, Glennallen Subdistrict

Year	Village	Sockeye	Chinook	Coho	Steelhead	Other	Total	Comments
2002	Chickaloon	91					91	
2002	Chitina						0	
2001	Chickaloon	120	20	0	0	0	140	
2001	Chistochina	1,203	4	0	0	0	1,207	
2001	Klut-Kaah	259	3	114			376	
2000	Chickaloon	200	73	0	0	0	273	
2000	Chistochina	880	1	0	0	0	881	
2000	Kluti-Kaah	110	20	0	0	0	130	
1999	Gakona						0	did not fish
1999	Chickaloon	5	1				6	
1999	Kluti-Kah	85	46				131	
1997	Kluti-Kah	61	12				73	
1997	Gakona	1,242	8				1,250	
1997	Chistochina	342	105	139	88	1	675	

Source: Tom Taube, ADF&G, Division of Sport Fish, Glennallen

Table XII-2. Number of State and Federal Subsistence Permits Issued and Number of Households Obtaining Permits by Subdistrict and Gear Type, 2002

Subdistrict	Gear Type	State Permits[2]	Federal Permits[3]	Total Permits	Total Households[4]
Glennallen[1]	All Gear	1,121	201	1,322	1,308
	Fish Wheel	662	NA	NA	NA
	Dip Net	459	NA	NA	NA
Chitina	All Gear	6,804	122	6,926	7,048
	Dip Net	6,804	NA	NA	NA
Combined Subdistricts	All Gear	7,925	323	8,248	NA
	Fish Wheel	662	NA	NA	NA
	Dip Net	7,263	NA	NA	NA

[1] State permits specify the gear type to be used, either fish wheel or dip net. Federal permits allow the use of fish wheels, dip nets, and/or rod and reel.

[2] Under state regulations, households may not hold a Glennallen and a Chitina Subdistrict permit.

[3] Separate federal permits are required for each subdistrict. Households qualified for federal subsistence permits may hold permits for both subdistricts.

[4] Number of households holding either a state and/or a federal permit. Households holding both a federal and a state permit, or permits for both subdistricts, are counted once. There were no dual (state and federal) permit holders for the Chitina Subdistrict

Table XII-3. Historic Subsistence Salmon Harvests: Glennallen Subdistrict

	Permits		Estimated Salmon Harvest[1]					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1988	420	264	1,082	33,294	465	0	0	34,841
1989	386	360	796	28,724	67	0	0	29,587
1990	406	384	639	32,219	91	0	0	32,949
1991	712	645	1,314	39,364	241	0	0	40,919
1992	655	619	1,440	45,115	345	0	0	46,900
1993	773	696	1,443	54,003	76	0	0	55,523
1994	970	776	1,979	69,143	71	0	0	71,193
1995	858	726	1,968	54,336	975	0	0	57,280
1996	850	788	1,483	52,269	552	0	0	54,305
1997	1,136	1,058	2,608	83,692	183	0	0	86,483
1998	1,010	951	1,846	64,876	553	0	0	67,275
1999	1,102	1,040	3,234	76,456	1,145	0	0	80,835
2000	1,251	1,197	4,937	60,551	539	5	0	66,032
2001	1,239	1,176	3,480	81,960	1,142	20	0	86,601
2002	1,308	1,162	4,446	63,028	686	1	0	68,161
1998-2002 Average	1,182	1,105	3,589	69,374	813	5	0	73,781
1993-2002 Average	1,050	957	2,743	66,031	592	3	0	69,369
All Years Average	872	789	2,180	55,935	475	2	0	58,592

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

[1]Starting in 2002, estimates include salmon harvested under federal as well as state subsistence fishing regulations and permits.

Table XII-4. Subsistence Salmon Harvests, Glennallen Subsidistrict, by Area of Residence and Gear Type, 2002

	Permits		Dip Nets[1]		Fishwheels[1]		Rod and Reel[1]		All Gear	
Communities	Issued	%	Harvest	%	Harvest	%	Harvest	%	Harvest	%
Copper River Basin	407	31.1%	703	7.2%	25,369	43.4%	22	100.0%	26,093	38.3%
Outside of Basin	901	68.9%	8,991	92.8%	33,077	56.6%	0	0.0%	42,068	61.7%
Total	1,308	100.0%	9,694	14.2%	58,446	85.7%	22	0.0%	68,161	100.0%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Fisheries Database, Version 3.3

[1]Percentages shown are of the "All Gear" harvest totals.

Table XII-5. 2002 Subsistence Salmon Harvests by Community, Glennallen Subdistrict -- All Gear

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chistochina	1	1	1	1	0	0	0	2
Chitina	29	19	72	2,569	14	0	0	2,654
Copper Center	115	105	459	7,411	77	1	0	7,948
Gakona	38	35	186	2,474	0	0	0	2,660
Glennallen	123	115	456	6,494	173	0	0	7,123
Gulkana	3	2	15	395	0	0	0	410
Kenny Lake	28	23	230	2,139	18	0	0	2,387
Lower Tonsina	4	3	44	605	15	0	0	664
McCarthy	24	15	0	0	0	0	0	0
Mentasta	1	1	1	11	0	0	0	12
Nabesna Road	2	2	0	5	0	0	0	5
Nelchina	2	2	23	117	0	0	0	140
Paxson	1	1	2	23	0	0	0	25
Slana	23	23	9	757	0	0	0	766
Tazlina	11	9	165	1,132	0	0	0	1,297
Tonsina	2	1	0	0	0	0	0	0
Copper Basin	407	357 0	1,662	24,134	297	1	0	26,093
Anchorage	370	310	926	14,671	254	0	0	15,850
Anderson	1	1	0	55	0	0	0	55
Barrow	2	1	0	230	0	0	0	230
Big Lake	6	6	6	305	0	0	0	311
Bird Creek	1	0						0
Cantwell	1	1	0	0	0	0	0	0
Central	1	1	0	0	0	0	0	0
Chickaloon	1	1	0	91	0	0	0	91
Chisana	1	1	4	73	0	0	0	77
Chugiak	21	20	74	502	0	0	0	576
Clear AFB	2	2	0	29	0	0	0	29
Cooper Landing	1	1	1	198	0	0	0	199
Cordova	1	1	10	403	0	0	0	413
Delta Junction	22	17	36	1,042	0	0	0	1,078
Denali Park	2	1	0	22	0	0	0	22
Dillingham	1	1	0	0	0	0	0	0
Dot Lake	2	2	5	35	0	0	0	40
Eagle River	57	55	251	3,125	64	0	0	3,440
Eielson AFB	2	2	0	8	0	0	0	8
Ester	1	1	11	242	0	0	0	253

[continued]

Table XII-5. [continued]

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Fairbanks	105	99	210	2,387	4	0	0	2,601
Fort Richardson	2	2	42	168	0	0	0	210
Girdwood	9	8	21	370	0	0	0	392
Healy	4	4	2	66	0	0	0	68
Homer	3	3	9	64	0	0	0	73
Houston	1	1	0	0	0	0	0	0
Indian	1	1	1	15	0	0	0	16
Juneau	1	1	3	10	0	0	0	13
Kodiak (city)	1	1	4	55	0	0	0	59
Kotzebue	1	1	0	0	0	0	0	0
McGrath	1	1	0	0	0	0	0	0
Nenana	2	2	1	183	0	0	0	184
Nome	1	1	6	17	0	0	0	23
North Pole	42	38	93	839	0	0	0	932
Northway	1	0						0
Nulato	1	0						0
Palmer	57	57	265	3,119	16	0	0	3,400
Salcha	10	10	11	216	0	0	0	227
Sutton	6	5	0	164	6	0	0	170
Talkeetna	1	1	6	33	0	0	0	39
Tanacross	1	0						0
Tok	37	35	36	1,379	0	0	0	1,414
Valdez	36	34	195	3,188	1	0	0	3,384
Wainwright	1	1	1	10	0	0	0	11
Wasilla	80	74	555	5,581	44	0	0	6,180
Other Communities	901	805	2,784	38,894	389	0	0	42,068
Totals	1,308	1,162	4,446	63,028	686	1	0	68,161

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-6. 2002 Subsistence Salmon Harvests by Community: Glennallen Subdistrict - Fish Wheels

	Permits		Estimated Salmon Harvest					
Community	Issued[1]	Returned[2]	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chistochina	1	1	1	1	0	0	0	2
Chitina	29	17	72	2,569	14	0	0	2,654
Copper Center	115	78	422	7,150	72	1	0	7,645
Gakona	38	24	186	2,430	0	0	0	2,615
Glennallen	123	94	455	6,443	173	0	0	7,071
Gulkana	3	1	15	395	0	0	0	410
Kenny Lake	28	14	220	1,908	18	0	0	2,146
Lower Tonsina	4	2	37	555	15	0	0	607
Mentasta	1	1	1	11	0	0	0	12
Nabesna Road	2	1	0	5	0	0	0	5
Nelchina	2	1	23	91	0	0	0	114
Paxson	1	1	2	23	0	0	0	25
Slana	23	21	9	757	0	0	0	766
Tazlina	11	8	165	1,132	0	0	0	1,297
Copper Basin	381	264	1,607	23,468	292	1	0	25,369
Anchorage	370	110	658	10,145	138	0	0	10,941
Anderson	1	1	0	55	0	0	0	55
Barrow	2	1	0	230	0	0	0	230
Big Lake	6	3	2	273	0	0	0	275
Chickaloon	1	1	0	91	0	0	0	91
Chisana	1	1	4	73	0	0	0	77
Chugiak	21	8	63	384	0	0	0	447
Clear AFB	2	1	0	29	0	0	0	29
Cooper Landing	1	1	1	198	0	0	0	199
Cordova	1	1	10	403	0	0	0	413
Delta Junction	22	4	10	450	0	0	0	461
Dot Lake	2	2	5	35	0	0	0	40
Eagle River	57	35	237	2,925	64	0	0	3,226
Ester	1	1	11	242	0	0	0	253
Fairbanks	105	31	123	1,424	0	0	0	1,547
Fort Richardson	2	1	42	103	0	0	0	145
Healy	4	3	2	54	0	0	0	56
Homer	3	2	7	36	0	0	0	43
Indian	1	1	1	15	0	0	0	16
Kodiak (city)	1	1	4	55	0	0	0	59
Nenana	2	1	1	180	0	0	0	181
Nome	1	1	6	17	0	0	0	23
North Pole	42	15	76	430	0	0	0	506
Palmer	57	34	252	2,826	16	0	0	3,094
Salcha	10	1	2	71	0	0	0	73
Sutton	6	1	0	164	0	0	0	164
Talkeetna	1	1	6	33	0	0	0	39
Tok	37	23	31	1,215	0	0	0	1,245
Valdez	36	28	188	3,142	1	0	0	3,331
Wainwright	1	1	1	10	0	0	0	11
Wasilla	80	56	535	5,270	0	0	0	5,805
Other Communities	877	371	2,279	30,578	219	0	0	33,077
Total	1,258	635	3,887	54,046	512	1	0	58,446

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsisence Fisheries Database, Version 3.3.

[1]All permits issued to communities reporting harvests or harvest attempts with fish wheels.

[2]Returned permits indicating harvests or harvest attempts with fish wheels.

Table XII-7. 2002 Subsistence Salmon Harvests by Community -- Glennallen Subdistrict - Dip Nets

Community	Permits Issued[1]	Permits Returned[2]	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Copper Center	115	6	15	262	4	0	0	281
Gakona	38	3	0	45	0	0	0	45
Glennallen	123	3	1	51	0	0	0	52
Kenny Lake	28	5	10	231	0	0	0	241
Lower Tonsina	4	2	7	51	0	0	0	57
Nelchina	2	2	0	26	0	0	0	26
Copper Basin	310	21	33	666	4	0	0	703
Anchorage	370	114	267	4,526	116	0	0	4,909
Big Lake	6	2	4	32	0	0	0	36
Chugiak	21	6	11	117	0	0	0	129
Delta Junction	22	12	26	591	0	0	0	617
Denali Park	2	1	0	22	0	0	0	22
Eagle River	57	8	13	200	0	0	0	213
Eielson AFB	2	1	0	8	0	0	0	8
Fairbanks	105	40	87	963	4	0	0	1,054
Fort Richardson	2	1	0	65	0	0	0	65
Girdwood	9	7	21	370	0	0	0	392
Healy	4	1	0	12	0	0	0	12
Homer	3	1	2	28	0	0	0	30
Juneau	1	1	3	10	0	0	0	13
Nenana	2	1	0	3	0	0	0	3
North Pole	42	16	17	409	0	0	0	426
Palmer	57	11	13	293	0	0	0	306
Salcha	10	6	9	145	0	0	0	154
Sutton	6	1	0	0	6	0	0	6
Tok	37	4	5	164	0	0	0	169
Valdez	36	2	6	47	0	0	0	53
Wasilla	80	7	19	311	44	0	0	374
Other Communities	874	243	505	8,316	170	0	0	8,991
All Communities	1,184	264	538	8,982	174	0	0	9,694

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

[1]All permits issued to communities reporting harvests or harvest attempts with dip nets.

[2]Returned permits indicating harvests or harvest attempts with dip nets.

Table XII-8. 2002 Subsistence Salmon Harvests by Community -- Glennallen Subdistrict - Rod and Reel

Community	Permits Issued[1]	Permits Returned[2]	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Copper Center	115	1	22	0	0	0	0	22
Copper Basin	115	1	22	0	0	0	0	22
Other Communities	0	0	0	0	0	0	0	0
All Communities	115	1	22	0	0	0	0	22

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

[1]All permits issued to communities reporting harvests or harvest attempts with rod and reel gear.
[2]Returned permits indicating harvests or harvest attempts with rod and reel gear.

Table XII-9. Historic Subsistence and Personal Use Salmon Harvests: Chitina Subdistrict[1]

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1988	4,252	2,900	3,936	55,862	658	0	0	60,455
1989	4,584	4,353	2,269	56,547	865	0	0	59,681
1990	5,689	5,475	2,711	66,435	1,516	0	0	70,662
1991	6,222	5,990	4,092	78,412	3,378	0	0	85,882
1992	6,387	6,229	3,422	87,090	1,524	0	0	92,036
1993	7,914	7,914	2,729	89,629	1,358	0	0	93,716
1994	7,060	5,939	4,198	106,163	2,204	0	0	112,566
1995	6,762	5,442	5,617	94,494	5,861	0	0	105,972
1996	7,196	6,962	3,607	95,645	3,404	0	0	102,656
1997	9,086	8,919	5,470	149,020	160	0	0	154,650
1998	10,002	9,751	6,746	137,530	2,156	0	0	146,431
1999	9,941	9,607	5,964	142,682	2,199	0	0	150,845
2000	8,145	7,676	3,219	109,370	3,758	0	0	116,347
2001	9,458	8,356	3,171	137,047	2,687	0	0	142,905
2002 [2]	6,804	5,736	2,093	90,655	2,034	0	0	94,782
1998-2002 Average	8,870	8,225	4,239	123,457	2,567	0	0	130,262
1993-2002 Average	8,237	7,630	4,281	115,223	2,582	0	0	122,087
All Years Average	7,300	6,750	3,950	99,772	2,251	0	0	105,972

[1] Under state regulations, this fishery was classified as personal use from 1986 through 1999; in 2000, 2001, and 2002, it was classified as a subsistence fishery.

[2] Does not include harvest with federal subsistence permits.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-10. 2002 Subsistence Salmon Harvests by Gear Type: Chitina Subdistrict Federal Permits

	PERMITS		ESTIMATED SALMON HARVEST					
GEAR TYPE	ISSUED[1]	RETURNED[2]	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
All Gear	122	90	48	835	0	0	0	883
Dip Net		21	29	654	0	0	0	683
Fishwheel		5	19	182	0	0	0	200
Rod and Reel								0

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

[1]Permit holders are allowed to use more than one gear type, so the number of permits issued is only reportable at the "All Gear" level.

[2]At the "All Gear" level, the number of returned permits represents the total number returned from all issued permits, whether fished or not. At the individual gear type levels, the number of returned permits reflects only those that were fished using the respective gear types.

Table XII-11. 2002 Subsistence Salmon Harvests by Community: Chitina Subdistrict (state permits only)

	Permits		Estimated Salmon Harvest					
Community	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chitina	2	1	0	6	0	0	0	6
Copper Center	6	3	0	38	0	0	0	38
Glennallen	12	7	2	94	2	0	0	98
Slana	1	1	0	3	0	0	0	3
Copper Basin	21	12	2	141	2	0	0	145
Akhiok	1	1	0	20	0	0	0	20
Akiachak	1	1	0	4	0	0	0	4
Anchorage	1,547	1,300	511	18,156	369	0	0	19,037
Anderson	7	6	1	90	20	0	0	111
Barrow	9	4	5	59	0	0	0	63
Beaver	1	0						
Bethel	1	0						
Bettles	2	2	0	50	0	0	0	50
Big Lake	34	26	14	366	7	0	0	386
Buckland	1	1	0	0	0	0	0	0
Cantwell	1	1	0	30	0	0	0	30
Central	8	6	4	77	0	0	0	81
Chickaloon	4	3	3	69	5	0	0	77
Chicken	1	1	1	29	0	0	0	30
Chugiak	106	93	44	1,491	68	0	0	1,603
Clear AFB	2	2	1	47	0	0	0	48
Cooper Landing	2	2	0	43	0	0	0	43
Delta Junction	242	215	91	3,497	36	0	0	3,623
Denali Park	5	4	1	4	6	0	0	11
Dillingham	1	0						
Dutch Harbor	1	1	1	20	0	0	0	21
Eagle River	301	270	90	3,759	57	0	0	3,906
Eielson AFB	125	100	36	1,596	22	0	0	1,653
Elmendorf AFB	21	20	7	228	0	0	0	234
Ester	60	43	16	610	31	0	0	657
Fairbanks	2,098	1,755	673	30,103	648	0	0	31,424
Fort Richardson	19	12	10	217	0	0	0	226
Fort Wainwright	112	82	33	1,407	16	0	0	1,456
Fort Yukon	1	1	0	0	0	0	0	0
Galena	3	1	3	60	0	0	0	63
Gambell	1	0						
Girdwood	20	17	4	238	0	0	0	241
Haines	1	0						
Healy	25	22	5	246	13	0	0	264
Homer	4	4	2	16	0	0	0	18

[continued]

Table XII-11. [continued]

Community	Permits		Estimated Salmon Harvest					
	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Houston	5	5	0	86	0	0	0	86
Indian	2	2	1	7	2	0	0	10
Juneau	3	2	3	83	0	0	0	86
Kaktovik	1	1	1	24	0	0	0	25
Kasilof	1	1	0	0	0	0	0	0
Kenai	5	3	2	82	0	0	0	83
Ketchikan	1	0						
King Cove	1	0						
Kodiak (city)	1	1	0	0	0	0	0	0
Kotzebue	2	2	1	44	0	0	0	45
Lake Minchumina	1	1	0	15	0	0	0	15
Manley Hot Springs	1	1	0	30	0	0	0	30
Mekoryuk	1	1	1	9	0	0	0	10
Minto	1	1	0	15	0	0	0	15
Nenana	24	19	10	488	6	0	0	504
Nikiski	1	1	1	20	0	0	0	21
Ninilchik	3	2	0	83	0	0	0	83
Nome	3	3	0	3	0	0	0	3
Nondalton	1	1	0	19	0	0	0	19
North Pole	595	501	164	8,362	202	0	0	8,729
Other USA	3	1	0	6	0	0	0	6
Palmer	377	328	105	5,406	149	0	0	5,660
Petersburg	1	1	0	0	0	0	0	0
Point Hope	2	2	1	59	0	0	0	60
Point Lay	1	1	1	9	0	0	0	10
Salcha	43	37	9	460	63	0	0	532
Selawik	1	0						
Seldovia	2	0						
Seward	8	6	5	96	0	0	0	101
Shishmaref	2	1	0	20	0	0	0	20
Sitka	1	1	0	0	0	0	0	0
Soldotna	10	10	3	118	0	0	0	121
Sterling	2	1	0	8	0	0	0	8
Sutton	22	20	3	408	2	0	0	414
Talkeetna	13	13	1	175	5	0	0	181
Tok	18	17	1	232	0	0	0	233
Trapper Creek	1	1	0	0	0	0	0	0
Two Rivers	21	20	7	309	11	0	0	327
Unknown Community	63	62	12	753	72	0	0	838
Valdez	174	143	28	1,785	0	0	0	1,814

[continued]

Table XII-11. [continued]

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Wainwright	1	1	1	21	0	0	0	22
Ward Cove	2	2	0	15	0	0	0	15
Wasilla	562	482	167	8,113	214	0	0	8,495
Willow	31	29	9	621	7	0	0	637
Wrangell	1	1	0	0	0	0	0	0
Other Communities	6,783	5,724	2,092	90,513	2,032	0	0	94,637
Totals	6,804	5,736	2,093	90,655	2,034	0	0	94,782

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-12. 2002 Subsistence Salmon Harvests by Community and Gear Type: Chitina Subdistrict Federal Permits

COMMUNITY	GEAR TYPE	PERMITS ISSUED[1]	PERMITS RETURNED[2]	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
All Communities	All Gear	122	90	48	835	0	0	0	883
	Dip Net		21	29	654	0	0	0	683
	Fishwheel		5	19	182	0	0	0	200
Chitina	All Gear	18	12	35	219	0	0	0	254
	Dip Net		2	18	38	0	0	0	56
	Fishwheel		3	17	182	0	0	0	198
Copper Center	All Gear	24	20	0	0	0	0	0	0
Gakona	All Gear	4	4	0	0	0	0	0	0
Glennallen	All Gear	16	12	4	32	0	0	0	36
	Dip Net		4	4	32	0	0	0	36
	Fishwheel		1	0	0	0	0	0	0
Kenny Lake	All Gear	21	17	4	137	0	0	0	141
	Dip Net		4	1	137	0	0	0	138
	Fishwheel		1	2	0	0	0	0	2
Lower Tonsina	All Gear	3	2	0	75	0	0	0	75
	Dip Net		1	0	75	0	0	0	75
McCarthy	All Gear	30	19	5	349	0	0	0	354
	Dip Net		8	5	349	0	0	0	354
Tazlina	All Gear	3	1	0	0	0	0	0	0
Tok	All Gear	1	1	0	0	0	0	0	0
Tonsina	All Gear	2	2	1	23	0	0	0	24
	Dip Net		2	1	23	0	0	0	24

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

[1]Permit holders are allowed to use more than one gear type, so the number of permits issued is only reportable at the "All Gear" level.

[2]At the "All Gear" level, the number of returned permits represents the total number returned from all issued permits, whether fished or not. At the individual gear type levels, the number of returned permits reflects only those that were fished using the respective gear types.

Table XII-13. Historic Subsistence Salmon Harvests, Batzulnetas Fishery, 1987 - 2002

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1987	8	8	0	22	0	0	0	22
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0
1993	1	1	0	160	0	0	0	160
1994	4	4	0	997	0	0	0	997
1995	4	2	0	32	0	0	0	32
1996	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1998	1	1	0	382	0	0	0	382
1999	1	1	0	55	0	0	0	55
2000	1	1	0	55	0	0	0	55
2001	1	1	1	61	0	0	0	62
2002	1	1	0	208	0	0	0	208
1998-2002 Average	1	1	0	152	0	0	0	152
1993-2002 Average	1	1	0	195	0	0	0	195
All Years Average	1	1	0	123	0	0	0	123

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-14. Historic Subsistence Salmon Harvests: Copper River District (Copper River Flats), 1965 - 2002

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1965	31	20	19	711	132	0	0	862
1966	45	31	68	254	0	0	0	322
1967	61	56	90	167	0	0	0	257
1968	17	15	12	41	0	0	0	53
1969	49	33	24	94	126	0	0	244
1970	32	27	78	212	0	0	0	290
1971	29	26	11	36	4	0	0	51
1972	104	79	196	749	70	0	0	1,015
1973	94	89	162	344	190	0	0	696
1974	9	5	9	7	4	0	0	20
1975	2	2	0	5	0	0	0	5
1976	27	14	2	19	0	0	0	21
1977	23	22	10	74	0	0	0	85
1978	34	28	45	22	15	0	0	81
1979	49	41	54	31	20	0	0	105
1980	39	35	21	30	19	0	0	70
1981	72	51	68	205	147	0	0	419
1982	108	90	72	761	127	0	0	960
1983	87	73	94	128	68	0	0	290
1984	118	104	77	368	153	0	0	598
1985	94	94	88	261	83	0	0	432
1986	88	85	89	360	49	0	0	498
1987	95	89	52	383	15	0	0	450
1988	114	97	69	266	49	0	0	384
1989	75	64	66	397	60	0	0	523
1990	88	76	69	543	95	0	0	707
1991	129	115	153	931	43	0	0	1,126
1992	126	113	158	875	47	0	0	1,080
1993	111	93	143	511	35	0	0	689
1994	101	97	171	494	70	0	0	734
1995	126	112	173	779	35	0	0	987
1996	176	157	309	1,086	53	0	0	1,448
1997	269	243	223	1,144	1,967	0	0	3,333
1998	245	230	314	905	724	0	0	1,944
1999	294	275	377	1,422	729	0	0	2,528
2000	416	400	717	4,534	46	18	3	5,318
2001	468	439	881	3,275	75	2	0	4,232
2002	355	331	589	3,289	30	2	0	3,910
1998-2002 Average	356	335	576	2,685	321	4	1	3,587
1993-2002 Average	256	238	390	1,744	376	2	0	2,512
All Years Average	116	104	151	677	139	1	0	968

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-15. Historic Subsistence Salmon Harvests, Eastern Prince William Sound, 1988 - 2002 [1]

	Permits		Reported Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1988	17		2	210	249	297	143	901
1989	14		1	107	653	43	28	832
1990	13		0	5	241	4	10	260
1991	19		0	107	984	28	320	1,439
1992	15		2	441	369	49	30	891
1993	18		2	512	305	74	144	1,037
1994	14		0	50	143	70	50	313
1995	15	0						
1996	6		0	0	38	0	0	38
1997	6		0	107	45	54	0	206
1998	11		0	2	71	28	4	105
1999	17		0	344	541	31	31	947
2000	12	3	0	140	468	40	40	688
2001	14	9	0	114	230	12	60	416
2002	19	8	6	437	278	66	71	858
1998-2002 Average	15	7	1	207	318	35	41	603
1993-2002 Average	13	5	1	190	235	42	44	512
All Years Average	14	5	1	184	330	57	67	638

[1] Defined as "those waters north of a line from Porcupine Point to Granite point, and south of a line from Point Lowe to Tongue Point" (5 AAC 01.648(b)). Prior to 1988, this area was included in the "general Prince William Sound Area" for purposes of subsistence salmon permits.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-16. Estimated Harvests of Salmon for Home Use, Tatitlek, 1998

	Estimated Number Harvested			
	Subsistence Methods	Rod & Reel	Removed from Commercial Harvests	All Methods
Chinook	29	3	8	40
Sockeye	472	46	83	601
Coho	202	322	54	578
Pink	110	25	0	135
Chum	17	3	0	20
All Salmon	830	399	145	1,374
Estimated Number of Households Harvesting[1]	8 households	19 households	3 households	19 households (any method)

[1] Number of households in the community = 27; 16 (59.3 percent) were interviewed

Source: Community Profile Database (Scott et al. 2001)

Table XII-17. Historic Subsistence Salmon Harvests, Southwestern Prince William Sound, 1988 - 2002 [1]

	Permits		Reported Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1988	10		1	50	8	294	251	604
1989	8		0	322	0	180	554	1,056
1990	7		1	36	5	2	20	64
1991	12		3	345	42	53	195	638
1992	14		1	526	23	99	313	962
1993	22		2	835	50	124	232	1,243
1994	16		5	192	77	161	402	837
1995	10		2	152	67	41	67	329
1996	7		0	107	7	46	105	265
1997	5		44	193	30	272	110	649
1998	4		13	114	20	119	65	331
1999	14		57	499	62	101	168	887
2000	12	8	24	39	229	143	211	646
2001	16	9	2	119	92	146	95	454
2002	10	5	10	142	123	60	83	418
1998-2002 Average	11	7	21	183	105	114	124	547
1993-2002 Average	12	7	16	239	76	121	154	606
All Years Average	11	7	11	245	56	123	191	626

[1] Defined as 'those waters of the Southwestern District, as described in 5 AAC 24.200, and along the nortrwestern shore of Green Island" (5 AAC 01.648(a)). Prior to 1988, this area was included in the "general Prince William Sound Area" for purposes of subsistence salmon permits.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Table XII-18. Estimated Harvests of Salmon for Home Use, Chenega Bay, 1998

	Estimated Number Harvested			
	Subsistence Methods	Rod & Reel	Removed from Commercial Harvests	All Methods
Chinook	112	57	21	190
Sockeye	409	41	87	537
Coho	60	78	21	159
Pink	391	112	140	643
Chum	599	73	140	812
Other/Unknown	0	45	0	45
All Salmon	1,571	406	409	2,386
Estimated Number of Households Harvesting[1]	14 households	8 households	4 households	17 households (any method)

[1] Number of households in the community = 21; 15 (71.4 percent) were interviewed

Source: Community Profile Database (Scott et al. 2001)

Table XII-19. Historic Subsistence Salmon Harvests, General Prince William Sound Area, 1960 - 2002

	Permits		Estimated Salmon Harvest					
Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
1960	50		1	139	505	27	1,292	1,964
1961	12		3	41	123	3	732	902
1962	9		0	0	119	142	214	475
1963	9		0	0	406	24	298	728
1964	15		0	11	0	0	900	911
1965	22	16	0	0	0	34	246	281
1966	3	3	0	3	19	50	20	92
1967	4	3	0	0	5	0	5	11
1968	4	3	0	0	27	0	208	235
1969	7	3	0	0	37	0	0	37
1970	1	1	0	0	0	0	0	0
1971	3	2	0	0	0	0	69	69
1972	0	0	0	0	0	0	0	0
1973	19	16	0	0	343	0	0	343
1974	3	1	0	0	0	0	0	0
1975	2	0						
1976	0	0	0	0	0	0	0	0
1977	4	4	0	0	0	0	0	0
1978	3	2	0	0	0	0	0	0
1979	15	2	0	0	0	0	0	0
1980	26	15	0	12	10	0	0	23
1981	12	8	0	5	44	3	0	51
1982	35	27	0	109	5	31	40	185
1983	26	21	0	27	45	98	11	181
1984	8	8	0	10	0	2	11	23
1985	22	16	1	37	22	36	19	116
1986	25	14	0	9	27	0	0	36
1987	18	17	5	33	6	17	0	61
1988	7	7	2	51	7	9	10	79
1989	11	7	0	0	0	5	0	5
1990	8	8	0	0	7	0	4	11
1991	9	5	0	4	0	0	0	4
1992	10	6	0	33	0	0	0	33
1993	6	6	1	104	10	0	0	115
1994	5	4	0	0	0	0	0	0
1995	4	2	0	0	0	0	0	0
1996	10	7	0	0	0	0	0	0
1997	4	3	0	4	0	0	0	4
1998	4	3	0	0	0	0	0	0
1999	3	3	0	0	0	0	0	0
2000	3	3	0	0	0	0	0	0
2001	5	5	0	0	0	0	0	0
2002	11	9	0	38	0	9	11	57
1998-2002 Average	5	5	0	8	0	2	2	11
1993-2002 Average	6	5	0	15	1	1	1	18
All Years Average	11	7	0	16	42	12	97	167

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

XIII. SOUTHEAST/YAKUTAT REGION

BACKGROUND

The Southeast/Yakutat Region includes all waters of Alaska between the latitude of Cape Muzon at the tip of Prince of Wales Island at Dixon Entrance to Cape Suckling on the Gulf of Alaska. It consists of six management areas for subsistence purposes, matching the commercial salmon and shellfish management areas: the Yakutat Area, the Haines Area, the Juneau Area, the Sitka Area, the Petersburg Area, the Wrangell Area, and the Ketchikan Area. Subsistence and personal use fisheries in each of these areas have annual harvest assessment programs based on a permit reporting system. All but the Yakutat Area have identified specific waters where subsistence or personal use fishing is permitted, with daily or annual limits, seasons, and gear type allowed.

The total population of Southeast Alaska in 2000 was 73,082 (U.S. Census 2000). By July 2002 the State Department of Labor estimates the total population of Southeast Alaska had dropped to 71,972. The Alaska Joint Board of Fisheries and Game has identified two nonsubsistence areas in Southeast Alaska - the Ketchikan Nonsubsistence Area and the Juneau Nonsubsistence Area (5 AAC99.015). Subsistence fisheries may not be authorized in nonsubsistence areas. Depending upon the district and section, non-commercial, non-recreational salmon fishing in Southeast Alaska occurs under either subsistence or personal use regulations. The Board of Fisheries bases the distinction on whether there has been a "customary and traditional use" determination.

HARVEST ASSESSMENT PROGRAM

The Division of Commercial Fisheries has been responsible for administering the subsistence/personal use salmon fisheries in Southeast Alaska. Area management biologists issue permits identifying fishing locations open, species, daily (and in some cases annual) possession limits, and other permit conditions, such as seasons, and gear. Area management biologists may use their discretion in changing these conditions, including emergency closures. Area management offices require that catch calendars on the permit be returned by mail or phone at the end of each season, and the information on the calendars is entered into Alexander: The Integrated Fisheries Database for Southeast Alaska and Yakutat, that includes all the harvest data from commercial fisheries as well. The Division of Commercial Fisheries maintains in the database the names and addresses of all those applying for subsistence/personal use permits, along with their catch record. Only one permit is issued per household, and permit holders and other household members authorized to fish this permit must be Alaska residents. Most permits for the region specify that a permit will not be issued to anyone who has failed to return a permit issued for the previous year. Generally, area management offices will accept a reported catch for the previous year at the time a person is applying for a current year permit. Sometimes this is done by phone.

Some of Southeast Alaska's sockeye salmon stocks have on-going biological monitoring or escapement programs. Aerial surveys and weir counts are available for some years and

locations. Some test fisheries done as part of the management of the commercial salmon fisheries, provide information for managers that may be reflected in the management of the subsistence and personal use fisheries. The permit conditions have been used as a conservative means of managing these fisheries, given the lack of biological data about the health of the several stocks.

The Division of Commercial Fisheries records the amounts of salmon reported on returned permits, but does not expand these numbers to permits not returned when entering the data into the Alexander database. The decision, by the Division of Commercial Fisheries, not to expand to unreturned permits stems from the uncertainty about whether those permits were fished. Also, since all permits issued in Southeast for subsistence fisheries, with the exception of the Yakutat Area, include daily or annual limits on amounts, permits returned with catch data have usually matched the limits. Information from other sources, notably the Division of Subsistence household harvest surveys, suggest that catches typically exceed limits for some communities and locations. Data on subsistence salmon harvests from the Alexander database therefore represent a minimum harvest estimate.

Data from the Alexander database were first added to the Alaska Subsistence Fisheries Database for the calendar year 2000, as part of the "Statewide Subsistence Fisheries Harvest Monitoring Strategy" project, funded by the U.S. Fish and Wildlife Service's Office of Subsistence Management. In order to achieve consistency, and to treat each fishery in a systematic manner, the same conventions used when entering data on subsistence harvests from other regions have been applied to Southeast subsistence salmon permit harvest data, namely expanding to account for unreturned permits.

There is concern that the permit system used in Southeast Alaska, with its limitations on daily possession and/or annual limits, opening and closing dates, and in some cases, gear restrictions, does not accommodate the traditional practices followed by Southeast salmon fishers. The permit conditions generally do not recognize local knowledge of the resource, or local practices of specialization in resource harvest activities and sharing among families and households. Typically, the Division of Subsistence' household harvest surveys in communities of Southeast have documented substantially higher salmon harvest levels than those reported on the subsistence salmon permits. Past surveys have not attempted to tie harvest numbers to specific fishing locations, however.

Fishers respond to the regulatory system governing the Southeast subsistence salmon fisheries in a variety of ways, including more than one permit application per household, using permits from several households when fishing in an attempt to comply with "proxy fishing" requirements, as understood at the local level, reporting of the amount of the limit on the permit when it is returned, rather than actual amounts harvested, and fishing without a permit, or at locations not listed on the permit. If one or more of these factors are in play, the resulting data provided to the Department may be considerably different from actual harvests.

As a part of the “Statewide Subsistence Fisheries Harvest Monitoring Strategy" project, post-season, subsistence salmon harvest surveys were conducted in three Southeast communities - Angoon, Kake and Hoonah covering harvests during the 2001 salmon fishing season. Lists of fishing households were developed using the Alexander database, and face-to-face, confidential

interviews were conducted in the fall and winter of 2001/02 with all, or a random sample of, households. The purpose was to compare individual household salmon harvest information from the survey with harvests reported on the returned permits, matching surveyed households directly with the permit reports. The face-to-face surveys collected information on the numbers, species, gear and location of salmon harvested, as well as number of persons in the household who fished, number of permits fished, and number of other households the respondent fished for. Confidentiality of information provided in the face-to-face interviews was assured, as is the custom on all Division of Subsistence household surveys. The comparative analysis of the results of these two methodologies has not been completed in time for inclusion in this year's report. A report on this project will be forthcoming.

SUBSISTENCE SALMON HARVESTS IN 2002 – REGIONAL OVERVIEW

In 2002, the estimated subsistence/personal use salmon harvest for Southeast Alaska/Yakutat Region was 66,804 fish (Table XIII-1). This was below the amounts estimated for 2001 (68,080), and below recent five-year and ten-year averages (68,665 and 68,737 respectively). By species, sockeye comprised the biggest share at 56,379 (84.4 percent), followed by 3,210 pink (4.8 percent), 3,176 coho (4.8 percent), and 1,857 chinook (2.8 percent). Coho and chinook are under-represented in these estimates since there are no directed subsistence chinook fisheries in Southeast Alaska/Yakutat, and only one subsistence coho fishery (in Mitchell Bay near Angoon). Sockeye is the species targeted by Southeast Alaska subsistence/personal use fisheries and the other species reported are usually, but not exclusively, taken as by-catch to a sockeye harvest.

Subsistence salmon harvests for home use reported on the Subsistence /Personal Use Salmon Permits represents only a portion of the salmon harvested for home use by Southeast Alaska fishers. Additional quantities of chinook, coho, pink, and chum salmon are harvested using rod and reel gear, defined by statute as "sport" gear, and by removal from commercial catches.

Since responsibility for administering and managing subsistence fisheries has been with the Division of Commercial Fisheries, with each management area office responsible for waters and fisheries within the districts assigned, and with subsistence salmon/personal use permits issued for those waters and fisheries, harvests are reported and recorded by commercial fishing districts and statistical areas. In some cases, this has resulted in portions of a "customary and traditional" area, as originally identified by the Board of Fisheries, falling within the jurisdictions of two different management area offices. The Alexander database does not allow for grouping of subsistence salmon fisheries by C&T area. Under current state law, all Alaska residents are eligible to engage in subsistence (or personal use) fishing in all waters outside of the designated "nonsubsistence" areas.

To better understand the relative importance of each fishery to the communities that use them, it is important to look at the harvest record by location and by community of fishers. For the purposes of this report, harvests have been grouped by C&T area, and by primary community associated with each C&T area. Table XIII-1 shows the 2002 harvests by commercial salmon fishing districts. Table XIII-2 shows the 2002 harvests by subsistence fishing areas based on waters identified as having "customary and traditional" uses by the Board of Fisheries, and as discussed in this report. Table XIII-3 reports the 2002 harvest by community.

Table XIII-1. Subsistence and Personal Use Salmon Harvests by District and Species, Southeast/Yakutat Region, 2002

Fishing Location		Name	Permits		Estimated Salmon Harvests					
			Issued	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total
101	District 1	Ketchikan/Behm Canal	198	223	205	4,208	43	712	1,236	6,404
102	District 2	Clarence Strait/East Prince of Wales Island	59	67	0	727	30	7	342	1,106
103	District 3	Inside Waters/West Prince of Wales Island	189	236	1	7,190	41	266	43	7,542
105	District 5	Sumner Strait	1	1	0	12	0	0	0	12
106	District 6	East Sumner Strait/North Frederick Sound	205	231	1	2,321	415	29	9	2,775
107	District 7	East Etolin Island/Wrangell Island/Ernest Sound	76	87	136	1,229	11	100	31	1,507
109	District 9	South Chatham Strait/West Frederick Sound	88	98	2	2,427	0	138	92	2,660
111	District 11	Juneau.Taku Inlet.Stephens Passage	229	328	19	4,089	96	31	87	4,322
112	District 12	Angoon/North Chatham Strait/East Chichagof	44	67	0	1,090	63	31	63	1,246
113	District 13	Sitka.Outer Baranof and Chichagof/Peril Strait	432	520	19	22,421	52	93	152	22,738
114	District 14	Icy Strait/Glacier Bay	15	27	0	115	4	191	159	468
115	District 15	Lynn Canal/Chilkat Inlet	326	355	96	6,258	630	571	839	8,394
182	Yakutat Forelands	Yakutat Forelands	87	91	542	4,166	1,664	13	156	6,540
183	Yakutat Bay-Troll	Yakutat Bay-Troll	33	35	835	126	127	0	0	1,088
		Totals			1,857	56,379	3,176	2,183	3,210	66,804
		Percent of Totals			2.8%	84.4%	4.8%	3.3%	4.8%	100.0%

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-2. Southeast Alaska/Yakutat Region Subsistence and Personal Use Salmon Harvests by Fishing Areas Discused in Capter XIII, 2001

	Permits Fished		Estimated Harvest					Total
	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Yakutat Management Area								
Yakutat Forelands & Yakutat Bay-Troll	120	126	1,376	4,292	1,791	13	156	7,629
Haines Management Area								
Lynn Canal/Chilkat Inlet - District 15 Haines and Klukwan Subsistence Area	326	355	96	6,258	630	571	839	8,394
Juneau Management Area								
Juneau/Taku Inlet/Stephens Passage - District 11	229	328	20	4,089	96	31	87	4,322
Angoon/North Chatham Strait/East Chichagof - District 12 Angoon Subsistence Area District 12, ***Plus*** *Portion Dist 13 - Sitkoh Bay*	50	76	0	1,331	63	33	105	1,532
Icy Strait/Glacier Bay - District 14 Hoonah Subsistence Area District 14, ***Plus*** *Portion District 13 - Surge Bay & Hoktaheen Cove*	61	103	0	2,288	9	191	159	2,646
Sitka Management Area								
Sitka/Outer Baranof & Chichagof/Peril Strait - District 13 ***Except*** *Surge Bay, Hoktaheen and Sitkoh Bay*	380	434	19	20,007	47	92	110	20,275
Petersburg Management Area								
Petersburg Subsistence Area, Portion District 6 - Sumner Strait/ Pt. Baker/Macnamara, and Wrangell Narrows	95	99	1	1,271	415	29	9	1,725
East Etolin Island/Wrangell Island/Ernest Sound - District 7 Wrangell Subsistence Area - Districts 7 & 8	76	87	136	1,229	11	100	31	1,507
South Chatham Strait/West Frederick Sound - District 9 Kake Subsistence Area, *Plus Portion District 5 (Shipley Bay)*	89	99	2	2,439	0	138	92	2,672
Ketchikan Management Area								
Ketchikan/Behm Canal - Ketchikan Personal Use Area - District 1	198	223	205	4,208	43	712	1,236	6,404
Clarence Strait/East Prince of Wales Island - District 2, Plus Portion District 6 Kasaan Subsistence Area - District 2 Plus Portion District 6 - Steamer Bay/Kindergarten/Quiet Harbor	169	199	0	1,776	30	7	342	2,155
Inside Waters/West Prince of Wales Island - District 3 Craig/Klawock.Hydaburg Subsistence Area	189	236	1	7,190	41	266	43	7,542
Totals			1,858	56,379	3,176	2,183	3,210	66,804

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-3. 2002 Subsistence Harvests By Community: Southeast Alaska / Yakutat Region

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	Estimated Salmon Harvest CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Angoon	91	58	0	1,178	63	33	105	1,379
Auke Bay	26	18	0	116	6	2	0	124
Coffman Cove	31	29	0	141	0	0	0	141
Cordova	1	1	0	0	0	0	0	0
Craig	179	147	0	2,111	18	197	129	2,456
Douglas	48	34	0	408	11	9	0	428
Edna Bay	2	2	0	0	0	0	0	0
Elfin Cove	5	5	0	15	5	0	0	20
Gustavus	13	10	0	132	0	1	1	135
Haines	334	310	88	5,572	604	513	806	7,584
Hollis	23	19	0	52	5	0	202	259
Hoonah	141	71	0	1,579	4	191	159	1,933
Hydaburg	47	34	0	796	0	0	0	796
Juneau	578	408	30	5,406	113	60	90	5,699
Kake	156	140	2	2,315	0	138	78	2,533
Kasaan	15	15	0	351	0	0	0	351
Ketchikan	378	333	205	4,970	49	694	1,219	7,137
Klawock	175	134	1	3,705	24	76	20	3,826
Klukwan	3	3	1	78	0	0	2	81
Loring	2	2	0	0	0	0	0	0
Metlakatla	6	6	0	20	0	0	0	20
Meyers Chuck	1	1	0	0	0	0	0	0
Naukati Bay	5	4	0	6	0	0	0	6
Pelican	7	7	0	120	0	0	0	120
Petersburg	115	111	1	1,149	385	13	9	1,557
Point Baker	1	1	0	27	20	16	6	69
Port Alexander	2	2	0	0	0	0	0	0
Saxman	26	18	0	308	3	17	17	345
Seward	1	1	0	8	0	0	0	8
Sitka	563	497	22	19,312	64	86	121	19,605
Skagway	8	6	0	265	0	28	25	318
Tenakee Springs	3	3	3	25	1	0	0	29
Thorne Bay	92	82	0	763	23	0	30	816
Ward Cove	2	2	0	35	0	0	0	35
Whale Pass	1	1	0	0	0	0	0	0
Wrangell	111	96	136	1,282	11	100	31	1,561
Yakutat	103	97	1,342	3,609	1,768	6	155	6,881
Other Alaska Communities								
Anchorage	16	14	23	313	0	0	1	337
Barrow	1	1	0	27	0	0	0	27
Chugiak	1	0						
Fairbanks	2	1	0	0	0	0	0	0
Iliamna	1	0						

Table XIII-3. 2002 Subsistence Harvests By Community: Southeast Alaska / Yakutat Region [continued]

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	Estimated Salmon Harvest CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Kasilof	1	1	0	35	0	0	0	35
King Cove	1	1	0	5	0	0	0	5
Northway	1	1	0	35	0	0	0	35
Tok	1	1	1	32	0	0	1	34
Tuluksak	2	1	0	0	0	0	0	0
Wasilla	3	3	0	77	0	1	2	80
Willow	1	0						
Totals	3,326	2,732	0 1,857	56,379	3,176	2,183	3,210	66,804

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Since 1996 the number of salmon permits issued for Southeast Alaska/Yakutat Region has averaged 3,952 per year (Table XIII-4). Prior to 1996 the number of permits issued was not included in the database, and amounts harvested were based on amounts reported on permits returned. In 2002 3,326 permits were issued and 2,732 were returned region-wide, compared with 4,172 permits issued and 3,341 returned in 1996.

Table XIII-4. Historic Subsistence and Personal Use Salmon Harvest: Southeast Alaska/ Yakutat Region

YEAR	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total
1985		1,271	19	20,006	360	2,951	2,136	25,472
1986		1,354	29	21,974	277	2,840	971	26,091
1987		1,322	34	25,405	117	3,878	1,474	30,908
1988		1,013	94	19,898	97	3,013	1,145	24,247
1989		1,479	580	32,860	1,381	3,113	3,664	41,598
1990		1,543	524	36,376	1,615	3,433	3,529	45,477
1991		1,554	262	37,765	766	3,271	1,741	43,805
1992		1,860	614	53,131	4,939	3,201	2,942	64,827
1993		2,121	537	56,249	3,515	2,583	2,143	65,027
1994		2,239	800	57,097	3,607	4,211	3,639	69,354
1995		2,005	1,203	45,087	3,702	3,370	3,215	56,577
1996	4,172	3,341	1,170	69,216	3,090	5,553	3,204	82,233
1997	4,211	3,529	780	58,782	2,701	4,515	4,080	70,858
1998	4,273	3,629	1,082	62,551	3,264	6,442	3,910	77,250
1999	4,308	3,717	1,393	56,618	1,933	5,557	3,280	68,782
2000	3,771	3,170	1,359	52,867	2,151	3,414	2,619	62,411
2001	3,605	3,116	1,457	55,157	3,266	3,968	4,230	68,080
2002	3,326	2,732	1,857	56,379	3,176	2,183	3,210	66,804
1998-2002 Average	3,857	3,273	1,429	56,715	2,758	4,313	3,450	68,665
1996-2002 Average	3,952	2,960	1,164	57,000	3,041	4,180	3,353	68,737
All Years Average	3,952	2,278	766	45,412	2,220	3,750	2,841	54,989

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

YAKUTAT MANAGEMENT AREA

YAKUTAT SUBSISTENCE SALMON FISHERY

Yakutat Forelands and Yakutat Bay

Background and History

The Yakutat Management Area stretches from Cape Fairweather to Cape Suckling. "Customary and Traditional Use" determinations for salmon identify the freshwaters upstream from the terminus of streams and rivers from the Doame River in the south to the Tsiu River, and the waters of Yakutat Bay and Russell Fjord, and waters of Icy Bay (5AAC 01.666 (3)). The Yakutat Area is unique among Southeast areas in that subsistence salmon fishing locations are not restricted to just specific streams, nor is there a daily or annual limit on the number of fish harvested. Fishing usually occurs where sockeye runs are most productive (Figure XIII-1).

In 2000 the population of the City of Yakutat was 680 in 261 households.[1] An estimated 53 percent of Yakutat households harvest salmon using subsistence gear, based on Yakutat Tribe of Alaska/Division of Subsistence household harvest surveys conducted in 2001 (Scott et al. 2001).

Regulations

A subsistence salmon permit for the Yakutat Management Area limits subsistence fishing in the hours before, during and after commercial salmon fishing openings. The 2002 permit form specifies that subsistence salmon may not be taken during the period 48 hours before a commercial opening until 48 hours after the closure of an open commercial salmon net fishing season. There is an exception in cases where the commercial salmon net fishery exceeds two days - in such cases the subsistence fishing period runs "from 6:00 am to 6:00 pm Saturday in those locations, except in the Tsiu River where the subsistence fishing period shall be from 6:00 am to 6:00 pm Sunday". This effectively limits the period when subsistence fishing can take place to 2-3 days a week during the commercial salmon fishing season. At the Situk River, subsistence fishers are required to attend their net at all times when it is being used to take salmon.

Other standard permit conditions include removal of dorsal fins, prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert or other artificial obstruction, completion of the catch calendar for each day fished, specifying location, species, and gear. Sport-taken and subsistence taken salmon may not be possessed on the same day. Since the State does not recognize rod and reel as "subsistence" gear, any salmon or steelhead taken with rod and reel gear, could not be

[1] The Yakutat Borough included an additional population of 128 living in group quarters in Icy Bay in 2000

possessed with fish taken with nets. The permit, however does not specify allowed subsistence gear, but set gillnets are the preferred gear. Permits can be used for any location in the district.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1989. As reported in Table XIII-5 the estimated total subsistence salmon harvest by all communities for Yakutat Area (Yakutat Forelands and Yakutat Bay) in 2002 was 7,629 salmon, including 4,292 sockeye (56.3 percent), 1,376 chinook (18.0 percent), 1,791 coho (23.5 percent), 13 chum (0.2 percent), and 156 pink (2.0 percent). Most permits were issued to Yakutat residents (87.7 percent), and Yakutat residents harvested most of the salmon reported (92.9 percent).

Table XIII-5. Yakutat Forelands and Yakutat Bay
Yakutat Subsistence/Personal Use Salmon Fisheries, Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Yakutat	100	106	1,342	3,609	1,768	6	155	6,881	90.2%
2002	Juneau	13	13	9	484	0	7	0	500	6.6%
2002	Anchorage	3	3	19	73	0	0	0	92	1.2%
2002	Sitka	2	2	5	59	23	0	0	87	1.1%
2002	Kasilof	1	1	0	35	0	0	0	35	0.5%
2002	Tok	1	1	1	32	0	0	1	34	0.4%
		120	126	1,376	4,292	1,791	13	156	7,629	100.0%
	Percent of Total			18.0%	56.3%	23.5%	0.2%	2.0%	100.0%	

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-6. Yakutat Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**Yakutat Forelands**	**67**	**71**	**508**	**3,483**	**1,641**	**6**	**155**	**5,792**
2002	East Alsek River	1	1	5	12	0	4	2	23
2002	Alsek River	3	3	44	108	37	0	0	189
2002	Akwe River	1	1	39	98	42	0	0	179
2002	Italio River	2	2	0	0	48	0	0	48
2002	Dangerous River	1	1	0	106	0	0	0	106
2002	Situk RIver	55	58	419	3,117	1,437	2	153	5,128
2002	Lost River	2	2	0	42	0	0	0	42
2002	Tawah Creek	2	2	0	0	76	0	0	76
2002	**Yakutat Bay-Troll**	**33**	**35**	**835**	**126**	**127**	**0**	**0**	**1,088**
2002	Yakutat Bay-Setnet	30	32	767	105	85	0	0	957
2002	Ankau Creek	3	3	68	21	42	0	0	132
	All Districts Total			**1,342**	**3,609**	**1,768**	**6**	**155**	**6,881**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

In 2002, all of the subsistence salmon harvests reported on the permits returned by Yakutat residents occurred in streams in Districts 182 and 183, and two locations - Situk River and Yakutat Bay - account for over 88.5 percent of the subsistence harvest by Yakutat residents. The East Alsek, Alsek, Akwe and Dangerous Rivers provided additional quantities of sockeye salmon. Additional quantities of chinook were harvested at Ankau Creek (Table XIII-6).

The overall numbers of king salmon harvested by residents of Yakutat in 2002, as estimated based on amounts reported on the permits, represent an all-time high since 1985, when records of subsistence salmon harvests in the Yakutat fishing areas have been included in the database. Sockeye reported in 2002 for Yakutat are the lowest since 1997. Coho and chum harvests reported on the 2002 permits returned are also below amounts reported in previous years. Estimated pink harvest in 2002 were slightly up over the past five years.

HAINES MANAGEMENT AREA

HAINES AND KLUKWAN SUBSISTENCE SALMON FISHERIES

Lynn Canal and Chilkat, Chilkoot and Lutak Inlets

Background and History

The Haines Management Area stretches from Little Island in Lynn Canal north to Chilkat Inlet and the waters of the Chilkat River, and up Chilkoot Inlet to Skagway. "Customary and Traditional Use" determinations for salmon identify all the waters of the Chilkat River and Chilkat Inlet north of the latitude of Glacier Point, and in the Chilkoot River, Lutak Inlet, and Chilkoot Inlet north of the latitude of Battery Point, excluding waters of Taiya Inlet north of the latitude of the tip of Taiya Point (5AAC 01.716 (2)) (Figure XIII-1).

There are two communities in the immediate area - the City of Haines and surrounding Borough (including the settlements at Covenant Life, Lutak, Mosquito Lake and Excursion Inlet) and Klukwan. At the head of Chilkoot Inlet is the town of Skagway. In 2000 the combined population of these communities was 3,393 in 1,435 households. Thirty-eight percent of Haines households and 55 percent of Klukwan households are estimated to use subsistence methods to harvest salmon for home use (ADFG Division of Subsistence, Community Profile Database, 2003). Today the populations of Haines and Skagway are predominantly non-Alaska Native, while Klukwan continues to have a predominantly Alaska Native population.

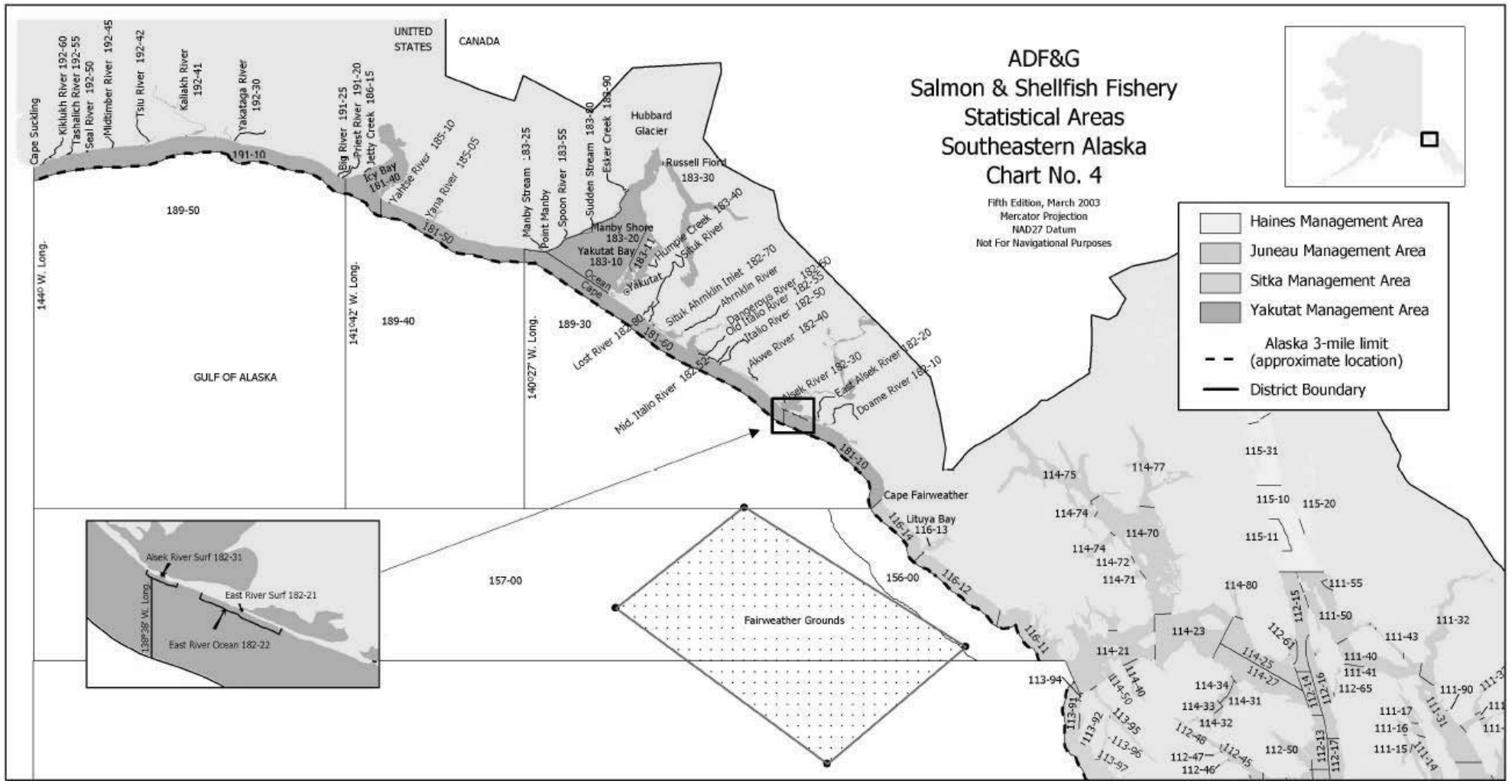


Figure XIII-1. ADF&G Salmon and Shellfish Fishery Statistical Areas, Southeastern Alaska, Chart No. 4

Regulations

A subsistence/personal use permit for the Haines Management Area provides for an open season for sockeye salmon in the Chilkat River, Chilkat Inlet and Lutak Inlet, and for pink and chum salmon in the Chilkat River and Chilkat Inlet both running from June 1 through September 30. Season limits for sockeye are specified at 25 per person, or 50 per household; and for pink and chum, 75 per person or 100 per household. Coho and chinook salmon, trout (such as steelhead) and char (Dolly Varden) may be taken only incidentally by gear operated under the terms of the permit. Fishers are requested to release uninjured chinook salmon "immediately in order to benefit rebuilding the Chilkat River stock. An additional permit may be issued upon request if more salmon are needed.

Sport taken and subsistence taken salmon may not be possessed on the same day. In the saltwater portions of Section 15-A, Lynn Canal including Chilkat, Chilkoot and Lutak inlets, subsistence salmon may not be taken during closed periods of the commercial salmon net fishery in Section 15-A, except that, on a Saturday before any period that the commercial salmon net fishery is open, salmon may be taken in saltwater areas of Section 15-A north of the latitude of Glacier Point and Chilkoot Inlet north of Battery Point, excluding the waters of Taiya Inlet north of the tip of Taiya Point.

Set gillnets may only be used in the mainstream and side channels, but not the tributaries, of the Chilkat River from four (4) mile Haines Highway to one mile upstream of Wells Bridge and may not exceed 50 feet in length. The permit holder is required to be physically present at the net while operating a set gill net, and a drift gillnet may not exceed 50 fathoms when operated in saltwater and 50 feet when used in freshwater areas. Other standard permit conditions include removal of dorsal fins, prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert or other artificial obstruction, and completion of the catch calendar for each day fished, specifying location, species, and gear.

Again, in 2002 the portion of Chilkat Inlet, from 1 mile south of Anchorage Point to just north of the Letnikof Cove boat ramp, was closed to subsistence salmon fishing from June 16 through July 15; and the Chilkat River mainstream and side channels from 4 mile Haines Highway to one mile upstream of Wells Bridge (except adjacent to Klukwan) was closed from June 24 through July 20. These closures were made to protect adult Chinook salmon returning to spawn in the Chilkat valley, and were conservation actions similar to those implemented in previous years.

Residents of Klukwan continue their traditional practice of using their setnets right at the village site, although some may also fish with drift gillnets in the open saltwaters of Chilkat and Lutak inlets.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-7 the estimated salmon harvest in the Chilkat River, Chilkoot and Lutak inlets subsistence fisheries in 2002 was 8,394 salmon, including 6,258 sockeye (74.6 percent), 96

chinook (1.1 percent), 630 coho (7.5 percent), 571 chum (6.8 percent), and 839 pink (10.0 percent). Most permits were issued to Haines residents, and Haines residents harvested most of the salmon reported (90.3 percent). The database does not list Haines area fishers by residence location, so Klukwan fishers with post office box addresses in Haines are shown as Haines residents. Just three permits were issued to fishers listing Klukwan as their residence. In this report Haines and Klukwan permits and harvests are combined for 2002.

Table XIII-7. Lynn Canal/Chilkat Inlet - District 15
Haines & Klukwan Subsistence/Personal Use Salmon Fisheries, Permit Estimated Harvest, by Community
2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Haines*	303	326	88	5,572	604	513	806	7,584	90.3%
2002	Juneau**	12	16	3	437	25	28	4	498	5.9%
2002	Klukwan	3	3	1	78	0	0	2	81	1.0%
2002	Skagway	2	3	0	15	0	28	25	68	0.8%
2002	Anchorage	1	1	4	54	0	0	0	58	0.7%
2002	Northway	1	1	0	35	0	0	0	35	0.4%
2002	Wasilla	1	1	0	27	0	0	1	28	0.3%
2002	Petersburg	1	1	0	21	0	0	0	21	0.3%
2002	Ketchikan***	1	1	0	9	0	1	1	11	0.1%
2002	Gustavus	1	1	0	10	0	0	0	10	0.1%
		326	355	96	6,258	630	571	839	8,394	100.0%
	Percent of Total			1.1%	74.6%	7.5%	6.8%	10.0%	100.0%	

* Includes Klukwan

** Includes Auke Bay and Douglas

*** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

In 2002 most of the subsistence salmon harvests reported on the permits fished by Haines and Klukwan residents occurred in the waters of Chilkat Inlet, with the Chilkat River, Lutak Inlet and Chilkoot Inlet supplying most of the salmon harvested that year (Table XIII-8).

Table XIII-8. Haines & Klukwan Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 15**	**306**	**329**	**89**	**5,650**	**604**	**513**	**808**	**7,665**
2002	Chilkat Inlet	226	243	81	4,404	597	490	478	6,050
2002	Lutak Inlet	48	52	1	686	8	11	208	914
2002	Chilkoot Inlet	32	34	8	560	0	12	122	701
	All Districts Total			**89**	**5,650**	**604**	**513**	**808**	**7,665**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

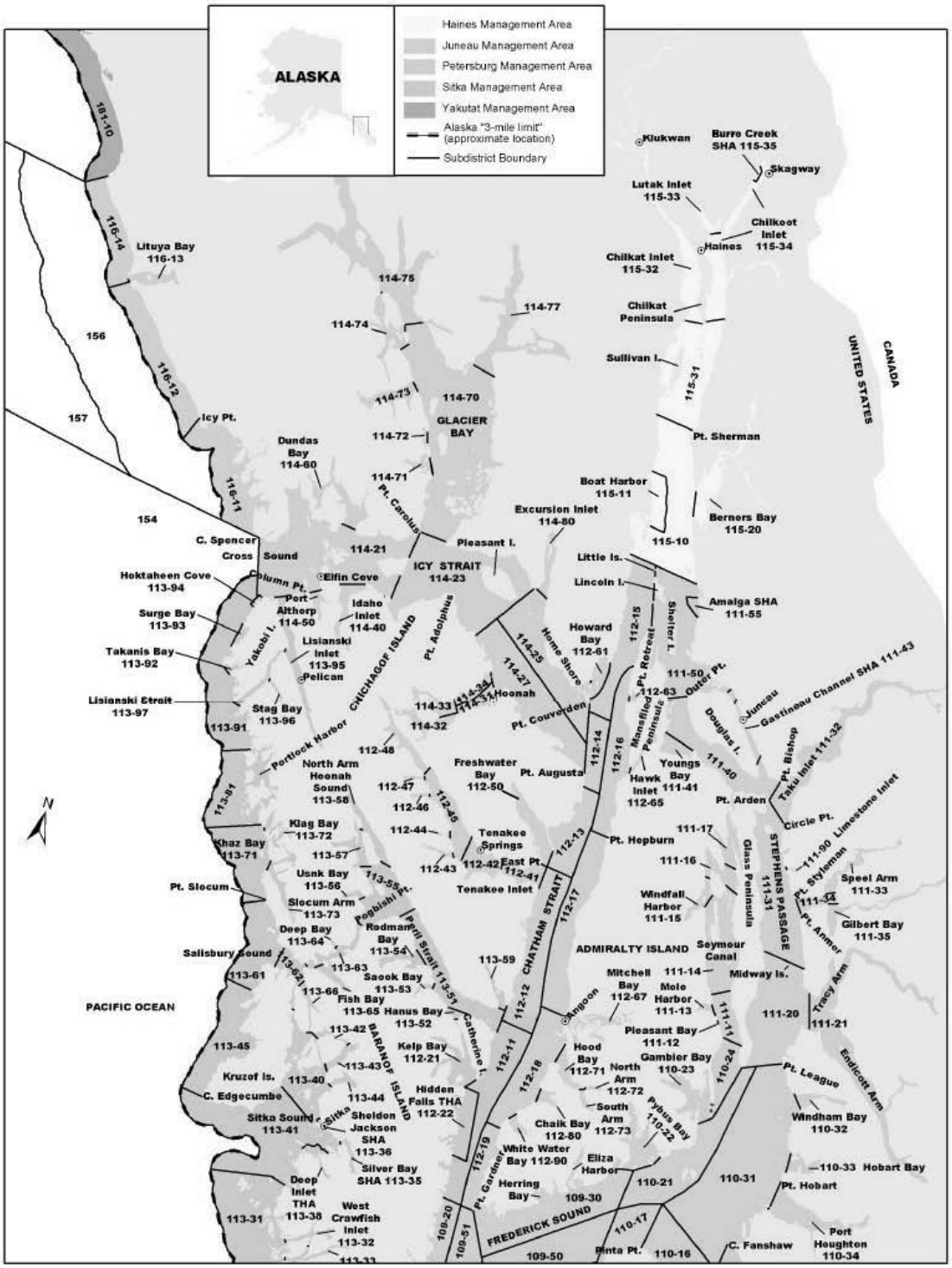


Figure XIII-2. ADF&G Salmon and Shellfish Fishery Statistical Areas, Southeastern Alaska, Chart No. 3

The overall numbers of coho salmon harvested by residents of Haines and Klukwan in 2002, as estimated based on amounts reported on the permits, represent an all-time high since 1985, when records of subsistence salmon harvests in the Haines/Klukwan fishing areas have been included in the database. Pink salmon harvests estimated for 2002 for Haines/Klukwan are up to 1997 levels. Estimated chum harvests for 2002 are just above amounts reported in previous years. Estimated pink harvest in 2002 were slightly up over the past five years.

JUNEAU MANAGEMENT AREA

ANGOON SUBSISTENCE SALMON FISHERIES

Angoon/North Chatham/East Chichagof – District 12
Kootznahoo Inlet, Kanalku Bay, Mitchell Bay
Plus Sitkoh and Basket Bays in District 13

Background and History

Subsistence salmon fisheries in the waters traditionally used by the community of Angoon are under the management responsibility of the Division of Commercial Fisheries Juneau and Sitka Management Area offices. In 1989 the Alaska Board of Fisheries adopted a positive finding for the village of Angoon "customary and traditional use" of salmon in the waters of District 12 south of a line from Fishery Point to South Passage Point and north of the latitude of Point Caution, and in waters of Section 13-C east of the longitude of Point Elizabeth (5AAC 01.716(5)). Since 1990 any Alaska resident may harvest under the terms of a subsistence permit in those waters (Figure XIII-2).

The residents of the Village of Angoon are the principal subsistence users in this area. In 2000 Angoon had a population of 572 in 184 households. Forty-six percent of Angoon households are estimated to use subsistence methods to harvest salmon for home use (Scott et. al. 2001). Angoon Tlingit have traditionally used most of the west coast of Admiralty Island, from Hawk Inlet to the south tip of Admiralty, and lands and waters of the east coasts of Chichagof and Baranof Islands. Over the years the waters of Kootznahoo Inlet, with its maze of tidal passages between small islands, Favorite Bay and Hood Bay to the south, Mitchell Bay, Salt Lake, and

Kanalku bays further east, the deep waters of Chatham Strait have offered the people of Angoon rich salmon and other marine resources.

Regulations

A subsistence salmon permit for the Angoon area waters of District 12 provided for an open season for sockeye salmon in Kanalku, Basket (Kook Lake outlet), and Sitkoh bays from June 1 through July 31.[1] The open period for subsistence coho salmon fishing on the Hasselborg/Salt Lake runs from August 1 through October 31. Pink salmon may be harvested in all streams of the District from July 1 through September 30, and the season for chum salmon in all streams of the District runs from July 1 through October 31. Possession limits for sockeye in 2002 were specified at 10 fish per individual or 20 per household at Basket Bay, 25 fish per individual and household at Kanalku and Hasselborg River/Salt Lake, and 10 fish at Sitkoh Bay. Season limits for pinks was 150 fish from any stream in the District, and for chums the limit was 50 fish. Coho salmon season limit at Hasselborg River/Salt Lake was 20 fish. This is the only subsistence coho fishery in Southeast Alaska.

Sport taken and subsistence taken salmon may not be possessed on the same day, and salmon taken under the subsistence/personal use regulations may not be subsequently used as bait for commercial fishing purposes. Gaffs, spears, beach seines, and dip nets are the types of subsistence gear allowed for general use in the Angoon area. Drift gillnets may only be used to take sockeye salmon and may not exceed 50 fathoms in length; set gillnets may not be used. Beach seines and gaffs only may be used to take coho salmon in Salt Lake. Snagging or fishing with a rod or reel is prohibited. Other standard permit conditions include removal of dorsal fins, prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert or other artificial obstruction, completion of the catch calendar for each day fished, specifying location, species, and gear.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-9 the estimated salmon harvest in Angoon's subsistence salmon fisheries in District 12 (Kootznahoo Inlet/Mitchell Bay, Chaik, and Hood Bay) and Sitkoh Bay (in District 13) in 2002 was 1,532 salmon, including 1,331 sockeye (86.9 percent), 63 coho (4.1 percent), 33 chum (2.2 percent) and 105 pink (6.9 percent). Most permits were issued to Angoon residents, and Angoon residents harvest most of the salmon reported (90.0 percent). In 2002 fishers from Juneau and Tenakee Springs also reported harvesting salmon in the Angoon area waters. In 2002 most of the subsistence salmon harvests reported on the permits fished by Angoon residents occurred in the waters of Kook Lake outlet (in Basket Bay) and Sitkoh Lake Creek, across Chatham Strait (Table XIII-10).

[1] Sitkoh Bay-Lake Eva and Basket Bay (Kook Lake outlet) are listed on both the Juneau and Sitka Management Area permits.

Table XIII-9. Angoon/North Chatham Strait/East Chichagof - District 12, Plus Portion District 13 - Sitkoh Bay
Angoon Subsistence/Personal Use Salmon Fisheries, Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Angoon	41	64	0	1,178	63	33	105	1,379	90.0%
2002	Elfin Cove	1	1	0	0	0	0	0	0	0.0%
2002	Juneau**	7	10	0	138	0	0	0	138	9.0%
2002	Tenakee Springs	1	1	0	15	0	0	0	15	1.0%
		50	76	0	1,331	63	33	105	1,532	100.0%
	Percent of Total			0.0%	86.9%	4.1%	2.2%	6.9%	100.0%	

** Includes Auke Bay and Douglas

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-10. Angoon Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 12**	**35**	**55**	**0**	**937**	**63**	**31**	**63**	**1,094**
2002	Little Basket Bay	1	2	0	28	0	0	0	28
2002	Kook Lake Outlet	29	46	0	808	0	0	31	839
2002	Hasselborg River	3	5	0	78	63	0	31	173
2002	Kanalku Bay	1	2	0	22	0	0	0	22
2002	Favorite Creek	1	2	0	0	0	31	0	31
2002	**District 13**	**6**	**9**	**0**	**242**	**0**	**2**	**42**	**286**
2002	Sitkoh Lake Creek	5	8	0	218	0	2	42	262
2002	Sitkoh Bay Head	1	2	0	24	0	0	0	24
	All Districts Total			**0**	**1,178**	**63**	**33**	**105**	**1,379**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

The overall numbers of salmon harvested by residents of Angoon in 2002, as estimated based on amounts reported on the permits, are the lowest since 1995. Sockeye reported in 2002 are well below amounts estimated for 1996. Coho harvests reported on the 2002 permits returned from Angoon are well below normal, and pink and chum harvest estimates in 2002 were about average. Angoon fishers are not reporting chinooks on their returned permits.

JUNEAU MANAGEMENT AREA

HOONAH SUBSISTENCE SALMON FISHERIES

Icy Strait/Glacier Bay – District 14
Berg Bay, Neva Creek, and Excursion Inlet
and Surge Bay and Hoktaheen Cove in District 13,

Background and History

Subsistence salmon fisheries in the waters traditionally used by the community of Hoonah are under the management responsibility of the Division of Commercial Fisheries Juneau and Sitka Management Area offices. In 1989 the Alaska Board of Fisheries adopted a positive finding for the village of Hoonah "customary and traditional use" of salmon in the waters of District 12 in waters of Basket Bay inside a line from 57°30.83'N. lat., 134°53.20' W. long., to 57°39.28' N. lat., 134°53.88' W. long., in District 13 in waters along the western shore of Yakobi Island east of a line from Cape Spencer Light to Surge Bay Light, and in waters of Section 14B and 14-C, (5AAC 01.716(4)). Since 1990 any Alaska resident may harvest under the terms of a subsistence permit in those waters (Figure XIII-2).

The residents of the Village of Hoonah are the principal subsistence users in this area. In 2000 Hoonah had a population of 860 in 300 households. Thirty-three percent of Hoonah households are estimated to use subsistence methods to harvest salmon for home use (Scott et al. 2001).

Regulations

The 2002 subsistence salmon permit for the Hoonah area waters provided for an open season for sockeye salmon in Surge Bay and Hoktaheen Cove from June 1 through July 20, and at Neva Creek, and all other subsistence sockeye fisheries in the area from June 1 through July 31. Individual and household possession limits for sockeye salmon from Surge Bay and Hoktaheen Cove were 50 fish (up from only 20 in 2001), for Neva Creek the limit was 25 fish annually per individual or household (up from just 10 fish in 2001). The season for pink salmon was July 1 through September 30, and the possession limit for pink salmon from all streams within the Hoonah-Angoon Subsistence Area was 150 per individual and per household. The subsistence season for chum salmon was July 1 through Oct 31, and the possession limit remained at 50 fish per individual and per household. There was an opening for subsistence coho salmon at the Hasselborg River (Salt Lake) at the head of Mitchell Bay near Angoon, 20/20 possession/annual limits), but no streams within the traditional waters of the Hoonah Tlingit were open to subsistence coho fishing.

Sport taken and subsistence taken salmon may not be possessed on the same day, and salmon taken under the subsistence/personal use regulations may not be subsequently used as bait for commercial fishing purposes. Gaffs, spears, beach seines, and dip nets are the types of

subsistence gear allowed for general use in the Angoon area. Drift gillnets may only be used to take sockeye salmon and may not exceed 50 fathoms in length; set gillnets may not be used. Beach seines and gaffs only may be used to take coho salmon in Salt Lake. Snagging or fishing with a rod or reel is prohibited. Other standard permit conditions include removal of dorsal fins, prohibition of fishing within 300 feet of a dam, fish ladder, weir, culvert or other artificial obstruction, completion of the catch calendar for each day fished, specifying location, species, and gear.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-11 the estimated salmon harvest in the Hoonah area subsistence fisheries in 2002 was 2,646 salmon, including 2,288 sockeye (86.5 percent), 9 coho (0.3 percent), 191 chum (7.2 percent), and 159 pink (6.0 percent). Most permits were issued to Hoonah residents, and Hoonah residents harvest most of the salmon reported (67.4 percent). In 2002 a substantial number of permits were issued to fishers from Juneau, and Juneau's estimated harvest amounted to 21.5 percent of the salmon harvested. In 2002 subsistence salmon harvests reported on the permits fished by Hoonah residents occurred in the waters of Neva Creek in Excursion Inlet, Whitestone Creek, Hoktaheen Cove, Surge Bay, Necker Bay Lake, and Klag Bay. Hoktaheen Cove was the principal source of Hoonah's sockeye salmon in 2002 (Table XIII-12).

Table XIII-11. Icy Strait/Glacier Bay - District 14, Plus Portion District 13*Hoonah Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Hoonah	35	70	0	1,430	4	191	159	1,783	67.4%
2002	Juneau**	14	20	0	568	0	0	0	568	21.5%
2002	Gustavus	6	7	0	110	0	0	0	110	4.2%
2002	Pelican	2	2	0	70	0	0	0	70	2.6%
2002	Sitka	1	1	0	57	0	0	0	57	2.1%
2002	Petersburg	1	1	0	38	0	0	0	38	1.4%
2002	Elfin Cove	2	2	0	15	5	0	0	20	0.8%
		61	103	0	2,288	9	191	159	2,646	100.0%
	Percent of Total			0.0%	86.5%	0.3%	7.2%	6.0%	100.0%	

*Surge Bay and Hoktaheen Cove

** Includes Auke Bay and Douglas

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

The overall numbers of salmon harvested by residents of Hoonah in 2002, as estimated from amounts reported on the permits, are well below past years. Estimated sockeye and pink harvests in 2002 were higher than in the past four years, but numbers of coho and chum were well below average. Hoonah fishers are not reporting chinook on their returned permits.

Table XIII-12. Hoonah Community Salmon Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 11**	**2**	**4**	**0**	**50**	**0**	**0**	**0**	**50**
2002	Sweetheart Creek	2	4	0	50	0	0	0	50
2002	**District 13**	**27**	**52**	**0**	**1,450**	**0**	**0**	**0**	**1,450**
2002	Necker Bay Lake	1	1	0	50	0	0	0	50
2002	Fish Camp -Klag Bay	1	1	0	50	0	0	0	50
2002	Surge Bay	2	4	0	44	0	0	0	44
2002	Hokatheen Cove	23	46	0	1,307	0	0	0	1,307
2002	**District 14**	**10**	**20**	**0**	**79**	**4**	**191**	**159**	**433**
2002	Whitestone East Side	2	4	0	0	0	139	139	278
2002	Game Creek	2	4	0	0	4	22	20	46
2002	Bear Ck Midway Rocks	1	2	0	0	0	30	0	30
2002	Neka River	1	2	0	30	0	0	0	30
2002	Neva Creek	4	8	0	50	0	0	0	50
	All Districts Total			**0**	**1,579**	**4**	**191**	**159**	**1,933**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

JUNEAU MANAGEMENT AREA

ELFIN COVE, GUSTAVUS, PELICAN, TENAKEE SPRINGS SUBISTENCE AND PERSONAL USE FISHING

Elfin Cove, Gustavus, Pelican, Tenakee Springs and Skagway residents also fished for salmon for home use in Districts 12, 13 and 14 waters traditionally used by Angoon and Hoonah. Tables XIII-13 through Table XIII-17 show harvest estimates for these five communities for 2002. In 2002 Elfin Cove subsistence salmon fishers harvested from Hoktaheen Cove. Gustavus fishers harvested salmon for home use primarily from Surge Bay and Hoktaheen Cove in District 13, but also from Taku River in District 11, Berg River in District 14, and Chilkat River in District 15. For Pelican and Tenakee Springs, located within the traditional use areas of Angoon and Hoonah, the closest salmon locations are Kook Creek and Kook Lake Outlet in Basket Bay, and Takanis Bay and Hoktaheen Cove in District 13.

Table XIII-13. Elfin Cove Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 12**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
2002	Tenakee Creek	1	1	0	0	0	0	0	0
2002	**District 13**	**2**	**2**	**0**	**15**	**5**	**0**	**0**	**20**
2002	Hoktaheen Cove	2	2	0	15	5	0	0	20
	All Districts Total			**0**	**15**	**5**	**0**	**0**	**20**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-14. Gustavus Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 11**	**1**	**1**	**0**	**12**	**0**	**1**	**1**	**15**
2002	Taku River	1	1	0	12	0	1	1	15
2002	**District 13**	**4**	**5**	**0**	**99**	**0**	**0**	**0**	**99**
2002	Surge Bay	2	2	0	71	0	0	0	71
2002	Hoktaheen Cove	2	2	0	28	0	0	0	28
2002	**District 14**	**2**	**2**	**0**	**11**	**0**	**0**	**0**	**11**
2002	Berg River	2	2	0	11	0	0	0	11
2002	**District 15**	**1**	**1**	**0**	**10**	**0**	**0**	**0**	**10**
2002	Chilkat River	1	1	0	10	0	0	0	10
	All Districts Total			**0**	**132**	**0**	**1**	**1**	**135**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-15. Pelican Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 13**	**4**	**4**	**0**	**120**	**0**	**0**	**0**	**120**
2002	Takanis Bay	2	2	0	50	0	0	0	50
2002	Hoktaheen Cove	2	2	0	70	0	0	0	70
	All Districts Total			**0**	**120**	**0**	**0**	**0**	**120**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-16. Tenakee Springs Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 11**	**1**	**1**	**1**	**10**	**1**	**0**	**0**	**12**
2002	Taku River	1	1	1	10	1	0	0	12
2002	**District 12**	**1**	**1**	**0**	**15**	**0**	**0**	**0**	**15**
2002	Little Basket Bay	1	1	0	15	0	0	0	15
2002	**District 13**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**2**
2002	Salmon Lake Stream	1	1	2	0	0	0	0	2
	All Districts Total			**2**	**15**	**0**	**0**	**0**	**17**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

In 2002 Pelican reported salmon harvests from Takanis Bay and Hoktaheen Cove in District 13. Tenakee Springs fishers got some sockeye salmon at Little Basket Bay in District 12, and some from Taku River, in District 11.

In 2002 Skagway's salmon came from Necker Bay Lake and Klag Bay in District 13, and from Lutak Inlet, and Taiya River in District 15.

Table XIII-17. Skagway Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 13**	**3**	**3**	**0**	**250**	**0**	**0**	**0**	**250**
2002	Necker Bay Lake	1	1	0	150	0	0	0	150
2002	Fish Camp -Klag Bay	2	2	0	100	0	0	0	100
2002	**District 15**	**2**	**3**	**0**	**15**	**0**	**28**	**25**	**68**
2002	Lutak Inlet	1	2	0	15	0	0	8	23
2002	Taiya River	1	2	0	0	0	28	17	45
	All Districts Total			**0**	**265**	**0**	**28**	**25**	**318**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

JUNEAU MANAGEMENT AREA

JUNEAU SUBSISTENCE AND PERSONAL USE FISHING

Juneau/Taku Inlet/Stephens Passage - District 11

Waters of District 11 lie within the Juneau "nonsubsistence area." Juneau fishers were the principal users of the designated "personal use" fisheries in District 11, but fishers from a few other Southeast communities also used the area, including Hoonah, Gustavus, Tenakee Springs, Petersburg, Sitka, and Ketchikan (Table XIII-18).

Today Juneau fishers travel throughout the region to harvest their salmon for home use. Personal Use regulations apply to salmon fishing for home use in Juneau area waters. As in 2001, in 2002 Juneau fishers depended most heavily on sockeye salmon from the Taku River and Sweetheart Creek, in Taku Inlet in District 11. Other locations used by Juneau salmon fishers included Hoktaheen Cove, and Klag Bay in District 13 waters, the Chilkat Inlet in District 15, and the Situk River in the Yakutat area (Table XIII-19).

Table XIII-18. Juneau/Taku Inlet/Stephens Passage - District 11
Juneau Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

Year	Community	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Percent of Total
2002	Juneau**	222	317	18	3,988	95	30	85	4,217	97.4%
2002	Hoonah	2	4	0	50	0	0	0	50	1.1%
2002	Gustavus	1	1	0	12	0	1	1	15	0.3%
2002	Tenakee Springs	1	1	1	10	1	0	0	12	0.3%
2002	Petersburg	1	1	0	10	0	0	0	10	0.2%
2002	Sitka	1	1	0	10	0	0	0	10	0.2%
2002	Ketchikan	1	3	0	9	0	0	0	9	0.2%
		229	328	20	4,089	96	31	87	4,322	100.0%
	Percent of Total			0.5%	94.6%	2.2%	0.7%	2.0%	100.0%	

** Includes Auke Bay and Douglas

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Although Juneau fishers rely heavily on the Taku River and Sweetheart Creek, harvesting 66.5 percent of their salmon from those two locations in 2002, the amounts of fish harvested by Juneau fishers in the Angoon and Hoonah area fisheries comprises a substantial portion to the harvest from those stocks – 9.0 percent and 21.5 percent respectively (Table XIII-9 and Table XIII-11), and combined with harvests from locations other than Taku/Sweetheart, contributed one third of Juneau's 2002 salmon harvest for home use.

Table XIII-19. Juneau Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 9**	**1**	**2**	**0**	**75**	**0**	**0**	**0**	**75**
2002	Falls Ck Baranof Is	1	2	0	75	0	0	0	75
2002	**District 11**	**186**	**264**	**18**	**3,574**	**84**	**27**	**85**	**3,789**
2002	Taku River	109	155	18	1,491	84	27	82	1,703
2002	Sweetheart Creek	76	108	0	2,061	0	0	0	2,061
2002	Admiralty Creek	1	1	0	21	0	0	3	24
2002	**District 12**	**7**	**10**	**0**	**138**	**0**	**0**	**0**	**138**
2002	Little Basket Bay	6	9	0	128	0	0	0	128
2002	Kook Lake Outlet	1	1	0	10	0	0	0	10
2002	**District 13**	**15**	**24**	**0**	**731**	**6**	**6**	**0**	**742**
2002	Redoubt Lake Outlet	1	2	0	38	0	4	0	41
2002	Fish Camp -Klag Bay	3	6	0	188	0	2	0	189
2002	Lake Anna Head	1	2	0	4	6	0	0	9
2002	Surge Bay	1	1	0	28	0	0	0	28
2002	Hokatheen Cove	9	13	0	474	0	0	0	474
2002	**District 14**	**3**	**4**	**0**	**24**	**0**	**0**	**0**	**24**
2002	Excursion River	1	1	0	9	0	0	0	9
2002	Neva Creek	2	3	0	16	0	0	0	16
2002	**District 15**	**9**	**13**	**3**	**380**	**23**	**20**	**4**	**431**
2002	Chilkat Inlet	8	12	3	336	23	20	4	387
2002	Lutak Inlet	1	1	0	44	0	0	0	44

Table XIII-19. Juneau Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002 [continued]

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**Yakutat Forelands**	**13**	**13**	**9**	**484**	**0**	**7**	**0**	**500**
2002	Alsek River	1	1	1	21	0	0	0	22
2002	Akwe River	2	2	0	12	0	6	0	18
2002	Situk RIver	9	9	8	390	0	1	0	399
2002	Ahrnklin River	1	1	0	61	0	0	0	61
All Districts Total				**30**	**5,406**	**113**	**60**	**90**	**5,699**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

The historic record for Juneau's personal use salmon harvest showed a steady increase up to 1998, followed by a sharp drop in total numbers of salmon reported. Harvests of all salmon species have dropped by half between 1997 and 1998. The 2002 total estimated salmon harvest continues to be below the five-year and ten-year averages, but a slight rise over 2001 levels.

SITKA MANAGEMENT AREA

SITKA SUBSISTENCE SALMON FISHERIES

Sitka/Outer Baranof & Chichagof/Peril Strait – District 13
Redfish Bay, Necker Bay, Redoubt Bay, Klag Bay, Ford Arm
and Lake Anna

Background and History

Subsistence salmon fisheries in the waters traditionally used by the Tlingit people of Sitka are under the management responsibility of the Division of Commercial Fisheries Sitka Management Area Office. In 1989 the Alaska Board of Fisheries adopted a positive finding for "customary and traditional use" of sockeye salmon in the waters of Section 13-A south of the latitude of Cape Edward, in waters of Section 13-B north of the latitude of Redfish Cape, and in waters of Section 13-C. At the Board of Fisheries meeting in Sitka in March 1997, this was extended to include all other salmon species. Principal salmon waters and streams used by Sitka fishers include Klag Bay-Lake Anna, Lake Stream-Ford Arm, Necker Bay, Redoubt Bay, Salmon Lake, and Redfish Bay. The Sitka Management Area Office also manages the subsistence salmon fisheries at Surge Bay and Hoktaheen Cove, on the west coast of Yakobi Island, and Sitkoh Bay on the east side of Chichagof Island. Surge Bay and Hoktaheen Cove fisheries are discussed

with the Hoonah fisheries, and Sitkoh Bay fishery is discussed with the Angoon fisheries (Figure XIII-3).

The residents of Sitka are the principal subsistence users of the salmon stocks in this area. In 2000 Sitka had a population of 8,835 in 3,278 households. Twenty percent of Sitka households are estimated to use subsistence methods to harvest salmon for home use (Scott et al. 2001). Sitka Tlingits have traditionally used most of the Pacific coast of Baranof and Chichagof islands from Point Urey in the north to Cape Ommaney, including the myriad islands lying off the coast, and extending inward up Peril Strait between Chichagof and Baranof islands into Hoonah Sound as far as Patterson Bay. Sitkans share with Hoonah people the use of Yakobi Island and the sockeye salmon fisheries at Hoktaheen Cove and Surge Bay. Sitka territory touches that of Angoon in Peril Strait, and Sitkoh Bay.

Regulations

The 2002 subsistence/personal use salmon permit for the Sitka Management Area stipulates that "sport-taken and subsistence/personal use taken salmon may not be possessed on the same day." Coho, Chinook, steelhead, trout and char "may only be taken incidentally by gear operated under the subsistence/personal use fishing guidelines of the permit." Additionally, "salmon streams flowing across or adjacent to the Sitka road system are closed to subsistence/personal use fishing." And further, that "salmon may not be taken by a line attached to a rod or pole", and "snagging is not allowed for subsistence."

The 2002 permit provided for an open season for pink salmon from July 15 through September 30, and for chums from July 15 through October 31, in streams in the Sitka management area (except as noted above). Open season for sockeye salmon for all Sitka sockeye locations started June 1 and closed on varying dates at the various locations. August 15 was the closing date for Redoubt Bay, Necker Bay, Redfish Bay, Lake Eva, Sitkoh Lake. July 20th was the closing date for Gut Bay, Falls Lake, Surge Bay and Hoktaheen, July 25th – for Klag Bay[2], Ford Arm, and Lake Anna, and Leo's Anchorage, and July 31st was the closing date for the Salmon Lake[3], and Politofski Lake subsistence sockeye fishery. Individual and household "possession limits" for sockeye was 10 fish at Leo's Anchorage, Redoubt Bay, Salmon Lake, Takanis Bay, Gut Bay and Falls Lake; 15 fish at Lake Evan, and Sitkoh Lake; 50 fish at Klag Bay from June 1st to July 24th, and 25 fish at Klag Bay after it was re-opened Aug 14th; 20 fish at Surge Bay, Hoktaheen, Ford Arm, and Lake Anna, and Politofski Lake; 25 fish at Redfish Bay; 50 fish at Necker Bay. The

[2] Klag Bay was closed for sockeye subsistence and sport fishing on Friday, July 24, 2002, by emergency order. The area closed included all marine waters of Klag Bay north of the latitude of Rose Point, located on Klag Island, and all freshwater drainages flowing into and from Klag Bay Lake. It was re-opened on Wednesday, August 14, 2002 through Saturday, August 31, 2003, after returns to the weir following rainfall showed that escapement goals were expected to be met.

[3] Salmon Lake outlet stream located in Silver Bay was closed for sockeye subsistence, on Wednesday, July 24, 2002 through December 31, 2002 by emergency order. The closed area included freshwaters of the Salmon Lake drainage area and marine waters in District 13 within a 0.3 nautical mile radius of the Salmon Lake outlet stream as indicated by ADF&G regulatory markers on Arguello Island and the adjacent Baranof Island shoreline.

individual and household "possession" limit for chum salmon was 50, and for pink salmon the individual limit was 50, and the household limit was 150.

Allowed subsistence gear included hand purse seines, beach seines, drift gill nets, dip nets, gaffs, and spears. Drift gillnets may not exceed 50 fathoms. Set gillnets are not allowed. And in Redoubt Bay, only dip nets, gaffs, and spears were allowed.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-20 the estimated salmon harvest in the Sitka area subsistence fisheries in 2002 (exclusive of Surge Bay, Hoktaheen Cove, and Sitkoh Bay) was 20,275 salmon, including 20,007 sockeye (98.7 percent), 19 chinook (0.1 percent), 47 coho (0.2 percent), 31 chum (0.7 percent), and 110 pink (0.5 percent). Most permits were issued to Sitka residents, and Sitka residents harvested most of the salmon reported (95.4 percent). Some Sitka residents fish in waters beyond these traditional use areas. In 2002 most of the subsistence salmon harvests reported on the permits fished by Sitka residents occurred in the waters of Necker Bay, and Fish Camp-Klag Bay, Redoubt Lake Outlet, Redfish Bay, and Lake Stream in Ford Arm (Table XIII-21).

Table XIII-20. Sitka/Outer Baranof & Chichagof/Peril Strait - District 13
[except Sitkoh Bay, Surge Bay and Hoktaheen Cove]
Sitka Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Sitka	361	410	17	19,095	39	86	110	19,347	95.4%
2002	Anchorage	2	2	0	100	0	0	0	100	0.5%
2002	Juneau**	6	10	0	240	9	6	0	254	1.3%
2002	Hoonah	2	2	0	100	0	0	0	100	0.5%
2002	Skagway	3	3	0	250	0	0	0	250	1.2%
2002	Ketchikan***	1	2	0	72	0	0	0	72	0.4%
2002	Kake	1	1	0	50	0	0	0	50	0.2%
2002	Pelican	2	2	0	50	0	0	0	50	0.2%
2002	Wasilla	1	1	0	50	0	0	0	50	0.2%
2002	Tenakee Springs	1	1	2	0	0	0	0	2	0.01%
		380	434	19	20,007	47	92	110	20,275	100.0%
	Percent of Total			0.1%	98.7%	0.2%	0.5%	0.5%	100.0%	

** Includes Auke Bay and Douglas

*** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

The numbers of sockeye salmon harvested by residents of Sitka in 2002, as estimated based on amounts reported on the permits, were the highest since 1985, and well over the five year, ten-year averages, and all-year average (1985-2002). Chum salmon harvests estimated based on amounts reported on permits in 2002 were about the same as for 2001, and coho harvests were well above the 5-, 10- and all-year averages. Sitka's pink salmon reported harvests were down in 2002, and chinook harvests were above average.

Table XIII-21. Sitka Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 1**	**1**	**1**	**0**	**2**	**2**	**0**	**4**	**8**
2002	Wolverine Creek	1	1	0	2	2	0	4	8
2002	**District 3**	**1**	**1**	**0**	**20**	**0**	**0**	**0**	**20**
2002	Eek Creek	1	1	0	20	0	0	0	20
2002	**District 6**	**1**	**1**	**0**	**30**	**0**	**0**	**0**	**30**
2002	Salmon Bay Creek	1	1	0	30	0	0	0	30
2002	**District 9**	**1**	**1**	**0**	**40**	**0**	**0**	**7**	**47**
2002	Falls Ck Baranof Is	1	1	0	40	0	0	7	47
2002	**District 11**	**1**	**1**	**0**	**10**	**0**	**0**	**0**	**10**
2002	Taku River	1	1	0	10	0	0	0	10
2002	**District 13**	**362**	**411**	**17**	**19,152**	**39**	**86**	**110**	**19,404**
2002	Redfish Bay Head	21	24	0	1,250	1	0	0	1,251
2002	Necker Bay Lake	79	90	1	10,923	0	0	43	10,968
2002	Salmon Lake Stream	17	19	16	149	20	18	35	238
2002	Redoubt Lake Outlet	118	134	0	1,336	0	10	5	1,351
2002	Hanus Bay	4	5	0	112	0	9	0	121
2002	Leo Lk Fortuna Strts	4	5	0	49	10	0	0	59
2002	Fish Camp -Klag Bay	82	93	0	3,961	7	40	3	4,011
2002	Lake Anna Head	4	5	0	57	0	5	19	81
2002	Lake Stream Ford Arm	32	36	0	1,258	0	5	5	1,267
2002	Hokatheen Cove	1	1	0	57	0	0	0	57
2002	**Yakutat Forelands**	**2**	**2**	**5**	**59**	**23**	**0**	**0**	**87**
2002	Alsek River	1	1	2	56	0	0	0	58
2002	Ahrnklin River	1	1	3	3	23	0	0	29
	All Districts Total			**22**	**19,312**	**64**	**86**	**121**	**19,605**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

PETERSBURG/WRANGELL MANAGEMENT AREA

KAKE SUBSISTENCE SALMON FISHERIES

South Chatham Strait/West Frederick Sound – District 9
Gut Bay, and Falls Lake Creek (Baranof Island),
Kutlaku Creek (Bay of Pillars), and Alecks Creek (Tebenkof Bay)
Plus Shipley Bay in District 5

Background and History

Subsistence salmon fisheries in the waters traditionally used by the Tlingit people of Kake are under the management responsibility of two area offices of the Division of Commercial Fisheries – the Petersburg/Wrangell office. In 1989 the Alaska Board of Fisheries adopted a positive finding for "customary and traditional use" of salmon in the waters of Section 9-A and 9-B in waters north of the latitude of Swain Point, in waters of District 10 west of a line from Pinta Point to False Point Pybus, and in waters of District 5 north of a line from Point Barrie to Boulder Point. Principal salmon waters and streams used by Kake fishers include Gut Bay and Falls Lake Creek flowing into Chatham Strait on the southwest coast of Baranof Island, as well as Saginaw, Security (Salt Lake), Pillar (Kutlaku Creek) and Tebenkof Bays (Alecks Creek) on Kuiu Island (Figure XIII-3).

The residents of Kake are the principal subsistence users of the salmon stocks in Gut Bay and Falls Lake Creek on Baranof Island, and Saginaw, Security, Pillar, and Tebenkof Bays on Kuiu Island. In 2000 Kake had a population of 710 in 246 households. Thirty-three percent of Kake households are estimated to use subsistence methods to harvest salmon for home use (Scott et al. 2001). Kake residents shared the use of the southern coastal waters of Admiralty Island with people of Angoon and Petersburg. In recent years principal subsistence salmon fishing by Kake residents occurs in Gut Bay, and Falls Creek on Baranof Island, and at Kutlaku Creek in Pillar Bay.

Regulation

The 2002 subsistence salmon permit for the Kake area waters of District 9 provided for an open season for sockeye salmon in Alecks Creek in Tebenkoff Bay, and Pillar Bay (Kutlaku) from June 1 through July 31. For Shipley Bay and Falls Creek the season ran from June 1 through July 31, and for Gut Bay the season ran from June 1 through July 20. The open season for pink salmon in all streams in the Kake and point Baker/Port Protection subsistence area ran from July 15 through August 31. The 2002 season for fall chum in Port Camden was August 15 – September 30, and for Security Bay, from September 1 through October 31. Allowed subsis-

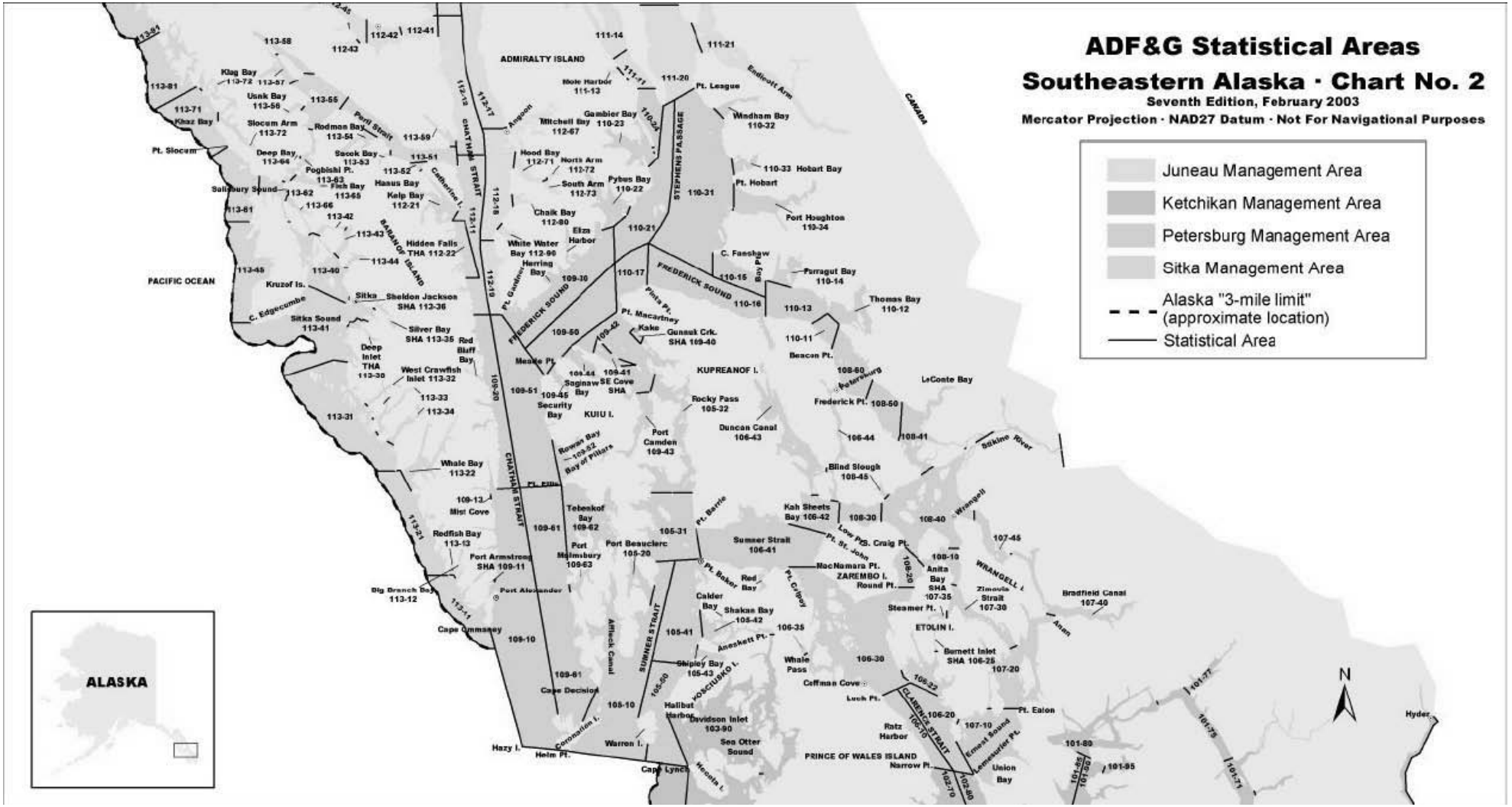


Figure XIII-3. ADF&G Salmon and Shellfish Fishery Statistical Areas, Southeastern Alaska, Chart No. 2

tence gear included gaffs, spears, beach seines and dip nets. Possession limits for sockeye from Alecks Creek, Kutlaku (in Pillar Bay), and Falls Creek was 50 in possession and 50 annually. The limit for fish from Gut Bay was 10 in possession and 20 annually. For Shipley Bay limits were 15 in possession, 25 annual.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-22 the estimated salmon harvest in the Kake subsistence fisheries in 2002 was 2,672 salmon, including 2,439 sockeye (91.3 percent), 138 chum (5.2 percent), and 92 pink (3.5 percent). No cohos were reported. Most permits were issued to Kake residents, and Kake residents harvested most of the salmon reported (91.5 percent).

Table XIII-22. South Chatham/West Frederick Sound - District 9 & Sumner Strait - District 5
Kake Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Kake	83	92	2	2,226	0	138	78	2,444	91.5%
2002	Juneau**	1	2	0	75	0	0	0	75	2.8%
2002	Ketchikan***	2	2	0	54	0	0	0	54	2.0%
2002	Sitka	1	1	0	40	0	0	7	47	1.7%
2002	Petersburg	1	1	0	25	0	0	7	32	1.2%
2002	Anchorage	1	1	0	20	0	0	0	20	0.7%
		89	99	2	2,439	0	138	92	2,672	100.0%
	Percent of Total			0.1%	91.3%	0.0%	5.2%	3.5%	100.0%	

** Includes Auke Bay and Douglas

*** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-23. Kake Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 6**	**3**	**3**	**0**	**39**	**0**	**0**	**0**	**39**
2002	Salmon Bay Creek	3	3	0	39	0	0	0	39
2002	**District 9**	**83**	**92**	**2**	**2,226**	**0**	**138**	**78**	**2,444**
2002	Gut Bay Head	12	13	0	134	0	7	0	141
2002	Falls Ck Baranof Is	57	64	2	1,814	0	65	17	1,897
2002	Point White Creek	2	2	0	0	0	0	39	39
2002	Salt Chuck-Security	1	1	0	0	0	67	22	89
2002	Kutlaku Creek	8	9	0	217	0	0	0	217
2002	Alecks Creek	3	3	0	61	0	0	0	61
2002	**District 13**	**1**	**1**	**0**	**50**	**0**	**0**	**0**	**50**
2002	Fish Camp -Klag Bay	1	1	0	50	0	0	0	50
	All Districts Total			**2**	**2,315**	**0**	**138**	**78**	**2,533**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Some Kake residents fish in waters beyond these traditional use areas. In 2002 most of the subsistence salmon harvests reported on the permits fished by Kake residents occurred in the waters of Falls Creek, Gut Bay, and in Kutlaku Creek in Bay of Pillars (Table XIII-23).

The numbers of sockeye salmon harvested by residents of Kake in 2002, as estimated based on amounts reported on the permits, were up from 2001, and above the 5-year and 10-year averages, and chum salmon reported harvests were up somewhat above the 2001 level, but still below average. Few chinook harvests were reported on the permits returned in 2002.

PETERSBURG/WRANGELL MANAGEMENT AREA

PETERSBURG SUBSISTENCE AND PERSONAL USE FISHERIES

Sumner Strait/Pt. Baker/Macnamara – Portion District 6
Point Baker, Salmon Bay, Red Bay Lake and
Crystal Creek (Wrangell Narrows) in District 6

Background and History

Subsistence salmon fisheries in the waters traditionally used by the Tlingit people of Wrangell are under the management responsibility of the Commercial Fisheries Petersburg/Wrangell office. In 1989, when the Alaska Board of Fisheries adopted positive findings for "customary and traditional use" of salmon in some waters of southeast, it did not act on proposals to make a similar finding for the principal waters used by the people of Petersburg and Wrangell to obtain their fish for home use. These waters and streams include Crystal Creek in the Wrangell Narrows, Salmon Bay, Red Bay Lake, on the northwest coast of Prince of Wales Island along the shores of Sumner and Clarence Strait in District 6, Thoms Creek, Harding River, Mill Creek in District 7, and the Stikine River in District 8. Salmon fishing for home use in these waters occurs under the personal use regulations. The Petersburg-Wrangell Management Area Office also manages the subsistence sockeye salmon fisheries at Alecks Creek in Tebenkof Bay and Kutlaku Creek in Bay of Pillars on Kuiu Island, and Gut Bay and Falls Creek on Baranof Island, in District 9 (Figure XIII-3).

The residents of Petersburg and Wrangell are the principal communities dependent on the salmon stocks of Salmon Bay on Prince of Wales Island, and Crystal Creek, Thoms Creek, Earl

West Cove, Mill Creek and the Stikine River. In 2000 Petersburg had a population of 3,247 in 1,252 households, and Wrangell had a population of 2,308 in 907 households. Rod and reel is the preferred method used by Petersburg and Wrangell fishers to harvest salmon for home use. Just 3 percent of Petersburg households, and 9 percent of Wrangell households are estimated to use subsistence methods to harvest salmon for home use (Scott et al. 2001).

Regulations

The subsistence/personal use salmon permit for the Petersburg/Wrangell Management Area provides for an open season for sockeye salmon in the designated subsistence fisheries Shipley Bay, Salmon and Red Bays and Falls Lake running from June 1 through July 31. Season limits for sockeye are specified at 15 in possession and 25 annually from Shipley, and 30 in possession and annual limit from Salmon Bay and Red Bay, up from 10 in 2001. The open season for the personal use sockeye salmon fisheries at Thoms Place and Mill Creek was June 1 – July 31, with a daily possession limit of 20, and 40 annually, up from 10/10 in 2001. Hatchery Creek season runs from June 1-30, with a daily limit of 5 sockeye, and an annual limit of 20. There was a daily limit of 50 pinks per person and 100 per household from all streams in the Kake and Point Baker/Port Protection areas. The open season for pinks in Cat Creek, Chuck River, Olive Cove and Kuday Bay was July 15-August 31, with a possession limit of 50 and 100 annual limit. The open season for chum on the Harding River was July 1 – August 15, with a limit of 25 in possession and 50 annually.

Harvest Assessment Program – Petersburg

As reported in Table XIII-24 the estimated harvest in the Petersburg area subsistence/personal use salmon fisheries in 2002 was 1,725 salmon, including 1,271 sockeye (73.7 percent), 415 coho (24.0 percent), 29 chum (1.7 percent), and 9 pink (0.5 percent). Most permits were issued to Petersburg residents, and Petersburg residents harvested most of the salmon reported (82.2 percent). In 2002, 91 percent of the salmon harvest reported on the permits by Petersburg residents occurred in the waters of Salmon Bay Creek, and Petersburg residents caught 100 percent of their cohos in Crystal Creek in District 6 (Table XIII-25). Some Petersburg residents fished in waters beyond District 6, including Mill Creek in District 7, Falls Creek-Baranof Island in District 9, the Taku River just south of Juneau, in District 11, Hoktaheen Cove in District 13, and Chilkat Inlet in District 15.

The numbers of sockeye salmon harvested by residents of Petersburg in 2002, as estimated based on amounts reported on the permits, continue to be well over the five year, ten-year averages, and all-year average (1985-2002), although coho, chum and pink reported remain low.

Table XIII-24. Portion District 6 - East Sumner Strait/North Frederick Sound [Sumner Strait/Pt Baker/Macnamara & Wrangell Narrows] – Point Baker/Port Protection & Petersburg Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Petersburg	75	78	1	1,016	385	13	2	1,418	82.2%
2002	Wrangell	6	7	0	92	0	0	0	92	5.3%
2002	Point Baker	1	1	0	27	20	16	6	69	4.0%
2002	Anchorage	2	2	0	39	0	0	1	40	2.3%
2002	Kake	3	3	0	39	0	0	0	39	2.3%
2002	Sitka	1	1	0	30	0	0	0	30	1.7%
2002	Craig	3	3	0	15	0	0	0	15	0.9%
2002	Ketchikan**	1	1	0	0	10	0	0	10	0.6%
2002	Seward	1	1	0	8	0	0	0	8	0.5%
2002	King Cove	1	1	0	5	0	0	0	5	0.3%
2002	Thorne Bay	1	1	0	0	0	0	0	0	0.0%
		95	99	1	1,271	415	29	9	1,725	100.0%
	Percent of Total			0.1%	73.7%	24.0%	1.7%	0.5%	100.0%	

** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-25. Petersburg Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 6**	**75**	**78**	**1**	**1,016**	**385**	**13**	**2**	**1,418**
2002	Salmon Bay Creek	47	49	1	1,005	6	2	1	1,015
2002	Red Lake Creek	2	2	0	3	0	5	0	8
2002	Crystal Creek	26	27	0	8	379	6	1	394
2002	**District 7**	**2**	**2**	**0**	**38**	**0**	**0**	**0**	**38**
2002	Mill Ck	2	2	0	38	0	0	0	38
2002	**District 9**	**1**	**1**	**0**	**25**	**0**	**0**	**7**	**32**
2002	Falls Ck Baranof Is	1	1	0	25	0	0	7	32
2002	**District 11**	**1**	**1**	**0**	**10**	**0**	**0**	**0**	**10**
2002	Taku River	1	1	0	10	0	0	0	10
2002	**District 13**	**1**	**1**	**0**	**38**	**0**	**0**	**0**	**38**
2002	Hoktaheen Cove	1	1	0	38	0	0	0	38
2002	**District 15**	**1**	**1**	**0**	**21**	**0**	**0**	**0**	**21**
2002	Chilkat Inlet	1	1	0	21	0	0	0	21
	All Districts Total			**1**	**1,149**	**385**	**13**	**9**	**1,557**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

PETERSBURG/WRANGELL MANAGEMENT AREA

WRANGELL SUBSISTENCE AND PERSONAL USE FISHERIES

East Etolin Island/Wrangell Island/Ernest Sound – District 7
Thoms Creek, Harding River, and Mill Creek
and Stikine River in District 8

Harvest Assessment - Wrangell

As reported in Table XIII-26 the estimated salmon harvest in the Wrangell area subsistence/personal use salmon in 2002 was 1,507 salmon, including 1,229 sockeye (81.5 percent), 136 chinook (9.0 percent), 100 chum (6.6 percent), 31 pink (2.1 percent), and just 11 coho (0.8 percent). Salmon harvests by Wrangell residents accounted for 97.5 percent of salmon harvested under subsistence/personal use regulations from the waters of Districts 7. This represents more than twice the numbers estimated from harvests reported on permits in 2001 for District 7.

Table XIII-26. East Etolin Island/Wrangell Island/Ernest Sound - District 7
Wrangell Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Wrangell	74	85	136	1,191	11	100	31	1,469	97.5%
2002	Petersburg	2	2	0	38	0	0	0	38	2.5%
		76	87	136	1,229	11	100	31	1,507	100.0%
	Percent of Total			9.0%	81.5%	0.8%	6.6%	2.1%	100.0%	

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

In 2002 54.8 percent of all the salmon harvest reported on the permits by Wrangell residents occurred in the waters of Thoms Creek at the southwest tip of Wrangell Island, Earl West Cove Special Harvest Area – a hatchery chinook run, and Salmon Bay on Prince of Wales Island (Table XIII-27). The Stikine River remained closed to subsistence fishing in 2002.

Table XIII-27. Wrangell Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 6**	**6**	**7**	**0**	**92**	**0**	**0**	**0**	**92**
2002	Salmon Bay Creek	6	7	0	92	0	0	0	92
2002	**District 7**	**74**	**85**	**136**	**1,191**	**11**	**100**	**31**	**1,469**
2002	Thoms Creek	17	19	0	366	0	13	10	388
2002	Earl West Cove SHA	5	6	41	2	7	0	2	53
2002	Mill Ck	52	60	95	823	5	87	18	1,028
	All Districts Total			**136**	**2,145**	**23**	**187**	**52**	**2,679**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Overall the numbers of salmon harvested by residents of Wrangell in 2002, as estimated based on amounts reported on the permits, were considerably over the 5- and 10-year averages and the all-year average (1985-2002). This was true for the estimated numbers of chinook, sockeye, and chum. Estimated cohos and pinks harvested were very low compared with earlier years.

PETERSBURG-WRANGELL MANAGEMENT AREA

POINT BAKER/PORT PROTECTION SUBSISTENCE FISHERIES

Sumner Strait/Pt. Baker/Macnamara – Portion District 6
Point Baker, Red Bay and Salmon Bay
and Shipley Bay in District 5

Background and History

The Petersburg-Wrangell Area Management Office manages subsistence and personal use salmon fisheries in the waters used by fishers from the communities of Point Baker and Port Protection – the Salmon Bay and Red Bay sockeye salmon stocks at the north end of Prince of Wales Island. In 1989, when the Alaska Board of Fisheries adopted positive findings for "customary and traditional use" of salmon in some waters of southeast, it did not act on proposals to make a similar finding for the principal waters used by the people of Point Baker and Port Protection to obtain their fish for home use. From 1989 to 1997 the only option for Point Baker and Port Protection fishers for obtaining salmon for home use was from Shipley Bay, over 20 miles south across the open water of Sumner Strait, and Red and Salmon Bays, over 20 miles east along Sumner Strait.

In 1997 the Alaska Board of Fisheries acted favorably on a proposal to adopt a positive finding for "customary and traditional" use of salmon (and other fish) "in waters of District 5 north of a line from Point St. Albans to Cape Pole, in waters of Section 6-A west of a line from Macnamara Point to Mitchell Point, and in waters of Section 6-B west of the longitude of Macnamara Point." This opened the opportunity for a subsistence "drift gillnet fishery" from the mixed salmon stocks in the waters of Sumner Strait off shore from the two communities.

In 2000 Point Baker had a population of 35 in 13 households, and Port Protection had a population of 63 in 31 households. In 1996, the year before the Board of Fisheries acted on the proposal to allow a subsistence drift gillnet fishery off the cape in front of the community, the Division's harvest survey found no households using subsistence methods to obtain salmon for home use. In that year 24 percent of Port Protection households were estimated to use subsistence methods to harvest salmon for home use. In 1996 in Point Baker 50 percent of

households, and in Port Protection 28 percent of households, relied on removal from commercial catches to meet their household's need for salmon (Scott et al. 2001).

Regulations

The 2002 subsistence/personal use salmon permit for Petersburg-Wrangell Management Area stipulated that gaffs, spears, beach seines, and dip nets are the types of subsistence gear allowed for general use in the Point Baker/Port Protection areas. The 2002 permit provided for an open season for the Pt. Baker Drift Gillnet Subsistence salmon fishery running from June 15 through July 31, from Wednesday noon until Sunday noon. Drift gillnets may not exceed 50 fathoms. Harvest is limited to a maximum of 25 sockeye per family per year, with incidental harvests of other salmon species allowed. Set gillnets may only be used in Shipley Bay within 100 yards of the terminus of Shipley Creek and the permit holder must be physically present at the net while it is in operation, and nets may not exceed 50 fathoms. In Shipley Bay, daily limit for sockeye salmon is 15 fish, with an annual limit of 25, compared with 25/no limit in 2001. In Salmon and Red Bays the daily and annual limit for sockeye is 30 fish.

Harvest Assessment Program

As reported in Table XIII-28 the estimated salmon harvest in the Point Baker/Port Protection subsistence area in 2002 was just 69 salmon from the Sumner Strait/Point Baker/Macnamara sub-district, likely in the Point Baker Subsistence Drift Gillnet fishery. The subsistence/personal use salmon permit system database does not include any harvests reported by Port Protection fishers. It is believed that since many Port Protection households receive mail via pouch from Ketchikan, and maintain either a Ketchikan or Point Baker post office box address, their harvests are included in either the Point Baker or Ketchikan numbers.

There has been a steady decline in the number of Point Baker fishers using the subsistence/personal use salmon permit fisheries since 1985. The estimated subsistence harvest has dropped unevenly over the years.

Table XIII-28. Point Baker Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 6**	**1**	**1**	**0**	**27**	**20**	**16**	**6**	**69**
2002	Sumner Strait/Pt Baker/ Macnamara	1	1	0	27	20	16	6	69
	All Districts Total			**0**	**27**	**20**	**16**	**6**	**69**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Other harvests from this sub-district are reported with the Petersburg and Wrangell fisheries above.

KETCHIKAN MANAGEMENT AREA

CRAIG, KLAWOCK AND HYDABURG SUBSISTENCE FISHERIES

Inside Waters/West Prince of Wales Island – District 3
Eek Creek, Hetta Inlet, Klawock River, and Sarkar

Background and History

The Ketchikan Management Area includes three distinct subsistence areas where the Board of Fisheries adopted positive "customary and traditional use" determinations in 1989. Two of these areas are on the west coast of Prince of Wales Island: the Hydaburg area waters of Section 3-A, and in waters of District 2 in Nichols Bay north of 54° 42.12' N. lat. (5AAC 01.716 (18)); Craig/Klawock area waters of Section 3-B east of a line from Point Ildefonso to Tranquil Point and in waters of Warm Chuck Inlet north of a line from a point on Heceta Island at 55° 44' N. lat., 133° 25' W long. to Bay Point, and in the waters of Section 3-C in Karheen Passage north of 55° 48' N lat. and east of 133°20' W long., and in waters of Sarkar Cove and Sarkar Lakes (5AAC 01.716 (15)) (Figure XIII-4).

The communities of Hydaburg, Craig, and Klawock on the west coast of Prince of Wales Island, are the principal subsistence users of the salmon stocks of Districts 3-A and 3-B – Hetta Inlet/Sukkwan Strait (Eek Creek), Big Salt/Trocadero Bay (Klawock River), and Sea Otter Sound (Sarkar). In District 2, no salmon harvests were reported from Nichols Bay in 2002.

In 1997 the Division's household survey found that 27 percent of Craig households used subsistence methods to harvest salmon. In Klawock 36 percent and in Hydaburg 59 percent of households used subsistence methods to harvest salmon that year (ADFG Division of Subsistence, Community Profile Database 2003).

In 2000 the numbers of people and households in the three west coast Prince of Wales Island communities were as follows:

Community	Population	Households
Craig [1]	1,725	631
Klawock	854	313
Hydaburg	382	133

[1] Alaska Native Village Statistical Area includes population on Port St. Nicholas Rd. and other residential areas outside City of Craig boundaries.

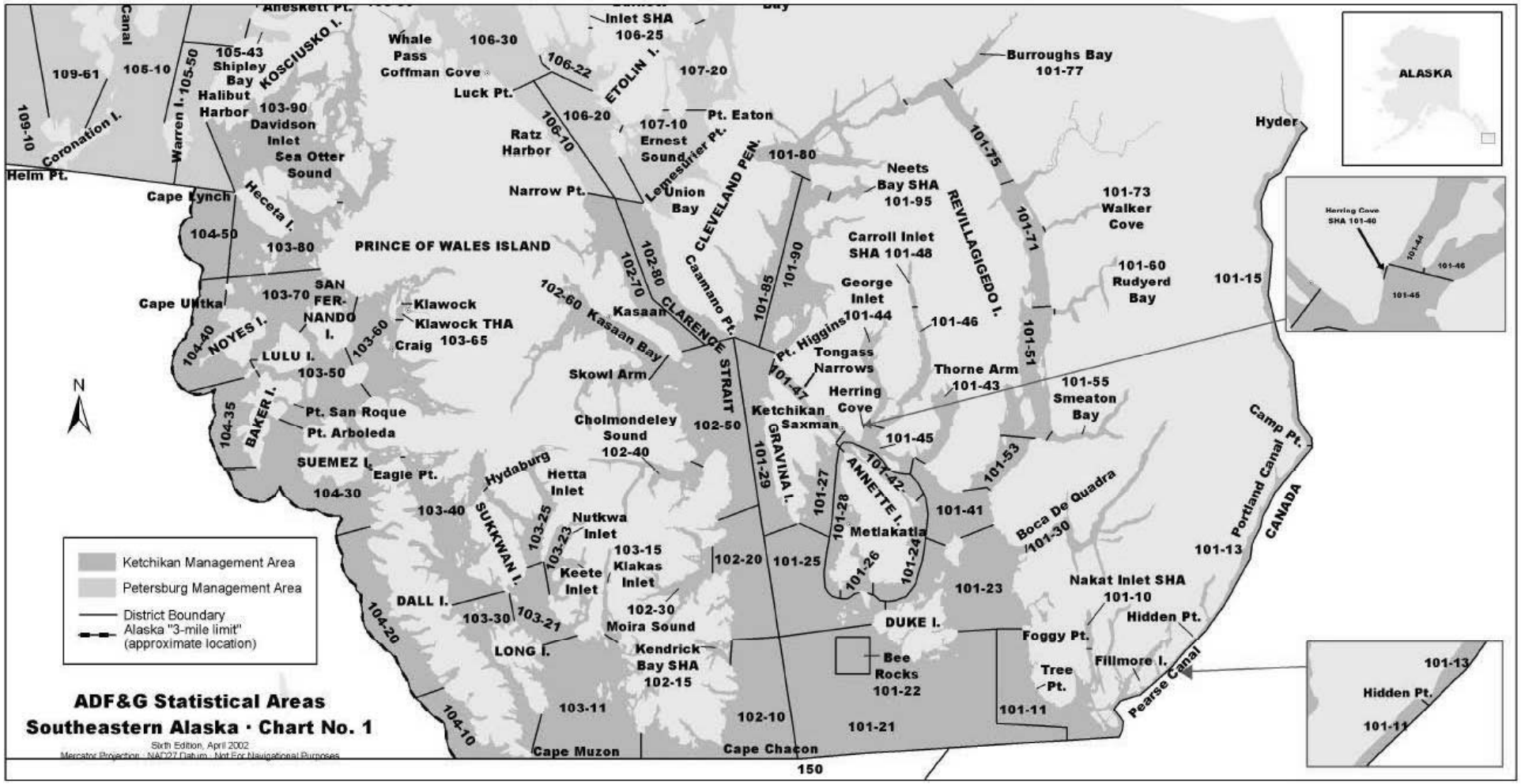


Figure XIII-4. ADF&G Salmon and Shellfish Fishery Statistical Areas, Southeastern Alaska, Chart No. 1

Regulations

The 2002 subsistence/personal use salmon permit for the Ketchikan Management Area stipulated that hand purse seines, beach seines, and dip nets are the types of subsistence/ personal use gear allowed for general use, with use of "line attached to a rod or pole" specifically not allowed. No mention is made of use of gaffs or spears. The standard rules governing fishing near dams, fish ladders, weirs, culverts etc. is included, as well as the prohibition of possessing salmon taken under sport-fish regulations on the same day as subsistence/personal use taken salmon, and the requirement of removing tail fin tips immediately. The 2002 permit provided for an open season in Nichols Bay, and Warm Chuck Lake (on Heceta Island) from June 1 through July 31. The season in Hetta Inlet/Eek Creek ran from June 1 through August 31, and in the Klawock River, from July 7 through July 31, but with fishing allowed only from 8 am Monday through 5 pm Friday. All streams in the Hydaburg and Craig/ Klawock subsistence areas were open for pink salmon from July 1 through September 30, and for chum salmon, from July 1 through October 31. Harvest possession limit for individuals and households were as follows: in Nichols Bay, Hetta/Eek, Warm Chuck Lake, Klawock River, and Karheen, Deweyville (Sarkar) – sockeye - 10/20; in all streams in the Hydaburg and Craig/Klawock Subsistence Areas – pinks - 100/150, chum – 20/25.

Harvest Assessment Program

As reported in Table XIII-29 the estimated salmon harvest in District 3 - the Hydaburg and Craig/Klawock Subsistence Areas (except Nichols Bay in District 2) in 2002 was 7,542 salmon, representing a 15 percent drop from 2001 levels. The harvest composition was 7,190 sockeye (95.3 percent), 1 chinook (0.02 percent), 41 coho (0.5 percent), 43 pink (0.6 percent), and 266 chum (3.5 percent). Residents of Klawock accounted for the most number of permits issued. Klawock and Craig fishers shared the salmon harvested from these waters, harvesting 47.0 percent and 27.2 percent respectively, of the estimated harvest based on returned permits.

Table XIII-29. Inside Waters/West Prince of Wales Island – District 3
Craig/Klawock/Hydaburg Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community
2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Klawock	79	104	1	3,426	24	76	20	3,546	47.0%
2002	Craig	52	64	0	1,831	16	190	14	2,050	27.2%
2002	Hydaburg	14	19	0	796	0	0	0	796	10.6%
2002	Ketchikan**	27	30	0	662	1	0	0	663	8.8%
2002	Kasaan	8	8	0	266	0	0	0	266	3.5%
2002	Thorne Bay	4	5	0	79	0	0	10	89	1.2%
2002	Saxman	3	4	0	87	0	0	0	87	1.1%
2002	Hollis	1	1	0	24	0	0	0	24	0.3%
2002	Sitka	1	1	0	20	0	0	0	20	0.3%
		189	236	1	7,190	41	266	43	7,542	100.0%
	Percent of Total			0.02%	95.3%	0.5%	3.5%	0.6%	100.0%	

** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Hydaburg fishers accounted for about 10.6 percent of the estimated harvest from District 3.

In 2002, Craig residents harvested salmon principally from the Klawock River, Sarkar, and from Hatchery Creek-Sweetheart Creek, near Coffman Cove in District 6 (Table XIII-30). Klawock salmon harvests in 2002 came from the Klawock River and Hatchery Creek-Sweetheart Creek (Table XIII-31). In 2002 Hydaburg fishers harvested salmon principally from Hetta Inlet (Table XIII-32).

Table XIII-30. Craig Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 2**	**8**	**10**	**0**	**36**	**2**	**7**	**116**	**161**
2002	Dog Salmon Creek	1	1	0	0	0	6	12	18
2002	Twelvemile Creek	1	1	0	0	2	1	49	53
2002	Maybeso Creek	1	1	0	0	0	0	54	54
2002	Karta River	5	6	0	36	0	0	0	36
2002	**District 3**	**52**	**64**	**0**	**1,831**	**16**	**190**	**14**	**2,050**
2002	Eek Creek	1	1	0	0	2	0	0	2
2002	Hetta Inlet	2	2	0	50	1	0	0	52
2002	Klawock River	31	38	0	1,097	12	190	14	1,313
2002	Sarkar	16	20	0	644	0	0	0	644
2002	Deweyville	2	2	0	39	0	0	0	39
2002	**District 6**	**30**	**36**	**0**	**244**	**0**	**0**	**0**	**244**
2002	Hatchery Ck Sweethrt	27	33	0	229	0	0	0	229
2002	Red Lake Creek	3	3	0	15	0	0	0	15
	All Districts Total			**0**	**2,111**	**18**	**197**	**129**	**2,456**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-31. Klawock Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 2**	**2**	**3**	**0**	**20**	**0**	**0**	**0**	**20**
2002	Karta River	2	3	0	20	0	0	0	20
2002	**District 3**	**79**	**104**	**1**	**3,426**	**24**	**76**	**20**	**3,546**
2002	Klawock River	75	98	1	3,321	24	76	20	3,441
2002	Deweyville	4	5	0	105	0	0	0	105
2002	**District 6**	**29**	**38**	**0**	**260**	**0**	**0**	**0**	**260**
2002	Hatchery Ck Sweethrt	29	38	0	260	0	0	0	260
	All Districts Total			**1**	**3,705**	**24**	**76**	**20**	**3,826**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

The estimated overall subsistence salmon harvest for Klawock dropped slightly in 2002, over 2001. In the years since 1996 when the Division applied an expansion factor, the harvest estimates declined in 1997 and 1998. Prior to 1996 the data are not comparable since they are unexpanded.

In Hydaburg estimated harvests based on amounts reported on the subsistence salmon permits have declined in the past two years. The 2002 estimate is well below the 5- and 10-year averages, as well as the all-year average. The decline in the estimated number of permits issued to Hydaburg residents continued in 2002 dropping from 26 in 2001 to just 19. Hydaburg relied on Hetta Inlet and Creek, and Eek Creek for 93 percent of its sockeye salmon in 2002.

Table XIII-32. Hydaburg Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

		Permits Fished		Estimated Harvest					Total
Year	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2002	**District 3**	**14**	**19**	**0**	**796**	**0**	**0**	**0**	**796**
2002	Klakas Lake Creek	1	1	0	53	0	0	0	53
2002	Eek Creek	3	4	0	206	0	0	0	206
2002	Hetta Inlet	8	11	0	386	0	0	0	386
2002	Hetta Lake Creek	2	3	0	152	0	0	0	152
	All Districts Total			**0**	**796**	**0**	**0**	**0**	**796**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

KETCHIKAN MANAGEMENT AREA

KASAAN SUBSISTENCE AND EASTERN PRINCE OF WALES PERSONAL USE FISHERIES

Clarence Strait/East Prince of Wales Island:
Kegan Lake, Thorne River, Karta River in District 2;
and Hatchery Creek-Sweetheart Creek in District 6

Background and History

The subsistence area on the east coast of Prince of Wales Island, identified by the Board of Fisheries as having "customary and traditional use" of salmon were the Kasaan area waters of District 2 north of the latitude of the northernmost tip of Chasina Point and west of a line from the northernmost tip of Chasina Point to the easternmost tip of Grindall Island to the easternmost tip of the Kasaan Peninsula (5AAC 01.716 (12)). Salmon fishing in all other marine waters along the east coast of Prince of Wales Island occurs under personal use regulations. The principal waters used for salmon fishing in District 6 along the east coast of Prince of Wales Island are the Kegan Lake, Thorne River, and Hatchery Creek-Sweetheart Creek (Figure XIII-4)

The population and number of households of the communities of Prince of Wales Island that use these waters are:

Community	Population	Households	Community	Population	Households
Coffman Cove	199	63	Kasaan	39	17
Craig [1]	1,725	631	Klawock	854	313
Edna Bay	49	19	Thorne Bay	557	219
Hollis	139	55	Whale Pass	58	22
Hydaburg	382	133			

Source: U.S. Census of Population, 2000

[1] Alaska Native Village Statistical Area, includes population on Port St. Nicholas Rd and other suburbs of City of Craig.

Regulations

The 2002 subsistence/personal use salmon permit for the Ketchikan Management Area provided for an open season on the Karta River from June 15 through July 15. Harvest "possession" limits for individuals and households were as follows: in Karta River – sockeye 10/15; in all streams in the Hydaburg, Kasaan, and Craig/Klawock Subsistence Areas – pinks - 100/150, chum – 20/25. For the areas not included in the "customary and traditional use" areas, salmon fishing takes place under personal use regulations. The 2002 permit provided for open season for sockeye in Kegan Lake and the Thorne River from June 1 through July 31, in Dolomi Lake (north of Moira Sound) from June 1 through July 15, and in Hatchery Creek from June 1 through June 30.

Harvest Assessment Program

As reported in Table XIII-33 the estimated salmon harvest in the Kasaan subsistence area and other marine waters in the eastern portions of Prince of Wales Island (District 2, and Hatchery Creek (Dist. 6) in 2002 was 2,155 salmon, (down from 3,297 in 2001) including 1,776 sockeye (86.3 percent), no chinook, 13 coho (0.4 percent), 343 pink (10.4 percent), and 94 chum (2.8 percent). Thorne Bay residents accounted for the majority (33.7 percent) of permits reporting salmon harvests in these waters. But other east Prince of Wales Island residents participated only modestly in the personal use salmon fisheries of District 2 and Hatchery Creek (Dist. 6). Besides Thorne Bay, Craig, Klawock and Ketchikan residents reported salmon harvests in these waters. In 2002 Craig's share of the salmon harvested in these fisheries comprised 18 percent of the estimated harvest based on returned permits, and Klawock's share of the estimated salmon harvest comprised 13.0 percent. Coffman Cove's share of the harvest from these waters amounted to just 6.5 percent of the harvest that year, Kasaan's share – just 3.9 percent. Ketchikan permits reported harvesting from District 2 and Hatchery Creek (Dist. 6) waters, their reported harvest represented almost 11 percent of the total from that area in 2002.

Table XIII-34 through Table XIII-37 show the location of 2002 salmon harvests for the communities of Coffman Cove, Kasaan and Thorne Bay. Coffman Cove harvested salmon exclusively from Hatchery Creek. Hatchery Creek was the main source of Thorne Bay's salmon in 2001. Kasaan caught most of its salmon in Old Tom Creek in Kasaan Bay. In 2002 Edna

Bay, Naukati Bay and Whale Pass did not report salmon harvests on subsistence/personal use salmon permits.

Table XIII-33. Clarence Strait/East Prince of Wales Island - District 2, plus Portion District 6
Kasaan & Eastern Prince of Wales Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

Year	Community	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Percent of Total
2002	Thorne Bay	49	55	0	684	23	0	20	727	33.7%
2002	Craig	35	43	0	265	2	7	116	390	18.1%
2002	Klawock	31	40	0	279	0	0	0	279	13.0%
2002	Ketchikan**	24	27	0	241	0	0	3	245	11.4%
2002	Hollis	7	8	0	28	5	0	202	235	10.9%
2002	Kasaan	4	4	0	85	0	0	0	85	3.9%
2002	Coffman Cove	15	16	0	141	0	0	0	141	6.5%
2002	Anchorage	1	1	0	27	0	0	0	27	1.2%
2002	Metlakatla	2	2	0	20	0	0	0	20	0.9%
2002	Naukati Bay	1	1	0	6	0	0	0	6	0.3%
		169	199	0	1,776	30	7	342	2,155	100.0%
	Percent of Total			0.0%	82.4%	1.4%	0.3%	15.8%	100.0%	

** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-34. Coffman Cove Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 6**	**15**	**16**	**0**	**141**	**0**	**0**	**0**	**141**
2002	Hatchery Ck Sweethrt	15	16	0	141	0	0	0	141
	All Districts Total			**0**	**141**	**0**	**0**	**0**	**141**

Table XIII-35. Kasaan Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 2**	**3**	**3**	**0**	**65**	**0**	**0**	**0**	**65**
2002	Kasaan Bay	3	3	0	65	0	0	0	65
2002	Karta River	3	3	0	65	0	0	0	65
2002	**District 3**	**8**	**8**	**0**	**266**	**0**	**0**	**0**	**266**
2002	Sarkar	8	8	0	266	0	0	0	266
2002	**District 6**	**1**	**1**	**0**	**20**	**0**	**0**	**0**	**20**
2002	Hatchery Ck Sweethrt	1	1	0	20	0	0	0	20
	All Districts Total			**0**	**351**	**0**	**0**	**0**	**351**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-36. Hollis Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 2**	**5**	**6**	**0**	**4**	**5**	**0**	**202**	**211**
2002	Maybeso Creek	2	2	0	0	0	0	202	202
2002	Karta River	3	4	0	4	5	0	0	8
2002	**District 3**	**1**	**1**	**0**	**24**	**0**	**0**	**0**	**24**
2002	Sarkar	1	1	0	24	0	0	0	24
2002	**District 6**	**2**	**2**	**0**	**24**	**0**	**0**	**0**	**24**
2002	Hatchery Ck Sweethrt	2	2	0	24	0	0	0	24
	All Districts Total			**0**	**52**	**5**	**0**	**202**	**259**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-37. Thorne Bay Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 2**	**23**	**26**	**0**	**415**	**23**	**0**	**20**	**458**
2002	Karta River	2	2	0	17	0	0	0	17
2002	Thorne River	21	24	0	398	23	0	20	441
2002	**District 3**	**4**	**5**	**0**	**79**	**0**	**0**	**10**	**89**
2002	Klakas Lake Creek	1	1	0	0	0	0	0	0
2002	Klawock River	1	1	0	11	0	0	0	11
2002	Sarkar	2	2	0	68	0	0	10	78
2002	**District 6**	**27**	**30**	**0**	**269**	**0**	**0**	**0**	**269**
2002	Hatchery Ck Sweethrt	26	29	0	269	0	0	0	269
2002	Red Lake Creek	1	1	0	0	0	0	0	0
	All Districts Total			**0**	**763**	**23**	**0**	**30**	**816**

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

In 2002 Coffman Cove's personal use salmon harvest came exclusively from Hatchery Creek/Sweetheart in District 6, the sockeye salmon source closest to the community (Table XIII-34).

Edna Bay, a settlement of commercial fishing families, has historically relied on removing salmon from commercial catches for home use. This pattern continues.

Kasaan's subsistence salmon harvest record is uneven, but generally declining. The role of changing demographics of the community on this trend needs to be explored. In 2002 Kasaan residents reported substantially more salmon harvested than in other recent years (Table XIII-35). Fewer permits have been issued to Kasaan residents in the past 5 years.

Hollis' use of the subsistence/personal use salmon fisheries has declined over the past 10 years, to none in 2001. In 2002 Hollis residents returned permits reporting harvests of some sockeye and pink salmon (Table XIII-36). Some Hollis salmon harvests may be included in the Craig numbers, since it is common for Hollis residents to maintain a post office mailing address in Craig.

Thorne Bay subsistence salmon harvests also show a steady decline over the past ten years, as have the numbers of permits issued and returned. The 2002 estimated harvests are up modestly from 2001 (Table XIII-37), but still well under the 5-, 10- and all-year averages.

The record of subsistence salmon harvests for Whale Pass is uneven. For three years, 1991, 2000 and 2002, no permits were issued to Whale Pass residents. It is possible that some Whale Pass harvests may be included with the Point Baker or Ketchikan harvests, since some may keep a post office mailing address in one of those places.

KETCHIKAN MANAGEMENT AREA

SAXMAN & METLAKATLA SUBSISTENCE AND KETCHIKAN PERSONAL USE FISHERIES

Ketchikan/Behm Canal – District 1
Herring Cove, Wolverine Creek

Background and History

The Ketchikan Management Area is responsible for the subsistence and personal use salmon fisheries in Districts 1, 2, 3, and 6. The Board of Fisheries recognized "customary and traditional use" of salmon stocks in the waters used by the Tongass Tlingit of Saxman: waters of the Naha River, and Boca de Quadra in the waters of Sockeye Creek and Hugh Smith Lake, and within 500 yards of the terminus of Sockeye Creek (5AAC 01.716 (19)). Sockeye salmon fisheries in Helm, McDonald, and Checates lakes, and pink and chum salmon fisheries in all streams in the Ketchikan Management Area except along the Ketchikan road systems and in subsistence areas described above, are managed under personal use regulations (Figure XIII-4).

The communities of Ketchikan and Saxman are the principal users of these fisheries. In 2000 the population of the City and Borough of Ketchikan, excluding Saxman, was 13,639 in 5,272 households. Saxman, located within the Ketchikan Borough, had a population of 431 in 127 households.

Regulations

The Subsistence/Personal Use Salmon Permit for the Ketchikan Management Area provided for an open season for sockeye salmon in Hugh Smith Lake from June 22 through July 12, and in the Naha River from June 1 through July 15; and in the Checates, Dolomi, and Mahoney lakes from

June 1 through July 15. Helm Lake, at the southeast end of the Cleveland Peninsula, had an open sockeye season from June 15 through July 15. There was an open season for pink salmon from July 1 through September 30, and for chum salmon from July 1 through October 31 on all streams in the Ketchikan Management Area, except along the Ketchikan road system and subsistence areas, and in the Hydaburg, Kasaan, Naha, Hugh Smith Lake and Craig/Klawock Subsistence area. Harvest "possession" limits for individuals and households were as follows: in the Naha River, Dolomi, Hugh Smith and Mahoney lakes – sockeye – 6/12; in Helm Lake – sockeye – 6/10; in Checates Lake – sockeye – 10/10; in McDonald Lake (Yes Bay) –sockeye – 25/50. For pinks the possession limits were 100/150, and for chums, 20/25.

Harvest Assessment Program

As reported in Table XIII-38 the estimated salmon harvest in the Ketchikan/Saxman area in 2002 (District 1) was 6,404 (down from 10,599 in 2001), including 4,208 sockeye (65.7 percent), 205 chinook (3.2 percent), 43 coho (0.7 percent), 712 chum (11.1 percent) and 1,236 pink (19.3 percent). Most permits were issued to residents of Ketchikan, and Ketchikan residents harvested most of the salmon reported on the permits (94.8 percent). Saxman does not appear in the database, likely due to the fact that zip code for Saxman is the same as for Ketchikan.

Table XIII-38. Ketchikan/Behm Canal - District 1
Ketchikan Area Subsistence/Personal Use Salmon Permit Estimated Harvest, by Community 2002

		Permits Fished		Estimated Harvest					Total	Percent of
Year	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2002	Barrow	1	1	0	27	0	0	0	27	0.4%
2002	Ketchikan**	187	209	205	3,923	38	693	1,214	6,073	94.8%
2002	Saxman	7	10	0	221	3	17	17	259	4.0%
2002	Sitka	1	1	0	2	2	0	4	8	0.1%
2002	Ward Cove	1	1	0	35	0	0	0	35	0.5%
2002	Wasilla	1	1	0	0	0	1	1	2	0.0%
		198	223	205	4,208	43	712	1,236	6,404	100.0%
	Percent of Total			3.2%	65.7%	0.7%	11.1%	19.3%	100.0%	

** Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Table XIII-39 shows the location of 2001 salmon harvests for Ketchikan. The most heavily used location was at Wolverine Creek that flows out of McDonald Lake into Yes Bay. But Ketchikan residents traveled widely to obtain their salmon for home use.

Table XIII-39. Ketchikan* Community Subsistence/Personal Use Salmon Permit Estimated Harvest, 2002

Year	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2002	**District 1**	**188**	**210**	**205**	**3,958**	**38**	**693**	**1,214**	**6,108**
2002	Herring Cove	11	12	190	1	0	4	0	196
2002	Mahoney Lake Creek	2	2	0	1	0	0	0	1
2002	Wolverine Creek	170	190	15	3,942	38	682	1,174	5,851
2002	Naha River	4	4	0	13	0	7	40	60
2002	Helm Bay Head	1	1	0	0	0	0	0	0
2002	**District 2**	**16**	**18**	**0**	**168**	**0**	**0**	**3**	**171**
2002	Kegan Cove	15	17	0	168	0	0	0	168
2002	Harris River	1	1	0	0	0	0	3	3
2002	**District 3**	**27**	**30**	**0**	**662**	**1**	**0**	**0**	**663**
2002	Klakas Lake Creek	5	6	0	23	0	0	0	23
2002	Eek Creek	3	3	0	85	0	0	0	85
2002	Hetta Inlet	4	4	0	82	0	0	0	82
2002	Klawock River	8	9	0	344	1	0	0	345
2002	Sarkar	6	7	0	117	0	0	0	117
2002	Deweyville	1	1	0	10	0	0	0	10
2002	**District 5**	**1**	**1**	**0**	**12**	**0**	**0**	**0**	**12**
2002	Shipley Bay Lk Ck	1	1	0	12	0	0	0	12
2002	**District 6**	**9**	**10**	**0**	**74**	**10**	**0**	**0**	**84**
2002	Hatchery Ck Sweethrt	8	9	0	74	0	0	0	74
2002	**District 9**	**1**	**1**	**0**	**42**	**0**	**0**	**0**	**42**
2002	Falls Ck Baranof Is	1	1	0	42	0	0	0	42
2002	**District 11**	**1**	**3**	**0**	**9**	**0**	**0**	**0**	**9**
2002	Sweetheart Creek	1	3	0	9	0	0	0	9
2002	**District 13**	**1**	**2**	**0**	**72**	**0**	**0**	**0**	**72**
2002	Lake Stream Ford Arm	1	2	0	72	0	0	0	72
2002	**District 15**	**1**	**1**	**0**	**9**	**0**	**1**	**1**	**11**
2002	Chilkat Inlet	1	1	0	9	0	1	1	11
	All Districts Total			**205**	**5,005**	**49**	**694**	**1,219**	**7,172**

* Includes Ward Cove

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3

Ketchikan's historic personal use salmon harvest grew steadily through 1994. Since then amounts declined in 1995-96, rose modestly in 1997, declined again during 1998 and 1999. In 2002 Ketchikan's harvest dropped substantially from 2001 levels, and was well below the 5-year, 10-year, and all-year averages. Number of permits returned has dropped in recent years.

REFERENCES CITED

Alaska Department of Fish and Game

1985 Alaska Habitat Management Guide Reference Maps, Southwest Region, Volume IV: Human Use of Fish and Wildlife. Division of Habitat. Juneau.

2001 From Neqa to Tepa: A Database with Traditional Knowledge about the Fish of Bristol Bay. Version 1.0. Alaska Department of Fish and Game, Division of Subsistence. Juneau.

2002a Customary and Traditional Use Worksheet: Salmon: Chignik Management Area. Report prepared by the Division of Subsistence for the Alaska Board of Fisheries, Anchorage, AK, January 2002.

2002b Customary and Traditional Use Worksheet: Salmon: Chitina Subdistrict, Prince William Sound Management Area. Report prepared by the Division of Subsistence for the Alaska Board of Fisheries, Cordova, December 2002. [meeting postponed until January 2003]

2002c Alaska Subsistence Fisheries 2000 Annual Report. Division of Subsistence. Juneau.

n.d.a The Salmon Fishing People of the Yukon River. Wildlife Use Notebook Series No. 1. Division of Subsistence, Alaska Department of Fish and Game. Juneau.

n.d.b Salmon Fishing Methods of the Yukon River. Wildlife Use Notebook Series No. 2. Division of Subsistence, Alaska Department of Fish and Game. Juneau.

n.d.a Family Fish Camps of the Yukon River. Wildlife Use Notebook Series No. 3. Division of Subsistence, Alaska Department of Fish and Game. Juneau.

Alaska Department of Fish and Game and the Alaska Inter-Tribal Council (ADF&G and AI-TC)

2000a Recommendations for a Unified Subsistence Fisheries Harvest Assessment Program. Developed by the Subsistence Fisheries Harvest Assessment Working Group for the Office of Subsistence Management, US Fish and Wildlife Service. Project No. FIS00-017. Anchorage.

2000b Statewide Subsistence Fisheries Harvest Monitoring Strategy: Final Report. Prepared by the Subsistence Fisheries Harvest Assessment Working Group for the Office of Subsistence Management, US Fish and Wildlife Service. Project No. FIS00-017. Anchorage.

Brase, Audra L.J. and Helen H. Hamner

2003 Subsistence and Personal Use Salmon Harvests in the Alaska Portion of the Yukon River Drainage, 2002. Regional Information Report 3A03-13. Alaska Department of Fish and Game, Division of Commercial Fisheries. Anchorage.

Bristol Bay Native Association and Alaska Department of Fish and Game (BBNA and ADF&G)
1996 The Harvest and Use of Freshwater Fish in Togiak and Manokotak, 1994 – 95. Natural Resource Department, Bristol Bay Native Association and Division of Subsistence, Alaska Department of Fish and Game. Dillingham.

Caylor, David A. and Robert J. Walker
2003 Alaska Subsistence Fisheries Database. Version 3.2 for Microsoft Access 2000. Alaska Department of Fish and Game, Division of Subsistence. Juneau.

Coffing, Michael W.
1991 Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 157. Juneau.

Fall, James A., Dan J. Foster, and Ronald T. Stanek
1984 The Use of Fish and Wildlife Resources in Tyonek, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 105. Juneau.

Fall, James A., Janet Schichnes, Molly Chythlook, and Robert J. Walker
1986 Patterns of Wild Resource Uses in Dillingham: Hunting and Fishing in an Alaskan Regional Center. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 135. Juneau.

Fall, James A., Rachel Mason, Terry Haynes, Vicki Vanek, Louis Brown, Gretchen Jennings, Craig Mishler, and Charles Utermohle
1993a Noncommercial Harvests and Uses of Wild Resources in King Cove, Alaska, 1992. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 227. Juneau.

Fall, James A., David B. Andersen, Louis Brown, Michael Coffing, Gretchen Jennings, Craig Mishler, Amy Paige, Charles Utermohle, and Vicki Vanek
1993b Noncommercial Harvests and Uses of Wild Resources in Sand Point, Alaska, 1992. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 226. Juneau.

Fall, James A., Lisa B. Hutchinson-Scarbrough, and Philippa A. Coiley
1995 Fish and Wildlife Harvest and Use in Five Alaska Peninsula Communities, 1989. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 202. Juneau.

Fall, James A., Molly B. Chythlook, Janet C. Schichnes, and Judith M. Morris
1996 An Overview of the Harvest and Use of Freshwater Fish by the Communities of the Bristol Bay Region, Southwest Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 166. Juneau.

Fall, James A. and Molly B. Chythlook
1997 An Overview of the Subsistence Fisheries of the Bristol Bay Management Area. Report to the Alaska Board of Fisheries, King Salmon, AK, November 1997. Alaska Department of Fish and Game, Division of Subsistence, Anchorage and Dillingham.

Hammarstrom, Lee F. and Mark S. Dickson
2003 2002 Lower Cook Inlet Annual Finfish Management Report. Alaska Department of Fish and Game, Division of Commercial Fisheries Regional Information Report 2A03-04. Anchorage.

Hutchinson-Scarbrough, Lisa B. and James A. Fall
1996 An Overview of Subsistence Salmon and Other Subsistence Fisheries of the Chignik Management Area, Alaska Peninsula, southwest Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 230. Juneau.

1999 Interim Progress Report: Supplemental Information on Subsistence Uses of Salmon in the Chignik Management Area by the Residents of Perryville, Southwest Alaska. Report to the Alaska Board of Fisheries, Fairbanks, October 1999. Alaska Department of Fish and Game, Division of Subsistence. Anchorage.

Jones, Wesley
2002 *2002 Kotzebue Sound Salmon Season Summary*. Memo to Dan Bergstrom, Regional Management Biologist, Division of Commercial Fisheries, Alaska Department of Fish and Game, Anchorage, Alaska. October 1, 2002.

Kenner, Philippa Coiley, Theodore M. Krieg, Molly B. Chythlook, and Gretchen Jennings
2003 Wild Resource Harvests and Uses by Residents of Manokotak, Togiak, and Twin Hills, 1999/2000. Alaska Department of Fish and Game, Division of Subsistence Technical Paper Number 275. Juneau.

Magdanz, James S., Sandra Tahbone, Kurt Kamletz, and Austin Ahmasuk
2003 *Subsistence Salmon Fishing by Residents of Nome, Alaska, 2001*. Technical Paper No. 274, Division of Subsistence, Alaska Department of Fish and Game, Juneau, Alaska, and Natural Resources Department, Kawerak, Inc., Nome, Alaska.

Menard, Jim
2002 *2002 Norton Sound Salmon Season Summary*. Memo to Dan Bergstrom, Regional Management Biologist, Division of Commercial Fisheries, Alaska Department of Fish and Game, Anchorage, Alaska. October 1, 2002.

Morris, Judith M.
1987 Fish and Wildlife Uses in Six Alaska Peninsula Communities: Egegik, Chignik, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 151. Juneau.

Quimby, Alan and David L. Owen
1994 Chignik Management Area Annual Finfish Report. Alaska Department of Fish and Game, Division of Commercial Fisheries. Regional Information Report No. 4K94-37. Kodiak.

Schichnes, Janet and Molly Chythlook
1988 Wild Resource Uses in Manokotak, Southwest Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 152. Juneau.

1991 Contemporary Use of Fish and Wildlife in Ekwok, Koliganek, and New Stuyahok, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 185. Juneau.

Scott, Cheryl L., Louis A. Brown, Gretchen B. Jennings, and Charles J. Utermohle
2001 Community Profile Database for Access 2000. Version 3.12. Alaska Department of Fish and Game, Division of Subsistence. Juneau.

Simeone, William E. and James A. Fall
1996 Patterns and Trends in the Subsistence Salmon Fishery of the Upper Copper River, Alaska. Report to the Alaska Board of Fisheries, Cordova, Alaska, December 1996. Alaska Department of Fish and Game, Division of Subsistence. Anchorage.

Stanek, Ronald T.
1985 Patterns of Wild Resource Use in English Bay and Port Graham, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 104. Juneau.

United States Bureau of the Census
2001 Profiles of General Demographic Characteristics 2000: Alaska. U.S. Department of Commerce.

Wolfe, Robert J.
2000 Subsistence in Alaska: A Year 2000 Update. Alaska Department of Fish and Game, Division of Subsistence. Juneau.

Wright, John M. and Molly Chythlook
1985 Subsistence Harvests of Herring Spawn on Kelp in the Togiak District of Bristol Bay. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 116. Juneau.

Wright, John M., Judith Morris, and Robert Schroeder.
1985 Bristol Bay Regional Subsistence Profile. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 114. Juneau.