Technical Paper No. 314

Alaska Subsistence Fisheries 2001 Annual Report

by

James A. Fall,

Caroline L. Brown,

David Caylor,

Michael Coffing,

Susan Georgette,

Amy W. Paige,

and

Louann Rank

September 2003

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

TECHNICAL PAPER NO. 314

ALASKA SUBSISTENCE FISHERIES 2001 ANNUAL REPORT

by

James A. Fall
Alaska Department of Fish and Game, Division of Subsistence, Anchorage

Caroline L. Brown
Alaska Department of Fish and Game, Division of Subsistence, Fairbanks

David Caylor
Alaska Department of Fish and Game, Division of Subsistence, Anchorage

Michael Coffing
Alaska Department of Fish and Game, Division of Subsistence, Bethel

Susan Georgette
Alaska Department of Fish and Game, Division of Subsistence, Kotzebue

Amy W. Paige
Alaska Department of Fish and Game, Division of Subsistence, Juneau

and

Louann Rank
Alaska Department of Fish and Game, Division of Subsistence, Bethel

Alaska Department of Fish and Game
Division of Subsistence
PO Box 115526, Juneau, Alaska 99811-5526

September 2003

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 agreements 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/

James A. Fall and David Caylor
Alaska Department of Fish and Game, Division of Subsistence
333 Raspberry Road, Anchorage, Alaska 99518-1599, USA

Caroline L. Brown
Alaska Department of Fish and Game, Division of Subsistence
1300 College Road, Fairbanks, Alaska 99701-1599, USA

Michael Coffing and Louann Rank
Alaska Department of Fish and Game, Division of Subsistence
PO Box 1789, Bethel, Alaska 99559-1789, USA

Susan Georgette
Alaska Department of Fish and Game, Division of Subsistence
PO Box 689, Kotzebue, Alaska 99752, USA
and
Amy Paige
Alaska Department of Fish and Game, Division of Subsistence
PO Box 115526, Juneau, Alaska 99811-5526, USA

This document should be cited as:
Fall, J.A., C.L. Brown, D. Caylor, M. Coffing,, S. Georgette, A.W. Paige, and L. Rank. 2003. Alaska subsistence fisheries 2001 annual report. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 314. Juneau.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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 third 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 third 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, 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 2001.

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.

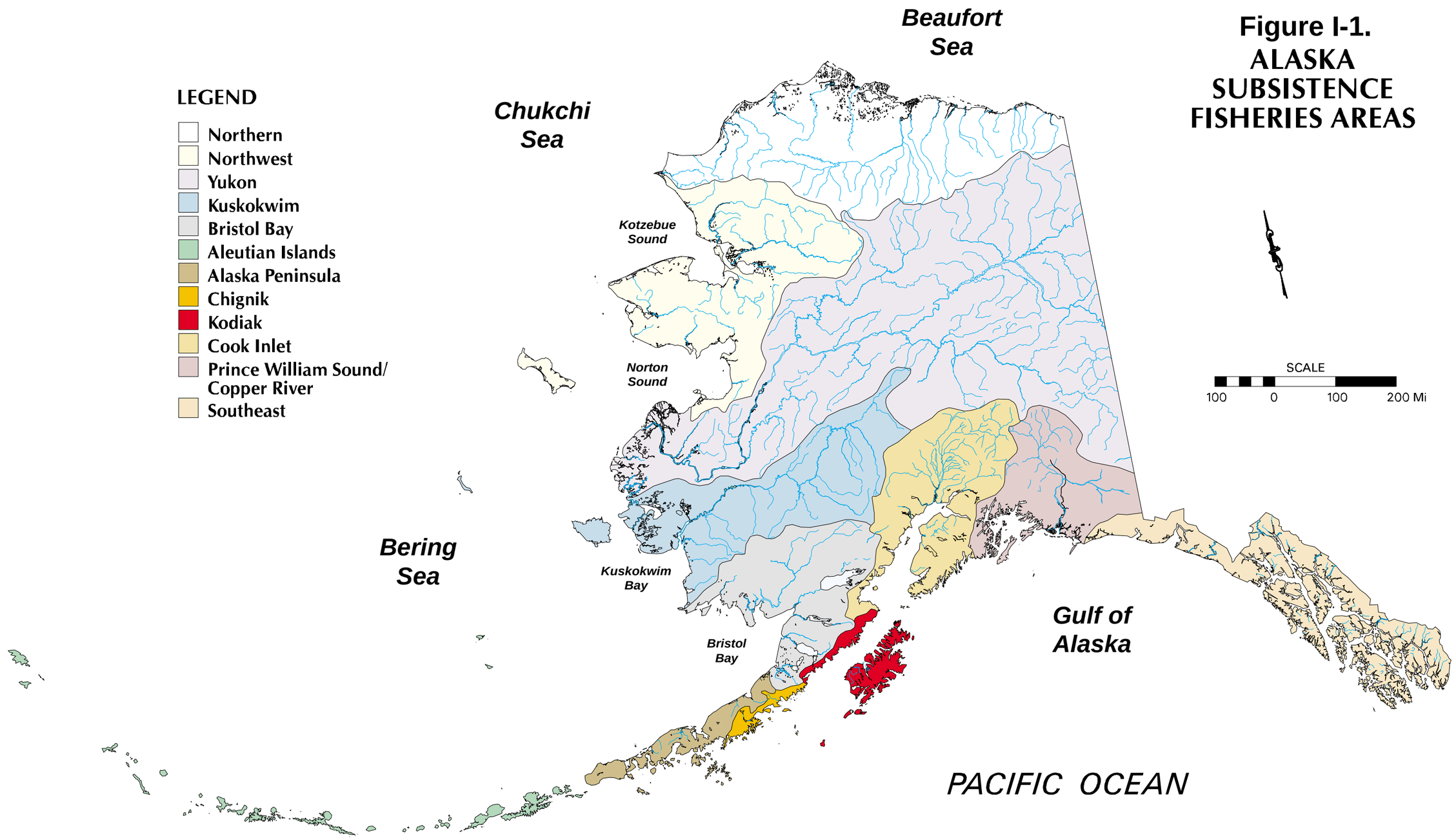
The next chapter of the report is a statewide perspective on subsistence salmon harvests in Alaska in 2001. This is followed by chapters on 11 management areas or, in the case of Southeast Alaska, a region. In a few cases (Northwest, Aleutians, Cook Inlet, and Prince William Sound) harvest assessment programs within areas with different regulations or histories

are discussed separately. This report for 2001 includes an expanded, more detailed chapter (XIII) on the Southeast/Yakutat Region, because this information is not readily available elsewhere.

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), Mike Coffing and Louann Rank (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



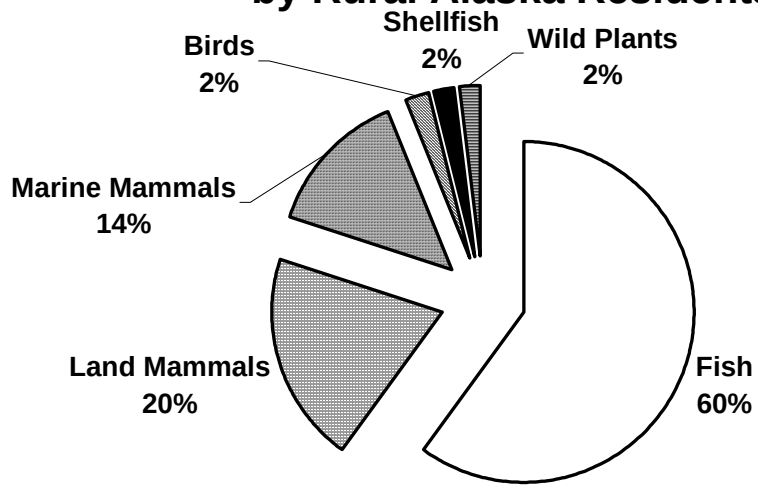
Source: Alaska Department of Fish and Game, Division of Subsistence.

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 2001

The estimated total subsistence harvest of salmon in Alaska in 2001 based on annual harvest assessment programs was 1,040,436 fish (Table II-1, Fig. 11-2).[1] The statewide harvest by species was as follows: sockeye, 487,570 (46.9 percent); chum, 242,035 (23.3 percent); chinook, 165,039 (15.9 percent); coho, 101,291 (9.7 percent); and pink, 44,501 (4.3 percent). Table II-2 reports subsistence harvests in 2001 by species by place of resident of participants, with harvests from all subsistence fisheries combined.

In 2001, fisheries in five management areas accounted for 76.1 percent of the total statewide subsistence salmon harvest (Table II-2; Fig. II-3). These were Kuskokwim (212,338 salmon; 20.4 percent of the state-wide total); Yukon (188,298 salmon; 18.1 percent); the Chitina Subdistrict of the Prince William Sound Management Area (142,905 salmon; 13.7 percent); Northwest (129,378 salmon; 12.4 percent); and Bristol Bay (119,856 salmon; 11.5 percent).[2] 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 is again classified as a subsistence fishery and has been added to statewide totals.

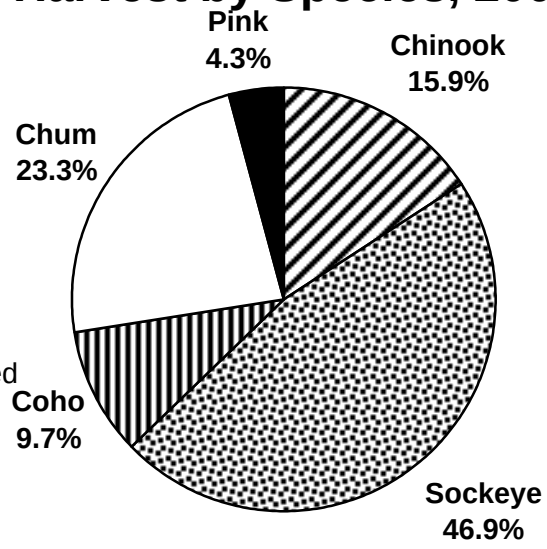
The largest subsistence harvests of chinook salmon in 2001 occurred in the Kuskokwim Area (77,570 salmon; 47.0 percent), followed by Yukon (56,103 salmon; 34.0 percent), Bristol Bay (14,412 salmon; 8.7 percent); Northwest (5,671 salmon; 3.4 percent); the Glennallen Subdistrict of the Prince William Sound Area (3,480 salmon; 2.1 percent; and the Chitina Subdistrict of the Prince William Sound Area (3,171 salmon; 1.9 percent) (Fig. II-4). For sockeye salmon, the largest subsistence harvests in 2001 were in the Chitina Subdistrict (137,047 salmon; 28.1 percent of the statewide total); followed by Bristol Bay (92,041 salmon; 18.9 percent), the Glennallen Subdistrict of the Prince William Sound Area (81,960 salmon; 16.8 percent), Southeast (55,157 salmon; 11.3 percent), Kuskokwim (51,965 salmon; 10.7 percent), and Kodiak Area (33,833 salmon; 6.9 percent) (Fig. II-5). Three areas dominated the subsistence chum salmon harvest in 2001: Yukon (108,557 salmon; 44.9 percent of the statewide harvest), Northwest (71,138 salmon; 29.4 percent), and Kuskokwim (51,117 salmon; 21.1 percent) (Fig. II-6). Of the statewide subsistence harvest of coho salmon in 2001, the most were taken in the Kuskokwim drainage (31,686 salmon; 31.3 percent), followed by Yukon (23,236 salmon; 22.9 percent), Northwest (16,617 salmon; 16.4 percent), Bristol Bay (8,406 salmon; 8.3 percent), Kodiak Island (5,920 salmon; 5.8 percent), and Alaska Peninsula (3,940 salmon; 3.9 percent) (Fig. II-7). Finally, by far the largest portion of the statewide pink salmon subsistence harvest in 2001 occurred in Northwest Alaska (31,480 salmon; 70.7 percent), followed by Southeast (4,230 salmon; 9.5 percent), Chignik (2,787 salmon; 6.3 percent), the Port Graham Subdistrict of the Cook Inlet Management Area (1,454 salmon; 3.3 percent), and Alaska Peninsula (1,181 salmon; 2.7 percent) (Fig. II-8).

---

[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] 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.

Figure II-2. Alaska Subsistence Salmon Harvest by Species, 2001



N = 1,040,436 salmon; based on annual harvest assessments with permits, calendars, and household surveys.

STATEWIDE SUBSISTENCE SALMON HARVESTS, 1994 - 2001

Table II-3 reports estimated statewide subsistence salmon harvests for 1994 through 2001 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 eight-year period reported in Table II-3. The estimate for 2001 of 1,040,436 salmon was above that for 2000 of 960,791 salmon, but below the recent five-year average of 1,089,769 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 188,298 salmon in 2001; see Chapter IV) and the Kuskokwim Area (from 251,112 salmon in 1994 to 204,714 salmon in 2000 and 212,338 salmon in 2001; see ChapterV).

Table II-1. Alaska Subsistence Salmon Harvests, 2001

Fishery[1]	Households / Permits		Estimated Salmon Harvest					
	Total[2]	Included	Chinook	Sockeye	Coho	Chum	Pink	Total
Adak District	17	15	14	489	18	0	16	537
Alaska Peninsula Management Area	185	155	570	12,259	3,940	1,963	1,181	19,912
Batzulnetas Fishery	1	1	1	61	0	0	0	62
Bristol Bay Management Area	1,226	1,137	14,412	92,041	8,406	4,158	839	119,856
Chignik Management Area	135	122	171	8,633	1,859	213	2,787	13,663
Chitina Subdistrict	9,458	8,356	3,171	137,047	2,687	0	0	142,905
Copper River Flats	468	439	881	3,275	75	2	0	4,232
Glennallen Subdistrict	1,239	1,176	3,480	81,960	1,142	20	0	86,601
Kodiak Management Area	2,153	2,153	273	33,833	5,920	427	1,158	41,611
Kuskokwim Management Area	4,483	2,297	77,570	51,965	31,686	51,117	0	212,338
Northwest Alaska	2,192	1,259	5,671	4,473	16,617	71,138	31,480	129,378
Port Graham & Koyuktolik Subdistricts	49	49	133	1,085	1,295	228	1,454	4,195
Prince William Sound (General)	5	5	0	0	0	0	0	0
PWS Eastern District (Tatitlek)	14	9	0	114	230	12	60	416
PWS Southwestern District (Chenega Bay)	16	9	2	119	92	146	95	454
Seldovia Fishery	19	16	149	142	0	0	0	290
Southeast / Yakutat Region	3,605	3,116	1,457	55,157	3,266	3,968	4,230	68,080
Tyonek Fishery	84	58	976	172	49	6	4	1,207
Unalaska District	204	165	6	4,202	724	77	784	5,793
Upper Yentna Fishery	16	15	0	545	50	4	10	608
Yukon Management Area	3,072	1,355	56,103	0	23,236	108,557	403	188,298
Totals	**28,641**	**21,907**	**165,039**	**487,570**	**101,291**	**242,035**	**44,501**	**1,040,436**

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

[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.

Table II-2. Alaska Subsistence Salmon Harvests by Species and Place of Residence of Fisher, 2001[1]

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Adak	16	14	14	433	18	0	14	479
Afognak Island	2	2	0	103	0	0	0	103
Akhiok	6	6	5	27	8	0	11	51
Akiachak	129	89	6,445	4,300	1,633	2,872	0	15,250
Akiak	65	56	3,369	1,916	564	2,093	0	7,942
Alakanuk	144	45	973	0	414	7,024	0	8,412
Alatna	7	3	0	0	0	0	0	0
Aleknagik	18	16	357	1,644	106	23	0	2,129
Allakaket	50	19	76	0	25	1,654	0	1,755
Anchor Point	5	4	0	104	0	0	0	104
Anchorage	3,129	2,758	2,065	58,875	1,540	212	45	62,736
Anderson	3	3	18	317	0	0	0	335
Angoon	117	59	2	2,225	412	65	125	2,830
Aniak	164	134	2,524	2,223	1,906	1,982	0	8,635
Anvik	38	33	608	0	13	123	0	744
Atka	1	0						
Atmautluak	56	47	740	958	369	1,350	0	3,417
Auke Bay	31	25	0	134	0	0	0	134
Barrow	18	15	17	752	15	2	0	786
Beaver	29	12	1,368	0	0	349	0	1,717
Beluga	4	3	6	20	10	1	2	39
Bethel	1,722	837	27,209	15,724	14,949	11,319	0	69,201
Bettles	31	19	0	0	0	0	0	0
Big Lake	66	59	23	1,580	32	0	2	1,637
Birch Creek	13	9	0	0	0	0	0	0
Brevig Mission	68	55	41	2,040	1,070	1,041	468	4,660
Cantwell	3	3	1	223	0	0	0	224
Central	15	12	99	104	0	0	0	203
Chalkyitsik	36	27	0	0	4	73	0	77
Chefornak	93	0						
Chickaloon	13	12	24	355	0	0	0	379
Chicken	3	3	0	51	0	0	0	51
Chignik Bay	12	11	4	758	12	22	32	828
Chignik Lagoon	39	37	87	2,843	240	0	33	3,202
Chignik Lake	27	26	66	2,932	0	3	0	3,000
Chiniak	28	28	0	341	268	5	0	614
Chitina	27	23	93	2,273	117	0	0	2,484
Chuathbaluk	27	23	627	537	541	2,338	0	4,043
Chugiak	226	214	145	4,177	49	2	0	4,373
Circle	18	18	447	0	0	2,594	0	3,041
Clarks Point	16	14	257	435	549	96	70	1,407
Clear AFB	6	6	3	248	1	0	0	252
Coffman Cove	31	25	0	280	0	0	0	280
Cold Bay	17	16	0	597	27	0	0	624

continued

Table II-2. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Coldfoot	1	0						
College	1	1	0	30	0	0	0	30
Cooper Landing	3	2	6	167	1	0	0	174
Copper Center	153	147	423	12,341	291	1	0	13,057
Cordova	6	5	15	443	0	0	0	458
Craig	260	210	3	3,452	57	169	366	4,047
Crooked Creek	31	23	508	476	70	943	0	1,997
Delta Junction	358	327	150	6,824	242	0	0	7,217
Denali Park	14	10	4	181	4	0	0	189
Dillingham	337	312	5,287	14,371	4,086	1,431	181	25,357
Dot Lake	9	8	2	141	0	0	0	143
Douglas	56	52	3	395	4	0	28	431
Dutch Harbor	104	89	1	1,917	155	0	88	2,161
Eagle	53	51	1,098	0	0	3,401	0	4,499
Eagle River	553	521	438	11,404	133	6	2	11,983
Edna Bay	3	3	0	0	0	0	0	0
Eek	71	59	1,728	923	207	347	0	3,205
Egegik	29	24	50	951	899	39	14	1,953
Eielson AFB	195	171	70	2,755	13	0	0	2,837
Ekwok	19	17	733	1,045	128	312	0	2,218
Elfin Cove	5	5	2	16	0	1	2	21
Elim	80	69	427	70	1,352	898	1,390	4,137
Elmendorf AFB	32	28	9	721	23	0	0	754
Emmonak	183	65	2,473	0	342	9,514	9	12,337
Ester	68	63	41	1,011	65	19	0	1,136
Fairbanks	2,694	2,368	2,378	40,823	821	420	3	44,445
False Pass	4	3	11	248	172	111	125	667
Fort Richardson	36	26	33	621	2	0	0	656
Fort Wainwright	159	132	62	1,724	15	0	0	1,801
Fort Yukon	174	46	2,361	69	972	2,498	0	5,900
Gakona	62	60	263	7,188	126	17	0	7,594
Galena	202	54	1,755	18	142	473	0	2,388
Girdwood	41	37	14	564	62	0	0	640
Glennallen	161	154	413	8,753	376	0	0	9,543
Golovin	44	39	65	68	199	1,206	168	1,707
Goodnews Bay	61	51	859	921	508	182	0	2,470
Grayling	48	21	1,077	0	144	406	0	1,628
Gustavus	13	11	0	151	0	30	22	203
Haines	325	291	82	6,045	135	493	554	7,309
Halibut Cove	1	1	0	21	0	0	0	21
Healy	46	45	19	848	1,817	853	0	3,538
Hollis	2	1	0	0	0	0	0	0
Holy Cross	63	28	2,711	60	0	1,084	0	3,855
Homer	54	48	67	1,306	32	214	156	1,774

continued

Table II-2. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Hoonah	151	100	0	1,200	148	1,130	70	2,548
Hooper Bay	213	69	2,150	0	439	12,957	32	15,578
Hope	1	1	0	15	0	0	0	15
Houston	15	13	20	348	0	0	0	369
Hughes	25	21	144	0	117	551	0	812
Huslia	93	21	377	0	83	1,516	0	1,976
Hydaburg	44	24	0	937	4	18	0	959
Igiugig	9	9	13	801	2	64	31	911
Iliamna	40	39	102	5,697	0	1	0	5,800
Indian	8	8	2	109	3	0	0	114
Ivanof Bay	5	5	2	105	295	41	35	478
Juneau	681	577	36	4,159	78	242	379	4,893
Kake	192	184	8	2,126	21	88	75	2,318
Kalskag (Upper)	55	42	1,014	304	416	1,187	0	2,921
Kaltag	60	23	1,506	0	533	616	0	2,656
Karluk	9	9	0	565	0	0	0	565
Kasaan	2	2	0	15	0	25	50	90
Kasigluk	135	4	588	320	344	550	0	1,802
Kasilof	7	7	3	27	46	1	0	77
Kenai	17	14	2	602	8	2	0	614
Ketchikan	480	415	220	7,967	61	1,144	1,590	10,982
Kiana	88	67	0	0	0	5,379	0	5,379
King Cove	53	47	56	4,271	2,413	249	123	7,113
King Salmon	97	92	177	6,813	189	39	24	7,242
Kipnuk	176	1	1	4	74	2	0	81
Klawock	158	124	3	3,716	16	132	98	3,965
Kobuk	26	24	0	1	0	2,843	1	2,846
Kodiak (city)	1,585	1,583	226	24,532	3,106	184	632	28,680
Kodiak USCG Base	74	74	0	1,246	18	7	75	1,346
Kokhanok	25	25	24	9,797	21	21	1	9,864
Koliganek	14	13	870	939	31	352	16	2,209
Kongiganak	77	61	1,454	1,460	925	1,998	0	5,837
Kotlik	95	26	3,093	0	486	7,552	0	11,131
Kotzebue	792	155	7	34	0	17,713	25	17,779
Koyuk	82	69	460	14	276	4,445	5,203	10,397
Koyukuk	35	24	449	0	80	635	0	1,164
Kwethluk	146	115	6,127	3,960	1,688	4,365	0	16,140
Kwigillingok	95	0						
Lake Minchumina	1	1	1	14	0	0	0	15
Larsen Bay	26	26	5	759	47	28	2	841
Levelock	9	7	27	908	0	3	0	937
Lime Village	19	15	262	1,516	590	683	0	3,051
Lower Kalskag	62	52	2,181	824	539	1,316	0	4,860
Manley Hot Springs	18	15	610	0	3,014	1,792	0	5,416

continued

Table II-2. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Manokotak	35	30	427	3,128	139	36	5	3,735
Marshall (Fortuna Ledge)	80	24	4,498	0	73	2,605	0	7,176
McCarthy	1	1	0	8	0	0	0	8
McGrath	125	99	360	244	420	199	0	1,223
Mekoryuk	88	0						
Mentasta	2	2	1	61	0	0	0	62
Metlakatla	11	11	0	101	0	0	0	101
Minto	74	68	278	32	0	295	0	605
Moose Pass	3	3	0	30	0	0	0	30
Mountain Village	157	45	1,864	0	423	8,954	0	11,241
Naknek	107	94	357	11,320	357	205	163	12,403
Nanwalek	34	34	29	909	1,238	196	1,434	3,806
Napakiak	78	68	2,290	1,861	644	1,723	0	6,518
Napaskiak	86	80	4,662	3,428	466	2,399	0	10,955
Nelson Lagoon	7	5	15	358	32	4	0	410
Nenana	66	59	1,609	602	5,143	1,173	0	8,527
New Stuyahok	45	43	3,444	2,595	504	636	114	7,294
Newhalen	15	14	0	3,162	0	0	0	3,162
Newtok	79	1	12	0	0	36	0	48
Nightmute	67	0						
Nikiski	6	5	0	31	1	0	1	33
Nikolaevsk	1	1	1	14	0	0	0	15
Nikolai	34	30	282	0	165	65	0	512
Ninilchik	9	9	2	191	5	0	0	198
Noatak	96	68	0	0	116	2,326	0	2,442
Nome	151	126	9	324	576	872	121	1,902
Nondalton	33	30	0	7,566	0	0	0	7,566
Noorvik	109	56	6	0	652	16,444	10	17,112
North Pole	778	689	456	12,866	189	27	4	13,542
Northway	41	33	3	297	1	3	0	304
Nulato	99	32	2,127	0	258	359	0	2,745
Nunam Iqua (Sheldon Point)	35	27	550	0	32	2,119	0	2,701
Nunapitchuk	104	80	3,250	2,583	392	4,749	0	10,974
Old Harbor	49	49	12	690	1,014	88	218	2,022
Oscarville	14	11	1,753	1,620	42	2,097	0	5,512
Ouzinkie	45	45	6	1,473	563	79	148	2,269
Palmer	634	579	390	12,702	311	8	0	13,411
Paxson	4	3	10	86	0	3	2	101
Pedro Bay	17	16	0	2,118	0	0	0	2,118
Pelican	10	9	0	107	0	1	0	108
Perryville	27	27	9	911	1,312	88	2,688	5,008
Petersburg	135	134	6	836	422	34	117	1,416
Pilot Point	9	8	32	659	259	5	2	956
Pilot Station	103	44	2,614	0	222	6,850	0	9,686

continued

Table II-2. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Pitka's Point	27	22	651	0	112	895	0	1,657
Platinum	16	13	36	53	108	44	0	241
Point Baker	2	2	0	7	0	0	0	7
Point Lay	1	1	0	30	0	0	0	30
Port Alexander	1	1	0	20	0	0	0	20
Port Alsworth	32	29	3	2,085	1	2	0	2,092
Port Graham	15	15	104	176	57	32	20	389
Port Heiden	3	3	64	132	50	10	0	256
Port Lions	55	55	27	2,656	667	0	11	3,361
Port Protection	1	1	0	0	0	0	0	0
Port William	1	1	0	0	0	0	0	0
Quinhagak	131	101	2,923	914	1,525	747	0	6,109
Rampart	19	7	1,857	0	0	183	0	2,040
Red Devil	15	15	175	361	427	335	0	1,298
Ruby	76	21	2,033	84	871	1,615	0	4,603
Russian Mission	69	18	3,428	0	0	242	0	3,670
Saint Marys (Andreafsky)	130	41	3,815	0	610	10,253	0	14,678
Saint Michael	90	74	282	17	490	2,246	229	3,264
Salcha	71	63	121	943	42	125	0	1,232
Sand Point	61	49	330	4,600	840	1,394	766	7,930
Saxman	1	1	0	0	0	0	0	0
Scammon Bay	85	22	732	0	63	1,518	362	2,675
Seldovia	20	16	148	142	0	0	0	289
Seward	15	14	6	227	0	4	0	237
Shageluk	37	28	222	0	0	684	0	907
Shaktoolik	60	51	936	143	2,090	1,553	10,172	14,895
Shishmaref	1	1	0	18	0	0	0	18
Shungnak	46	42	0	0	0	4,310	0	4,310
Sitka	524	508	6	14,861	5	85	358	15,316
Skagway	12	12	0	80	0	67	11	158
Skwentna	10	9	0	309	28	1	7	344
Slana	16	16	17	1,266	0	0	0	1,283
Sleetmute	38	34	473	940	452	328	0	2,193
Soldotna	33	31	21	395	0	0	0	416
South Naknek	39	38	176	2,879	159	309	156	3,678
Stebbins	124	107	570	0	2,759	3,999	202	7,530
Sterling	5	3	18	12	0	0	0	30
Stevens Village	36	20	747	0	0	0	0	747
Stony River	15	14	139	138	347	143	0	767
Sutton	38	34	9	499	47	0	0	555
Takotna	20	18	5	0	26	8	0	39
Talkeetna	31	29	16	734	33	6	10	798
Tanacross	19	19	0	50	0	0	0	50
Tanana	113	37	4,112	0	6,675	11,186	0	21,973

continued

Table II-2. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	HOUSEHOLDS / PERMITS INCLUDED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Tatitlek	1	0						
Tazlina	1	1	4	50	0	0	0	54
Telida	2	0						
Teller	72	61	40	1,483	209	863	715	3,310
Tenakee Springs	8	7	0	17	1	1	0	19
Tetlin	1	1	0	0	0	0	0	0
Thorne Bay	71	67	0	652	8	0	7	668
Togiak	90	89	1,582	4,122	378	362	31	6,475
Tok	93	89	50	3,640	1	0	0	3,691
Toksook Bay	132	3	130	12	16	234	0	392
Trapper Creek	7	7	2	39	0	4	0	45
Tuluksak	72	58	2,451	1,759	971	1,862	0	7,043
Tuntutuliak	77	62	2,993	1,701	337	2,621	0	7,652
Tununak	108	2	0	0	25	0	0	25
Two Rivers	26	26	8	507	9	0	0	524
Tyonek	50	34	806	98	35	5	2	946
Uganik Bay	10	10	3	475	34	3	6	521
Ugashik	5	5	24	283	51	0	0	358
Unalakleet	206	141	2,810	359	6,270	2,918	11,279	23,637
Unalaska	103	81	5	2,469	569	77	698	3,818
Valdez	304	275	254	7,061	43	0	0	7,358
Venetie	49	16	28	29	10	3,392	0	3,459
Wainwright	3	3	1	39	0	0	0	40
Ward Cove	48	45	6	716	2	156	234	1,115
Wasilla	937	846	659	19,126	379	18	2	20,184
Whale Pass	2	2	0	0	0	0	0	0
White Mountain	65	63	21	4	557	2,083	1,497	4,163
Willow	59	54	20	828	14	1	0	863
Wiseman	1	0						
Wrangell	111	107	83	706	3	83	37	913
Yakutat	117	100	1,013	4,311	1,832	12	104	7,273
Other USA	27	24	6	243	0	0	0	249
Unknown Community	548	499	894	4,462	477	160	187	6,181
Totals	28,641	21,907	165,039	487,570	101,291	242,035	44,501	1,040,436

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

[1] In this version of the table, the 2001 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.)

Table II-3. Historic Alaska Subsistence and Personal Use Salmon Harvests: 1984 - 2001[1]

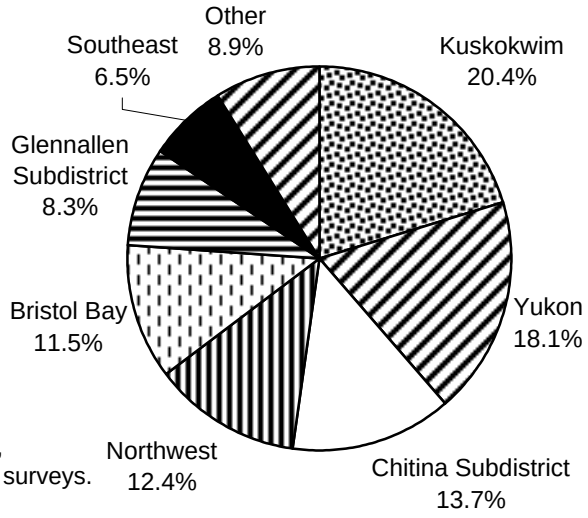
	HOUSEHOLDS / PERMITS		ESTIMATED SALMON HARVEST					
YEAR	TOTAL[2]	INCLUDED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL
1994	22,553	16,492	188,134	445,109	138,101	417,199	94,469	1,283,012
1995	22,358	15,770	186,422	386,034	125,909	499,992	54,908	1,253,264
1996	23,708	18,751	161,976	416,467	124,786	498,525	80,928	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
1997-2001 Average	27,278	21,986	163,966	482,484	98,130	295,944	49,244	1,089,769
All Years Average	25,626	20,118	169,546	457,504	109,931	361,930	59,566	1,158,476

[1] Does not inlcude 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 2000, for prior years when they were classified as personal use fisheries.

[2] In this version of the table, the 2001 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.)

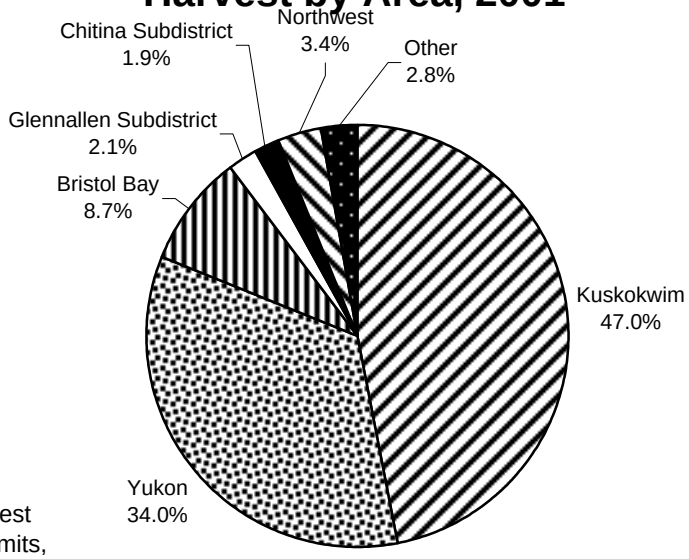
SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Figure II-3. Alaska Subsistence Salmon Harvest by Area, 2001



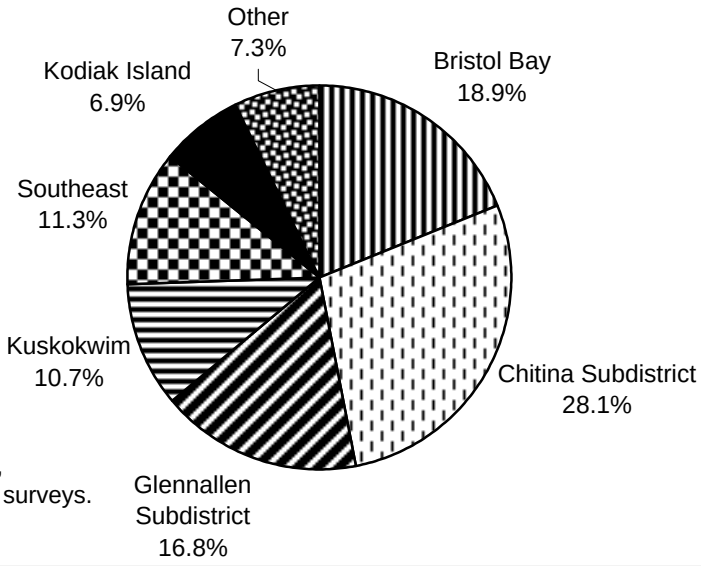
N = 1,040,436 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-4. Alaska Subsistence Chinook Salmon Harvest by Area, 2001



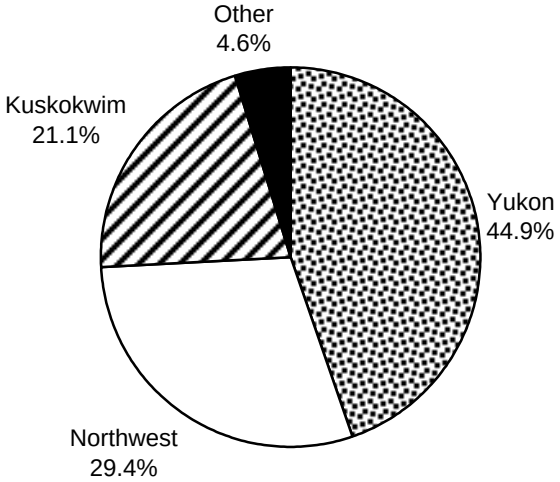
N = 165,039 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-5. Alaska Subsistence Sockeye Salmon Harvest by Area, 2001



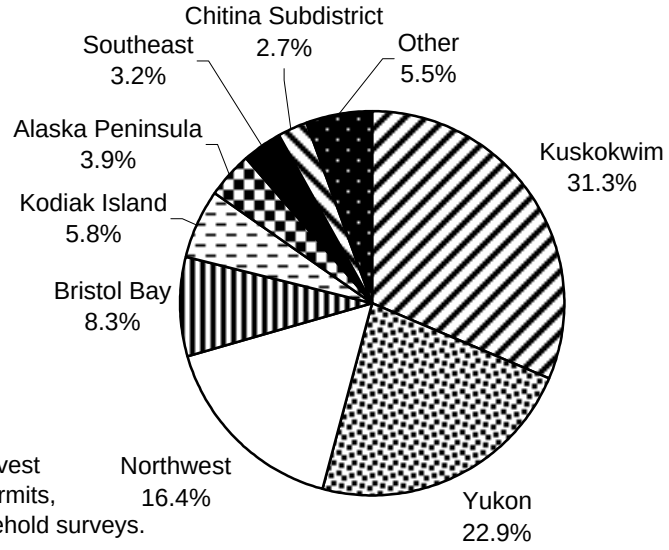
N = 487,570 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-6. Alaska Subsistence Chum Salmon Harvest by Area, 2001



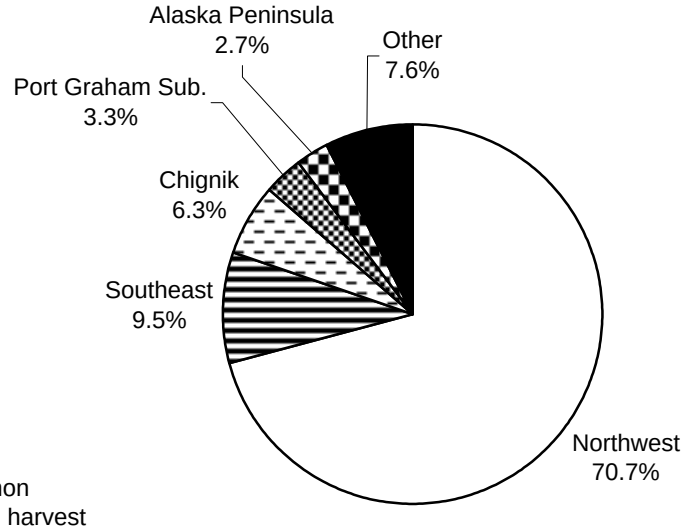
N = 242,035 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-7. Alaska Subsistence Coho Salmon Harvest by Area, 2001



N = 101,291 salmon
Based on annual harvest assessments with permits, calendars, and household surveys.

Figure II-8. Alaska Subsistence Pink Salmon Harvest by Area, 2001



N = 44,501 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. At the turn of the millennium, 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 2001, 19 Tier II permits were issued in June, with another 10 issued in mid-July. 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 2001

In Subdistrict 1 (Nome), subsistence salmon fishing was initially closed to all households. On June 26 salmon fishing opened three days per week in the marine waters east of Cape Nome for the 20 households with Tier II permits. Beginning July 14, the fresh waters of the Eldorado-Flambeau east of Cape Nome also were opened three days per week for Tier II permit holders. Tier II fishing effort was well below the initial 20 permits allowed, and on July 19 another 10 Tier II permits were issued. Tier I fishing in the fresh waters of the Eldorado-Flambeau began July 19. The Bonanza River was opened to Tier II fishing at the same time, but closed again after July 20 due to poor escapement. West of Nome, the Sinuk River was opened to Tier II fishing on July 22, and opened to Tier I fishing the following week.

On August 2, Subdistrict 1 opened to all Tier I and Tier II fishermen to target coho salmon. The coho salmon return turned out to be well below average, and on August 20 the subdistrict was again placed on a restricted subsistence fishing schedule: two 48-hour periods in marine waters and two 24-hour periods in fresh waters. From September 1-15, subsistence fishing was allowed seven days per week in marine waters and during two 24-hour periods per week in fresh waters. The subdistrict reopened to the regular subsistence fishing schedule late in the season to allow harvest opportunity of other species such as Dolly Varden and whitefish.

In Subdistricts 2-6 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 2001: 1) fishing permits in the Nome Subdistrict and in the Salmon Lake-Pilgrim River drainage, and 2) post-season household surveys in 10 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 2001, 118 permits (89 Tier I and 29 Tier II

permits) were issued for Subdistrict 1, 100 (85%) of which were returned to the department. One person selected for the Tier II fishery did not pick up a permit.

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 2001, 20 households requested permits for this area, 15 (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 68% of households in Unalakleet to 97% of households in White Mountain. Overall, 82% 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.

2001 Subsistence Salmon Harvests

Norton Sound District Subsistence Salmon Harvest

The estimated 2001 subsistence harvest of salmon by the surveyed communities in the Norton Sound District was 71,367 fish (Table III-1, Table III-2). This was the second lowest subsistence salmon harvest documented in the eight years of this survey project in this area (Table III-3). Weak coho, chum, and chinook returns and an off-year for pink salmon abundance contributed to the low harvest. (Pink salmon abundance fluctuates in an even-year/odd-year cycle, with even-

numbered years having the greatest abundance.) Of the total salmon harvest, 8% were chinook, 28% were chum, 43% were pink, 1% were sockeye, and 20% were coho (Fig. III-1).

The estimated mean harvest was about 83 salmon per household in the Norton Sound District; the estimated breakdown of this harvest was 6 chinook, 24 chum, 35 pink, 1 sockeye, and 17 coho. Mean household harvests in the subdistricts ranged from 15 salmon in Subdistrict 1 (Nome) to 248 salmon in Subdistrict 5 (Shaktoolik).

Port Clarence District Subsistence Salmon Harvest

The estimated 2001 subsistence harvest of salmon by the two communities in the Port Clarence District was 8,167 fish (Table III-1, Table III-2). This was the second highest harvest in the past five years, but lower than the harvests in 1994-96 (Table III-3). Of the total harvest, 1% were chinook, 23% were chum, 14% were pink, 46% were sockeye, and 16% were coho (Fig. III-1). The estimated mean harvest in the Port Clarence District was about 51 salmon per household; the estimated breakdown of this harvest was 0.5 chinook, 12 chum, 7 pink, 23 sockeye, and 8 coho.

Participation in Subsistence Fishing

In the Norton Sound District (excluding Nome), about 61% of households subsistence fished for salmon and an additional 8% assisted other households in processing subsistence-caught salmon. Participation in subsistence salmon fishing in the district ranged from 45% of households in St. Michael to 81% in Shaktoolik.

In the Port Clarence District, 57% of households subsistence fished for salmon in 2001. About 11% helped other households process subsistence-caught fish. Overall, participation in subsistence salmon fishing in these two districts has been fairly stable over the past seven years, with no clear trend upward or downward.

Participation in Commercial Fishing

In the Norton Sound District (excluding Nome), about 7% of households participated in commercial salmon fishing, with 3% of all households removing salmon from their commercial catches for subsistence use. In the Port Clarence District no surveyed households participated in commercial salmon fishing. In 2001, as in other recent years, commercial salmon fishing in the region suffered from poor market conditions and from poor salmon returns in some areas. In the Norton Sound District, an estimated total of 236 salmon were retained from commercial catches for subsistence use. The salmon retained from commercial catches comprised 0.3% 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 86% of fishing households. Rod and reel was the next most widely used gear, used by 77% of fishing households. Seines were used by 24% of

fishing households. Rod and reel fishing accounted for 7% 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 93% of the households that subsistence fished for salmon. Seines were used by 10% of the fishing households, and rod and reel by 7%.

Salmon for Dog Food

In 2001 an estimated 1,919 salmon, or about 2% of the total subsistence catch, were harvested specifically for dog food in the surveyed communities (excluding Nome) in the two districts. This was similar to the salmon harvest for dog food in 1999 and 2000. The mean number of salmon fed per dog was about 11 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 2001, 53% of the fishing households in the Norton Sound District (excluding Nome) responded "poor," 40% responded "average," and 6% responded "very good." A smaller percentage of households responded "poor" in 2001 than in the previous year. The percentage of households assessing the 2001 chum salmon fishing season as "poor" ranged from 26% of fishing households in Stebbins to 78% in Golovin.

In the Port Clarence District, about 72% of the fishing households responded that the chum fishing season was "poor" in 2001, 21% said it was "average," and 8% said "very good." As in the Norton Sound District, a smaller percentage of households responded "poor" in 2001 than in the previous year.

KOTZEBUE AREA SALMON

Background

Kotzebue Sound residents have relied on fish for cultural and nutritional sustenance for thousands of years. At the turn of the millennium, 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 2001. No emergency orders were issued affecting this fishery.

Subsistence Salmon Harvest Collection Methods

Two methods were used to assess subsistence salmon harvests in the Kotzebue Area in 2001: 1) post-season household surveys in 5 communities, and 2) a postcard survey in Kotzebue.

Household Surveys

In the Kotzebue Area, household surveys were conducted in the Noatak and Kobuk river villages of Noatak, Noorvik, Kiana, Shungnak, and Kobuk. Ambler was not surveyed in 2001, although normally it is. 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 71% 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.

Kotzebue Postcard Survey

With a population of about 3,000 people, Kotzebue was too large to survey house-to-house in an effective and timely way. Instead the department assessed subsistence salmon harvests through a mail-out postcard survey, essentially an abbreviated version of the household survey instrument. A total of 786 postcards were mailed to Kotzebue households; 151 (19%) responded. The Kotzebue postcard data were analyzed as a random sample and expanded with a single expansion factor based on the sampling rate of the entire community.

2001 Subsistence Salmon Harvests

Kotzebue Area Subsistence Salmon Harvest

The 2001 subsistence salmon harvest in the Kotzebue Area was 49,844 fish, 98% of which were chum salmon (Table III-1, Table III-2, Fig. III-1). The remaining portion was a mix of other salmon species, present in only small numbers in the district. The 2001 harvest was the lowest in the past eight years (Table III-3). One less community (Ambler) was surveyed than in previous years, accounting in small part for the lower harvest. In addition, an extended search for a drowning victim took place in the upper Kobuk River area during the summer and fall fishing season. This search, along with other unexpected deaths in these communities, consumed local residents' effort and attention, leading to a decline in fishing effort in 2001.

The estimated mean salmon harvest was about 43 salmon per household, nearly all of which were chum. Mean harvests ranged from 23 salmon per household in Kotzebue to 158 salmon per household in Noorvik.

Participation in Subsistence Fishing

In the Kotzebue Area, 28% of households subsistence fished for salmon in 2001 and about 8% assisted other households in processing subsistence-caught salmon. Participation in subsistence salmon fishing ranged from 21% of households in Kotzebue to 54% in Noatak.

Participation in Commercial Fishing

In the Kotzebue Area (excluding Kotzebue) less than 1% of households in the surveyed communities participated in commercial salmon fishing. An estimated 7 salmon were retained from commercial catches for subsistence use in the Kotzebue Area. In 2001, as in other recent years, commercial salmon fishing in the region suffered from poor market conditions.

Gear Type

In the Kotzebue Area, set gillnets were the most common gear for harvesting salmon for subsistence, used by 56% of fishing households. Rod and reel was the next most widely used gear (47% of fishing households), although it accounted for less than 3% of the salmon harvest in the surveyed communities (excluding Kotzebue). Seines were used by 4% of fishing households.

Salmon for Dog Food

In the Kotzebue Area, an estimated 2,390 salmon were harvested specifically for dog food in the surveyed communities (excluding Kotzebue) in 2001. This harvest for dog food was about 5% of the total subsistence salmon catch in these communities. The mean number of salmon fed per dog was about 10 fish per year. Overall, 4% of the surveyed households in the district (excluding Kotzebue) caught salmon specifically for dog food.

Assessment of Fishing Season

In the Kotzebue Area, 7% of fishing households responded that their chum fishing season was "poor" in 2001, 47% said "average," and 46% said "very good." This was similar to the responses in the past two years, and a considerable improvement from 1998 when 48% of households assessed the chum fishing season as "poor." 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 stable and abundant in this district, 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. 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 October and November in the Noatak and Kobuk river villages of Noatak, Noorvik, Kiana, Shungnak, and Kobuk. Ambler was not surveyed in 2001, although normally it is. These household surveys primarily collected subsistence salmon harvest information, but also asked about harvests of sheefish and whitefish in the Kobuk River villages and harvests of char and whitefish in Noatak. Researchers attempted to contact 100% of the households in each of the surveyed communities. Overall, about 71% of the households in the surveyed communities were interviewed. The survey data were expanded by community to account for the households not contacted.

2001 Sheefish and Whitefish Harvests

In 2001 an estimated 3,838 sheefish were harvested by the four surveyed Kobuk River communities (Table III-4). This was the lowest harvest reported in the past seven years (Table III-5). The reduced sheefish harvest was likely due to reduced fishing effort as a result of an extended search for a drowning victim in the upper Kobuk River area. Mean household harvests ranged from 1 sheefish in Kobuk to 21 sheefish in Shungnak.

In 2001 an estimated 30,976 whitefish were harvested for subsistence by the five surveyed communities in the Kotzebue Area (Table III-4). This was the lowest harvest reported in the past seven years (Table III-5). Mean household harvests ranged from no whitefish in Kobuk to 146 in Shungnak.

In 2001 an estimated 2,702 char (Dolly Varden) were harvested for subsistence by the community of Noatak for a mean household harvest of 28 fish. This was the lowest char harvest in Noatak since 1995, when char were first included in this harvest survey project. Char harvests in Noatak show a declining trend over the past seven years.

Table III-1. 2001 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	878	5,576	20,213	30,261	767	14,550	71,367
Port Clarence District	160	84	1,910	1,183	3,692	1,299	8,167
Kotzebue Area	1,149	11	49,014	36	14	768	49,844
Total Northwest Alaska	**2,187**	**5,671**	**71,138**	**31,480**	**4,473**	**16,617**	**129,378**

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, household surveys, 2001.

Table III-2. 2001 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]	118	100	2	864	121	92	432	1,511
Subdistrict 1	**118**	**100**	**2**	**864**	**121**	**92**	**432**	**1,511**
Golovin	44	39	65	1,206	168	68	199	1,707
Niukluk R. Permits[1]	10	8	2	2	0	0	124	128
White Mountain	65	63	21	2,083	1,497	4	557	4,163
Subdistrict 2	**119**	**110**	**89**	**3,291**	**1,665**	**72**	**880**	**5,997**
Elim	80	69	427	898	1,390	70	1,352	4,137
Subdistrict 3	**80**	**69**	**427**	**898**	**1,390**	**70**	**1,352**	**4,137**
Koyuk	82	69	460	4,445	5,203	14	276	10,397
Subdistrict 4	**82**	**69**	**460**	**4,445**	**5,203**	**14**	**276**	**10,397**
Shaktoolik	60	51	936	1,553	10,172	143	2,090	14,895
Subdistrict 5	**60**	**51**	**936**	**1,553**	**10,172**	**143**	**2,090**	**14,895**
Unalakleet[2]	205	140	2,810	2,918	11,279	359	6,270	23,637
Subdistrict 6	**205**	**140**	**2,810**	**2,918**	**11,279**	**359**	**6,270**	**23,637**
Stebbins	124	107	570	3,999	202	0	2,759	7,530
St. Michael	90	74	282	2,246	229	17	490	3,264
South Norton Sound	**214**	**181**	**852**	**6,244**	**431**	**17**	**3,250**	**10,793**
NORTON SOUND	**878**	**720**	**5,576**	**20,213**	**30,261**	**767**	**14,550**	**71,367**
Brevig Mission	68	55	41	1,041	468	2,040	1,070	4,660
Pilgrim R. Permits[1]	20	15	3	6	0	169	20	198
Teller	72	61	40	863	715	1,483	209	3,310
PORT CLARENCE	**160**	**131**	**84**	**1,910**	**1,183**	**3,692**	**1,299**	**8,167**
Ambler	NA	NA	NA	NA	NA	NA	NA	NA
Kiana[3]	87	67	0	5,379	0	0	0	5,379
Kobuk	26	24	0	2,843	1	1	0	2,846
Kotzebue[4]	786	151	5	17,713	25	13	0	17,756
Noatak	96	68	0	2,326	0	0	116	2,442
Noorvik	108	56	6	16,444	10	0	652	17,112
Shungnak	46	42	0	4,310	0	0	0	4,310
KOTZEBUE SOUND	**1,149**	**408**	**11**	**49,014**	**36**	**14**	**768**	**49,844**
TOTALS	**2,187**	**1,259**	**5,671**	**71,138**	**31,480**	**4,473**	**16,617**	**129,378**

* Data from contacted households were expanded to households not contacted. If less than 30 and less than 50% of households in a community were contacted, then reported harvest is used for estimated harvest.

[1] Alaska Department of Fish and Game, Division of Commercial Fisheries, permit returns, 2001. Data not expanded.

[2] Estimated salmon harvest in Unalakleet includes 79 chinook, 643 chum, 415 pink, and 200 coho from the ADF&G test net fishery in addition to the survey results.

[3] Estimated chum salmon harvest in Kiana includes 2,036 chum from the ADF&G test net fishery in addition to the survey results.

[4] Alaska Department of Fish and Game, Division of Subsistence, postcard survey, 2001.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, household surveys, 2001.

Table III-3. Northwest Alaska Subsistence Salmon Harvests by District, 1994-2001

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

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

Kotzebue District[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

[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.

Table III-4. Sheefish, Whitefish, and Char Harvests by Community in the Kotzebue District, 2001

	Total Households	Number of Fish Harvested		
		Sheefish	Whitefish	Char
Ambler	*	*	*	*
Kiana	87	1,200	7,118	*
Kobuk	26	32	0	*
Noatak	96	*	2,443	2,702
Noorvik	108	1,658	14,711	*
Shungnak	46	947	6,705	*
Total	**363**	**3,838**	**30,976**	**2,702**

* Data not collected.

Table III-5. Sheefish, Whitefish, and Char Harvests in Kotzebue District, 1995-2001

	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	363[4]	3,838	363[4]	30,976	96	2,702

* Data not collected.

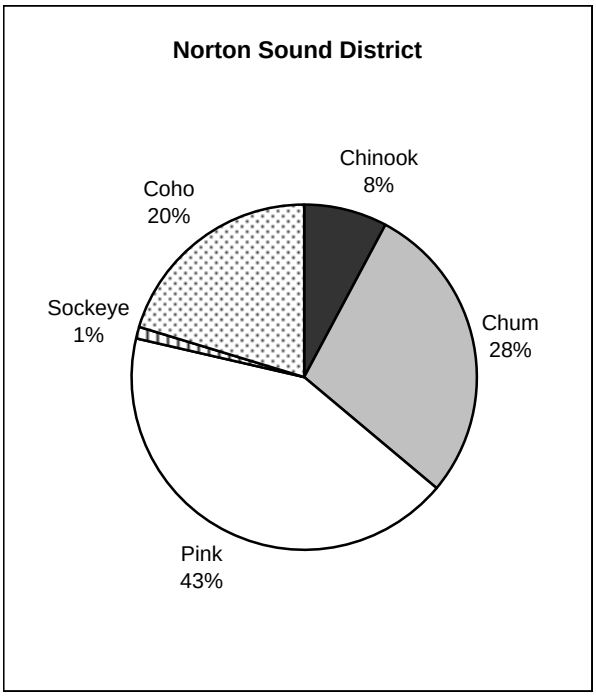
[1] Includes Noorvik, Kiana, Ambler, Shungnak, and Kobuk.

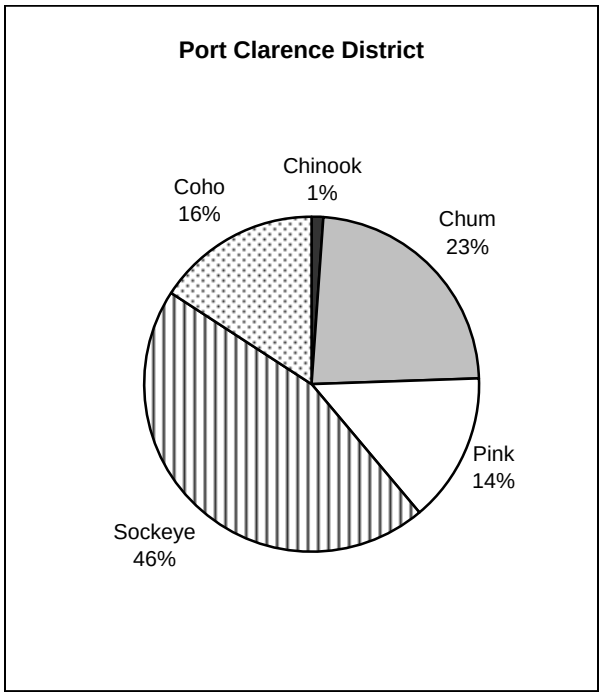
[2] Includes Noorvik, Kiana, Ambler, Shungnak, Kobuk, and Noatak.

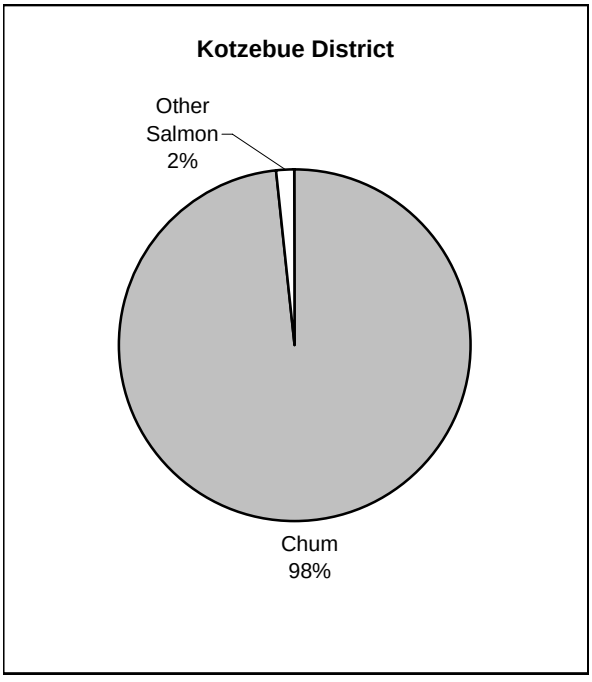
[3] Includes Noatak.

[4] Does not include Ambler.

Figure III-1. Species Composition of Subsistence Salmon Harvests, 2001, 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, Sub-district 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.

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 2001, an estimated 2,800 calendars were distributed. About 8 percent of these (214) 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 2001, 931 households were interviewed concerning their subsistence salmon harvests.

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 385 subsistence permits were issued in 2001, and 338 (88%) were returned.

SUBSISTENCE SALMON HARVESTS IN 2001

In 2001, 931 households (71% of the total selected area) provided harvest data for the Yukon Area subsistence salmon fishery. It is estimated that 1,295 households participated in the fishery (Brase and Hamner 2002). The estimated 2001 subsistence salmon harvest for the entire Yukon area broken down by species included 56,103 chinook (30%), 72,392 summer chum (38%), 36,164 fall chum (19%), 23,236 coho (12%) and 403 pink salmon (less than 1%) for a total of 185,592 salmon (Fig. IV-2; Table IV-1). The 2001 subsistence salmon harvest shows an increase over the disastrous 2000 levels; however, 2001 estimates for summer chum and fall chum are still well below recent five-year averages. Because of low abundance, 2001 also marked the first time since 1931 that there was no commercial fishing in the Alaska portion of the Yukon River drainage.

As shown in Table IV-2, the estimated subsistence harvest of 56,103 chinook salmon in 2001 is above the most recent five-year Yukon Area average of 50,941 chinook salmon. However, the estimated 2001 subsistence harvest of 72,392 summer chum salmon and the fall chum salmon

harvest of 36,164, while marking increases over the previous year, still fall well below the most recent five year averages of 85,928 summer chum and 59,406 fall chum salmon. It should be noted that the 1997-2001 average harvest includes other recent 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 in 2000 and 2001; the average harvest of fall chum salmon between 1976 and 2001 was 128,496 fish (see also Figure IV-3).

Subsistence harvests of coho salmon in 2001, however, were slightly above average at 23,236, compared to the recent five year average of 20,387 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 remains low. The estimated 2001 subsistence pink salmon harvest was 403 fish. These fish were harvested exclusively by communities in the coastal district.

An estimated 70% percent of the total households who participated in the 2001 subsistence fishery owned dogs. Figure IV-4 provides a breakdown of number of dogs by fishing district. Of the estimated 2,094 households (drainage wide) owning dogs, about 15% (312 households) are estimated to have fed their dogs whole salmon in 2001. Of the 7,589 dogs owned by fishing households, about 65% percent (4949 dogs) were owned by households in the upper Yukon River, which includes Districts 4, 5, and 6 (Brase and Hamner 2002:70). In surveyed Districts 4 and 5, where species specific data was collected, an estimated 1,649 summer chum, 12,643 fall chum and 7,239 coho salmon were retained for dog food from both subsistence and commercial-related salmon harvests.

Primary gear types used by fishing households in surveyed villages included set gillnet (57%), drift net (34%) and fish wheel (8%), and other gear (1%) (Brase and Hamner 2002). 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.

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 since 1998, chinook salmon harvest levels have fallen below the Amounts Necessary for Subsistence use determinations (ANS) once (2000), 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). 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. 2001 Subsistence Salmon 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	144	45	973	5,992	1,032	414	0	8,412
Alatna	7	3	0	0	0	0	0	0
Allakaket	50	19	76	1,604	50	25	0	1,755
Anvik	38	33	608	94	29	13	0	744
Beaver	29	12	1,368	328	21	0	0	1,717
Bettles	30	18	0	0	0	0	0	0
Birch Creek	13	9	0	0	0	0	0	0
Central	9	8	95	0	0	0	0	95
Chalkyitsik	36	27	0	0	73	4	0	77
Circle	18	18	447	6	2,588	0	0	3,041
Delta Junction	2	2	0	0	0	0	0	0
Denali Park	1	1	0	0	0	0	0	0
Dot Lake	5	5	0	0	0	0	0	0
Eagle	52	50	1,098	577	2,824	0	0	4,499
Eagle River	1	0						
Emmonak	183	65	2,473	8,242	1,272	342	9	12,337
Ester	3	3	13	19	0	0	0	32
Fairbanks	110	104	1,316	194	213	76	0	1,798
Fort Yukon	171	45	2,361	289	2,209	972	0	5,831
Gakona	1	1	0	0	0	0	0	0
Galena	201	53	1,755	53	420	142	0	2,370
Grayling	48	21	1,077	92	314	144	0	1,628
Healy	7	7	0	0	853	1,817	0	2,670
Holy Cross	61	27	2,711	460	624	0	0	3,795
Hooper Bay	213	69	2,150	12,593	364	439	32	15,578
Hughes	24	20	144	551	0	117	0	812
Huslia	92	20	377	833	683	83	0	1,976
Kaltag	60	23	1,506	10	607	533	0	2,656
Kotlik	95	26	3,093	6,595	957	486	0	11,131
Koyukuk	35	24	449	118	517	80	0	1,164
Manley Hot Springs	16	14	610	386	1,406	3,014	0	5,416
Marshall (Fortuna Ledge)	80	24	4,498	1,602	1,003	73	0	7,176
Minto	72	66	278	21	274	0	0	573
Mountain Village	157	45	1,864	8,484	470	423	0	11,241
Nenana	42	37	1,601	24	1,149	5,142	0	7,915
North Pole	17	14	113	26	0	0	0	139
Northway	30	23	0	0	3	1	0	4
Nulato	99	32	2,127	208	151	258	0	2,745
Nunam Iqua (Sheldon Point)	35	27	550	1,942	176	32	0	2,701
Pilot Station	103	44	2,614	5,329	1,522	222	0	9,686
Pitka's Point	27	22	651	862	34	112	0	1,657
Rampart	19	7	1,857	0	183	0	0	2,040
Ruby	75	20	2,033	1,025	581	871	0	4,510
Russian Mission	69	18	3,428	165	76	0	0	3,670
Saint Marys (Andreafsky)	130	41	3,815	10,026	227	610	0	14,678

continued

Table IV-1. Continued

COMMUNITY	HOUSEHOLDS / PERMITS TOTAL	INCLUDED	ESTIMATED SALMON HARVEST[1] CHINOOK	SUMMER CHUM	FALL CHUM	COHO	PINK	TOTAL SALMON
Salcha	10	10	93	125	0	41	0	259
Scammon Bay	85	22	732	1,323	195	63	362	2,675
Shageluk	37	28	222	684	0	0	0	907
Slana	1	1	0	0	0	0	0	0
Stevens Village	36	20	747	0	0	0	0	747
Tanacross	18	18	0	0	0	0	0	0
Tanana	113	37	4,112	1,407	9,779	6,675	0	21,973
Tok	11	10	0	0	0	0	0	0
Valdez	1	1	40	0	0	0	0	40
Venetie	48	15	28	106	3,286	10	0	3,430
Wasilla	1	1	0	0	0	0	0	0
Wiseman	1	0						
Totals	3,072	1,355	56,103	72,392	36,164	23,236	403	188,298

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

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table IV-2. Historic Subsistence Salmon Harvests: Yukon Management Area, 1975 - 2001

	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
1997-2001 Average	2,996	1,344	50,941	85,928	59,406	20,387	997	217,060
1992-2001 Average	2,938	1,347	51,589	108,304	86,540	27,028	997	273,660
All Years Average	2,820	1,336	42,436	175,280	128,496	28,989	997	351,040

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

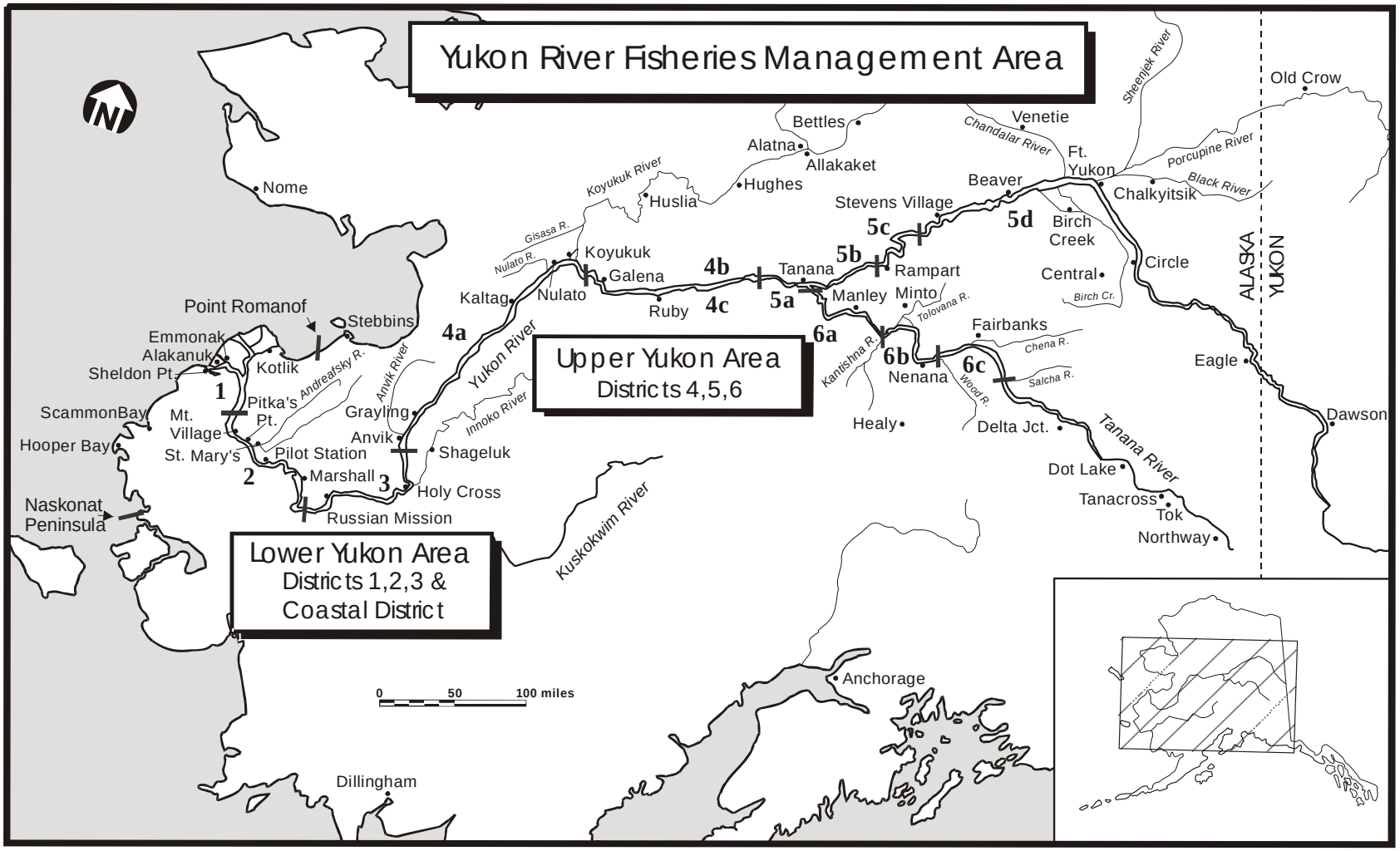
Table IV-3

Comparison of Amounts Necessary for Subsistence (ANS) Determinations and Estimated Subsistence Harvests, 1998-2001

*shaded boxes indicate where harvests fell below ANS

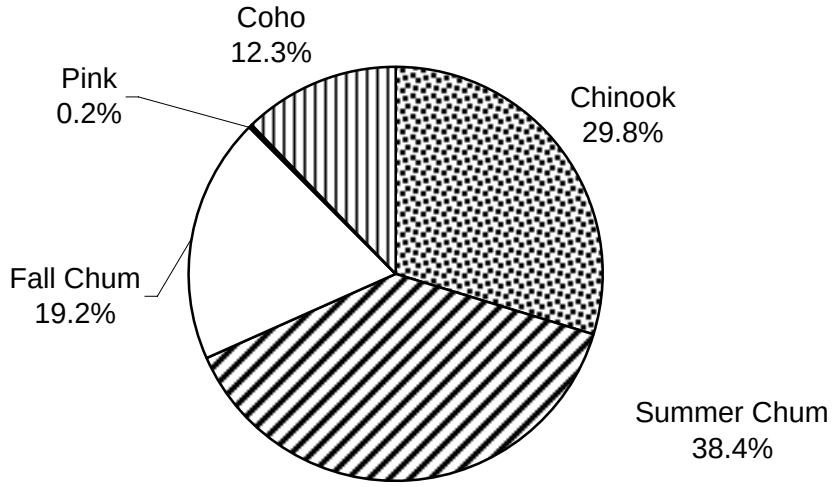
Species	Amount Necessary for Subsistence (ANS)	1998	1999	2000	2001
Chinook	45,500-66,704	54,124	50,515	36,844	56,103
Summer Chum	83,500-142,192	87,366	79,250	77,813	72,392
Fall Chum	89,500-167,100	62,901	83,420	19,402	36,164
Coho	20,500-51-980	18,121	19,984	16,650	23,236

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



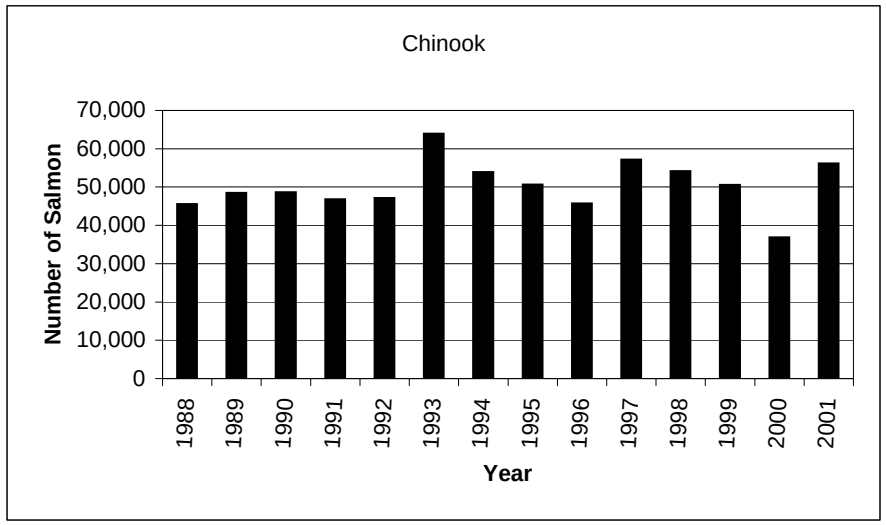
Map of the Alaskan portion of the Yukon River drainage showing communities and fishing districts.

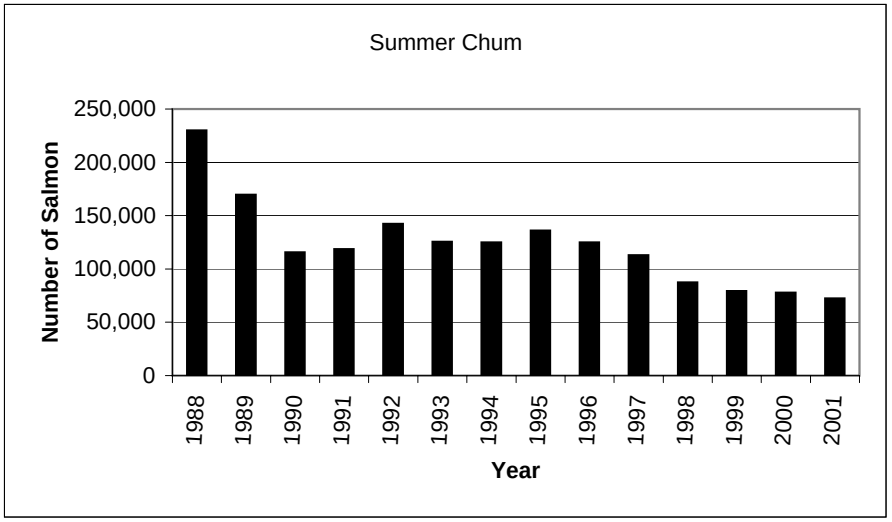
Figure IV-2. Yukon Area Subsistence Salmon Harvests, 2001

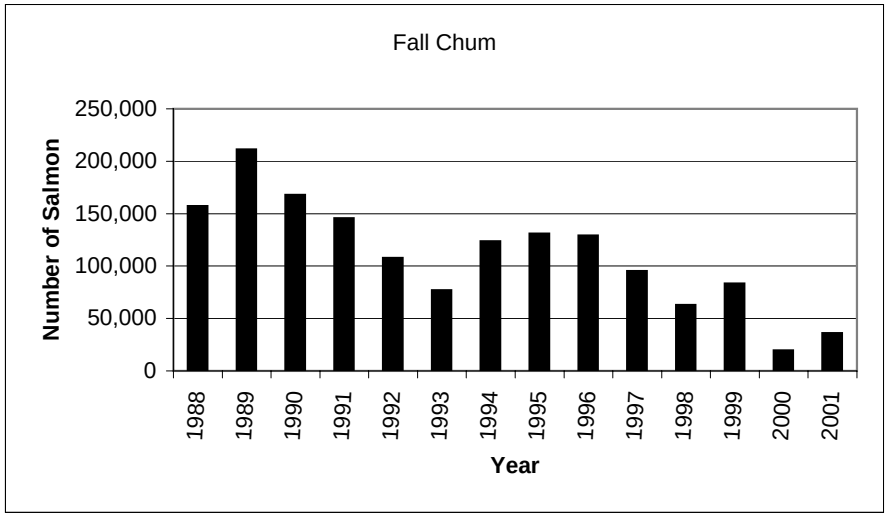


N = 188,298 salmon; based on annual harvest assessment program using permits, calendars, and household surveys.

Figure IV-3. Yukon River Subsistence Salmon Harvests by Species, 1988 - 2001







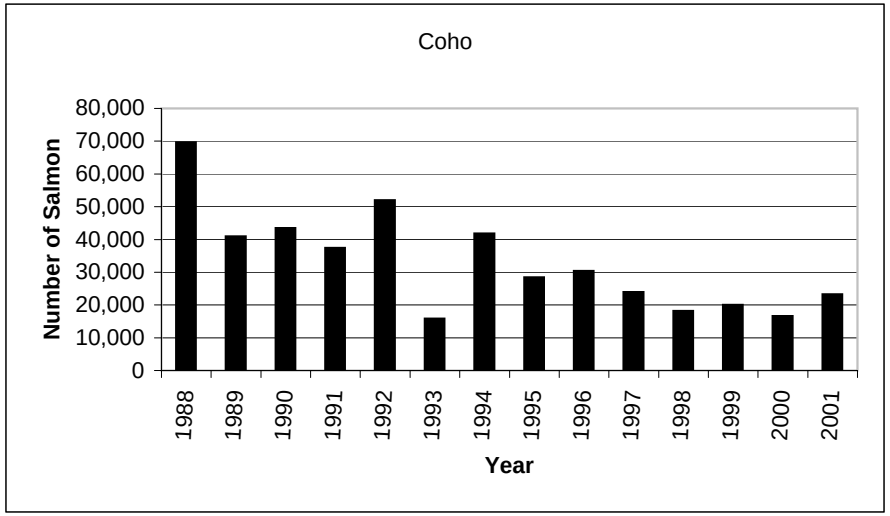


Figure IV-4. Estimated Number of Dogs by Fishing District, Yukon Area, 2001

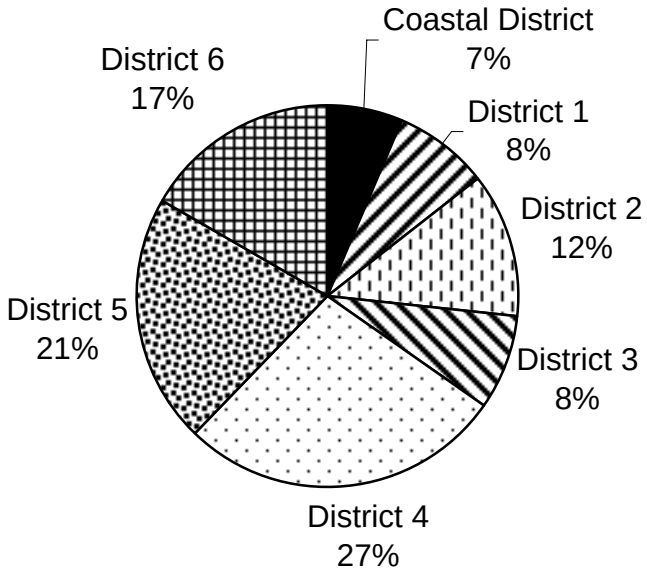
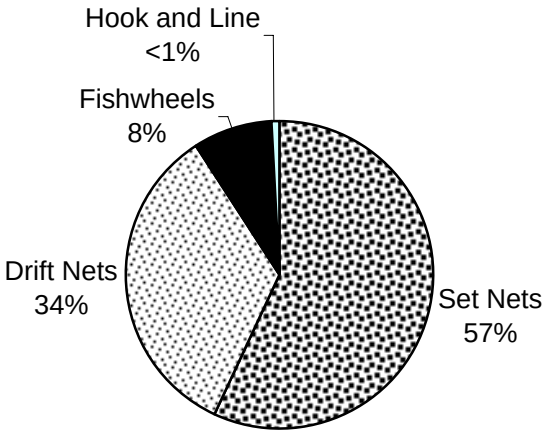


Figure IV-5. Primary Gear Type Utilized for Subsistence Salmon Fishing, Yukon Area, 2001



V: KUSKOKWIM AREA

BACKGROUND

The subsistence salmon fishery in the Kuskokwim region is one of the largest and most important in the state. During summer, 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 fishcamps 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 as 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, which are 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. Approximately 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

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 2001. 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, and fish wheels. In the Holitna, Kanektok, Arolik, and Goodnews river drainages only, spears could also be used. 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 in the Kuskokwim Area could be of any size mesh. Gill nets with six-inch or smaller mesh could not be more than 45 meshes in depth and nets with greater than six-inch mesh could not be more than 35 meshes in depth. Fishers were required to have their name and address attached to their gill nets and fish wheels. Rod and reel gear could also be used for subsistence fishing throughout the Kuskokwim Area except that portion of the Kuskokwim River drainage upstream of the Tatlawiksuk River.

Subsistence Salmon Fishing Schedule

During 2001, subsistence salmon fishing throughout the Kuskokwim River drainage was regulated by a fishing schedule as part of a salmon management rebuilding plan adopted by the Board of Fisheries in January 2001. The fishing schedule during 2001 provided for periods of four consecutive days per week that were open to subsistence salmon fishing and 3 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 most desirable. Based on their response and the recommendation of the Kuskokwim River Salmon Management Working Group, Wednesday through Saturday were selected as the days open to subsistence salmon fishing. Subsistence fishing with rod and reel gear was not included in this schedule nor were other Kuskokwim Area salmon fisheries.

The schedule started the first week of June in District 1, was expanded to include all waters downstream of Chuathbaluk starting the second week of June, and was expanded to include all waters of the entire Kuskokwim River drainage starting the third week of June. Some non-salmon tributaries in the lower and middle Kuskokwim drainage were not closed by this schedule. This schedule did not affect waters outside of the Kuskokwim River drainage. Some adjustments (more restrictive) were made to the schedule in mid July when it became apparent that additional steps were necessary to protect a poor chum salmon return. In addition, a poor chum and chinook salmon return in the George River drainage prompted a closure of subsistence fishing in that drainage for much of the season. The weekly fishing schedule ended August 1 and reverted back to a seven days per week fishing, except for periodic closures around the commercial fishing periods.

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 2001 and continued through mid July. In addition, a color brochure describing the details of the fishing schedule also was included with each subsistence salmon fishing harvest calendar that was mailed to Kuskokwim River households in mid May.

During 2001, additional restrictions on the subsistence fishery in the Kuskokwim River drainage were implemented on July 8. Following a commercial fishing period on July 5, the Department of Fish and Game and the Federal Office of Subsistence Management restricted the subsistence fishery throughout the Kuskokwim River drainage. The restrictions required that gillnets must

have 6-inch or less stretched mesh and limited individuals to a daily subsistence hook and line chinook bag limit of one chinook salmon.

In-Season Subsistence Closures

Areas within the commercial salmon fishing districts also were closed periodically 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 participate in the subsistence fishery. The specific waters closed to subsistence fishing varied district to district. During 2001, these closures in District 1 began on August 2 prior to the season's first commercial coho salmon fishing period in the Kuskokwim River. These periodic closures were more frequent in District 4 (Quinhagak) and District 5 (Goodnews Bay) because of the more frequent and numerous commercial fishing periods in those districts.

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.

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 2001 subsistence salmon catch calendars were mailed to all Kuskokwim Area households that had been identified as "usually fish." 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 along 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 distributed to 2,450 households.

Household Surveys

The second method of collecting subsistence salmon harvest information was the post-season household surveys. With this method, staff traveled to communities in the Kuskokwim Area and went house-to-house interviewing residents about their 2001 salmon 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 households also included a space for recording the households resident address and asked reasons why the household harvested salmon for subsistence using hook and line gear.

During 2001, the Division of Subsistence staff conducted house-to-house surveys in 28 communities. Budget constraints have precluded attempts to conduct house-to-house surveys in Mekoryuk, Newtok, Nightmute, Toksook Bay, Tununak, Chefornak, and Telida. House to house surveys also were not done in the communities of Kwigillingok, Kipnuk, and Kasigluk. These three communities have not consented to allow the house to house surveys to be done. Through funding administered through the US Fish and Wildlife Service Office of Subsistence Management, the Orutsararmiut Native Council (ONC) located in Bethel, hired two survey technicians to assist the department in gathering data by conducting house to house salmon surveys in Bethel.

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.

Survey work was conducted systematically. Prior to beginning the community surveys, efforts were made to inform and prepare residents for the arrival of staff doing 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. Each survey staff member working in Bethel also had access to a list of all Bethel households identified through previous surveys and a list of households which had been sent and 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 community household checklists, prepared in advance, 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 (2000), and households which were mailed 2001 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 2001.

Attempts were made to contact all households that were either identified as "usually fish" or were known to have fished during 2001. 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 also were collected. If time permitted, other households on the community list were contacted about their salmon fishing activities. In 2001, 2,070 Kuskokwim Area households were surveyed using this method.

Postcard Surveys

The third method of collecting information on subsistence harvest of salmon 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 species and quantities harvested, 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 of obtaining harvest data from households in Kipnuk, Kwigillingok, Kasigluk, Mekoryuk, Newtok, Nightmute, Toksook Bay, and Tununak, and households in other communities which were not available at the time of the community surveys

In Bethel, postcard surveys also were left at the doors of several households that were occupied but 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 2001. Overall, approximately 1,600 households were mailed postcard surveys.

2001 SAMPLING SUMMARY

Of the estimated 4,483 households located in the Kuskokwim Area, 2,218 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 2,520 the

number of households for which some information was available. Of this total, harvest data (either did not fish or harvest numbers) was obtained for 2,297 households; community and area harvest estimates are based upon this set of households. Of all households for which information is available, 1,570 (35 percent of total households) were identified as harvesting salmon during 2001 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) 2,060 (55 percent) of 3,708 households living in the region were surveyed. Households that were determined not to have fished during 2001 were not targeted, although some were contacted. This region contains 83 percent of the total households in the Kuskokwim Area and 91 percent of the subsistence fishing households.

In the South Kuskokwim Bay region, containing the communities of Quinhagak, Goodnews Bay, and Platinum, 165 (79 percent) of the 208 households living in the region were contacted. Of these contacted households, 129 (87 percent) harvested salmon in 2001 for subsistence use.

In total, 567 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. Six households in this region provided information and reported harvesting salmon. Based on data gathered in other years, actual participation in salmon harvesting activities by households in this region is thought to be much greater than that reported by catch calendars or postcard surveys. 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 (290) of the 2,450 subsistence salmon calendars which were mailed pre-season were used and returned or picked up during the household surveys. There were 95 responses to the 1,638 postcard surveys that were mailed to Kuskokwim Area households.

2001 SUBSISTENCE SALMON HARVEST SUMMARY

A summary of the subsistence salmon harvest estimates by community and fishing area is presented in Table V-1. The 2001 total subsistence salmon harvest estimates for the Kuskokwim Area were 77,570 chinook (37 percent), 51,117 chum (24 percent), 51,965 sockeye (24 percent), and 31,686 coho salmon (15 percent), a total of 212,338 salmon (Figure V-1). Seventy-eight percent of the overall subsistence salmon harvests in the Kuskokwim Area was taken by residents of communities located from Tuluksak downstream to Eek.

The harvest of chinook and chum salmon in the entire Kuskokwim Area increased in 2001 compared to the harvests in 2000, which was a relatively poor year. However, when compared to the ten year period of 1990 through 1999, the chinook harvest in 2001 was 11 percent below average and the chum salmon harvest was 34 percent below average. The sockeye salmon harvest during 2001 was almost 26 percent greater than the 1990-1999 average. The coho salmon harvest was 17 percent below that same 10 year average.

Harvest trends described above also were true for the Kuskokwim River drainage, where most of the salmon harvested in the Kuskokwim Area are caught. Overall, subsistence salmon harvests were comparatively better in the lower Kuskokwim River area, than in the middle and upper Kuskokwim drainage. Specifically, the harvest of chinook salmon in the lower Kuskokwim drainage (villages from Tuluksak to Eek and including Kipnuk, Kongiganak and Kwigillingok) during 2001 was about 6 percent below the 1990-1999 average of 69,207. In the middle Kuskokwim area (Lower Kalskag to Chuathbaluk) the 2001 chinook harvest was 32 percent below the 1990-1999 average of 9,357 for this same area. Further upriver in the upper Kuskokwim drainage from Crooked Creek to Nikolai, the 2001 chinook harvest was 47 percent below the ten-year average of 4,197. Although harvest in 2001 had improved over 2000, when compared to the previous 10 year averages, harvests were still down.

Chum salmon harvests during 2001 were similarly low when compared to the 1990-1999 averages for these areas. In the lower Kuskokwim area, the chum harvest was down by seven percent and down 33 percent and 60 percent in the middle and upper Kuskokwim areas respectively.

The sockeye harvest during 2001 increased by 38 percent in the lower Kuskokwim River and by 17 percent in the middle Kuskokwim River compared to the 1990-1999 averages. Coho salmon harvests declined by 11 percent in the lower Kuskokwim river area and by 51 percent in the upper Kuskokwim compared to the same ten year period. In the middle Kuskokwim, however, the coho salmon harvest increased by 16 percent.

Individual fishing households often use more than one type of gear (ie. set gillnet, drift gillnet or rod and reel) when fishing for salmon. Households that harvested salmon were asked to provide information on the types of gear they used (Table V-3). The most common gear type used throughout the Kuskokwim Area is drift gillnet. During 2001, 898 households reported using drift gillnets when harvesting subsistence salmon. Drift net gear is used by the majority of fishing households from Sleetmute downriver and including the coastal communities. Set gillnets are also used throughout the Kuskokwim Area; however, they are used in a greater proportion in the upper Kuskokwim River communities of Lime Village, Stony River, McGrath and Nikolai as well as Platinum, located in South Kuskokwim Bay. Overall, 298 households reported using set gillnets when harvesting salmon. Rod and reel gear is also used for subsistence fishing in many communities throughout the area. Rod and reel gear is used by residents that may not have access to other gear types, is used by fishers in areas where other gear types are not as effective or efficient, and is used to harvest relatively few fish when fewer are needed. Chinook and coho salmon are the two salmon species most frequently harvested by rod and reel gear. Rod and reel gear also is the primary gear type used by Nikolai residents for harvesting subsistence chinook salmon. During 2001, 218 households in 23 communities reported using rod and reel gear to harvest salmon for subsistence use.

Fishwheels also are used in the middle and upper Kuskokwim areas for harvesting salmon. This gear type is most frequently used by fishers in Aniak, Stony River, Lime Village and McGrath. Fishwheels in the Kuskokwim River are used primarily for harvesting sockeye, chum and coho salmon. Although none of the households contacted through personal surveys or postcard surveys during 2001 reported using fishwheels, one or two fishwheels were used near Aniak and another

wheel was used near McGrath during 2001 by households that could not be contacted. During 2001, no households reported using spears for harvesting salmon. One household in Goodnews Bay reported using a seine to subsistence fish for salmon.

Households that are involved in commercial salmon fishing sometimes keep some salmon caught through their commercial fishing activities to bring home for subsistence use. During 2001 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 District 5 during June and July as well as August. Forty-five households reported retaining salmon for subsistence use from commercial fishing activities during 2001. The amount of salmon reportedly kept from commercial fishing amounted to 81 chinook, 70 chum, 65 sockeye and 227 coho salmon.. The number of salmon retained from commercial fishing activities for subsistence use is usually relatively low.

Fishing households 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 2001 subsistence fishing success. Households were asked to rate their subsistence fishing success for each of the four species surveyed (chinook, sockeye, chum, coho) as "Very Good," "Average," or "Poor". A total of 957 households provided responses to this survey question.

Overall, 76 percent of households reported their subsistence chinook fishing success as very good or average. Fishers in the middle and lower Kuskokwim river area reported better success than residents in the upper Kuskokwim region. Fifty percent of the responses by households located in the upper Kuskokwim region (Crooked Creek to Nikolai) indicated that subsistence fishing for chinook salmon was poor. Based on the survey responses, chinook salmon fishing was rated particularly poor in the communities of Crooked Creek, Lime Village and McGrath. In contrast, the majority of residents in Sleetmute and Nikolai rated chinook fishing as average or better.

Of the responses that chinook salmon fishing was poor during 2001, 200 households provided reasons why it was poor. Of those 200 reasons, 37 percent indicated that fishing was poor because there were few fish to be caught or that the chinook run was poor. Twenty-one percent reported that their chinook fishing was poor because of the schedule. Nine percent indicated environmental factors as the reasons (high water, river conditions etc). Five percent indicated that equipment problems or wage employment were the primary factors. Ten percent indicated that there were other personal reasons why fishing was poor and 18 percent had other reasons or no comment as to why they rated their chinook fishing as poor.

A total of 143 households provided reasons why they reported their chum salmon fishing as poor during 2001. Forty-eight percent of those responses stated that low numbers of chum salmon were the reason why. Thirteen percent reported the subsistence fishing schedule as the primary reason why their chum salmon fishing was poor and 16 percent had no specific reason why they rated their fishing as poor.

Thirty-six percent of the 77 households that provided reasons why sockeye salmon fishing was poor and 44 percent of the 50 households that reported coho fishing as poor indicated poor salmon

returns as the reason. Seventeen percent indicated the fishing schedule as the reason for rating the quality of their sockeye salmon fishing as poor.

OTHER FISH

In 2001, there were no fisheries harvest assessment projects in place uniformly throughout the Kuskokwim Area on an annual basis. In most communities, harvest assessment does not occur (for Bethel, see below). Harvest estimates are available for a few communities, such as Kwethluk, Nunapitchuk and Akiachak, based on community-based subsistence surveys conducted in the region. Surveys of herring harvested for subsistence use were conducted in the mid 1980s through the early 1990s in the Nelson Island region. These data are in the Community Profile Database (Scott et al. 2001).

STUDY FINDINGS FOR BETHEL

During 2001, harvest assessment of non-salmon species by Bethel households occurred in conjunction with the post-season salmon harvest surveys. The Division of Subsistence (Division), Alaska Department of Fish and Game (Department) directed a study of the Bethel area through the work of the Orutsararmuit Native Council (ONC) in Bethel to conduct subsistence fish harvest surveys of households in the community of Bethel during October and November 2001. 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 fishery, 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 2001, and non-salmon species harvested during the period October 1, 2000 through September 30, 2001.

2001 Bethel Sampling Summary

All of the occupied housing units in Bethel were identified and added to the ADF&G database with a physical address. Survey results indicate that there were a total of 1,721 occupied units (houses plus apartments) in Bethel. Face to face surveys were successfully completed at 795 of these units.

2001 Bethel Subsistence Fish Harvest Summary

An estimated 495 households harvested chinook salmon. Approximately 327 households reported harvesting chum, 403 harvested sockeye and 389 harvested coho salmon, while 32 households harvested pink salmon (Table V-4). Of non-salmon species, smelt, whitefish, northern pike and burbot were the species most frequently reported. Relatively few households reported harvesting lake trout.

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 69,934 salmon and 20,479 non-salmon fish (excluding blackfish and smelt) were harvested. Chinook salmon represented 39 percent of the total salmon harvest, coho salmon 21 percent, sockeye 22 percent, and chum 16 percent. Whitefish represented 43 percent of the total non-salmon harvest, in numbers of fish, and northern pike contributed 27 percent. Approximately 2,367 gallons of smelt and 648 gallons of blackfish were harvested.

Harvest Gear

The majority of the salmon harvested by Bethel households (87 percent) were caught with drift gillnets (Table V-4). Set gillnets were used to harvest approximately 12 percent of the salmon caught and are more commonly used when fishers are targeting chinook salmon early in the run. Large mesh gear continues to be used by a majority of subsistence fishers targeting chinook salmon. Approximately 1,273 salmon were harvested with hook and line gear. Most (68 percent) of the salmon harvested with hook and line gear were coho salmon. A estimated total of 868 coho, 221 chinook, 146 sockeye, 37 chum and 2 pink salmon were harvested with hook and line gear.

In contrast to salmon, drift gillnets were used to harvest only two percent of non-salmon species. Approximately 9 percent of the non-salmon fish were harvested with rod and reel gear, 38 percent were caught by hook and line through the ice, 27 percent with set gillnet in open water, and 24 percent caught with set gillnet under the ice. Smelt were harvested exclusively with dipnets. Blackfish were caught with small, locally made fishtraps called *taluya*t.

Whitefish and sheefish were the predominant non-salmon species harvested with drift gillnets. These fish were harvested primarily when fishers were drifting for salmon. Sheefish are typically caught while fishers target chinook salmon in late May and early June. Whitefish are frequently caught in August when fishers are targeting coho salmon. Setnets used during periods of open water were used primarily for harvesting whitefish, although pike, burbot and sheefish were also harvested in set gillnets. Gillnets set under the ice during winter (November through March) caught mostly whitefish and burbot. A few pike, sheefish and grayling were also harvested with this gear. Fishing with hook and line gear through the ice resulted in a harvest of 7,881 fish, composed primarily of northern pike, burbot and whitefish. A few other species were also taken. Subsistence harvests with hook and line gear in open water resulted in a harvest of approximately 752 whitefish, 326 northern pike, 33 burbot, 133 sheefish, 309 grayling, 225 Dolly Varden, 107 rainbow trout, and 57 lake trout.

Table V-1. 2001 Subsistence Salmon Harvests, Kuskokwim Area

	HOUSEHOLDS					ESTIMATED SUBSISTENCE HARVEST					
							Number of Salmon Harvested				
Community	Total in Community	Surveyed in Person at Home	ADFG Mailed a Survey	Contacted*	Harvest Data**	Subsistence Fished	Chinook	Chum	Sockeye	Coho	Total
Kipnuk	176	0	175	1	1	1	1	2	4	74	81
Kwigillingok	95	0	95	0	0	0	0	0	0	0	0
Kongiganak	77	58	15	59	61	60	1,454	1,998	1,460	925	5,837
Subtotal, N. Kuskokwim Bay	348	58	285	60	62	61	1,455	2,000	1,464	999	5,918
Tuntutuliak	77	52	26	56	62	59	2,993	2,621	1,701	337	7,652
Eek	71	40	15	45	59	50	1,728	347	923	207	3,205
Kasigluk	135	1	135	5	4	5	588	550	320	344	1,802
Nunapitchuk	104	69	20	76	80	79	3,250	4,749	2,583	392	10,974
Atmautluak	56	45	10	47	47	41	740	1,350	958	369	3,417
Napakiak	78	59	18	64	68	58	2,290	1,723	1,861	644	6,518
Napaskiak	86	69	13	69	80	71	4,662	2,399	3,428	466	10,955
Oscarville	14	9	0	10	11	10	1,753	2,097	1,620	42	5,512
Bethel	1,721	795	305	851	836	344	27,209	11,319	15,709	14,949	69,186
Kwethluk	146	103	31	108	115	115	6,127	4,365	3,960	1,688	16,140
Akiachak	128	78	42	86	89	95	6,445	2,872	4,300	1,633	15,250
Akiak	65	48	17	53	56	51	3,369	2,093	1,916	564	7,942
Tuluksak	72	51	15	54	58	53	2,451	1,862	1,759	971	7,043
Subtotal, Lower Kuskokwim	2,753	1,419	647	1,524	1,565	1,031	63,605	38,347	41,038	22,606	165,596
Lower Kalskag	62	45	9	47	52	41	2,181	1,316	824	539	4,860
Upper Kalskag	55	35	20	39	42	32	1,014	1,187	304	416	2,921
Aniak	164	127	21	133	134	99	2,524	1,982	2,223	1,906	8,635
Chuathbaluk	27	18	6	19	23	23	627	2,338	537	541	4,043
Subtotal, Middle Kuskokwim	308	225	56	238	251	195	6,346	6,823	3,888	3,402	20,459
Crooked Creek	31	21	10	22	23	18	508	943	476	70	1,997
Red Devil	15	12	0	15	15	13	175	335	361	427	1,298
Sleetmute	38	31	4	32	34	28	473	328	940	452	2,193
Stony River	15	13	1	13	14	10	139	143	138	347	767
Lime Village	19	14	0	14	15	10	262	683	1,516	590	3,051
McGrath	125	89	24	98	99	43	360	199	244	420	1,223
Takotna	20	15	3	15	18	5	5	8	0	26	39
Nikolai	34	26	7	29	30	21	282	65	0	165	512
Telida	2	0	0	0	0	0	0	0	0	0	0
Subtotal, Upper Kuskokwim	299	221	49	238	248	148	2,204	2,704	3,675	2,497	11,080
Quinhagak	131	82	31	87	101	80	2,923	747	914	1,525	6,109
Goodnews Bay	61	50	11	50	51	40	859	182	921	508	2,470
Platinum	16	15	1	15	13	9	36	44	53	108	241
Subtotal, S. Kuskokwim Bay	208	147	43	152	165	129	3,818	973	1,888	2,141	8,820
Mekoryuk	88	0	88	0	0	0	0	0	0	0	0
Newtok	79	0	79	1	1	1	12	36	0	0	48
Nightmute	67	0	60	0	0	0	0	0	0	0	0
Toksook Bay	132	0	130	3	3	3	130	234	12	16	392
Tununak	108	0	108	2	2	2	0	0	0	25	25
Chefornak	93	0	93	0	0	0	0	0	0	0	0
Subtotal, Bering Sea Coast	567	0	558	6	6	6	142	270	12	41	465
Kuskokwim Area Totals	4,483	2,070	1,638	2,218	2,297	1,570	77,570	51,117	51,965	31,686	212,338

* Includes households that returned a calendar, returned a mailed survey or were surveyed by staff in person.
** Households that did not fish and those households which did fish and provided harvst numbers.

NOTE: Data from surveyed households were expanded within each community to include households that were not surveyed. However, if fewer than 30 households or less than 50% of households in a stratum in a community were contacted, then reported harvest is used for estimated harvest. Blanks appear where data are not available. Survey staff were unable to travel to the following communities: Newtok, Tununak, Toksook Bay, Nightmute, Mekoryuk, Chefornak, Kipnuk, Kwigillingok, Kasigluk, Oscarville, Stony River and Telida. Data from these communities were derived from harvest calendars or mailed surveys.

Table V-2. Historic Subsistence Salmon Harvest Kuskokwim Area, 1960 - 2001.

	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
1997-2001 Average	4,022	2,250	79,138	45,007	52,548	30,612	128,167	207,306
1992-2001 Average	3,717	2,034	83,621	41,349	66,017	34,322	141,689	225,310
All Years Average	3,635	2,025	58,616	38,753	88,040	36,681	183,808	242,424

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. Reported Number of Households Harvesting Salmon by Gear Type, Kuskokwim Area Subsistence Fishery, 2001

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		60	2	44	0	0	0	0	15
N KUSKOKWIM BAY	Totals	61	2	44	0	0	0	0	16
Tuntutuliak		59	1	36	0	1	0	0	23
Eek		50	8	19	0	5	0	0	25
Kasigluk		5	0	1	0	0	0	0	4
Nunapitchuk		79	4	41	0	0	0	0	35
Atmautluak		41	3	30	0	0	0	0	11
Napakiak		58	17	30	0	0	0	0	19
Napaskiak		71	21	47	0	2	0	0	21
Oscarville		10	3	7	0	0	0	0	2
Bethel		344	34	249	0	53	0	0	59
Kwethluk		115	32	67	0	17	0	0	39
Akiachak		95	22	47	0	2	0	0	41
Akiak		51	22	32	0	2	0	0	14
Tuluksak		53	11	32	0	14	0	0	18
LOWER KUSKOKWIM	Totals	1031	178	638	0	96	0	0	311
Lower Kalskag		41	12	23	0	1	0	0	11
Upper Kalskag		32	2	19	0	1	0	0	12
Aniak		99	15	50	0	44	0	0	20
Chuathbaluk		23	3	14	0	5	0	0	7
MIDDLE KUSKOKWIM	Totals	195	32	106	0	51	0	0	50
Crooked Creek		18	4	16	0	4	0	0	2
Red Devil		13	6	2	0	4	0	0	4
Sleetmute		28	7	18	0	3	0	0	6
Stony River		10	7	4	0	2	0	0	2
Lime Village		10	7	0	0	4	0	0	2
McGrath		43	20	10	0	16	0	0	7
Takotna		5	0	0	0	4	0	0	1
Nikolai		21	7	1	0	11	0	0	3
Telida		0	0	0	0	0	0	0	0
UPPER KUSKOKWIM	Totals	148	58	51	0	48	0	0	27
Quinhagak		80	9	36	0	10	0	0	33
Goodnews Bay		40	11	20	0	9	1	0	10
Platinum		9	5	2	0	4	0	0	0
S KUSKOKWIM BAY	Totals	129	25	58	0	23	1	0	43
Mekoryuk		0	0	0	0	0	0	0	0
Newtok		1	0	0	0	0	0	0	1
Nightmute		0	0	0	0	0	0	0	0
Toksook Bay		3	0	0	0	0	0	0	3
Tununak		2	0	1	0	0	0	0	1
BERING SEA COAST	Totals	6	0	1	0	0	0	0	5
Chefornak		0	0	0	0	0	0	0	0
OTHER	Totals	0	0	0	0	0	0	0	0
TOTAL		1570	295	898	0	218	1	0	452

* 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. Estimated Subsistence Harvest of Fish, Bethel Households 2001

TOTAL NUMBER OF HOUSEHOLDS: 1,721

	Households*		Number of Fish Harvested for Subsistence**						
Species	#	%	Set Net	Drift Net	Net Under Ice	Other Gear	Hooking Through Ice	Rod and Reel	TOTAL***
Chinook	495	28.8%	4,855	22,134		0		221	27,209
Chum	327	19.0%	838	10,445		0		37	11,319
Sockeye	403	23.4%	1,782	13,781		0		146	15,709
Coho	389	22.6%	355	13,727		0		868	14,949
Pink	32	1.9%	304	442		0		2	748
TOTAL SALMON			8,133	60,528		0		1,273	69,934
Northern Pike	176	10.2%	246	20	195	0	4,723	326	5,510
Burbot	162	9.4%	119	12	1,258	0	2,541	33	3,963
Whitefish	203	11.8%	4,784	148	2,579	0	565	752	8,828
Sheefish	131	7.6%	268	160	410	0	16	133	987
Grayling	49	2.9%	0	0	0	0	6	309	315
Dolly Varden	49	2.9%	41	4	410	0	12	225	692
Rainbow Trout	39	2.3%	2	0	0	0	18	107	127
Lake Trout	8	0.5%	0	0	0	0	0	57	57
TOTAL NON-SALMON			5,460	344	4,852	0	7,881	1,942	20,479
TOTAL FISH BY GEAR TYPE			13,593	60,872	4,852	0	7,881	3,215	90,413

	Households		Trap
	#	%	(Gallons)
Blackfish	61	3.6%	648

	Households		Dipnet
	#	%	(Gallons)
Smelt	275	16.0%	2,367

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

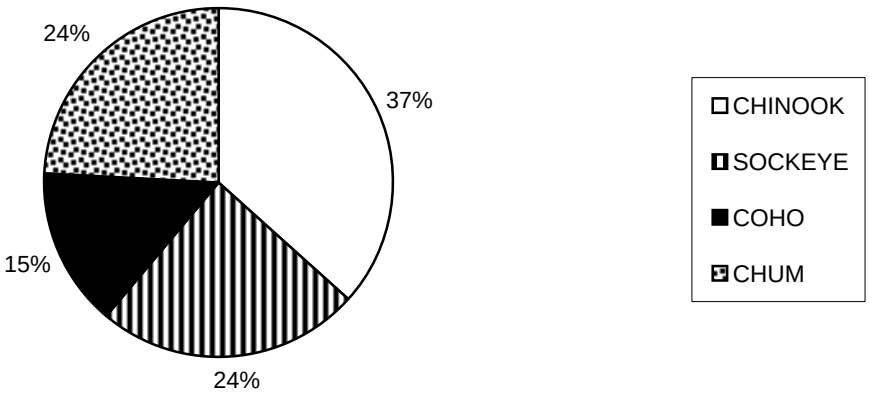
** Salmon harvest estimates from all sources reallocated to gear types according to survey distribution.

*** Total includes pink salmon, not included in other area summaries in this report.

NOTE: Salmon harvest data are for summer 2001. Data for other species is from 1 October 2000 to 30 September 2001.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence and Orutsaramiut Native Council, Household Surveys, 2001.

Figure V-1. Composition of Subsistence Harvest by Species, Kuskokwim Area, 2001



N = 212,338 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 2001, 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 dipnets 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 2001, 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 continued to issue Bristol Bay subsistence salmon permits to any Alaska resident who requested one. However, the department informed permit applicants that unless they lived in one of the above-named communities or had a 13.44 permit, they needed to take this NPS closure into account when they subsistence fished in waters of the park and preserve. The department also informed permittees that waters outside of national park and preserve boundaries remained 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 Section to subsistence salmon harvesting from 9 a.m. June 1 until 9 a.m. June 8. This opening was extended until 9 p.m. on June 15 and again until 9 p.m. on June 18. Effective 9 p.m. on June 20, the Nushagak Section was opened to subsistence fishing until further notice. It was closed by emergency order at 9 a.m. June 24. By emergency order effective 9 a.m. July 31, subsistence fishing in the Nushagak commercial fishing district was opened until further notice, due to the closure of the commercial fishery for the rest of the year.

An emergency order effective 9 a.m. July 7 removed the three 24-hour periods per week restriction on subsistence fishing on the Dillingham beaches and restored the 7 days per week subsistence fishing schedule. This action was due to strong returns of sockeye salmon to the Wood and Nushagak rivers and chinook salmon returns to the Nushagak River.

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 9 a.m. June 21 until 9 a.m. June 24. Another emergency order opened subsistence fishing in the Togiak commercial fishing district from 9 a.m. June 28 until 9 a.m. July 1. Effective 9 a.m. August 12, an emergency order opened the Togiak commercial fishing district to subsistence salmon fishing for the remainder of the season, due to the closure of the commercial fishery for the rest of the year.

An emergency order opened the Naknek/Kvichak District 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 30. 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. An emergency order closed the Kvichak Section to subsistence fishing for the remainder of the 2001 season, effective 9 a.m. July 22. The same order opened the Naknek Section to the fall schedule of subsistence fishing, from 9 a.m. Mondays to 9 a.m. Fridays, through September 28, 2001, effective 9 a.m. July 23.

In the Egegik District, an additional subsistence fishing period was opened by emergency order at 4:30 p.m. on June 15 until 6 p.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 order for June 19 (8 a.m. to 8 p.m.), June 29 (5 p.m. to 10 p.m.), June 30 (6 p.m. to 8 p.m.), July 1 (7 p.m. to 11 p.m.), July 2 (6 a.m. to 8:30 a.m., and 8 p.m. to 11 p.m.), July 3 (7 a.m. to 9:30 a.m.), July 4 (8 p.m. to 11:30 p.m.), and July 5 (8 a.m. to 11 a.m.).

No emergency orders were issued for the Ugashik subsistence fishery in 2001.

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 2001, a total of 1,226 permits were issued for the Bristol Bay Management Area, and of these, 1,137 (92.7 percent) were returned to the Department with harvest data (Table VI-1, Table VI-3). The largest numbers of permits were issued for the Nushagak (554 permits) and Naknek/Kvichak (506 permits) districts. For the Nushagak District more permits were issued in 2001 than the long-term 20-year average, due in part to permits being available to all state residents since 1990. 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. More permits were issued for the Egegik District in 2001 (57) than the average for the past 10 years (53), while the number issued in the Ugashik District (24) dropped slightly compared to recent years. The number of permits issued for the Togiak District (92) was considerably higher than recent averages, reflecting a more complete involvement by local subsistence fishers in the harvest reporting program for that district than has been the case in the past, and post-season household surveys conducted by the Division of Subsistence, the results of which were added to the subsistence permit data base. Of all permits, 1,038 (84.7 percent) were issued to residents of Bristol Bay communities, and 188 (15.3 percent) were issued to other Alaska residents (Table VI-3).

SUBSISTENCE SALMON HARVESTS IN 2001

The estimated total Bristol Bay subsistence salmon harvest in 2001 was 119,856 fish (Table VI-1). This number was slightly higher than the 118,824 salmon estimated for 2000, but is the second-lowest estimated subsistence salmon harvest for the Bristol Bay Area since 1973, when 88,400 salmon were harvested, and the fourth-lowest since harvest records have been kept beginning in 1963 (the estimated subsistence harvest was 93,000 salmon in 1972). The 2001 harvest was 20.9% below the recent 10-year average of 151,456 salmon and about 26% below the recent 20-year average of 161,888 salmon (Table VI-2).

The area-wide chinook harvest of 14,412 salmon was up notably from 2000's total of 11,547, and was very similar to the recent 20-year average of 14,515 chinook salmon. The area-wide harvest of 92,041 sockeye salmon was the lowest since 1973 (the 2000 sockeye harvest was 92,050 fish). The 2001 sockeye harvest was 22.6% below the recent 10-year average of 118,844 sockeyes. Compared to recent 10-year averages, subsistence harvests of chum, pink, and coho salmon were also down in 2001 (Table VI-2).

In 2001, the Bristol Bay subsistence salmon harvest was composed of 76.8% sockeye, 12.0% chinook, 3.5% chum, 0.7% pink, and 7.0% coho salmon (Fig. VI-1). Of the entire Bristol Bay Area harvest, residents of Bristol Bay communities harvested 109,858 salmon (91.7%), and other Alaska residents harvested 9,997 salmon (8.3%) (Table VI-3).

In 2001 as over the last several decades, most of the subsistence harvest was taken in the Naknek/Kvichak (50.0%) and the Nushagak (40.1%) districts (Fig. VI-2). The Naknek/Kvichak total harvest of 59,909 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 2001 subsistence salmon harvest in this district was 33.6% below the recent 10-year average of 90,244 fish. (The 2000 harvest of 65,053 total salmon was also well below recent and long-term averages for the district.) .

In 2001, Kvichak drainage residents, and other permit holders fishing in the Kvichak drainage portion of the Naknek/Kvichak District, harvested an estimated 32,808 sockeye salmon, compared to a recent 10-year average of 59,483 sockeyes and a 20-year average of 68,611 sockeyes. The 2001 subsistence harvest of sockeye salmon in the Kvichak drainage was the lowest since records have been kept beginning in 1963. 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, Igiugig, 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 30 from 37 the previous year. 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 1,958 fish, compared to a recent 10-year average of 3,070 sockeyes. The number of permits issued to households with non-Kvichak drainage addresses dropped in 2001 to 37, from 48 in 2000, and the sockeye salmon harvest by these permittees fell to 1,901 fish compared to a recent 10-year average of 2,777. The NPS closure is likely at least partly responsible for this change as well.

In the Nushagak District, the total estimated subsistence harvest in 2001 was 48,080 salmon. The recent 10-year average is 50,946. The Nushagak chinook harvest in 2001 of 11,760 was up from 2000's 9,470, but still below the recent 10-year average of 13,716 chinook. The sockeye harvest of 26,939 was similar to the 10-year average (26,728) but below the 20-year average (32,735). In 2001, 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 2001 of 6,509 fish was the highest since 1992 (7,069) and exceeded both the recent 10-year average (4,323) and the 20-year average (5,075). This no doubt reflects the more complete participation in the harvest monitoring system by Togiak District subsistence fishers in 2001. The estimated subsistence harvest in the Ugashik District in 2001 was 1,624, lower than the 10-year average of 2,307. In the Egegik District, the estimated subsistence salmon harvest of 3,653 was up notably from the estimate of 1,131 salmon for 2000. Significantly more permits were issued for this district in 2001 (57) than in 2000 (31), approximating the recent 10-year average of 53. The increase in the number of participants in the fishery and the subsistence harvest in 2001 may reflect the increased fishing opportunity provided by emergency subsistence openings in the commercial fishing area (see above).

OTHER SUBSISTENCE FISHERIES

There were no annual harvest assessment programs in the Bristol Bay Area for non-salmon subsistence fisheries in 2001. 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.

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
- Beach seining: Dolly Varden/Arctic char, lake trout, smelt, herring
- Hand line in open water: halibut
- Dipnets: 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, frozen
- Dolly Varden: dried, smoked, half dried (*egamaarrluk*)
- Pike: dried, half-dried
- Rainbow trout: dried
- Whitefish: dried, frozen with seal oil, fermented and frozen

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 *qumlanaq*. 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 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, 2001.*

Area and River System	Permits Issued**	Estimated Number of Salmon Harvested					
		Sockeye	Chinook	Chum	Pink	Coho	Total
NAKNEK-KVICHAK DISTRICT	506	57,250	869	667	383	740	59,909
Naknek River[1]	299	24,092	769	551	343	707	26,463
Kvichak River/Iliamna Lake:	207	32,808	94	115	39	33	33,090
Alagnak River	3	51	1	0	0	0	52
Igiugig	9	543	7	22	0	4	577
Iliamna Lake	28	4,178	2	0	0	0	4,180
Kijik	5	540	0	0	0	0	540
Kokhanok	24	9,473	18	19	1	19	9,530
Kvichak River	13	920	19	71	38	10	1,058
Lake Clark: General	36	2,863	0	0	0	0	2,864
Levelock	9	1,081	44	3	0	0	1,127
Newhalen River	44	5,860	3	0	0	0	5,863
Nondalton Village	13	1,751	0	0	0	0	1,751
Pedro Bay	16	1,969	0	0	0	0	1,969
Port Alsworth	6	167	0	0	0	0	167
Six Mile Lake	12	3,412	0	0	0	0	3,412
Naknek or Kvichak Unspecified	8	350	5	1	0	0	356
EGEGIK DISTRICT[2]	57	2,493	111	105	16	928	3,653
UGASHIK DISTRICT[3]	24	1,197	61	8	2	357	1,624
NUSHAGAK DISTRICT	554	26,939	11,760	3,011	378	5,993	48,080
Wood River[4]	115	3,960	1,184	206	14	530	5,895
Lower Nushagak River[5]	48	1,543	1,777	207	20	364	3,910
Upper Nushagak River[6]	64	3,376	3,372	1,133	110	612	8,603
Dillingham Beaches[7]	256	10,283	3,715	1,074	108	3,097	18,276
Nushagak Bay Commercial[8]	73	3,533	1,078	311	121	1,185	6,228
Igushik/Snake River	40	3,626	492	46	5	149	4,318
Nushagak, Site Unspecified	15	618	142	34	0	56	850
TOGIAK DISTRICT[9]	92	4,162	1,612	367	61	388	6,590
TOTAL BRISTOL BAY	1,226	92,041	14,412	4,158	839	8,406	119,856

* 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 1,226 permits issued for the management area, 1,137 were returned (92.7%).

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

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

[2] Includes Egegik river and beach

[3] Includes Point Point and Ugashik

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

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

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

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

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

[9] Includes Togiak village and Togiak River

Source: Bristol Bay Subsistence Permit Data Base, ADF&G

Table VI-2. Historic Subsistence Salmon Harvests: Bristol Bay Management Area, 1979 - 2001[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
1997-2001 Average	1,213	1,122	14,733	107,582	7,373	3,856	1,391	134,934
1992-2001 Average	1,190	1,058	16,348	114,180	8,072	5,300	1,916	145,817
All Years Average	1,073	944	14,290	126,402	9,232	7,836	3,143	160,903

[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 3.20.

Table VI-3. 2001 Subsistence Harvests by Community: Bristol Bay Management Area

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Aleknagik	18	16	357	1,644	106	23	0	2,129
Clarks Point	16	14	257	435	549	96	70	1,407
Dillingham	337	312	5,287	14,371	4,086	1,431	181	25,357
Egegik	29	24	50	951	899	39	14	1,953
Ekwok	19	17	733	1,045	128	312	0	2,218
Igiugig	9	9	13	801	2	64	31	911
Iliamna	39	38	102	5,695	0	0	0	5,797
King Salmon	96	91	177	6,813	189	39	24	7,242
Kokhanok	25	25	24	9,797	21	21	1	9,864
Koliganek	14	13	870	939	31	352	16	2,209
Levelock	9	7	27	908	0	3	0	937
Manokotak	35	30	427	3,128	139	36	5	3,735
Naknek	107	94	357	11,320	357	205	163	12,403
New Stuyahok	45	43	3,444	2,595	504	636	114	7,294
Newhalen	15	14	0	3,162	0	0	0	3,162
Nondalton	33	30	0	7,566	0	0	0	7,566
Pedro Bay	17	16	0	2,118	0	0	0	2,118
Pilot Point	9	8	32	659	259	5	2	956
Port Alsworth	32	29	3	2,085	1	2	0	2,092
South Naknek	39	38	176	2,879	159	309	156	3,678
Togiak	90	89	1,582	4,122	378	362	31	6,475
Ugashik	5	5	24	283	51	0	0	358
Bristol Bay Subtotal	1,038	962	13,942	83,314	7,860	3,934	808	109,858
Anchorage	93	85	191	4,597	367	132	21	5,309
Barrow	2	2	0	370	15	2	0	387
Big Lake	1	1	0	249	0	0	0	249
Chignik Lake	1	1	25	2	0	3	0	30
Chugiak	3	3	1	323	0	2	0	326
Dutch Harbor	1	1	0	128	0	0	0	128
Eagle River	7	6	30	351	0	4	0	385
Ester	1	1	0	0	0	0	0	0
Fairbanks	10	9	28	390	1	6	2	427
Galena	1	1	0	18	0	0	0	18
Girdwood	1	1	0	0	0	0	0	0
Homer	9	9	28	300	0	6	0	334
Juneau	3	3	0	117	0	2	0	119
Kasilof	2	2	0	15	46	1	0	62

continued

Table VI-3. 2001 Subsistence Harvests by Community: Bristol Bay Management Area, continued

	Permits		Estimated Salmon Harvest					
Community	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Kenai	4	4	0	195	0	2	0	197
King Cove	1	1	35	43	0	14	0	92
Kodiak (city)	6	6	18	51	0	7	0	76
Nikiski	1	1	0	30	1	0	1	32
Ninilchik	1	1	0	54	0	0	0	54
North Pole	1	1	1	31	6	1	4	43
Palmer	9	9	63	450	50	3	0	566
Paxson	1	1	3	25	0	3	2	33
Ruby	1	1	0	84	0	9	0	93
Salcha	1	1	8	2	0	0	0	10
Seward	1	1	4	57	0	4	0	65
Sitka	1	0						
Soldotna	2	2	0	0	0	0	0	0
Talkeetna	1	1	0	41	0	0	0	41
Trapper Creek	1	1	0	19	0	4	0	23
Unalakleet	1	1	0	0	0	0	0	0
Unalaska	1	1	0	0	0	0	0	0
Wainwright	1	1	0	10	0	0	0	10
Wasilla	16	14	34	766	61	18	1	880
Willow	2	2	0	8	0	1	0	9
Other, Subtotal	188	175	470	8,726	546	224	31	9,997
Area Totals	1,226	1,137	14,412	92,041	8,406	4,158	839	119,856

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

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*	*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.

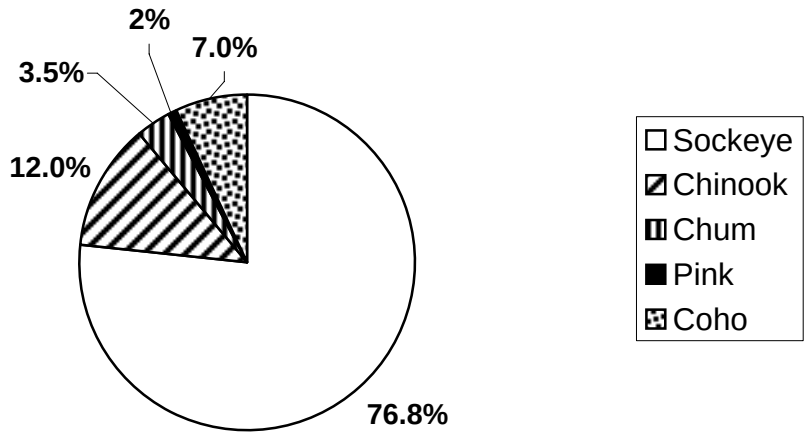
[c] Also includes the closely related Arctic char, *Salvelinus alpinus* .

[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.

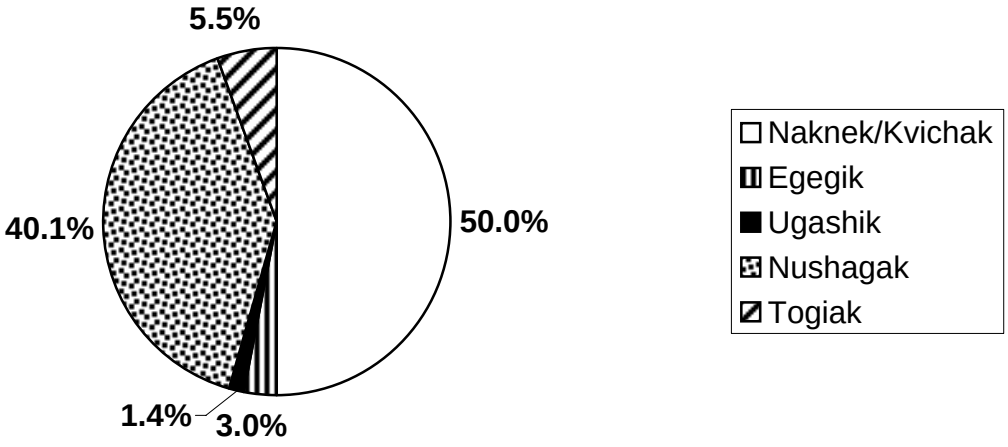
Source: Fall et al. 1996

Figure VI-1. Composition of Bristol Bay Area Subsistence Salmon Harvest by Species, 2001



N = 119,856 salmon, based on annual harvest assessement program with subsistence permits

Figure VI-2. Subsistence Salmon Harvests by District, Bristol Bay Management Area, 2001



N = 119,856 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.

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 2001

Since 1980, the number of subsistence salmon permits issued for the Chignik Area has averaged 99 per year, with 64 percent returned. Since 1993, the average has been 139 permits issued and 77 percent returned. The recent 5-year average (1997 through 2001) is 120 permits issued, and 83 percent returned. In 2000, 130 permits were issued and 112 were returned (86 percent) (Table VII-1). Of all permits issued for 2001, 108 (80 percent) were issued to residents of Chignik Area communities, and 27 (20 percent) were issued to residents of other Alaska communities (Table VII-2).

In 2001, the estimated subsistence salmon harvest for the Chignik Area was 13,663 fish (Table VII-1). This was above the long-term average (11,009 salmon) but slightly lower than the average since 1993 (14,805 salmon). The 2001 subsistence harvest was made up of 63 percent sockeye, 20 percent pink, 14 percent coho, 2 percent chum, and 1 percent chinook salmon (Fig. VII-1). Of the total harvest, local residents took 12,486 salmon (91.4 percent) and other Alaska residents harvested 1,178 salmon (8.6 percent) (Table VII-2; Fig. VII-2).

In 2001, the largest number of salmon (5,538; 40.5 percent) was harvested in Chignik Bay and Chignik Lagoon (Table VII-3). Most of this harvest was sockeyes (95.0 percent). Subsistence

harvests in the Perryville and Western districts numbered 5,068 salmon (37.1 percent), with most of this coho and pink, accounting for most of the Area's subsistence harvest of these species. Estimated subsistence harvests in Chignik Lake totaled 3,057 salmon (22.4 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 has identified subsistence uses of all finfish in the Chignik Area, except rainbow trout and steelhead for which no finding had been made as of 2001. (In January 2002, the Board made a positive finding for all finfish in the management 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 - 2001

	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
Average	98.9	64.1	64.8%	83.7	84.7%	62	8,760	1,158	860	269	11,109
Average 1993-01	139.1	106.6	76.6%	117.4	84.4%	126	10,448	2,283	1,569	380	14,805
Average 1997-01	120.2	99.4	82.7%	106.8	88.8%	139	9,685	1,882	1,641	378	13,725

Sources: Quimby and Owen 1994:90, for 1976 - 1979 and 1987; Division of Subsistence, ADF&G, Alaska Subsistence Fisheries Database, Version 3.20, for the remaining years.

Table VII-2. Chignik Area Subsistence Salmon Harvests by Species and Community of Residence, 2001

Community of Residence	Permits Issued	Permits Returned	Estimated Number of Salmon Harvested: Chinook	Sockeye	Coho	Pink	Chum	Total
Chignik	12	11	4	758	12	32	22	828
Chignik Lagoon	38	36	87	2,843	240	33	0	3,202
Chignik Lake	26	25	41	2,930	0	0	0	2,970
Ivanof Bay	5	5	2	105	295	35	41	478
Perryville	27	27	9	911	1,312	2,688	88	5,008
								0
Subtotal, Chignik Area Communities	108	104	142	7,546	1,859	2,787	151	12,486
Anchorage	10	6	0	300	0	0	0	300
Big Lake	1	1	0	0	0	0	0	0
Girdwood	1	0						0
Homer	5	4	19	281	0	0	63	363
Kodiak	8	6	9	431	0	0	0	440
Palmer	1	0						0
Port Lions	1	1	0	75	0	0		75
Subtotal, Other Alaska Communities	27	18	28	1,087	0	0	63	1,178
Grand Total	135	122	171	8,633	1,859	2,787	213	13,663

Source: ADF&G, Division of Subsistence, Alaska Subsistence Fisheries Database Version 3.20

Table VII-3. Chignik Area Subsistence Salmon Harvests by Species and Subarea of Harvest, 2001

Subarea of Harvest[1]	Estimated Number of Salmon Harvested[2]					
	Chinook	Sockeye	Coho	Pink	Chum	All Salmon
Chignik Bay and Lagoon	108	5,260	34	47	88	5,538
Chignik Lake	53	3,004	0	0	0	3,057
Perryville	9	369	1,824	2,740	125	5,068
Grand Total	171	8,633	1,859	2,787	213	13,663

[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 2001, 135 permits were issued and 122 were returned (90.4 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

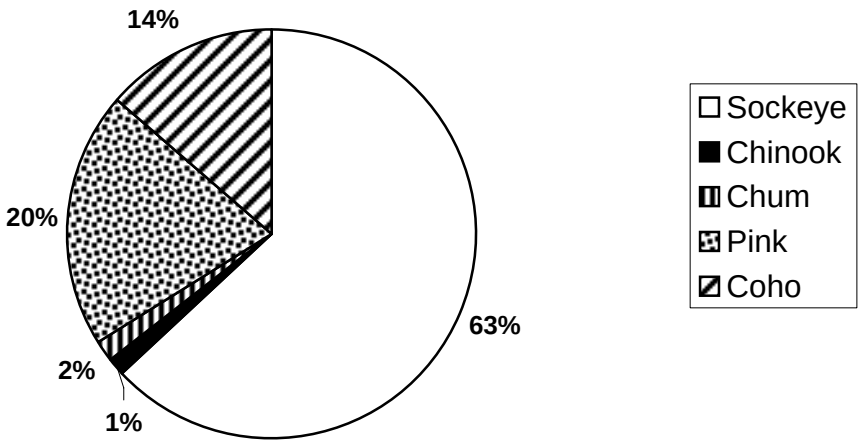
Table VII-5. Marine Invertebrates Used for Subsistence Purposes in Communities of the Chignik Area, 1989

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*.

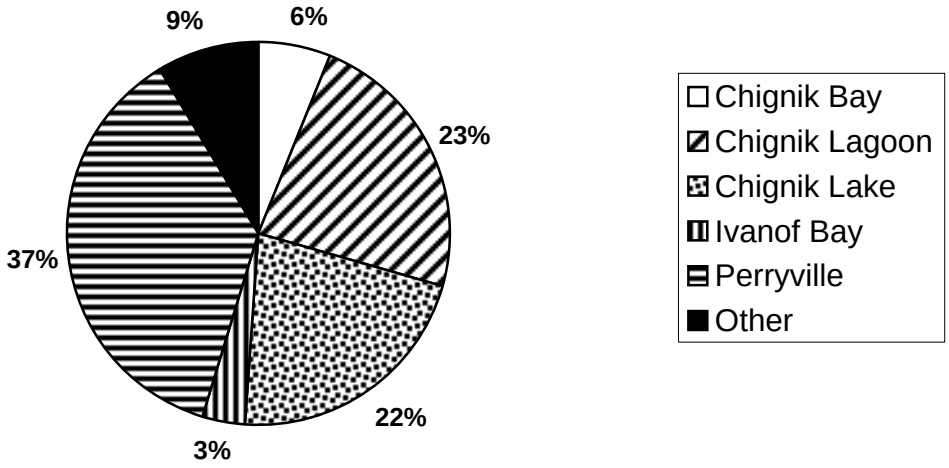
Source: Scott et al. 2001; Hutchinson-Scarbrough and Fall 1996

Figure VII-1. Composition of Chignik Area Subsistence Salmon Harvest by Species, 2001



N = 13,663 salmon, based on annual harvest assessment program with permits and household surveys.

Figure VII-2. Subsistence Salmon Harvests by Community, Chignik Management Area, 2001



N = 13,663 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 2001

Since 1985, the number of subsistence salmon permits issued for the Alaska Peninsula Area has averaged 209 per year (Table VIII-1). The recent five-year average (1997 through 2001) was 200 permits. In 2001, 185 subsistence salmon fishing permits were issued for the Alaska Peninsula Area, similar to 2000 (180 permits) and 1999 (185 permits), but a sharp decrease from 233 permits issued in 1998. The response rate was 83.8 percent in 2001 (155 of 185 permits were returned). Of all permits issued, 144 (77.8 percent) were issued to residents of Alaska Peninsula Area communities, and 41 (22.2 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 2001, the estimated subsistence salmon harvest for the Alaska Peninsula Area was 19,912 fish. This was very similar to the long-term average (19,880 salmon) but well below the recent five-year average (22,359 salmon) (Table VIII-2). The 2001 subsistence harvest was made up of 62 percent sockeye, 209 percent coho, 10 percent chum, 6 percent pink, and 3 percent chinook salmon (Fig. VIII-1). Of the total harvest, local residents took 16,908 salmon (84.9 percent) and other Alaska residents harvested 3,005 salmon (15.1 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 - 2001

	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
1997-2001 Average	200	156	426	13,095	4,914	2,022	1,902	22,359
1992-2001 Average	224	176	466	12,547	5,344	2,518	1,997	22,872
All Years Average	209	158	357	10,383	5,114	2,299	1,727	19,880

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table VIII-2. Estimated Subsistence Salmon Harvests, Alaska Peninsula Area, by Community and Species, 2001

	PERMITS		ESTIMATED SALMON HARVEST					
COMMUNITY	ISSUED	RETURNED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Cold Bay	17	16	0	597	27	0	0	624
False Pass	4	3	11	248	172	111	125	667
King Cove	52	46	21	4,228	2,413	235	123	7,021
Nelson Lagoon	7	5	15	358	32	4	0	410
Port Heiden	3	3	64	132	50	10	0	256
Sand Point	61	49	330	4,600	840	1,394	766	7,930
Subtotal: Area Communties	144	122	441	10,163	3,535	1,754	1,014	16,908
Anchorage	15	13	106	688	312	48	6	1,160
Big Lake	1	0						
Fairbanks	1	1	4	5	0	0	0	9
Girdwood	1	1	0	120	60	0	0	180
Homer	9	6	12	438	32	146	156	783
Kenai	2	1	0	320	0	0	0	320
Ketchikan	1	0						
Kodiak (city)	7	7	1	187	0	8	4	200
Palmer	3	3	5	291	2	5	0	303
Talkeetna	1	1	0	47	0	2	1	50
Subtotal: Other	41	33	128	2,096	405	209	167	3,005
Totals	185	155	570	12,259	3,940	1,963	1,181	19,912

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

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

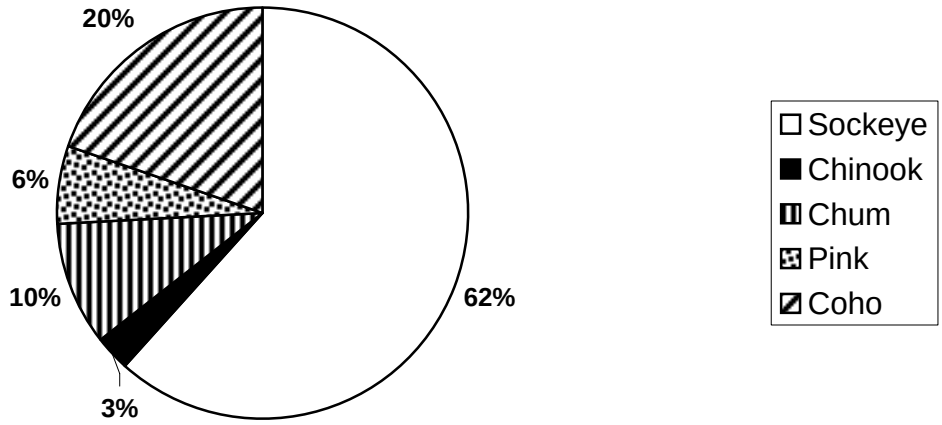
	Percentage of Households Using in Study Year[2]				
Resource[1]	False Pass	King Cove	Nelson Lagoon	Port Heiden	Sand Point
Pacific Cod	65.0%	44.0%	0.0%	2.7%	60.6%
Sablefish	15.0%	8.0%			12.5%
Greenling	10.0%	5.3%			6.7%
Flounder	20.0%	4.0%	7.7%	10.8%	3.8%
Halibut	95.0%	73.3%	0.0%	21.6%	89.4%
Herring	30.0%	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.

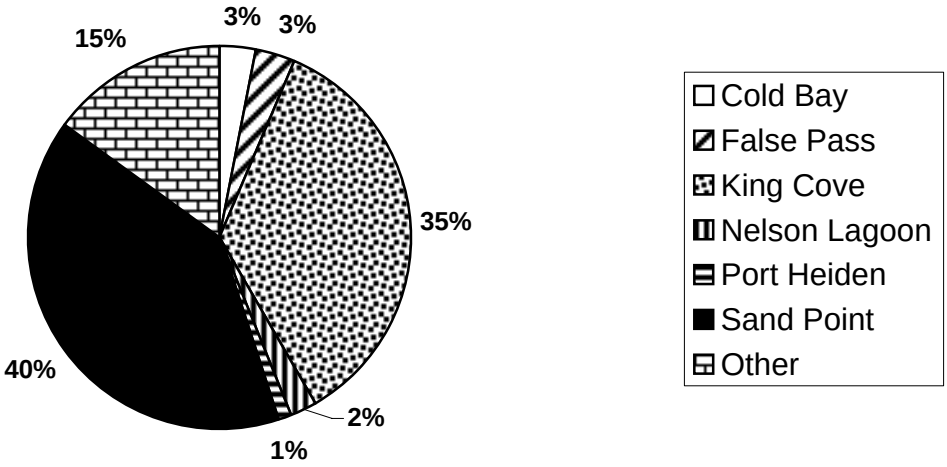
Source: Scott et al. 2001

Figure VIII-1. Composition of Alaska Peninsula Area Subsistence Salmon Harvest by Species, 2001



N = 19,912 salmon; based on annual harvest assessment program with permits.

Figure VIII-2. Subsistence Salmon Harvests by Community, Alaska Peninsula Management Area, 2001



N = 19,912 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 2001

In 2001, 204 subsistence salmon permits were issued for the Unalaska District, in the same range as other recent years (recent five-year average of 210 permits) but notably above the long-term average of 143 permits since 1985. The return rate in 2001 was 80.9 percent (165 of 204 permits) (Table IX-1). Individuals with Unalaska/Dutch Harbor addresses obtained 201 permits (98.5 percent) and other Alaska residents obtained the balance, 3 permits (1.5 percent) (Table IX-2).

The estimated subsistence harvest of salmon in the Unalaska District in 2001 was 5,793 fish. This is third-highest annual harvest on record (after 1986 and 1995), well above the long-term average of 4,489 salmon and also higher than the recent five-year average of 5,252 salmon. The 2001 subsistence harvest was composed of 72.5 percent sockeye, 13.5 percent pink, 12.5 percent coho, 1.3 percent chum and 0.1 percent chinook (Fig. IX-1). Permit holders with Unalaska/Dutch harbor addresses harvested 100 percent of the Unalaska District subsistence catch in 2001 (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 2001

Seventeen subsistence salmon permits were issued for the Adak District in 2001. Fifteen (88.2 percent) were returned. The estimated harvest was 489 sockeye salmon, 18 coho salmon, and 16 pink salmon, and 14 chinook salmon, for a total harvest of 537 fish. This was the highest 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 13 personal use/subsistence permits have been issued and the average annual harvest has been 342 salmon (Table IX-3). In 2001, Adak residents obtained 16 subsistence permits (94.1 percent) and harvested an estimated 479 salmon (89.2 percent) (Table IX-4).

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-5. 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 - 2001

	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
1997-2001 Average	210	162	6	3,626	831	51	738	5,252
1992-2001 Average	183	139	8	3,205	773	52	834	4,872
All Years Average	143	97	5	2,543	669	78	1,194	4,489

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table IX-2. Estimated Subsistence Salmon Harvests, Unalaska District, by Community and Species, 2001

	PERMITS		ESTIMATED SALMON HARVEST					
COMMUNITY	TOTAL	INCLUDED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Anchorage	1	0						0
Atka	1	0						0
Dutch Harbor	100	85	1	1,733	155	0	86	1,975
Kodiak (city)	1	1	0	0	0	0	0	0
Unalaska	101	79	5	2,469	569	77	698	3,818
Totals	204	165	6	4,202	724	77	784	5,793

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table IX-3. Estimated Personal Use and Subsistence Harvests of Salmon, Adak District, 1988 - 2001

Year	Permits[1] Issued	Returned	Estimated Harvest in Number of Salmon Sockeye	Chinook	Coho	Pink	Chum	Total
1988	43	29	503	0	23	150	0	676
1989	64	47	382	0	0	117	0	499
1990	61	29	800	0	47	41	0	888
1991	37	31	281	0	6	34	0	321
1992	52	41	572	0	30	4	0	606
1993	36	26	638	0	12	26	0	676
1994 [2]	0	0	0	0	0	0	0	0
1995	4	3	156	0	0	0	0	156
1996	6	6	91	0	0	0	0	91
1997 [3]	18	12	229	0	0	0	4	233
1998	13	10	399	0	0	25	0	424
1999	5	5	164	0	4	0	0	168
2000	13	13	270	0	4	75	0	349
2001	17	15	489	14	18	16	0	537
Average, 1988 - 1993	49	34	529	0	20	62	0	611
Average, 1997 - 2001	13	11	310	3	5	23	1	342

[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: ADF&G, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.20

Table IX-4. Estimated Subsistence Salmon Harvests, Adak District, by Community and Species, 2001

	PERMITS		ESTIMATED SALMON HARVEST					
COMMUNITY	ISSUED	RETURNED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Adak	16	14	14	433	18	0	14	479
Dutch Harbor	1	1	0	56	0	0	2	58
Totals	17	15	14	489	18	0	16	537

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

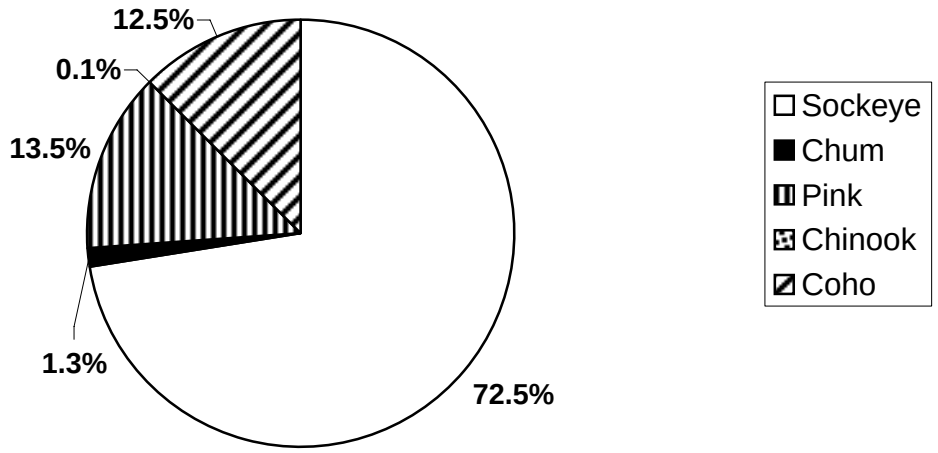
Table IX-5. Estimated Subsistence Harvests of Salmon, Akutan, Atka, and Nikolski

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, 2001



N = 5,793 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.

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 2001

In 2001, subsistence fishers returned 2,153 subsistence permits to the Department (Table X-1). Of all returned permits, 1,861 (86.4 percent) were held by residents of Kodiak Island Borough communities, and 292 (13.6 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 2001 (1,557; 72,3 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 2001 was 41,611 fish (Table X-1). This number is higher than both the recent 5-year average of 35,248 salmon and recent 10-year average of 32,865 salmon. Of the entire management area harvest, 39,441 salmon (94.8 percent) were harvested by residents of Kodiak Island Borough communities, and 2,170 salmon (5.2 percent) were harvested by other Alaska residents (Table X-2).

In 2001, the Kodiak Area subsistence salmon harvest was composed of 81.3 percent sockeye, 14.2 percent coho, 2.8 percent pink, 1.0 percent chum, and 0.7 percent chinook 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 2001 (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, 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. 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.

Table X-1. Historic Subsistence Salmon Harvests, Kodiak Management Area, 1981 - 2001

	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
1997-2001 Average		1,546	335	27,791	5,594	321	1,207	35,248
1992-2001 Average		1,393	287	24,478	6,200	420	1,481	32,865
All Years Average		1,226	220	20,930	6,294	517	1,614	29,575

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table X-2. Reported Subsistence Salmon Harvests, Kodiak Area, by Community and Species, 2001

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	REPORTED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Afognak Island		2	0	103	0	0	0	103
Akhiok		6	5	27	8	0	11	51
Chiniak		28	0	341	268	5	0	614
Karluk		9	0	565	0	0	0	565
Kodiak (city)		1,557	192	23,728	3,106	169	628	27,823
Kodiak USCG Base		74	0	1,246	18	7	75	1,346
Larsen Bay		26	5	759	47	28	2	841
Old Harbor		49	12	690	1,014	88	218	2,022
Ouzinkie		45	6	1,473	563	79	148	2,269
Port Lions		54	27	2,581	667	0	11	3,286
Port William		1	0	0	0	0	0	0
Uganik Bay		10	3	475	34	3	6	521
Subtotal, Kodiak Island Borougn		1,861	250	31,988	5,725	379	1,099	39,441
Anchor Point		3	0	24	0	0	0	24
Anchorage		118	3	779	79	23	16	900
Barrow		1	0	0	0	0	0	0
Bettles		1	0	0	0	0	0	0
Big Lake		3	0	0	0	0	0	0
Chickaloon		1	0	0	0	0	0	0
Chignik Lagoon		1	0	0	0	0	0	0
Chugiak		3	0	13	0	0	0	13
Copper Center		1	0	0	0	0	0	0
Cordova		2	0	0	0	0	0	0
Craig		1	3	18	0	3	0	24
Delta Junction		1	0	0	0	0	0	0
Dutch Harbor		2	0	0	0	0	0	0
Eagle River		9	0	42	19	1	2	64
Elmendorf AFB		2	0	0	0	0	0	0
Fairbanks		22	6	33	27	7	0	73
Fort Wainwright		1	0	0	0	0	0	0
Girdwood		2	0	0	0	0	0	0
Homer		17	0	57	0	0	0	57
Indian		1	0	0	0	0	0	0
Juneau		7	8	48	6	10	0	72
Kasilof		3	0	0	0	0	0	0

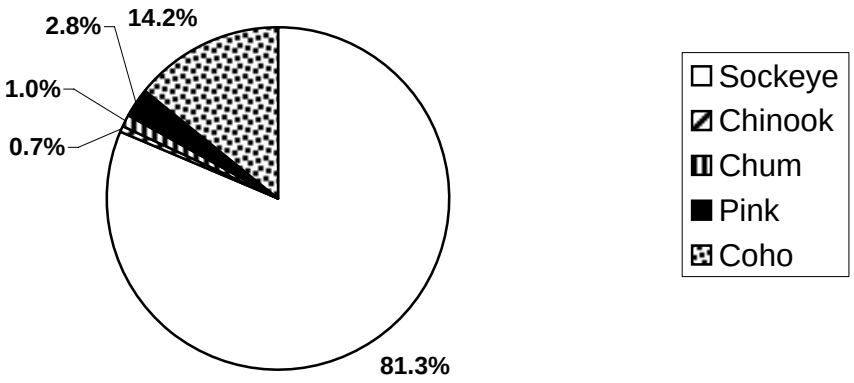
continued

Table X-2. Reported Subsistence Salmon Harvests, Kodiak Area, by Community and Species, 2001

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	REPORTED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Kenai		6	0	0	0	0	0	0
Ketchikan		3	0	0	0	0	0	0
King Salmon		1	0	0	0	0	0	0
Manley Hot Springs		1	0	0	0	0	0	0
Nikiski		1	0	0	0	0	0	0
Ninilchik		1	0	0	0	0	0	0
North Pole		4	0	0	0	0	0	0
Other USA		18	0	100	0	0	0	100
Palmer		20	0	104	0	0	0	104
Seward		4	0	50	0	0	0	50
Sitka		3	0	0	0	0	0	0
Soldotna		12	3	86	0	0	0	89
Sterling		1	0	0	0	0	0	0
Talkeetna		2	0	6	0	4	9	19
Tok		1	0	5	0	0	0	5
Unalaska		1	0	0	0	0	0	0
Unknown Community		1	0	470	64	0	32	566
Valdez		1	0	0	0	0	0	0
Wasilla		9	0	10	0	0	0	10
Subtotal, Other		292	23	1,845	195	48	59	2,170
Totals		2,153	273	33,833	5,920	427	1,158	41,611

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Figure X-1. Composition of Kodiak Area Subsistence Salmon Harvest by Species, 2001



N = 41,611 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. 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 September 30th. There are 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. 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 been bolstered as a result of a rehabilitation/enhancement project initiated by ADF&G and subsequently run by the Chugach Regional Resources Commission (CRRC) and the village of Nanwalek. 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

Due to low smolt out-migrant numbers, the forecast was for no harvestable surplus of sockeye salmon returning to English Bay Lakes in 2001. In 1997, a parasitic outbreak occurred among pen-reared sockeye, resulting in high mortality and low smolt outmigration in 1998. In 1998, a fire at the Port Graham Hatchery killed all the sockeye fry destined for stocking the lakes. As a result, ADF&G announced that in 2001 all returning sockeye would likely be needed to meet escapement goals. The subsistence fishery was closed by emergency order on May 30, the traditional start of the sockeye return. There was also a poor return of pink salmon to the Port Graham River in 2001, also resulting in closures to the subsistence fishery (Hammarstrom and Dickson 2002:59).

In 2001, subsistence salmon harvests in the Port Graham and Koyuktolik subdistricts totaled 4,195 salmon, including both set net and rod and reel harvests. The harvest was down notably from the previous two years, mostly due to the poor sockeye returns and consequent closures. The total subsistence harvest in 2000 was the largest since the monitoring program for this fishery began in 1981 (and 1999 was the second-largest) (Table XI-1). This was due in part to a strong return of sockeye salmon to the English Bay River and a record subsistence harvest of chum salmon. Another factor was likely the very thorough documentation of the 2000 harvest, with most subsistence fishers providing data. This is in contrast to 1997 and 1998, when

subsistence harvests were likely underreported due to incomplete coverage of all fishing households.)

In 2001, residents of Nanwalek, with 34 permits, harvested 3,806 salmon and residents of Port Graham, with 15 permits, took the balance of 389 salmon (Table XI-2). Of the total harvest, pink salmon were the most numerous species (1,454 salmon; 34.7 percent), followed by coho (1,295 salmon; 30.9 percent), sockeye (1,085 salmon; 25.9 percent), chum (228 salmon; 5.4 percent), and chinook (133 salmon; 3.2 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 king 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 2001 Season

There were 19 permits issued in the 2001 early season, and no permits issued in the late season. Sixteen permits were returned to the Department as required by regulation (84.2 percent), and the total harvest was determined from these returns. The total estimated harvest was 149 chinook salmon and 422 sockeyes (Table XI-3). Eighteen permits were issued to residents of Seldovia

and one to a Homer resident. All of the harvest except one chinook salmon was taken by Seldovia permit holders.

The 1998, 1999, 2000, and 2001 early season 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 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 2001 Season

In 2001, 84 subsistence permits were issued for the Tyonek District, including 50 permits issued to Tyonek residents (59.5 percent) and 34 permits issued to other Alaska residents (40.5 percent), mostly residents of Anchorage (19 permits) (Table XI-4). The total reported subsistence salmon harvest was 1,207 fish, with 9,76 chinook, 172 sockeye, 49 coho, 6 chum, and 4 pink. Residents of Tyonek accounted for 78.4 percent of the harvest total (946 salmon), including 82.6 percent of the chinook harvest (806 salmon). The total 2001 harvest was lower than the long-term average for this fishery of 1,643 salmon, but was similar to 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 2001

Sixteen subsistence permits were issued for the Yentna River subsistence fish wheel fishery in 2001. All but one were returned to ADF&G (93.8 percent). In 2001, 10 of the 16 permit holders resided in the Skwentna area, with the remaining six permits held by residents of Anchorage (three permits), Wasilla (one permit), Willow (one permit) and Chugiak (one permit) (Table XI-6). The total harvest in 2001 was 608 salmon, including 545 sockeye (89.6 percent), 50 coho (8.2 percent), 10 pink (1.6 percent), and 4 chum (0.7 percent). (Chinook salmon may not be retained in this fishery.) The 2001 harvest was slightly higher than the five-year average (602 salmon), and also above the long-term average of 577 salmon (Table XI-7).

Table XI-1. Historic Subsistence Salmon Harvests: Port Graham/Koyuktolik Subdistricts, 1981 - 2001

	PERMITS		REPORTED SALMON HARVEST					
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
1997-2001 Average		47	250	1,904	1,064	536	1,211	4,964
1992-2001 Average		59	292	1,557	1,023	433	1,414	4,719
All Years Average		53	199	1,528	1,001	264	1,511	4,501

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XI-2. 2001 Subsistence Salmon Harvests by Community, Port Graham/Koyuktolik Subdistricts

	Permits		Reported Salmon Harvest					
Community	Issued	Returned[1]	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Nanwalek	34		29	909	1,238	196	1,434	3,806
Port Graham	15		104	176	57	32	20	389
Totals	49		133	1,085	1,295	228	1,454	4,195

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

[1] Nanwalek data were provided by at least 34 households. Data were collected by the tribe, but detail on the number of households participating was only provided for each of four fishing periods, not for the entire season. The number used in this table, 34, was the greatest number of households participating in any of the fishing periods.

Table XI-3. Historic Subsistence Salmon Harvests: Seldovia Fishery, 1996 - 2001

	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
1997-2001 Average	20	18	132	122	0	12	0	266
All Years Average	24	22	118	103	0	10	0	232

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XI-4. Tyonek Subdistrict Subsistence Salmon Harvests by Community, 2001

	PERMITS		REPORTED SALMON HARVEST					
COMMUNITY	TOTAL	INCLUDED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Anchorage	19	11	127	40	4	0	0	171
Beluga	4	3	6	20	10	1	2	39
Eagle River	5	5	19	2	0	0	0	21
Palmer	1	1	0	0	0	0	0	0
Sterling	1	1	18	12	0	0	0	30
Tyonek	50	34	806	98	35	5	2	946
Wasilla	4	3	0	0	0	0	0	0
Totals	84	58	976	172	49	6	4	1,207

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XI-5. Historic Subsistence Salmon Harvests: Tyonek Subdistrict, 1980 - 2001

	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
1997-2001 Average	73	52	1,006	129	86	5	9	1,235
1992-2001 Average	69	51	1,043	97	113	11	9	1,274
All Years Average	66	50	1,360	138	122	13	10	1,643

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XI-6. Subsistence Salmon Harvests, Upper Yentna River Fish Wheel Fishery by Community, 2001

	Permits		Estimated Salmon Harvest					
Community	Total	Included	Chinook[1]	Sockeye	Coho	Chum	Pink	Total Salmon
Anchorage	3	3	0	88	7	3	2	100
Chugiak	1	1	0	65	0	0	0	65
Skwentna	10	9	0	309	28	1	7	344
Wasilla	1	1	0	43	10	0	1	54
Willow	1	1	0	40	5	0	0	45
Totals	16	15	0	545	50	4	10	608

[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 3.2.

Table XI-7. Historic Subsistence and Personal Use Salmon Harvests, Upper Yentna River Fish Wheel Fishery, 1996 - 2001[1]

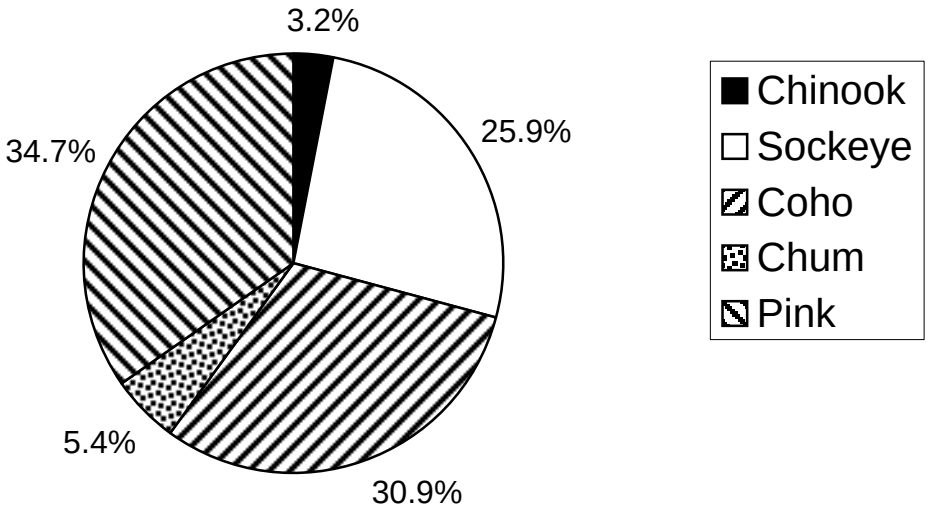
	Permits		Estimated Salmon Harvest					
YEAR	Issued	Returned	Chinook[2]	Sockeye	Coho	Chum	Pink	Total
1996	17	17	0	242	46	51	115	454
1997	24	21	0	549	83	10	30	672
1998	21	18	0	495	113	15	30	653
1999	18	16	0	516	48	13	18	595
2000	19	19	0	379	92	7	4	482
2001	16	15	0	545	50	4	10	608
1997-2001 Average	20	18	0	497	77	10	18	602
All Years Average	19	18	0	454	72	17	34	577

[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 3.2.

Figure XI-1. Composition of Subsistence Salmon Harvest, Port Graham/Koyuktolik Subdistricts, 2001



N = 4,195 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 2001, there were seven subsistence fisheries with annual harvest assessment programs in the Prince William Sound Management Area:

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

Each of these fisheries will be discussed in turn. It should also be noted that the dip net fishery that takes place in the Chitina Subdistrict of the Upper Copper River District 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.

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 under the authority of 5 AAC 01.630. Permits are issued on request

at ADF&G offices in Glennallen and Tok, at the Slana office of the National Park Service, Chistochina Village Council office, and the Copper River Native Association office.

Legal subsistence gear in the Glennallen Subdistrict includes fish wheels and dip nets. The season runs from June 1 through September 30. Annual limits are 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.

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. 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.

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 in 1997, 1999, 2000, and 2001. Harvests for village fish wheels are also included in the subdistrict totals.

Subsistence Salmon Harvests in 2001

As reported in Table XII-2, the estimated total subsistence salmon harvest in the Glennallen Subdistrict in 2001 was 86,601 salmon, including 81,960 sockeye (94.6 percent), 3,480 chinook (4.0 percent), and 1,142 coho (1.3 percent). (There are no pink or chum salmon in the upper Copper River although 20 chum were reported harvested, as shown in Table XII-2.) The estimated subsistence salmon harvest in 2001 was the largest ever recorded for the Glennallen Subdistrict, slightly exceeding the 86,483 salmon estimate for 1997. Of the total harvest in 2001, 76,752 salmon were taken with fish wheels (88.6 percent) and 9,849 salmon with dip nets (11.4 percent) (Table XII-3). Table XII-4 reports subsistence salmon harvests in the Glennallen Subdistrict by place of residence of permit holders in 2001, while Table XII-5 and Table XII-6 shows harvests by community by gear type, fish wheel or dip net, respectively. Copper Basin residents harvested 38.6 percent of the harvest, including 42.4 percent of the fish wheel harvest but only 9.5 percent of the dip net harvest (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. For a detailed discussion of the history of these fisheries, see Simeone and Fall (1996) and ADF&G 2002b.

Regulations

A household permit is required for subsistence fishing in the Chitina Subdistrict, issued by ADF&G. Households may not possess subsistence permits for both the Glennallen and Chitina subdistricts in the same year. 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.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been conducted for Upper Copper River since 1960, currently by the Division of Sport Fish. 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.

Subsistence Salmon Harvests in 2001

As reported in Table XII-7, the estimated total subsistence salmon harvest in the Chitina Subdistrict in 2001 was 142,905 salmon, including 137,047 sockeye (95.9 percent), 3,171 chinook (2.2 percent), and 2,687 coho (1.9 percent). (There are no pink or chum salmon in the upper Copper River.) Table XII-7 reports subsistence salmon harvests in the Chitina Subdistrict by place of residence of permit holders in 2001; most participants in this fishery live in Fairbanks, Anchorage, or the Matanuska-Susitna Borough. As reported in Table XII-8, the 2001 total harvest for the Chitina Subdistrict was above the recent 10-year average of 121,812, but below the record harvest levels of 1997 through 1999, which ranged at around 150,000 salmon.

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 eight years (Table XII-9). In 2001, one permit was issued with a total reported harvest of 62 sockeye salmon. The long-term average harvest for this fishery is 118 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 2001

As reported in Table XII-10, 468 permits were issued for this fishery in 2001, and 439 (93.8 percent) were returned. Both were record numbers for this fishery. The estimated harvest was 4,232 salmon, including 3,275 sockeye (77.4 percent), 881 chinook (20.8 percent), 75 coho (1.8 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 2001 harvest was the second highest on record, exceeded only by the 5,318 salmon harvest in 2000, and almost double the recent 10-year average of 2,229 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 2001, 14 permits were issued for this fishery. Nine permits were returned. Because of the historically low permit return rate for this fishery, data in Table XII-11 are reported harvests only. The reported harvest for 2001 was 416 salmon, mostly coho (230; 55.3 percent) and sockeye (114; 27.4 percent). It is likely that the harvest assessment program for this fishery consistently underestimates harvests. As shown in Table XII-12, household surveys in Tatitlek for 1998 provide an estimate of 830 salmon taken with subsistence methods in 1998, compared to just 105 based on returned permits. 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 2001, 16 permits were issued for this fishery. Nine permits were returned. Because permit return rates for this fishery have been low in the past, data in Table XII-13 are reported harvests only. The reported harvest for 2001 was 454 salmon, consisting of chum (146; 32.2 percent), sockeye (119; 26.2 percent), pink (95; 20.9 percent) coho (92; 20.3 percent), and chinook (2; <0.1 percent). Historically, sockeye have been the most abundant species in this fishery, but only 119 sockeyes were reported for 2001, compared to a long-term average of 252 sockeye salmon. It is likely that the harvest assessment program for this fishery consistently underestimates harvests. As shown in Table XII-14, 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. 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 one year with any reported harvest. In 2001, 5 permits were issued, but none of these permit holders fished (Table XII-15).

OTHER SUBSISTENCE FISHERIES IN THE PRINCE WILLIAM SOUND AREA

In 2001, 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
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. Historic Subsistence Salmon Harvests: Glennallen Subdistrict, 1988 - 2001

	PERMITS		ESTIMATED SALMON HARVEST					
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
1997-2001 Average	1,148	1,084	3,221	73,507	712	5	0	77,445
1992-2001 Average	984	903	2,442	64,240	558	2	0	67,243
All Years Average	841	763	2,018	55,429	460	2	0	57,909

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-3. Subsistence Salmon Harvests, Glennallen Subsidistrict, by Area of Residence and Gear Type, 2001

	Dip Nets				Fishwheels				Either Gear			
	Permits	%	Harvest	%	Permits	%	Harvest	%	Permits	%	Harvest	%
Copper Basin	44	10.8%	934	9.5%	319	38.3%	32,531	100.0%	363	29.3%	33,465	79.0%
Other Alaska	363	89.2%	8,915	90.5%	513	61.7%	0	0.0%	876	70.7%	8,915	21.0%
Total	407	32.8%	9,849	23.2%	832	67.2%	32,531	76.8%	1,239		42,379	

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Fisheries Database, Version 3.20

Table XII-4. 2001 Subsistence Harvests by Community, Glennallen Subdistrict -- All Gear

	Permits		ESTIMATED SALMON HARVEST					
COMMUNITY	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chitina	18	16	93	2,129	116	0	0	2,338
Copper Center	136	130	422	12,209	291	1	0	12,924
Gakona	60	58	263	7,169	126	17	0	7,575
Glennallen	132	129	405	8,471	376	0	0	9,253
Paxson	2	2	7	61	0	0	0	68
Slana	14	14	16	1,237	0	0	0	1,253
Tazlina	1	1	4	50	0	0	0	54
Copper Basin	363	350	1,210	31,327	910	18	0	33,465
Anchor Point	1	1	0	80	0	0	0	80
Anchorage	313	287	797	16,812	97	1	0	17,707
Anderson	1	1	17	268	0	0	0	285
Barrow	3	3	10	149	0	0	0	159
Big Lake	4	4	4	381	0	0	0	385
Cantwell	2	2	0	194	0	0	0	194
Chickaloon	2	2	20	187	0	0	0	207
Chicken	2	2	0	26	0	0	0	26
Chugiak	31	31	76	1,179	5	0	0	1,260
Clear AFB	1	1	1	139	1	0	0	141
Cooper Landing	2	2	6	167	1	0	0	174
Cordova	1	1	15	443	0	0	0	458
Delta Junction	29	26	38	1,599	6	0	0	1,643
Dot Lake	2	2	0	81	0	0	0	81
Eagle River	63	62	234	4,105	1	1	0	4,342
Eielson AFB	2	2	1	2	0	0	0	3
Elmendorf AFB	1	1	0	378	0	0	0	378
Ester	2	2	10	148	0	0	0	158
Fairbanks	89	82	121	2,991	2	0	0	3,113
Fort Richardson	4	3	27	119	2	0	0	148
Fort Wainwright	3	3	0	57	0	0	0	57
Girdwood	7	7	6	145	2	0	0	153
Healy	3	3	2	124	0	0	0	126
Homer	1	1	0	53	0	0	0	53
Houston	2	2	18	229	0	0	0	247
Juneau	2	2	0	9	0	0	0	9
Kenai	1	1	0	41	0	0	0	41
Kodiak (city)	1	1	5	106	0	0	0	111

continued

Table XII-4. Continued

COMMUNITY	Permits Issued	Permits Returned	ESTIMATED SALMON HARVEST Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Nenana	3	3	0	360	1	0	0	361
Ninilchik	1	1	2	42	0	0	0	44
Nome	1	1	0	23	0	0	0	23
North Pole	40	37	89	2,025	47	0	0	2,161
Northway	10	9	3	297	0	0	0	300
Palmer	54	53	172	3,735	36	0	0	3,943
Salcha	6	6	4	142	0	0	0	146
Seward	1	1	1	2	0	0	0	3
Shishmaref	1	1	0	18	0	0	0	18
Soldotna	2	2	6	117	0	0	0	123
Sterling	1	0						0
Sutton	2	2	1	57	0	0	0	58
Talkeetna	2	2	7	288	0	0	0	295
Tanacross	1	1	0	50	0	0	0	50
Tok	56	53	42	3,125	1	0	0	3,168
Valdez	41	41	167	3,798	18	0	0	3,983
Wainwright	1	1	0	0	0	0	0	0
Wasilla	77	74	369	6,342	11	0	0	6,721
Willow	1	1	0	0	0	0	0	0
Other Communities	876	826	2,270	50,632	232	2	0	53,136
Totals	1,239	1,176 0	3,480	81,960	1,142	20	0	86,601

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-5. 2001 Subsistence Salmon Harvests by Community: Glennallen Subdistrict - Fish Wheels

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chitina	13	12	93	2,084	100	0	0	2,277
Copper Center	113	109	403	11,700	291	1	0	12,396
Gakona	58	56	262	7,136	126	17	0	7,541
Glennallen	118	116	403	8,162	376	0	0	8,942
Paxson	2	2	7	61	0	0	0	68
Slana	14	14	16	1,237	0	0	0	1,253
Tazlina	1	1	4	50	0	0	0	54
Copper Basin	319	310	1,188	30,431	894	18	0	32,531
Anchor Point	1	1	0	80	0	0	0	80
Anchorage	143	139	640	11,929	93	1	0	12,662
Anderson	1	1	17	268	0	0	0	285
Barrow	3	3	10	149	0	0	0	159
Big Lake	2	2	3	337	0	0	0	340
Cantwell	1	1	0	183	0	0	0	183
Chickaloon	2	2	20	187	0	0	0	207
Chicken	2	2	0	26	0	0	0	26
Chugiak	20	20	67	1,042	5	0	0	1,114
Clear AFB	1	1	1	139	1	0	0	141
Cooper Landing	2	2	6	167	1	0	0	174
Cordova	1	1	15	443	0	0	0	458
Delta Junction	9	9	26	904	0	0	0	930
Dot Lake	2	2	0	81	0	0	0	81
Eagle River	48	48	229	3,814	1	1	0	4,045
Elmendorf AFB	1	1	0	378	0	0	0	378
Ester	1	1	10	148	0	0	0	158
Fairbanks	36	35	81	2,200	2	0	0	2,283
Fort Richardson	3	3	27	119	2	0	0	148
Healy	3	3	2	124	0	0	0	126
Homer	1	1	0	53	0	0	0	53
Houston	2	2	18	229	0	0	0	247
Juneau	2	2	0	9	0	0	0	9
Kenai	1	1	0	41	0	0	0	41
Kodiak (city)	1	1	5	106	0	0	0	111
Nenana	1	1	0	319	1	0	0	320
Ninilchik	1	1	2	42	0	0	0	44
Nome	1	1	0	23	0	0	0	23
North Pole	14	13	56	1,429	47	0	0	1,532
Northway	10	9	3	297	0	0	0	300
Palmer	39	38	155	3,357	36	0	0	3,548
Soldotna	2	2	6	117	0	0	0	123
Sterling	1	0						
Sutton	1	1	0	30	0	0	0	30

continued

Table XII-5. Continued

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Talkeetna	2	2	7	288	0	0	0	295
Tanacross	1	1	0	50	0	0	0	50
Tok	49	46	42	3,041	1	0	0	3,084
Valdez	37	37	160	3,687	18	0	0	3,865
Wasilla	64	63	356	6,201	11	0	0	6,568
Willow	1	1	0	0	0	0	0	0
Other Communities	513	500	1,964	42,037	219	2	0	44,221
Total	832	810	3,152	72,468	1,113	20	0	76,752

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsisence Fisheries Database, Version 3.20.

Table XII-6. 2000 Subsistence Salmon Harvsts by Community -- Glennallen Subdistrict - Dip Nets

Community	Permits Issued	Permits Returned	Estimated Salmon Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Chitina	5	4	0	45	16	0	0	61
Copper Center	23	21	19	509	0	0	0	528
Gakona	2	2	1	33	0	0	0	34
Glennallen	14	13	2	309	0	0	0	311
Copper Basin	44	40	22	896	16	0	0	934
Anchorage	170	148	157	4,883	5	0	0	5,045
Big Lake	2	2	1	44	0	0	0	45
Cantwell	1	1	0	11	0	0	0	11
Chugiak	11	11	9	137	0	0	0	146
Delta Junction	20	17	12	695	6	0	0	713
Eagle River	15	14	5	291	0	0	0	297
Eielson AFB	2	2	1	2	0	0	0	3
Ester	1	1	0	0	0	0	0	0
Fairbanks	53	47	39	790	0	0	0	830
Fort Richardson	1	0						
Fort Wainwright	3	3	0	57	0	0	0	57
Girdwood	7	7	6	145	2	0	0	153
Nenana	2	2	0	41	0	0	0	41
North Pole	26	24	33	596	0	0	0	628
Palmer	15	15	17	378	0	0	0	395
Salcha	6	6	4	142	0	0	0	146
Seward	1	1	1	2	0	0	0	3
Shishmaref	1	1	0	18	0	0	0	18
Sutton	1	1	1	27	0	0	0	28
Tok	7	7	0	84	0	0	0	84
Valdez	4	4	7	111	0	0	0	118
Wainwright	1	1	0	0	0	0	0	0
Wasilla	13	11	13	141	0	0	0	154
Other Communities	363	326	306	8,596	12	0	0	8,915
All Communities	407	366	328	9,492	29	0	0	9,849

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.20

Table XII-7. 2001 Subsistence Salmon Harvests by Community: Chitina Subdistrict

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Akiachak	1	0						
Anchor Point	1	0						
Anchorage	2,543	2,223	840	35,432	674	0	0	36,945
Anderson	2	2	1	49	0	0	0	50
Auke Bay	1	1	0	15	0	0	0	15
Barrow	12	9	7	233	0	0	0	240
Bethel	1	1	0	15	0	0	0	15
Big Lake	55	49	19	950	17	0	0	986
Cantwell	1	1	1	29	0	0	0	30
Central	6	4	5	104	0	0	0	108
Chickaloon	10	9	4	168	0	0	0	172
Chicken	1	1	0	25	0	0	0	25
Chitina	9	7	0	144	1	0	0	145
Chugiak	188	176	68	2,597	44	0	0	2,709
Clear AFB	5	5	2	109	0	0	0	111
Coldfoot	1	0						
College	1	1	0	30	0	0	0	30
Cooper Landing	1	0						
Copper Center	16	16	1	132	0	0	0	133
Cordova	2	1	0	0	0	0	0	0
Delta Junction	326	298	113	5,225	236	0	0	5,574
Denali Park	13	9	4	181	4	0	0	189
Dot Lake	2	1	2	60	0	0	0	62
Eagle	1	1	0	0	0	0	0	0
Eagle River	467	438	155	6,904	113	0	0	7,171
Eielson AFB	193	169	69	2,753	13	0	0	2,834
Elmendorf AFB	29	25	9	343	23	0	0	376
Ester	62	57	18	863	65	0	0	946
Fairbanks	2,457	2,145	904	37,345	715	0	0	38,964
Fort Richardson	32	23	6	502	0	0	0	508
Fort Wainwright	155	128	62	1,667	15	0	0	1,744
Fort Yukon	3	1	0	69	0	0	0	69
Gakona	1	1	0	19	0	0	0	19
Girdwood	29	26	8	299	0	0	0	307
Glennallen	29	25	8	282	0	0	0	290
Halibut Cove	1	1	0	21	0	0	0	21
Healy	36	35	17	724	0	0	0	742
Holy Cross	2	1	0	60	0	0	0	60

continued

Table XII-7. Continued

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Homer	12	10	7	176	0	0	0	184
Hope	1	1	0	15	0	0	0	15
Houston	13	11	2	119	0	0	0	122
Hughes	1	1	0	0	0	0	0	0
Huslia	1	1	0	0	0	0	0	0
Indian	7	7	2	109	3	0	0	114
Juneau	8	7	8	162	0	0	0	170
Kake	1	1	0	0	0	0	0	0
Kasilof	1	1	0	0	0	0	0	0
Kenai	4	2	2	46	8	0	0	56
Ketchikan	3	1	0	0	0	0	0	0
Kiana	1	0						
Kodiak (city)	1	1	1	29	0	0	0	30
Kotzebue	5	3	2	22	0	0	0	23
Lake Minchumina	1	1	1	14	0	0	0	15
Springs	1	0						
McCarthy	1	1	0	8	0	0	0	8
Mentasta	1	1	0	0	0	0	0	0
Metlakatla	1	1	0	0	0	0	0	0
Minto	2	2	0	32	0	0	0	32
Moose Pass	3	3	0	30	0	0	0	30
Nenana	21	19	9	242	0	0	0	251
Nikiski	4	3	0	1	0	0	0	1
Nikolaevsk	1	1	1	14	0	0	0	15
Ninilchik	6	6	0	95	5	0	0	100
Nome	2	2	2	40	0	0	0	42
Noorvik	1	0						
North Pole	716	633	253	10,810	136	0	0	11,199
Northway	1	1	0	0	0	0	0	0
Palmer	543	491	150	8,072	178	0	0	8,400
Paxson	1	0						
Point Lay	1	1	0	30	0	0	0	30
Salcha	54	46	16	799	1	0	0	817
Seldovia	2	1	0	0	0	0	0	0
Seward	9	8	1	118	0	0	0	119
Sitka	1	1	0	0	0	0	0	0
Slana	1	1	1	29	0	0	0	30
Soldotna	16	15	12	192	0	0	0	204

continued

Table XII-7. Continued

COMMUNITY	PERMITS ISSUED	PERMITS RETURNED	ESTIMATED SALMON HARVEST CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMON
Sterling	2	1	0	0	0	0	0	0
Sutton	36	32	8	442	47	0	0	497
Talkeetna	25	23	9	352	33	0	0	393
Tatitlek	1	0						
Tenakee Springs	1	1	0	0	0	0	0	0
Tetlin	1	1	0	0	0	0	0	0
Tok	24	24	8	470	0	0	0	478
Trapper Creek	6	6	2	20	0	0	0	22
Two Rivers	26	26	8	507	9	0	0	524
Valdez	258	229	47	3,263	25	0	0	3,335
Venetie	1	1	0	29	0	0	0	29
Wainwright	1	1	1	29	0	0	0	30
Ward Cove	1	1	1	9	0	0	0	10
Wasilla	828	743	256	11,965	298	0	0	12,519
Willow	55	50	20	780	9	0	0	809
Other USA	9	6	6	143	0	0	0	149
Community	39	36	12	484	16	0	0	512
Totals	9,458	8,356	3,171	137,047	2,687	0	0	142,905

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-8. 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
1997-2001 Average	9,326	8,862	4,914	135,130	2,192	0	0	142,235
1992-2001 Average	8,195	7,680	4,414	114,867	2,531	0	0	121,812
All Years Average	7,336	6,822	4,082	100,423	2,266	0	0	106,772

[1] This fishery was classified as personal use through 1999; in 2000 and 2001, it was classified as a subsistence fishery.

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-9. Historic Subsitence Salmon Harvests, Batzulnetas Fishery, 1987 - 2001

	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
1997-2001 Average	1	1	0	111	0	0	0	111
1992-2001 Average	1	1	0	174	0	0	0	174
All Years Average	1	1	0	118	0	0	0	118

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-10. Historic Subsistence Salmon Harvests: Copper River District (Copper River Flats), 1965 - 2001

	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
1997-2001 Average	338	317	502	2,256	708	4	1	3,471
1992-2001 Average	233	216	347	1,502	378	2	0	2,229
All Years Average	109	98	140	606	142	1	0	888

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Table XII-11. Historic Subsistence Salmon Harvests, Eastern Prince William Sound, 1988 - 2001[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
1997-2001 Average	12	6	0	141	271	33	27	472
1992-2001 Average	13	4	0	190	246	40	40	516
All Years Average	14	4	1	165	334	56	66	621

[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 3.2.

Table XII-12. 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-13. Historic Subsistence Salmon Harvests, Southwestern Prince William Sound, 1988 - 2001[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
1997-2001 Average	10	9	28	193	87	156	130	593
1992-2001 Average	12	9	15	278	66	125	177	660
All Years Average	11	9	11	252	51	127	199	640

1 Defined as "those waters of the Southwestern District, as described in 5 AAC 24.200, and along the northwestern 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 3.2.

Table XII-14. 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-15. Historic Subsistence Salmon Harvests, General Prince William Sound Area, 1960 - 2001

	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
1997-2001 Average	4	3	0	1	0	0	0	1
1992-2001 Average	5	4	0	14	1	0	0	15
All Years Average	11	7	0	15	43	12	100	170

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

XIII. SOUTHEAST/YAKUTAT REGION[1]

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). 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

[1] This chapter, prepared by Amy Paige, has been substantially expanded from those of the previous annual reports to provide detail about area and community patterns not readily available elsewhere.

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.

The Division of Subsistence first added data from the Alexander database 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, do 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" requirement, 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 2001 – REGIONAL OVERVIEW

In 2001, the estimated subsistence/personal use salmon harvest for Southeast Alaska/Yakutat Region based on permit returns was 68,080 fish (Table XIII-1). This was slightly below the recent five-year and ten-year averages (69,476 and 68,540 respectively). By species, sockeye comprised the biggest share at 55,157 (81.0 percent), followed by 4,230 pink (6.2 percent), 3,968 chum (5.8 percent), 3,266 coho (4.8 percent), and 1,457 chinook (2.1 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 2001 harvests by commercial salmon fishing districts. Table XIII-2 shows the 2001 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 2001 harvest by community.

Table XIII-1. Subsistence and Personal Use Salmon Harvests by District and Species, Southeast/Yakutat Region, 2001

			Permits		Estimated Salmon Harvests					
Code	District	Name	Issued	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total
101	District 1	Ketchikan/Behn Canal	248	282	226	7,213	61	1,290	1,810	10,599
102	District 2	Clarence Strait/East Prince of Wales Island	56	66	0	828	13	94	343	1,278
103	District 3	Inside Waters/West Prince of Wales Island	176	228	3	7,804	76	247	209	8,339
106	District 6	East Sumner Strait/North Clarence Strait	245	274	4	2,997	477	33	122	3,633
107	District 7	East Etolin Island/ Wrangell Island/Ernest Sound	58	60	83	523	3	83	31	724
108	District 8	Stikine River	3	3	0	29	0	0	0	29
109	District 9	South Chatham Strait/ West Frederick Sound	152	160	10	2,216	38	88	79	2,431
111	District 11	Juneau/Taku Inlet/ Stephens Passage	242	287	10	2,900	26	164	256	3,356
112	District 12	Angoon/North Chatham Strait/East Chichagof	71	119	0	2,425	413	86	83	3,007
113	District 13	Sitka.Outer Baranof and Chichagof/Peril Strait	432	461	8	16,478	5	129	562	17,182
114	District 14	Icy Strait/Glacier Bay	21	30	0	367	118	986	58	1,530
115	District 15	Lynn Canal/Chilkat Inlet	286	317	85	6,584	144	755	572	8,140
182	Yakutat Forelands		101	117	504	4,616	1,849	0	104	7,073
183	Yakutat Bay-Troll		29	34	524	178	43	12	2	759
	Totals				1,457	55,157	3,266	3,968	4,230	68,080
					2.1%	81.0%	4.8%	5.8%	6.2%	100.0%

Source: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database Version 3.20

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

	Permits Fished		Estimated Harvest					
	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total
Yakutat Management Area								
Yakutat Subsistence Area	130	151	1,029	4,793	1,892	12	106	7,832
Haines Management Area								
Haines-Klukwan Subsistence Area - District 15	286	317	85	6,584	144	755	572	8,140
Juneau Management Area								
Angoon Subsistence Salmon Fisheries - District 12 Plus Portion District 13 - Sitkoh Bay	87	139	0	2,790	413	133	268	3,604
Hoonah Subsistence Area - District 14 Plus Portion District 13 -Surge Bay & Hoktaheen Cove	67	90	2	1,588	118	989	79	2,777
Juneau Personal Use Area - District 11	242	287	10	2,900	26	164	256	3,356
Sitka Management Area								
Sitka Subsistence Area - District 13 Except Surge Bay & Hoktaheen	370	380	6	14,893	5	79	355	15,338
Petersburg/Wrangell Management Area								
Kake Subsistence Area - District 9	152	160	10	2,216	38	88	79	2,431
Petersburg Subsistence/Personal Use Area - Portion District 6 - Sumner Strait/Pt Baker/Macnamara	97	99	4	978	477	33	122	1,614
Wrangell Subsistence/Personal Use Area - District 7 & 8	61	63	83	552	3	83	31	753
Ketchikan Management Area								
Craig/Klawock/Hydaburg Subsistence Area - District 3	176	228	3	7,804	76	247	209	8,339
Kasaan Subsistence Area & Eastern Prince of Wales Personal Use Area - District 2 Plus Portion District 6 - Steamer Bay/Kindergarten/Quiet Harbor)	204	241	0	2,846	13	94	343	3,297
Ketchikan Personal Use Area - District 1	248	282	226	7,213	61	1,290	1,810	10,599
Totals			1,458	55,157	3,267	3,968	4,230	68,080

Source: ADF&G Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2

Table XIII-3. 2001 Subsistence and Personal Use Salmon Harvest by Community:Southeast Alaska/Yakutat Region

	Permits		Estimated Salmon Harvest					
COMMUNITY	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Angoon	117	59	2	2,225	412	65	125	2,830
Auke Bay	30	24	0	119	0	0	0	119
Coffman Cove	31	25	0	280	0	0	0	280
Craig	259	209	0	3,434	57	166	366	4,023
Douglas	56	52	3	395	4	0	28	431
Edna Bay	3	3	0	0	0	0	0	0
Elfin Cove	5	5	2	16	0	1	2	21
Gustavus	13	11	0	151	0	30	22	203
Haines	325	291	82	6,045	135	493	554	7,309
Hollis	2	1	0	0	0	0	0	0
Hoonah	151	100	0	1,200	148	1,130	70	2,548
Hydaburg	44	24	0	937	4	18	0	959
Juneau	661	558	20	3,822	72	230	379	4,523
Kake	191	183	8	2,126	21	88	75	2,318
Kasaan	2	2	0	15	0	25	50	90
Ketchikan	473	411	220	7,967	61	1,144	1,590	10,982
Klawock	158	124	3	3,716	16	132	98	3,965
Metlakatla	10	10	0	101	0	0	0	101
Pelican	10	9	0	107	0	1	0	108
Petersburg	135	134	6	836	422	34	117	1,416
Point Baker	2	2	0	7	0	0	0	7
Port Alexander	1	1	0	20	0	0	0	20
Port Protection	1	1	0	0	0	0	0	0
Saxman	1	1	0	0	0	0	0	0
Sitka	519	504	6	14,861	5	85	358	15,316
Skagway	12	12	0	80	0	67	11	158
Tenakee Springs	7	6	0	17	1	1	0	19
Thorne Bay	71	67	0	652	8	0	7	668
Ward Cove	47	44	5	707	2	156	234	1,105
Whale Pass	2	2	0	0	0	0	0	0
Wrangell	111	107	83	706	3	83	37	913
Yakutat	117	100	1,013	4,311	1,832	12	104	7,273
Other Alaska Communities								
Anchorage	14	12	0	140	1	4	0	145
Big Lake	1	1	0	0	15	0	2	17
Cordova	1	1	0	0	0	0	0	0
Eagle River	1	1	0	0	0	0	0	0
Fairbanks	5	5	0	59	0	1	1	61
Iliamna	1	1	0	2	0	1	0	3
Kasilof	1	1	3	12	0	0	0	15
Kodiak (city)	4	4	0	0	0	0	0	0
Kotzebue	1	1	0	0	0	0	0	0
Palmer	3	2	0	50	45	0	0	95
Soldotna	1	0						
Tok	1	1	0	40	0	0	0	40
Valdez	3	3	0	0	0	0	0	0
Wasilla	1	1	0	0	0	0	0	0
Totals	3,605	3,116	1,457	55,157	3,266	3,968	4,230	68,080

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

Since 1997 the number of salmon permits issued for Southeast Alaska/Yakutat Region has averaged 4,034 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 2001 3,605 permits were issued and 3,116 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

	Permits		Estimated Salmon Harvest					
YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
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
1997-2001 Average	4,034	3,432	1,214	57,195	2,663	4,779	3,624	69,476
1992-2001 Average	4,057	2,873	1,039	56,676	3,217	4,282	3,326	68,540
All Years Average	4,057	2,251	702	44,767	2,164	3,842	2,819	54,294

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.2.

YAKUTAT MANAGEMENT AREA: YAKUTAT SUBSISTENCE SALMON FISHERY

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.

In 2000 the population of the City of Yakutat was 680 in 261 households.[2] 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 2001 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 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 2001 was 7,832 salmon, including 4,793 sockeye (61.2 percent), 1,029 chinook (13.1 percent), 1,892 coho (24.2 percent), 106 pink (1.4 percent), and 12

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

chum (.15 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 Area Subsistence Salmon Permit Estimated Harvest, by Community 2001

YEAR	Community	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Percent of Total
2001	Yakutat	114	133	1,013	4,311	1,832	12	104	7,273	92.9%
2001	Juneau	8	9	12	313	0	0	0	325	4.2%
2001	Sitka	2	2	0	43	0	0	0	43	0.5%
2001	Other Alaska Places	6	7	3	126	60	0	2	191	2.4%
		130	151	1,029	4,793	1,892	12	106	7,832	100.0%
	Percent of Total			13.1%	61.2%	24.2%	0.1%	1.4%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-6. Yakutat Subsistence Salmon Permit Estimated Harvest by Location, Community of Yakutat 2001

	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2001	**Yakutat Forelands**	**86**	**101**	**489**	**4,134**	**1,804**	**0**	**104**	**6,531**
2001	East Alsek River	1	1	9	46	55	0	0	110
2001	Alsek River	3	4	22	56	53	0	0	131
2001	Akwe River	2	2	4	63	44	0	0	111
2001	Italio River	1	1	0	2	22	0	0	25
2001	Dangerous River	1	1	0	82	0	0	0	82
2001	Situk RIver	72	84	454	3,884	1,423	0	104	5,865
2001	Ahrnklin River	2	2	0	0	105	0	0	105
2001	Lost River	1	1	0	0	35	0	0	35
2001	Tawah Creek	2	2	0	0	64	0	0	64
2001	Ophir Creek	1	1	0	0	2	0	0	2
2001	**Yakutat Bay-Troll**	**28**	**33**	**524**	**178**	**28**	**12**	**0**	**742**
2001	Yakutat Bay-Setnet	26	30	456	158	28	12	0	654
2001	Ankau Creek	2	2	68	20	0	0	0	88
				1,013	**4,311**	**1,832**	**12**	**104**	**7,273**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

In 2001, 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 89.6 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).

Except chum salmon, the numbers of salmon harvested by Yakutat residents in 2001, as reported on the permits, are above the five- ten- and all- year averages. But the numbers of sockeye and coho are below the highs recorded for those species in 1992-94 (Table XIII-7).

Table XIII-7. Yakutat Community Historic Subsistence Salmon Harvests, 1985-2001

		Permits**		Estimated Harvest***					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Yakutat	1989		79	358	3,333	865	50	221	4,827
Yakutat	1990		66	358	3,120	731	2	35	4,246
Yakutat	1991		19	41	740	168	0	1	950
Yakutat	1992		96	525	4,873	3,453	1	36	8,888
Yakutat	1993		95	431	4,881	2,143	1	6	7,462
Yakutat	1994		92	663	4,286	1,912	90	32	6,983
Yakutat	1995		85	1,043	3,215	1,874	21	45	6,198
Yakutat	1996	105	97	961	3,676	1,425	32	93	6,187
Yakutat	1997	108	103	614	3,067	1,361	6	87	5,136
Yakutat	1998	118	117	807	3,434	1,523	0	196	5,960
Yakutat	1999	102	99	884	3,548	967	0	110	5,510
Yakutat	2000	114	108	930	3,784	1,176	29	157	6,076
Yakutat	2001	117	100	1,013	4,311	1,832	12	104	7,273
1997-2001 Average				850	3,629	1,372	9	131	5,991
1992-2001 Average				787	3,908	1,767	19	87	6,567
All Years Average				664	3,559	1,495	19	86	5,823

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

HAINES MANAGEMENT AREA: HAINES AND KLUKWAN SUBSISTENCE SALMON FISHERIES: 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)).

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 (Scott et al. 2001). Today the populations of Haines and Skagway are predominantly non-Alaska Native, while Klukwan continues to have a predominantly Alaska Native population.

** Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

*** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

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, completion of the catch calendar for each day fished, specifying location, species, and gear.

In 2001 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-8 the estimated salmon harvest in the Chilkat River, Chilkoot and Lutak inlet subsistence fisheries in 2001 was 8,140 salmon, including 6,584 sockeye (80.9 percent), 85 chinook (1.0 percent), 144 coho (1.8 percent), 572 pink (7.0 percent, and 755 chum (9.3 percent). Most permits were issued to Haines residents, and Haines residents harvested most of the salmon

reported (89.5 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.

Table XIII-8. Haines Area Subsistence Salmon Permit Estimated Harvest, by Community 2001

		Permits Fished		Estimated Harvest						Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Total
2001	Haines	257	286	82	6,021	135	493	554	7,285	89.5%
2001	Juneau	18	20	2	436	8	179	7	632	7.7%
2001	Ketchikan	1	1	0	48	0	12	1	61	0.7%
2001	Skagway	5	5	0	10	0	65	11	86	1.1%
2001	Tenakee Springs	1	1	0	5	1	1	0	7	0.1%
2001	Other Alaska Places	4	4	0	64	0	5	0	69	0.8%
		286	317	85	6,584	144	755	572	8,140	100.0%
	Percent of Total			1.0%	80.9%	1.8%	9.3%	7.0%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

In 2001 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 and Lutak Inlet supplying most of the remaining numbers of salmon harvested that year (Table XIII-9).

The Haines Management Area Office has been fairly successful in getting Haines and Klukwan permittees to return their permits with harvest calendar completed. The overall estimated numbers of salmon harvested by residents of Haines and Klukwan in 2001, based on the permits returned, are just over the 5-year average, and the average since 1985, when records of subsistence salmon harvests in the Haines fishing districts have been included in the database. But they are lower than the 10-year average, and the average since 1985. Numbers of chinook, however, were the highest recorded since 1988 (Table XIII-10).

JUNEAU MANAGEMENT AREA: ANGOON SUBSISTENCE SALMON FISHERIES: SITKOH BAY, BASKET BAY, KOOTZNAHOO INLET, KANALKU BAY, MITCHELL BAY

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.

Table XIII-9. Haines Subsistence Salmon Permit Estimated Harvests by Location, 2001

YEAR	Fishing Location	Permits Fished		Estimated Harvest					Total
		Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 11**	**1**	**1**	**0**	**24**	**0**	**0**	**0**	**24**
2001	Sweetheart Creek	1	1	0	24	0	0	0	24
2001	**District 15**	**257**	**286**	**82**	**6,021**	**135**	**493**	**554**	**7,285**
2001	Chilkat Inlet	179	199	70	4,413	131	466	281	5,361
2001	Lutak Inlet	61	68	10	1,343	3	27	209	1,593
2001	Chilkoot Inlet	17	19	2	265	0	1	63	332
	All Districts Total			**82**	**6,045**	**135**	**493**	**554**	**7,309**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-10. Haines Community Historic Subsistence Salmon Harvests, 1985-2001

Community	YEAR	Permits*		Estimated Harvest**					
		Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Haines	1985		147	19	3,119	12	446	206	3,802
Haines	1986		199	28	3,940	26	355	52	4,401
Haines	1987		217	34	3,912	5	645	160	4,756
Haines	1988		186	93	3,845	37	1,116	444	5,535
Haines	1989		226	12	5,205	52	520	680	6,469
Haines	1990		203	62	6,520	103	584	854	8,123
Haines	1991		291	54	8,318	90	592	99	9,153
Haines	1992		281	21	8,273	220	823	836	10,173
Haines	1993		283	43	7,498	210	524	160	8,435
Haines	1994		267	56	6,067	189	584	1,263	8,159
Haines	1995		242	59	5,884	321	902	352	7,518
Haines	1996	461	446	68	7,908	203	751	350	9,281
Haines	1997	517	491	31	5,668	140	750	872	7,460
Haines	1998	305	256	57	5,759	194	678	656	7,345
Haines	1999	321	288	57	5,676	130	969	702	7,535
Haines	2000	302	273	53	5,151	244	853	432	6,732
Haines	2001	325	291	82	6,045	135	493	554	7,309
1997 - 2001 Average				56	5,660	169	749	643	7,276
1992 - 2001 Average				53	6,393	199	733	618	7,995
All Years Average				49	5,811	136	681	510	7,187

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

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.[3] 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 2001 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-11 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 2001 was 3,604 salmon, including 2,790 sockeye (77.4 percent), 413 coho (11.5 percent), 126 chum (3.7 percent) and 268 pink (7.5 percent). Most permits were issued to Angoon residents, and Angoon residents harvest most of the salmon reported (77.1 percent). In 2001 a substantial number of permits were issued to fishers from Juneau. In 2001 most of the subsistence salmon harvests reported on the permits fished by Angoon residents occurred in the waters of Kanalku Bay and Lake, with important quantities also coming from Sitkoh Lake Creek, across Chatham Strait (Table XIII-12).

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

Table XIII-11. Angoon Area Subsistence Salmon Permit Fisheries Estimated Harvest by Community (District 12* and Sitkoh Bay - District 13), by Community 2001

		Permits Fished		Estimated Harvest						Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Total
2001	Angoon	45	89	0	2,205	383	65	125	2,778	77.1%
2001	Juneau	20	24	0	334	0	12	124	470	13.0%
2001	Gustavus	1	1	0	17	0	0	0	17	0.5%
2001	Hoonah	4	6	0	23	30	48	15	117	3.2%
2001	Sitka	11	12	0	176	0	6	3	186	5.2%
2001	Tenakee Springs	4	5	0	12	0	0	0	12	0.3%
2001	Fairbanks	2	2	0	23	0	1	1	25	0.7%
		87	139	0	2,790	413	133	268	3,604	100.0%
	Percent of Total			0.0%	77.4%	11.5%	3.7%	7.5%	100.0%	

* Includes Kook Lake Outlet (Basket Bay), Tenakee Springs, Freshwater Bay, Hasselborg River, Kanalku and Chiak Bays.

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-12. Angoon Estimated Subsistence Salmon Harvests by Location, 2001

		Permits Fished		Estimated Harvest					
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2001	**District 9**	**1**	**2**	**0**	**0**	**30**	**0**	**0**	**30**
2001	Salt Chuck-Security	1	2	0	0	30	0	0	30
2001	**District 11**	**1**	**2**	**2**	**20**	**0**	**0**	**0**	**22**
2001	Taku River	1	2	2	20	0	0	0	22
2001	**District 12**	**42**	**83**	**0**	**2,043**	**383**	**38**	**67**	**2,530**
2001	Kook Lake Outlet	3	6	0	89	59	0	0	149
2001	Hasselborg River	5	10	0	79	135	0	0	214
2001	Kanalku Bay	32	63	0	1,725	188	38	67	2,019
2001	Kanalku Lake Creek	1	2	0	50	0	0	0	50
2001	Chaik Bay Creek	1	2	0	99	0	0	0	99
2001	**District 13**	**3**	**6**	**0**	**163**	**0**	**28**	**58**	**248**
2001	Sitkoh Lake Creek	3	6	0	163	0	28	58	248
	All Districts Total			**2**	**2,225**	**412**	**65**	**125**	**2,830**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

The overall numbers of salmon harvested by residents of Angoon in 2001, as estimated based on amounts reported on the permits, are above the five year and ten year averages, and well above the average since 1985, when records of subsistence salmon harvests in the Angoon fishing areas have been included in the database. Sockeye reported in 2001 are just above the over all average since 1985, but lower than the 5 and 10-year averages. Coho harvests reported on the 2001 permits returned are well below the 5, 10 and all-year averages, pinks and chums in 2001 were above the averages. Angoon fishers are not reporting chinooks on their returned permits (Table XIII-13).

Table XIII-13 Angoon Community Historic Subsistence Salmon Harvests, 1985-2001

		Permits*		Estimated Harvest**					
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Angoon	1985		57	0	732	300	140	250	1,422
Angoon	1986		62	0	1,057	250	470	0	1,777
Angoon	1987		22	0	646	105	50	85	886
Angoon	1988		12	0	226	12	53	75	366
Angoon	1989		17	1	429	100	1	57	588
Angoon	1990		38	0	1,032	124	29	75	1,260
Angoon	1991		26	0	696	175	24	75	970
Angoon	1992		23	0	769	160	0	50	979
Angoon	1993		39	0	901	425	1	0	1,327
Angoon	1994		45	0	1,300	223	103	90	1,716
Angoon	1995		40	0	936	243	64	115	1,358
Angoon	1996	120	61	0	2,793	694	188	393	4,068
Angoon	1997	99	63	0	2,349	687	204	289	3,529
Angoon	1998	135	77	0	2,725	643	88	175	3,631
Angoon	1999	110	82	0	2,180	392	4	43	2,619
Angoon	2000	115	72	0	2,158	236	80	31	2,505
Angoon	2001	117	59	2	2,225	412	65	125	2,830
1997 – 2001 Average				0	2,327	474	88	133	3,023
1992 – 2001 Average				0	1,834	412	80	131	2,456
All Years Average				0	1,362	305	92	113	1,872

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

HOONAH SUBSISTENCE SALMON FISHERIES: SURGE BAY, HOKTAHEEN COVE, BERG BAY, NEVA CREEK, EXCURSION INLET

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.

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

A 2001 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 20 fish, for Neva Creek the limit was just 10 fish annually per individual or household. 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 was 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, 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-14 the estimated salmon harvest in the Hoonah area subsistence fisheries in 2001 was 2,777 salmon, including 1,588 sockeye (57.2 percent), 118 coho (4.3 percent), 989 chum (35.6 percent) and 79 pink (2.9 percent). Most permits were issued to Hoonah residents, and Hoonah residents harvest most of the salmon reported (81.0 percent). In 2001 a substantial number of permits were issued to fishers from Juneau. In 2001 most of the subsistence salmon harvests reported on the permits fished by Hoonah residents occurred in the waters of Excursion Inlet and Neva Creek, and Hoktaheen Cove. Hoktaheen Cove was the principal source of Hoonah's sockeye salmon in 2001(Table XIII-15).

In 2001 Hoonah fishers also reported harvesting salmon for subsistence from some locations outside their traditional use area – Admiralty Creek, Bear Creek, Kook Lake, Pavlof River and Kanalku Bay.

The overall numbers of salmon harvested by residents of Hoonah in 2001, as estimated from amounts reported on the permits, are below the five year and ten year averages, but just over the average since 1985, when records of subsistence salmon harvests in the Hoonah fishing areas have been included in the database. Sockeye reported in 2001 are just over the 10-year and all-year average since 1985, but lower than the 5-year average. Coho harvests estimated from the

amounts reported on the 2001 permits returned are above the 5, 10 and all-year averages, pinks and chums in 2001 were below the averages. Hoonah fishers are not reporting chinook on their returned permits (Table XIII-16).

Table XIII-14. Hoonah Area Subsistence Salmon Permit Estimated Harvest (Dist. 14* & Portion Dist. 13), by Community 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Hoonah	39	59	0	1,147	118	930	55	2,250	81.0%
2001	Juneau**	15	17	0	243	0	27	18	289	10.4%
2001	Elfin Cove	2	2	2	16	0	1	2	21	0.8%
2001	Gustavus	8	9	0	135	0	30	5	169	6.1%
2001	Pelican	3	3	0	47	0	1	0	48	1.7%
		67	90	2	1,588	118	989	79	2,777	100.0%
	Percent of Total			0.1%	57.2%	4.3%	35.6%	2.9%	100.0%	

* District 13 includes Surge Bay, and Hoktaheen Cove; District 14 includes Whitestone East Side, Spasski Creek, Gartina Creek, Game Creek, Neka Bay and River, Humpback Creek, Dundas River, Berg River, Excursion River and Neva Creek

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-15. Hoonah Community Subsistence Salmon Permit Estimated Harvests by Location 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 11**	**2**	**3**	**0**	**30**	**0**	**152**	**0**	**182**
2001	Admiralty Creek	1	2	0	30	0	0	0	30
2001	Bear Ck Stephens Pas	1	2	0	0	0	152	0	152
2001	**District 12**	**4**	**6**	**0**	**23**	**30**	**48**	**15**	**117**
2001	Kook Lake Outlet	2	3	0	23	30	0	0	53
2001	Pavlof River	1	2	0	0	0	23	15	38
2001	Kanalku Bay	1	2	0	0	0	26	0	26
2001	**District 13**	**24**	**36**	**0**	**853**	**0**	**0**	**17**	**870**
2001	Surge Bay	2	3	0	76	0	0	0	76
2001	Hokatheen Cove	22	33	0	777	0	0	17	794
2001	**District 14**	**15**	**23**	**0**	**294**	**118**	**930**	**38**	**1,380**
2001	Whitestone East Side	1	2	0	0	0	15	0	15
2001	Spasski Creek	3	5	0	9	36	3	5	53
2001	Gartina Creek	1	2	0	0	36	0	0	36
2001	Game Creek	1	2	0	0	0	3	3	6
2001	Humpback Creek	1	2	0	0	0	0	30	30
2001	Dundas River	1	2	0	61	0	0	0	61
2001	Excursion River	1	2	0	0	0	909	0	909
2001	Neva Creek	6	9	0	224	45	0	0	270
	All Districts Total			**0**	**1,200**	**148**	**1,130**	**70**	**2,548**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII- 16. Historic Subsistence Salmon Harvests: Hoonah 1985-2001

		Permits*		Estimated Harvest**					
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Hoonah	1985		9	0	12	13	965	18	1,008
Hoonah	1986		48	0	352	0	765	113	1,230
Hoonah	1987		22	0	242	0	1,391	299	1,932
Hoonah	1988		12	0	87	0	280	32	399
Hoonah	1989		26	0	526	2	1,284	115	1,927
Hoonah	1990		26	0	299	4	1,590	602	2,495
Hoonah	1991		21	0	365	4	525	77	971
Hoonah	1992		30	0	624	91	451	258	1,424
Hoonah	1993		30	0	386	29	125	253	793
Hoonah	1994		36	0	750	103	973	340	2,166
Hoonah	1995		37	0	825	115	84	161	1,185
Hoonah	1996	164	91	0	1,800	47	1,622	99	3,568
Hoonah	1997	149	111	0	2,065	109	1,758	133	4,065
Hoonah	1998	150	96	0	1,427	33	2,289	50	3,798
Hoonah	1999	166	113	0	1,008	47	2,597	219	3,871
Hoonah	2000	117	74	0	1,156	19	166	142	1,483
Hoonah	2001	150	99	0	1,200	148	1,130	70	2,548
1997 - 2001 Average				0	1,371	71	1,588	123	3,153
1992 - 2001 Average				0	1,124	74	1,120	172	2,490
All Years Average				0	772	45	1,059	175	2,051

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

JUNEAU MANAGEMENT AREA : ELFIN COVE, GUSTAVUS, PELICAN, TENAKEE SPRINGS: SUBISTENCE AND PERSONAL USE FISHING

Elfin Cove, Gustavus, Pelican, and Tenakee Springs residents also fished for salmon for home use in Districts 12, 13 and 14 waters traditionally used by Angoon and Hoonah. Tables XIII-17 through Table XIII-20 show harvest estimates for these four communities for 2001. 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 2001 Gustavus fishers harvested salmon for home use from Tenakee Creek in District 12, Surge Bay and Hoktaheen Cove in District 13, and Neka, Berg and Excursion Rivers in District 14.

Tables XIII-21 through Table XIII-24 show the historic harvest record for these four communities. Data for Elfin Cove starts in 1993. Amounts reported on the permits remain modest. Likely Elfin Cove households have relied on salmon taken from their commercial harvests to provide for their personal needs. Elfin Cove has experienced a decline in population in the past decade, reflecting downturn in commercial fishing (Table XIII-21).

Table XIII-17 Elfin Cove Community Subsistence Salmon Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 13**	**2**	**2**	**2**	**16**	**0**	**1**	**2**	**21**
2001	Surge Bay	1	1	0	7	0	0	0	7
2001	Hokatheen Cove	1	1	2	9	0	1	2	14
	All Districts Total			**2**	**16**	**0**	**1**	**2**	**21**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-18. Gustavus Community Subsistence Salmon Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 3**	**1**	**1**	**0**	**0**	**0**	**0**	**18**	**18**
2001	Deweyville	1	1	0	0	0	0	18	18
2001	**District 12**	**1**	**1**	**0**	**17**	**0**	**0**	**0**	**17**
2001	Tenakee Creek	1	1	0	17	0	0	0	17
2001	**District 13**	**4**	**5**	**0**	**84**	**0**	**1**	**2**	**87**
2001	Surge Bay	3	4	0	60	0	1	2	64
2001	Hoktaheen Cove	1	1	0	24	0	0	0	24
2001	**District 14**	**4**	**5**	**0**	**51**	**0**	**28**	**2**	**82**
2001	Neka River	1	1	0	4	0	0	2	6
2001	Berg River	2	2	0	47	0	0	0	47
2001	Excursion River	1	1	0	0	0	28	0	28
	All Districts Total			**0**	**151**	**0**	**30**	**22**	**203**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-19. Pelican Community Subsistence Salmon Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2001	**District 13**	**7**	**7**	**0**	**107**	**0**	**1**	**0**	**108**
2001	Takanis Bay	4	4	0	60	0	0	0	60
2001	Hoktaheen Cove	3	3	0	47	0	1	0	48
	All Districts Total			**0**	**107**	**0**	**1**	**0**	**108**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-20. Tenakee Springs Community Subsistence Salmon Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 12**	**4**	**5**	**0**	**12**	**0**	**0**	**0**	**12**
2001	Kook Lake Outlet	3	4	0	6	0	0	0	6
2001	Kook Creek (Inlet)	1	1	0	6	0	0	0	6
2001	**District 15**	**1**	**1**	**0**	**5**	**1**	**1**	**0**	**7**
2001	Chilkat Inlet	1	1	0	5	1	1	0	7
	All Districts Total			**0**	**17**	**1**	**1**	**0**	**19**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-21. Historic Subsistence Salmon Harvests: Elfin Cove 1993-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Elfin Cove	1993		1	0	25	0	0	0	25
Elfin Cove	1994		4	0	57	0	0	0	57
Elfin Cove	1995		1	0	12	6	0	20	38
Elfin Cove	1996	3	3	0	9	0	0	0	9
Elfin Cove	1997	3	3	0	0	0	0	0	0
Elfin Cove	1998	3	2	0	18	1	0	0	19
Elfin Cove	1999	2	2	0	0	0	0	0	0
Elfin Cove	2000	4	4	0	21	2	4	0	27
Elfin Cove	2001	5	5	2	16	0	1	2	21
1997 - 2001 Average				0	11	1	1	0	13
1993 - 2001 Average				0	18	1	1	2	22
All Years Average				0	18	1	1	2	22

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

The historic salmon harvest record for Gustavus starts in 1994. Harvests have grown unevenly over the past eight years, reaching a high of 203 in 2001 (Table XIII-22).

Table XIII-22. Historic Subsistence Salmon Harvests: Gustavus 1994-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Gustavus	1994		2	0	21	1	0	3	25
Gustavus	1995		1	0	2	0	1	21	24
Gustavus	1996	11	8	0	80	4	4	1	89
Gustavus	1997	11	7	0	70	0	7	25	102
Gustavus	1998	14	13	1	83	1	0	46	131
Gustavus	1999	14	13	0	57	0	8	17	82
Gustavus	2000	7	6	0	69	0	9	2	81
Gustavus	2001	13	11	0	151	0	30	22	203
1997 - 2001 Average				0	86	0	11	23	120
1994 - 2001 Average				0	67	1	7	17	92
All Years Average				0	67	1	7	17	92

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

The historic salmon harvest record for Pelican starts in 1985, with harvests in some years missing. In the 1990s subsistence salmon harvests increased steadily through 1998, following by decline to less than half the all-years average. This may reflect a decline in population similar to Elfin Cove (Table XIII-23).

Table XIII-23. Historic Subsistence Salmon Harvests: Pelican 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Pelican	1985		1	0	10	0	0	0	10
Pelican	1986								
Pelican	1987		2	0	0	0	38	11	49
Pelican	1988		1	0	20	2	0	0	22
Pelican	1989								
Pelican	1990		3	0	62	0	0	5	67
Pelican	1991		7	0	389	0	0	3	392
Pelican	1993		7	0	245	0	13	20	278
Pelican	1994		6	0	238	3	3	0	244
Pelican	1995		10	0	293	2	3	0	298
Pelican	1996	14	10	0	239	0	0	0	239
Pelican	1997	21	17	0	207	0	0	3	209
Pelican	1998	14	10	0	313	0	0	0	313
Pelican	1999	17	16	0	284	0	0	0	284
Pelican	2000	10	8	0	170	0	2	74	246
Pelican	2001	10	9	0	107	0	1	0	108
1997 - 2001 Average				0	216	0	1	15	232
1993 - 2001 Average				0	233	1	2	11	247
All Years Average				0	206	1	4	8	219

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Historic salmon harvest data for Tenakee Springs starts in 1985. The amounts reported during the 1990s have remained well below the all-years average, and the amounts reported in the 1980s (Table XIII-24).

Table XIII-24. Historic Subsistence Salmon Harvests: Tenakee Springs 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Tenakee Springs	1985		11	0	57	0	38	77	172
Tenakee Springs	1986		11	0	127	0	1	1	129
Tenakee Springs	1987		13	0	230	0	0	4	234
Tenakee Springs	1988		1	0	2	0	1	1	4
Tenakee Springs	1989		8	0	87	4	22	66	179
Tenakee Springs	1990		2	0	42	0	1	0	43
Tenakee Springs	1991		1	1	8	0	0	0	9
Tenakee Springs	1992		1	0	0	0	1	1	2
Tenakee Springs	1993		5	0	27	0	5	1	33
Tenakee Springs	1994		1	0	0	0	1	0	1
Tenakee Springs	1995								
Tenakee Springs	1996	7	6	0	16	2	6	2	27
Tenakee Springs	1997	10	9	0	36	2	0	0	39
Tenakee Springs	1998	3	2	0	25	0	0	0	25
Tenakee Springs	1999	3	3	0	0	0	0	0	0
Tenakee Springs	2000	5	5	0	11	0	0	0	11
Tenakee Springs	2001	7	6	0	17	1	1	0	19
1997 - 2001 Average				0	18	1	0	0	19
1993 - 2001 Average				0	17	1	2	0	19
All Years Average				0	43	1	5	10	58

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

JUNEAU MANAGEMENT AREA: JUNEAU SUBISTENCE AND PERSONAL USE FISHING

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 (Table XIII-25).

Table XIII-25. Juneau Area Personal Use Salmon Permit Estimated Harvest [District 11] by Community, 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Anchorage	1	1	0	10	0	0	0	10	0.3%
2001	Angoon	1	2	2	20	0	0	0	22	0.7%
2001	Juneau*	235	278	8	2,782	26	12	253	3,080	91.8%
2001	Haines	1	1	0	24	0	0	0	24	0.7%
2001	Hoonah	2	3	0	30	0	152	0	182	5.4%
2001	Petersburg	2	2	0	34	0	1	3	38	1.1%
		242	287	10	2,900	26	164	256	3,356	100.0%
	Percent of Total			0.3%	86.4%	0.8%	4.9%	7.6%	100.0%	

* Includes Auke Bay and Douglas

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

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. In 2001 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 Surge Bay, Hoktaheen Cove, Lake Stream/Ford Arm and Necker Bay in District 13 waters, the Chilkat River in District 15, and the Situk River in the Yakutat area (Table XIII-26).

Although Juneau fishers rely heavily on the Taku River and Sweetheart Creek, harvesting 43.8 percent of their salmon from those two locations in 2001, 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 – 13.0 percent and 10.4 percent respectively (Table XIII-11 and Table XIII-14), and combined with harvests from other locations contributed 56.2 percent of Juneau's 2001 salmon harvest for home use.

The historic record for Juneau's personal use salmon harvest shows a steady increase up to 1998, followed by a sharp drop in total numbers of salmon reported. The 2001 harvest is considerably below the five-year and ten-year averages, but just above the all-years average. Sockeye, Chinook and coho harvests are all down from the 1990s, while chum and pink harvests are somewhat higher than earlier years (Table XIII-27).

Table XIII-26. Juneau Estimated Subsistence and Personal Use Salmon Harvests by Location, 2001

YEAR	Fishing Location	Permits Fished		Estimated Harvest					Total
		Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 3**	**3**	**4**	**0**	**91**	**0**	**0**	**0**	**91**
2001	Hetta Inlet	1	1	0	21	0	0	0	21
2001	Klawock River	2	2	0	70	0	0	0	70
2001	**District 6**	**2**	**2**	**0**	**0**	**42**	**0**	**6**	**48**
2001	Crystal Creek	2	2	0	0	42	0	6	48
2001	**District 9**	**1**	**1**	**0**	**11**	**0**	**0**	**0**	**11**
2001	Falls Ck Baranof Is	1	1	0	11	0	0	0	11
2001	**District 11**	**235**	**278**	**8**	**2,782**	**26**	**12**	**253**	**3,080**
2001	Taku River	160	188	8	1,687	26	12	226	1,959
2001	Whiting River	1	1	0	0	0	0	0	0
2001	Sweetheart Creek	73	87	0	1,065	0	0	26	1,091
2001	Admiralty Creek	1	1	0	30	0	0	0	30
2001	**District 12**	**16**	**19**	**0**	**237**	**0**	**0**	**0**	**237**
2001	Kook Lake Outlet	10	12	0	141	0	0	0	141
2001	Kanalku Bay	6	7	0	96	0	0	0	96
2001	**District 13**	**20**	**22**	**0**	**444**	**0**	**12**	**124**	**580**
2001	Necker Bay Lake	1	1	0	32	0	0	0	32
2001	Sitkoh Lake Creek	3	4	0	90	0	12	124	226
2001	Sitkoh Bay Head	1	1	0	7	0	0	0	7
2001	Lake Stream Ford Arm	2	2	0	95	0	0	0	95
2001	Surge Bay	5	5	0	46	0	0	0	46
2001	Hokatheen Cove	8	9	0	174	0	0	0	174
2001	**District 14**	**2**	**2**	**0**	**23**	**0**	**27**	**18**	**68**
2001	Excursion River	1	1	0	12	0	0	0	12
2001	Neva Creek	1	1	0	11	0	27	18	56
2001	**District 15**	**18**	**20**	**2**	**436**	**8**	**179**	**7**	**632**
2001	Chilkat Inlet	16	18	2	388	8	179	7	584
2001	Lutak Inlet	2	2	0	48	0	0	0	48
2001	**Yakutat Forelands**	**8**	**9**	**12**	**313**	**0**	**0**	**0**	**325**
2001	Situk RIver	8	9	12	313	0	0	0	325
	All Districts Total			**23**	**4,337**	**76**	**230**	**407**	**5,073**

[1] Includes Auke Bay and Douglas

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-27. Historic Subsistence Salmon Harvests: Juneau 1985-2001

Community	YEAR	Permits*		Estimated Harvest**					Total
		Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Juneau	1985		86	0	1,374	35	69	360	1,838
Juneau	1986		47	1	880	0	107	31	1,019
Juneau	1987		39	0	742	5	242	84	1,073
Juneau	1988		39	1	599	46	265	54	965
Juneau	1989		122	31	1,354	87	90	712	2,274
Juneau	1990		135	31	1,623	186	249	224	2,313
Juneau	1991		136	45	2,009	129	275	149	2,607
Juneau	1992		188	36	2,802	240	70	148	3,296
Juneau	1993		234	29	3,671	95	431	358	4,584
Juneau	1994		355	57	6,216	292	69	420	7,054
Juneau	1995		269	46	4,274	200	72	321	4,913
Juneau	1996	694	550	90	6,273	244	377	607	7,592
Juneau	1997	802	655	67	8,651	110	239	186	9,253
Juneau	1998	923	761	53	9,685	169	183	585	10,674
Juneau	1999	964	813	86	4,943	60	164	272	5,525
Juneau	2000	861	629	76	5,247	130	112	148	5,713
Juneau	2001	747	634	23	4,337	76	230	407	5,073
1997 - 2001 Average				66	6,523	131	218	368	7,305
1992 - 2001 Average				55	5,283	158	202	327	6,026
All Years Average				39	3,805	124	191	298	4,457

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Juneau includes Auke Bay and Douglas

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

SITKA MANAGEMENT AREA: SITKA SUBSISTENCE SALMON FISHERIES: REDFISH BAY, NECKER BAY, REDOUBT BAY, KLAG BAY, FORD ARM, 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.

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 shared 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 2001 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 2001 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[4], Necker Bay, Redfish Bay[5], Lake Eva, Sitkoh Lake. July 20th was the closing date

[4] The Redoubt Lake and Salmon Lake sockeye subsistence and sport fisheries were closed by emergency order on Friday, July 13, 2001 due to lower than average escapement at Redoubt Lake, and low returns at Salmon Lake, and

for Gut Bay, Falls Lake, Surge Bay and Hoktaheen, July 25th – for Klag Bay, Ford Arm, and Lake Anna, and Leo's Anchorage, and July 31st was the closing date for the Salmon Lake, and Politofski Lake subsistence sockeye fishery. Individual and household "possession limit" 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; 20 fish at Surge Bay, Hoktaheen, Klag Bay, Ford Arm, and Lake Anna, and Politofski Lake; 25 fish at Redfish Bay; 50 fish at Necker Bay. The 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 in 2001.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-28 the estimated salmon harvest in the Sitka area subsistence fisheries in 2001 (exclusive of Surge Bay, Hoktaheen Cove, and Sitkoh Bay) was 15,338 salmon, including 14,893 sockeye (97.1 percent), 6 chinook (.04 percent), 5 coho (0.03 percent), 355 pink (2.3 percent), and 79 chum (0.3 percent). Most permits were issued to Sitka residents, and Sitka residents harvested most of the salmon reported (97.8 percent). Some Sitka residents fish in waters beyond these traditional use areas. In 2001 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, and Lake Stream in Ford Arm (Table XIII-29).

Table XIII-28. Sitka Area Subsistence Salmon Permit Estimated Harvests [District 13, except Sitkoh Bay, Surge Bay and Hoktaheen Cove], 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Sitka	359	368	6	14,551	5	79	355	14,997	97.8%
2001	Juneau **	3	3	0	127	0	0	0	127	0.8%
2001	Ketchikan	1	2	0	75	0	0	0	75	0.5%
2001	Pelican	4	4	0	60	0	0	0	60	0.4%
2001	Port Alexander	1	1	0	20	0	0	0	20	0.1%
2001	Skagway	1	1	0	50	0	0	0	50	0.3%
2001	Fairbanks	1	1	0	10	0	0	0	10	0.1%
		370	380	6	14,893	5	79	355	15,338	100.0%
	Percent of Total			0.04%	97.1%	0.0%	0.5%	2.3%	100.0%	

Includes Redfish Bay, Whale Bay, Politofski Lake, Necker Bay, Salmon Lake Stream, Redoubt Lake Outlet, Nakwasina River, Katlian Bay Leo Lake/Fortuna Straits, Fish Camp/Klag Bay, Lake Anna, Lake Stream Ford Arm, Takanis Bay
Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

---

to avoid excessive fishing effort from possible displacement of effort from Redoubt Lake and Sitka Sound area to Salmon Lake.

[5] The Necker Bay and Redfish Bay sockeye fisheries were extended to August 31 by emergency order when escapement surveys for each system indicated trends above average, and sufficient surplus to escapement needs to provide for additional fishing opportunity.

Table XIII-29. Sitka Subsistence Salmon Permit Estimated Harvest by Location, 2001

YEAR	Fishing Location	Permits Fished		Estimated Harvest					Total
		Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 3**	**1**	**2**	**0**	**60**	**0**	**0**	**0**	**60**
2001	Eek Creek	1	2	0	60	0	0	0	60
2001	**District 9**	**3**	**3**	**0**	**31**	**0**	**0**	**0**	**31**
2001	Gut Bay Head	2	2	0	21	0	0	0	21
2001	Falls Ck Baranof Is	1	1	0	10	0	0	0	10
2001	**District 12**	**3**	**4**	**0**	**84**	**0**	**0**	**0**	**84**
2001	Kook Lake Outlet	3	4	0	84	0	0	0	84
2001	**District 13**	**367**	**377**	**6**	**14,644**	**5**	**85**	**358**	**15,098**
2001	Redfish Bay Head	21	22	0	470	0	0	0	470
2001	Politofski Lk Outlet	4	4	0	72	0	0	0	72
2001	Necker Bay Lake	167	171	0	11,080	3	3	172	11,259
2001	Salmon Lake Stream	23	24	6	262	0	37	0	305
2001	Redoubt Lake Outlet	3	3	0	16	0	0	0	16
2001	Nakwasina River	1	1	0	0	2	16	8	27
2001	Katlian Bay S. Fork	3	3	0	0	0	0	154	154
2001	Sitkoh Lake Creek	8	9	0	92	0	6	3	102
2001	Leo Lk Fortuna Strts	14	14	0	188	0	0	0	188
2001	Fish Camp –Klag Bay	65	67	0	1,360	0	6	18	1,385
2001	Lake Anna Head	4	4	0	51	0	1	0	52
2001	Lake Stream Ford Arm	54	55	0	1,052	0	15	2	1,069
2001	**Yakutat Forelands**	**2**	**2**	**0**	**43**	**0**	**0**	**0**	**43**
2001	Alsek River	1	1	0	12	0	0	0	12
2001	Ahrnklin River	1	1	0	31	0	0	0	31
	All Districts Total			**6**	**14,861**	**5**	**85**	**358**	**15,316**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

The numbers of sockeye salmon harvested by residents of Sitka in 2001, as estimated based on amounts reported on the permits, are well over the five year, ten-year averages, and all-year average (1985-2001). Chum and coho salmon harvests estimated based on amounts reported on permits in 2001 were below the 5-, 10- and all-year averages. Pink salmon reported harvests were up in 2001, and chinook harvest was above the 5- and all-year averages, and equal to the 10-year average (Table XIII-30).

PETERSBURG/WRANGELL MANAGEMENT AREA: KAKE SUBSISTENCE SALMON FISHERIES: KAKE/KADAKE BAY/KEKU STRAIT, GUT BAY, FALLS LAKE CREEK (BARANOF ISLAND)

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.

Table XIII-30. Historic Sitka Community Subsistence Salmon Harvests 1985 - 2001

		Permits*		Estimated Harvest**					
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Sitka	1985		213	0	3,065	0	196	587	3,848
Sitka	1986		241	0	3,566	1	548	281	4,396
Sitka	1987		246	0	5,144	2	319	549	6,014
Sitka	1988		196	0	4,597	0	514	145	5,256
Sitka	1989		266	0	7,604	2	134	30	7,770
Sitka	1990		384	8	8,757	13	112	521	9,411
Sitka	1991		292	4	7,364	4	159	158	7,689
Sitka	1992		172	6	7,831	29	15	30	7,911
Sitka	1993		371	9	11,834	27	132	30	12,032
Sitka	1994		410	7	13,416	20	148	155	13,746
Sitka	1995		356	9	11,013	13	185	161	11,381
Sitka	1996	787	639	10	18,390	15	160	363	18,938
Sitka	1997	708	615	6	10,357	5	91	195	10,654
Sitka	1998	801	706	22	16,228	94	114	359	16,818
Sitka	1999	840	754	6	15,374	17	56	106	15,560
Sitka	2000	601	582	10	12,531	9	46	69	12,666
Sitka	2001	519	504	6	14,861	5	85	358	15,316
1997 - 2001 Average				10	13,870	26	79	218	14,203
1992 - 2001 Average				9	13,184	23	103	183	13,502
All Years Average				6	10,114	15	177	241	10,553

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

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 2001 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 Falls Creek and Gut Bay the season ran from June 1 through July

20. The open season for pink salmon in all streams in the Kake subsistence area ran from July 15 through August 31. The 2001 season for fall chum in Port Camden was August 15 – September 30, and for Security Bay, from September 1 through October 31. Allowed subsistence gear included gaffs, spears, beach seines and dip nets. Possession limits for sockeye from Alecks Creek and Pillar Bay was 15 per person and 25 per household. The limit for fish from Gut Bay and Falls Creek was 10 per person and per household.

Harvest Assessment Program

Annual subsistence salmon harvest assessments have been in place since 1985. As reported in Table XIII-31 the estimated salmon harvest in the Kake subsistence fisheries in 2001 was 2,431 salmon, including 2,216 sockeye (91.1 percent), 38 coho (1.6 percent), 88 chum (3.7 percent), and 79 pink (3.7 percent). Most permits were issued to Kake residents, and Kake residents harvested most of the salmon reported (94.8 percent).

Table XIII-31. Kake Area Subsistence Salmon Permit Estimated Harvests [District 9]*, 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Kake	144	150	8	2,126	8	88	75	2,305	94.8%
2001	Sitka	3	3	0	31	0	0	0	31	1.3%
2001	Angoon	1	2	0	0	30	0	0	30	1.2%
2001	Juneau	1	1	0	11	0	0	0	11	0.5%
2001	Ketchikan	2	3	0	28	0	0	0	28	1.2%
2001	Petersburg	1	1	2	20	0	0	4	26	1.1%
		152	160	10	2,216	38	88	79	2,431	100.0%
	Percent of Total			0.4%	91.1%	1.6%	3.6%	3.3%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

*Includes Salt Chuck-Security Bay, Kutlaku Creek, Alecks Creek, Gut Bay, Falls Creek-Baranof Is

Some Kake residents fish in waters beyond these traditional use areas. In 2001 most of the subsistence salmon harvests reported on the permits fished by Kake residents occurred in the waters of Falls Creek, Gut Bay, and Alecks Creek in Tebenkof Bay (Table XIII-32).

The numbers of sockeye salmon harvested by residents of Kake in 2001, as estimated based on amounts reported on the permits, are below the 5-year and 10-year averages, and chum salmon reported harvests were way down in 2001. Chinook harvests reported on the permits returned in 2001 were above the 5-, 10- and all-year average (Table XIII-33).

PETERSBURG/WRANGELL MANAGEMENT AREA: PETERSBURG SUBSISTENCE AND PERSONAL USE FISHERIES: SALMON BAY, RED LAKE, CRYSTAL CREEK

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

Table XIII-32 Kake Subsistence Salmon Permit Estimated Harvests by Stream, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 6**	**1**	**1**	**0**	**0**	**13**	**0**	**0**	**13**
2001	Crystal Creek	1	1	0	0	13	0	0	13
2001	**District 9**	**144**	**150**	**8**	**2,126**	**8**	**88**	**75**	**2,305**
2001	Gut Bay Head	45	47	2	581	0	5	0	589
2001	Falls Ck Baranof Is	81	85	6	1,295	7	57	39	1,404
2001	Point White Creek	2	2	0	0	1	0	37	38
2001	Salt Chuck-Security	1	1	0	0	0	21	0	21
2001	Kutlaku Creek	6	6	0	98	0	0	0	98
2001	Alecks Creek	9	9	0	151	0	4	0	156
	All Districts Total			**8**	**2,126**	**21**	**88**	**75**	**2,318**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-33. Historic Kake Community Subsistence Salmon Harvests 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Kake	1985		95	0	1,026	0	958	0	1,984
Kake	1986		100	0	1,269	0	283	0	1,552
Kake	1987		91	0	1,503	0	941	0	2,444
Kake	1988		90	0	1,332	0	310	30	1,672
Kake	1989		98	2	1,702	28	676	120	2,528
Kake	1990		54	0	909	0	65	92	1,066
Kake	1991		68	0	1,208	0	263	55	1,526
Kake	1992		116	0	2,611	8	659	241	3,519
Kake	1993		116	0	2,198	0	388	53	2,639
Kake	1994		100	0	1,982	9	146	99	2,226
Kake	1995		96	1	1,606	6	118	63	1,794
Kake	1996	180	152	2	2,842	15	186	68	3,113
Kake	1997	211	176	1	2,267	19	453	86	2,827
Kake	1998	212	189	3	2,771	0	234	204	3,212
Kake	1999	214	191	1	2,573	2	222	103	2,902
Kake	2000	180	176	3	1,629	0	330	45	2,007
Kake	2001	191	183	8	2,126	21	88	75	2,318
1997 - 2001 Average				3	2,273	8	265	103	2,653
1992 - 2001 Average				2	2,260	8	282	104	2,656
All Years Average				1	1,856	6	372	79	2,313

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

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.

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 per person and 25 per household in possession from Shipley Bay with no annual limit, and 10 in possession and annual limit from Salmon Bay and Red Bay. 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 10 per person and per household. Hatchery Creek season runs from June 1-30, with a daily limit of 5 sockeye per person and 5 per household, 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, and no annual limit on pinks. 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 no annual limit. The open season for chum on the Harding River was July 1 – August 15.

Harvest Assessment Program – Petersburg

As reported in Table XIII-34 the estimated harvest in the Petersburg area subsistence/personal use salmon fisheries in 2001 was 1,614 salmon, including 978 sockeye (60.6 percent), 477 coho (29.5 percent), 122 pink (7.5 percent), and 33 chum (2.1 percent). Most permits were issued to Petersburg residents, and Petersburg residents harvested most of the salmon reported (83.3 percent). In 2001 95 percent of the salmon harvest reported on the permits by Petersburg residents occurred in the waters of Salmon Bay Creek and Crystal Creek in District 6 (Table XIII-35). Some Petersburg residents fished in waters beyond District 6, including the Stikine River, Falls Creek-Baranof Island, and the Taku River and Sweetheart Creek just south of Juneau.

Table XIII-34. Petersburg Area Subsistence/Personal Use Salmon Permit Estimated Harvest [District 6, Sumner Strait/ Pt Baker/Macnamara & Wrangell Narrows], 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Craig	1	1	0	15	0	0	0	15	0.9%
2001	Ketchikan	2	3	0	20	0	0	0	20	1.2%
2001	Petersburg	81	825	4	776	422	33	110	1,345	83.3%
2001	Point Baker	1	1	0	7	0	0	0	7	0.4%
2001	Wrangell	9	9	0	160	0	0	6	167	10.3%
2001	Juneau	2	2	0	0	42	0	6	48	3.0%
2001	Kake	1	1	0	0	13	0	0	13	0.8
		97	99	4	978	477	33	122	1,614	100.0%
	Percent of Total			0.2%	60.6%	29.5%	2.1%	7.5%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-35. Petersburg Subsistence Salmon Permit Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 6**	**81**	**82**	**4**	**776**	**422**	**33**	**110**	**1,345**
2001	Salmon Bay Creek	42	42	0	729	2	3	50	784
2001	Red Lake Creek	1	1	0	3	0	0	0	3
2001	Crystal Creek	36	36	1	17	404	12	42	477
2001	**District 8**	**1**	**1**	**0**	**6**	**0**	**0**	**0**	**6**
2001	Stikine River	1	1	0	6	0	0	0	6
2001	**District 9**	**1**	**1**	**2**	**20**	**0**	**0**	**4**	**26**
2001	Falls Ck Baranof Is	1	1	2	20	0	0	4	26
2001	**District 11**	**2**	**2**	**0**	**34**	**0**	**1**	**3**	**38**
2001	Taku River	1	1	0	10	0	1	3	14
2001	Sweetheart Creek	1	1	0	24	0	0	0	24
	All Districts Total			**6**	**836**	**422**	**34**	**117**	**1,416**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

The numbers of species of salmon harvested by residents of Petersburg in 2001, as estimated based on amounts reported on the permits, are well over the five year, ten-year averages, and all-year average (1985-2001) (Table XIII-36).

PETERSBURG/WRANGELL MANAGEMENT AREA: WRANGELL SUBSISTENCE AND PERSONAL USE FISHERIES: THOMS CREEK, HARDING RIVER, EARL WEST COVE, MILL CREEK, STIKINE RIVER

Harvest Assessment - Wrangell

As reported in Table XIII-37 the estimated salmon harvest in the Wrangell area subsistence/personal use salmon in 2001 was 753 salmon, including 552 sockeye (82.7 percent), 83 chinook (4.7 percent), 105 pink (5.7 percent), 83 chum (5.7 percent), and just 3 coho (1.2 percent). Wrangell and Petersburg residents harvested about the same amount of salmon, although more Wrangell permit holders reported harvest from the waters of Sumner Strait/Point Baker/Macnamara in District 6, and in Districts 7 & 8.

Table XIII-36. Historic Subsistence Salmon Harvests, Petersburg 1985-2001

		Permits*		Estimated Harvest**					
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Petersburg	1985		11	0	158	0	0	0	158
Petersburg	1986		4	0	60	0	0	0	60
Petersburg	1987		3	0	45	0	0	0	45
Petersburg	1988		14	0	140	0	10	0	150
Petersburg	1989		25	0	185	132	0	0	317
Petersburg	1990		32	0	248	188	0	0	436
Petersburg	1991		39	0	462	199	17	0	678
Petersburg	1992		82	0	496	550	40	6	1,092
Petersburg	1993		48	0	289	421	0	6	716
Petersburg	1994		64	0	414	605	10	13	1,042
Petersburg	1995		89	0	422	756	5	14	1,197
Petersburg	1996	89	80	0	423	232	80	7	742
Petersburg	1997	80	76	0	335	189	0	25	549
Petersburg	1998	113	109	0	764	184	5	31	984
Petersburg	1999	109	106	0	586	183	30	10	809
Petersburg	2000	96	94	0	472	144	76	20	712
Petersburg	2001	135	134	6	836	422	34	117	1,416
1997 - 2001 Average				1	599	224	29	41	894
1992 - 2001 Average				1	504	369	28	25	926
All Years Average				0	373	247	18	15	653

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

Table XIII-37. Wrangell Area Subsistence/Personal Use Salmon Permit Estimated Harvest (Districts 7 & 8), 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Petersburg	1	1	0	6	0	0	0	6	0.8%
2001	Wrangell	60	62	83	706	3	83	31	747	99.2%
		61	63	83	552	3	83	31	753	100.0%
	Percent of Total			4.7%	82.7%	1.2%	5.7%	5.7%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

In 2001 97.6 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 and Red Bay on Prince of Wales Island (Table XIII-38). Some Wrangell residents reported fishing on the Stikine River in 2001.

Overall the numbers of salmon harvested by residents of Wrangell in 2001, as estimated based on amounts reported on the permits, were well under the 5- and 10-year averages and the all-year average (1985-2001). This was true for the estimated numbers of all salmon species harvested except for chinook salmon, where harvest was almost double the 5-year average (Table XIII-39).

Table XIII-38. Wrangell Community Subsistence Salmon Permit Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 6**	**9**	**9**	**0**	**160**	**0**	**0**	**6**	**167**
2001	Salmon Bay Creek	8	8	0	145	0	0	6	151
2001	Red Lake Creek	1	1	0	15	0	0	0	15
2001	**District 7**	**58**	**60**	**83**	**523**	**3**	**83**	**31**	**724**
2001	Thoms Creek	20	21	0	168	0	5	21	193
2001	Harding River	2	2	1	0	0	5	0	6
2001	Earl West Cove SHA	5	5	45	0	0	1	0	46
2001	Mill Ck	31	32	37	356	3	72	10	478
2001	**District 8**	**2**	**2**	**0**	**23**	**0**	**0**	**0**	**23**
2001	Stikine River	2	2	0	23	0	0	0	23
	All Districts Total			**83**	**706**	**3**	**83**	**37**	**913**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-39. Historic Subsistence Salmon Harvests: Wrangell 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Wrangell	1985		60	0	507	0	1	116	624
Wrangell	1986		50	0	412	0	0	190	602
Wrangell	1987		62	0	592	0	0	7	599
Wrangell	1988		18	0	186	0	35	51	272
Wrangell	1989		42	0	394	1	32	40	467
Wrangell	1990		65	57	658	130	59	91	995
Wrangell	1991		42	57	434	3	38	69	601
Wrangell	1992		66	3	768	10	29	112	922
Wrangell	1993		65	7	978	9	4	36	1,034
Wrangell	1994		73	8	914	0	71	15	1,008
Wrangell	1995		83	37	1,040	42	136	12	1,267
Wrangell	1996	126	115	29	1,013	16	384	11	1,454
Wrangell	1997	97	86	17	587	25	115	69	813
Wrangell	1998	146	125	24	888	5	196	57	1,170
Wrangell	1999	118	99	40	1,025	1	91	73	1,230
Wrangell	2000	130	120	48	1,086	10	40	28	1,212
Wrangell	2001	111	107	83	706	3	83	37	913
1997 - 2001 Average				42	858	9	105	53	1,068
1992 - 2001 Average				30	901	12	115	45	1,102
All Years Average				24	717	15	77	60	893

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

PETERSBURG/WRANGELL MANAGEMENT AREA: POINT BAKER/PORT PROTECTION SUBSISTENCE FISHERIES: POINT BAKER, RED BAY AND SALMON BAY

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 2001 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 2001 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 25 fish, with no annual limit. In Salmon and Red Bays the daily and annual limit for sockeye is 30 fish.

Harvest Assessment Program

As reported in Table XIII-40 the estimated salmon harvest in the Point Baker/Port Protection subsistence area in 2001 was just 7 sockeye salmon from Red Lake Creek. 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. In 2001 Point Baker fishers did not report harvest of salmon in the mixed-stock cape drift gillnet fishery in the waters offshore from the village.

Table XIII-40. Point Baker Community Subsistence Salmon Permit Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 6**	**1**	**1**	**0**	**7**	**0**	**0**	**0**	**7**
2001	Red Lake Creek	1	1	0	7	0	0	0	7
	All Districts Total			**0**	**7**	**0**	**0**	**0**	**7**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

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. The higher harvests estimated for 1999 and 2000 represent catches in the subsistence drift gillnet fishery in the waters offshore from Point Baker/Port Protection (Table XIII-41). In 2001 Point Baker and Port Protection subsistence fishers did not harvest salmon using their cape drift gillnet fishery, since low prices for salmon in the commercial sector meant that local commercial fishers were willing to give away their salmon.

KETCHIKAN MANAGEMENT AREA: CRAIG, KLAWOCK AND HYDABURG SUBSISTENCE FISHERIES: EEK CREEK, HETTA INLET, KLAWOCK RIVER, 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)).

Table XII-41. Historic Subsistence Salmon Harvests, Point Baker 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Point Baker	1985		20	0	200	0	0	0	200
Point Baker	1986		27	0	501	0	4	9	514
Point Baker	1987		23	0	481	0	0	0	481
Point Baker	1988		10	0	167	0	0	0	167
Point Baker	1989		7	0	156	0	3	10	169
Point Baker	1990		12	0	230	0	0	0	230
Point Baker	1991		5	0	87	0	0	0	87
Point Baker	1992		8	0	107	0	0	0	107
Point Baker	1993		4	0	69	0	0	0	69
Point Baker	1994		3	0	52	0	0	0	52
Point Baker	1995		2	0	34	0	0	0	34
Point Baker	1996	6	5	0	30	0	0	0	30
Point Baker	1997	10	8	0	0	0	0	0	0
Point Baker	1998	8	7	0	16	0	5	10	31
Point Baker	1999	5	5	1	30	19	28	80	158
Point Baker	2000	3	3	2	152	7	25	38	224
Point Baker	2001	2	2	0	7	0	0	0	7
1997 – 2001 Average				1	41	5	26	12	84
1992 – 2001 Average				0	50	3	13	6	71
All Years Average				0	136	2	9	4	151

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

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 2001. 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.

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 (Scott et al. 2001).

Regulations

The 2001 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 2001 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, Klawock River, and Sarkar – sockeye - 10/20; in all streams in the Hydaburg and Craig/Klawock Subsistence Areas – pinks - 100/150, chum – 20/25; and in Warm Chuck Lake, on Heceta Island – sockeye – 10/20;

Harvest Assessment Program

As reported in Table XIII-42 the estimated salmon harvest in the Hydaburg and Craig/Klawock Subsistence Areas (except Nichols Bay in District 2) in 2001 was 8,932 salmon, including 8,043 sockeye (90.0 percent), 3 chinook (0.03 percent), 78 coho (0.9 percent), 493 pink (5.5 percent), and 316 chum (3.5 percent). Residents of Craig and Klawock shared about equally the number of permits issued. Craig and Klawock fishers shared the salmon harvested from these waters, harvesting 36.5 percent and 42.1 percent respectively, of the estimated harvest based on returned permits. Hydaburg fishers accounted for about 11 percent of the estimated harvest from District 3.

Table XII-42. Craig-Klawock-Hydaburg Area Subsistence/Personal Use Salmon Permit Estimated Harvest (District 3), 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Craig	63	79	0	2,490	56	110	171	2,827	33.9%
2001	Gustavus	1	1	0	0	0	0	18	18	0.2%
2001	Hydaburg	14	26	0	937	4	18	0	959	11.5%
2001	Juneau	3	4	0	91	0	0	0	91	1.1%
2001	Ketchikan	18	20	0	776	0	11	0	788	9.4%
2001	Klawock	76	96	3	3,450	16	119	9	3,597	43.1%
2001	Sitka	1	2	0	60	0	0	0	60	0.7%
		176	228	3	7,084	76	247	209	8,339	100.0%
	Percent of Total			0.03%	93.60%	0.9%	3.0%	2.5%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

In 2001 Craig and Klawock harvested salmon principally from the Klawock River and from Hatchery Creek-Sweetheart Creek, near Coffman Cove in District 6. (Table XIII-43 and Table XIII-44). In 2001 Hydaburg fishers harvested salmon principally from Hetta Inlet (Table XIII-45).

Table XIII-43. Craig Community Subsistence Salmon Permit Estimate Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 1**	**1**	**1**	**0**	**12**	**0**	**0**	**0**	**12**
2001	Wolverine Creek	1	1	0	12	0	0	0	12
2001	**District 2**	**18**	**22**	**0**	**179**	**1**	**56**	**195**	**431**
2001	Dog Salmon Creek	1	1	0	0	0	44	30	74
2001	142F Creek	1	1	0	6	0	0	0	6
2001	Twelvemile Creek	1	1	0	0	1	6	124	131
2001	Harris River	1	1	0	0	0	0	12	12
2001	Maybeso Creek	2	2	0	0	0	6	29	35
2001	Karta River	12	15	0	172	0	0	0	172
2001	**District 3**	**63**	**79**	**0**	**2,490**	**56**	**110**	**171**	**2,827**
2001	Hetta Inlet	6	7	0	352	0	0	0	352
2001	Klawock River	46	57	0	1,763	56	54	134	2,007
2001	St Nicholas N Side	2	2	0	0	0	56	37	94
2001	Sarkar	9	11	0	375	0	0	0	375
2001	**District 6**	**56**	**69**	**0**	**753**	**0**	**0**	**0**	**753**
2001	Hatchery Ck Sweethrt	55	68	0	738	0	0	0	738
2001	Salmon Bay Creek	1	1	0	15	0	0	0	15
	All Districts Total			**0**	**3,434**	**57**	**166**	**366**	**4,023**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-44. Klawock Community Subsistence Salmon Permit Estimate Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 2**	**3**	**4**	**0**	**61**	**0**	**13**	**89**	**162**
2001	Maybeso Creek	1	1	0	0	0	13	89	101
2001	Karta River	2	3	0	61	0	0	0	61
2001	**District 3**	**76**	**96**	**3**	**3,450**	**16**	**119**	**9**	**3,597**
2001	Eek Creek	1	1	0	28	0	0	0	28
2001	Klawock River	73	93	3	3,346	16	119	9	3,493
2001	Sarkar	2	3	0	76	0	0	0	76
2001	**District 6**	**20**	**25**	**0**	**205**	**0**	**0**	**0**	**205**
2001	Hatchery Ck Sweethrt	20	25	0	205	0	0	0	205
	All Districts Total			**3**	**3,716**	**16**	**132**	**98**	**3,965**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-45. Hydaburg Community Subsistence Salmon Permit Estimate Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 3**	**14**	**26**	**0**	**937**	**4**	**18**	**0**	**959**
2001	Eek Creek	2	4	0	77	0	0	0	77
2001	Hetta Inlet	10	18	0	677	0	0	0	677
2001	Hetta Lake Creek	1	2	0	73	0	0	0	73
2001	Klawock River	1	2	0	110	4	18	0	132
	All Districts Total			**0**	**937**	**4**	**18**	**0**	**959**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-46 through Table XIII-48 show the historic subsistence salmon harvests for Craig, Klawock and Hydaburg. The estimated overall subsistence salmon harvest for Craig rose modestly in 2001, following a steady decline since 1996 in total numbers of salmon harvested estimated based on the amounts reported on the permits. Prior to 1996 the data are not comparable since they are unexpanded (Table XIII-46).

Table XIII-46. Historic Subsistence Salmon Harvests, Craig 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Craig	1985		68	0	1,177	0	25	0	1,202
Craig	1986		69	0	1,074	0	10	10	1,094
Craig	1987		81	0	1,279	0	20	0	1,299
Craig	1988		94	0	1,803	0	57	75	1,935
Craig	1989		83	2	1,679	10	21	285	1,997
Craig	1990		57	0	1,170	13	32	200	1,415
Craig	1991		76	0	1,545	4	12	31	1,592
Craig	1992		143	1	3,372	18	19	80	3,490
Craig	1993		124	0	3,698	3	2	67	3,770
Craig	1994		100	0	3,364	68	6	57	3,495
Craig	1995		76	0	1,687	0	5	74	1,766
Craig	1996	328	244	0	4,984	15	63	31	5,093
Craig	1997	305	231	0	3,823	0	5	758	4,586
Craig	1998	269	242	4	4,326	146	197	261	4,935
Craig	1999	273	238	0	3,337	23	20	448	3,828
Craig	2000	260	208	3	3,058	25	108	155	3,348
Craig	2001	259	209	0	3,434	57	166	366	4,023
1997 – 2001 Average				1	3,596	50	397	99	4,144
1992 – 2001 Average				1	3,508	36	230	59	3,834
All Years Average				1	2,636	23	170	45	2,875

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

The estimated overall subsistence salmon harvest for Klawock rose modestly in 2001, over 2000. 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 (Table XIII-47).

In Hydaburg estimated harvests based on amounts reported on the subsistence salmon permits have declined in the past two years. The 2001 estimated is well below the 5- and 10-year averages, as well as the all-year average. Number of permits returned has been falling since 1996 (Table XII-48).

Table XII-47. Historic Subsistence Salmon Harvests, Klawock 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Klawock	1985		77	0	1,311	0	80	10	1,401
Klawock	1986		117	0	1,987	0	228	181	2,396
Klawock	1987		93	0	1,613	0	130	150	1,893
Klawock	1988		68	0	1,478	0	125	28	1,631
Klawock	1989		72	0	1,960	14	39	133	2,146
Klawock	1990		75	1	2,056	78	225	349	2,709
Klawock	1991		77	0	2,021	22	34	415	2,492
Klawock	1992		108	0	3,422	15	32	88	3,557
Klawock	1993		94	0	3,598	10	60	276	3,944
Klawock	1994		79	0	2,776	30	21	185	3,012
Klawock	1995		74	0	2,268	2	115	128	2,513
Klawock	1996	167	108	0	5,126	100	171	148	5,545
Klawock	1997	150	111	0	4,592	9	1	169	4,772
Klawock	1998	135	112	1	2,733	55	36	86	2,911
Klawock	1999	144	122	1	2,630	44	179	214	3,068
Klawock	2000	158	124	0	2,863	33	88	86	3,070
Klawock	2001	158	124	3	3,716	16	132	98	3,965
1997 - 2001 Average				1	3,307	32	87	130	3,557
1992 - 2001 Average				0	3,372	32	84	148	3,636
All Years Average				0	2,715	25	100	161	3,001

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data.

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits.

Table XII-48. Historic Subsistence Salmon Harvests, Hydaburg 1985-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Hydaburg	1985		45	0	1,018	0	0	9	1,027
Hydaburg	1986		59	0	1,575	0	0	1	1,576
Hydaburg	1987		42	0	1,024	0	0	0	1,024
Hydaburg	1988		26	0	595	0	2	3	600
Hydaburg	1989		26	0	1,188	6	25	41	1,260
Hydaburg	1990		32	0	990	7	7	101	1,105
Hydaburg	1991		28	0	1,321	40	0	117	1,478
Hydaburg	1992		31	0	2,254	3	0	55	2,312
Hydaburg	1993		41	0	1,373	0	8	80	1,461
Hydaburg	1994		36	0	1,475	1	11	175	1,662
Hydaburg	1995		33	0	1,214	0	50	109	1,373
Hydaburg	1996	72	42	0	1,646	0	197	214	2,057
Hydaburg	1997	53	40	0	1,224	3	0	13	1,240
Hydaburg	1998	64	42	0	1,251	0	46	0	1,297
Hydaburg	1999	71	48	0	1,988	0	59	0	2,047
Hydaburg	2000	56	34	0	1,387	8	3	212	1,611
Hydaburg	2001	44	24	0	937	4	18	0	959
1997 – 2001 Average				0	1,357	3	45	25	1,431
1992 – 2001 Average				0	1,475	2	86	39	1,602
All Years Average				0	1,321	4	67	25	1,417

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

KETCHIKAN MANAGEMENT AREA: KASAAN SUBSISTENCE AND EASTERN PRINCE OF WALES PERSONAL USE FISHERIES: KEGAN LAKE, THORNE RIVER, KARTA RIVER and HATCHERY CREEK-SWEETHEART

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.

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 2001 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 2001 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-49 the estimated salmon harvest in the Kasaan subsistence area and other marine waters in the eastern portions of Prince of Wales Island in 2001 was 3,297 salmon, including 2,846 sockeye (86.3 percent), no Chinook, 13 coho (0.4 percent), 343 pink (10.4 percent), and 94 chum (2.8 percent). Most permits were not issued to residents of the three eastern Prince of Wales Island communities (Coffman Cove, Thorne Bay, or Kasaan) but to Craig residents. In 2001 Craig's share of the salmon harvested from these waters comprised 35 percent of the estimated harvest based on returned permits. Coffman Cove's share of the harvest

from these waters amounted to just 8.5 percent of the harvest that year, Kasaan's share – just 2.7 percent, and Thorne Bay's share – 20.3 percent. Although fewer Ketchikan permits reported harvesting from District 2 and Hatchery Creek (Dist. 6) waters, their reported harvest represented almost 20 percent of the total from that area in 2001.

Table XIII-49. Kasaan & Eastern Prince of Wales Island Area Subsistence/Personal Use Salmon Permit Estimated Harvest (District 2, and Dist. 6 Hatchery Creek-Sweetheart), 2001

		Permits Fished		Estimated Harvest					Total	Percent of
YEAR	Community	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon	Total
2001	Anchorage	4	5	0	70	1	0	0	71	2.1%
2001	Coffman Cove	17	22	0	280	0	0	0	280	8.5%
2001	Craig	73	91	0	916	1	56	195	1,169	35.4%
2001	Kasaan	2	2	0	15	0	25	50	90	2.7%
2001	Ketchikan*	37	42	0	647	2	0	2	651	19.8%
2001	Klawock	23	29	0	266	0	13	89	368	11.2%
2001	Thorne Bay	48	50	0	652	8	0	7	668	20.3%
		204	241	0	2,846	13	94	343	3,297	100.0%
	Percent of Total			0.00%	86.3%	0.4%	2.8%	10.4%	100.0%	

* Includes Ward Cove

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-50 through Table XIII-52 show the location of 2001 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 2001 Edna Bay, Hollis, Naukati Bay and Whale Pass did not report salmon harvests on subsistence/personal use salmon permits.

Table XIII-50. Coffman Cove Community Subsistence Salmon Permit Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 6**	**17**	**22**	**0**	**280**	**0**	**0**	**0**	**280**
2001	Hatchery Ck Sweethrt	17	22	0	280	0	0	0	280
	All Districts Total			**0**	**280**	**0**	**0**	**0**	**280**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-51. Kasaan Community Subsistence Salmon Permit Estimated Harvests by Location, 2001

		Permits Fished		Estimated Harvest					Total
YEAR	Fishing Location	Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 2**	**2**	**2**	**0**	**15**	**0**	**25**	**50**	**90**
2001	Old Tom Creek	1	1	0	0	0	25	50	75
2001	Karta River	1	1	0	15	0	0	0	15
	All Districts Total			**0**	**15**	**0**	**25**	**50**	**90**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-52. Thorne Bay Community Subsistence Salmon Permit Estimated Harvests by Location, 2001

YEAR	Fishing Location	Permits Fished		Estimated Harvest					Total
		Reported	Estimated	Chinook	Sockeye	Coho	Chum	Pink	Salmon
2001	**District 2**	**5**	**5**	**0**	**50**	**8**	**0**	**7**	**66**
2001	Karta River	4	4	0	50	0	0	0	50
2001	Thorne River	1	1	0	0	8	0	7	16
2001	**District 6**	**43**	**45**	**0**	**602**	**0**	**0**	**0**	**602**
2001	Hatchery Ck Sweethrt	43	45	0	602	0	0	0	602
	All Districts Total			**0**	**652**	**8**	**0**	**7**	**668**

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-53 through Table XIII-58 show the historic subsistence salmon harvests for these six Prince of Wales Island communities. 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. The estimated overall subsistence salmon harvest for Coffman Cove in 2001 shows a jump over amounts estimated for 2000, but still below previous years highs. However, amounts in 2001 slightly exceeded the 5-, 10- and all-year averages.

Table XIII-53. Historic Subsistence Salmon Harvests, Coffman Cove 1987-2001

Community	YEAR	Permits		Estimated Harvest					Total
		Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Coffman Cove	1987		1	0	10	0	0	0	10
Coffman Cove	1988		1	0	8	0	0	0	8
Coffman Cove	1990		1	0	92	0	0	0	92
Coffman Cove	1991		3	0	57	0	0	0	57
Coffman Cove	1992		11	0	166	1	0	0	167
Coffman Cove	1993		10	0	261	0	0	0	261
Coffman Cove	1994		9	0	166	10	0	0	176
Coffman Cove	1995		17	0	194	0	0	0	194
Coffman Cove	1996	39	34	0	539	0	0	0	539
Coffman Cove	1997	42	35	0	344	0	0	0	344
Coffman Cove	1998	27	23	0	180	0	0	0	180
Coffman Cove	1999	49	45	0	388	0	0	0	388
Coffman Cove	2000	35	30	0	144	0	0	0	144
Coffman Cove	2001	31	25	0	280	0	0	0	280
1997 – 2001 Average				0	267	0	0	0	267
1992 – 2001 Average				0	266	1	0	0	267
All Years Average				0	202	1	0	0	203

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

Edna Bay, a settlement of commercial fishing families, has historically relied on removing salmon from commercial catches for home use. This pattern continues.

Table XIII-54. Historic Subsistence Salmon Harvests, Edna Bay 1992-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Edna Bay	1992		1	0	40	0	0	0	40
Edna Bay	1993		2	0	40	0	0	24	64
Edna Bay	1996	2	2	0	0	0	0	0	0
Edna Bay	1997	5	3	0	0	0	0	0	0
Edna Bay	1998	3	2	0	0	0	0	0	0
Edna Bay	1999	8	6	0	9	0	0	0	9
Edna Bay	2000	2	1	0	0	0	0	0	0
Edna Bay	2001	3	3	0	0	0	0	0	0
1997 – 2001 Average				0	2	0	0	0	2
1992 – 2001 Average				0	11	0	3	0	14
All Years Average				0	11	0	3	0	14

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

Hollis' use of the subsistence/personal use salmon fisheries has declined over the past 10 years, to none in 2001. 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.

Table XIII-55. Historic Subsistence Salmon Harvests, Hollis 1987-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Hollis	1987		5	0	82	0	0	0	82
Hollis	1988		5	0	103	0	0	0	103
Hollis	1989		8	0	113	0	0	15	128
Hollis	1990		5	0	163	0	0	0	163
Hollis	1991		2	0	29	0	0	0	29
Hollis	1992		2	0	39	4	0	0	43
Hollis	1993		2	0	150	0	0	0	150
Hollis	1994		2	0	79	0	0	0	79
Hollis	1995		4	0	59	0	33	0	92
Hollis	1996	12	10	0	389	0	0	0	389
Hollis	1997	7	7	0	105	0	0	11	116
Hollis	1998	6	6	0	85	0	0	0	85
Hollis	1999	3	3	0	24	0	0	0	24
Hollis	2000	5	5	0	77	0	0	0	77
Hollis	2001	2	1	0	0	0	0	0	0
1997 - 2001 Average				0	58	0	2	0	60
1992 - 2001 Average				0	101	0	1	3	105
All Years Average				0	100	0	2	2	104

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

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. Fewer permits have been issued to Kasaan residents in the past 5 years.

Table XIII-56. Historic Subsistence Salmon Harvests, Kasaan 1987-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Kasaan	1987		15	0	290	0	0	0	290
Kasaan	1988		8	0	192	0	25	0	217
Kasaan	1989		11	2	325	1	51	6	385
Kasaan	1990		1	0	20	0	20	40	80
Kasaan	1992		8	0	210	0	40	72	322
Kasaan	1993		8	0	160	0	0	0	160
Kasaan	1994		10	0	465	0	52	0	517
Kasaan	1995		9	0	161	0	0	0	161
Kasaan	1996	14	14	0	224	0	0	0	224
Kasaan	1997	13	10	0	127	0	0	26	153
Kasaan	1998	4	4	0	96	2	0	0	98
Kasaan	1999	4	4	0	50	3	0	8	61
Kasaan	2000	9	9	0	128	1	2	10	141
Kasaan	2001	2	2	0	15	0	25	50	90
1997 – 2001 Average				0	83	1	19	5	109
1992 – 2001 Average				0	164	1	17	12	193
All Years Average				0	176	1	15	15	207

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

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 2001 estimated harvests are well under the 5-, 10- and all-year averages.

Table XIII-57. Historic Subsistence Salmon Harvests, Thorne Bay 1987-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Thorne Bay	1985		43	0	700	0	0	0	700
Thorne Bay	1986		39	0	619	0	5	5	629
Thorne Bay	1987		34	0	528	0	0	0	528
Thorne Bay	1988		39	0	722	0	0	20	742
Thorne Bay	1989		24	0	408	12	10	0	430
Thorne Bay	1990		29	0	662	0	0	41	703
Thorne Bay	1991		37	0	779	0	0	0	779
Thorne Bay	1992		48	0	1,358	0	26	60	1,444
Thorne Bay	1993		58	0	1,304	20	0	52	1,376
Thorne Bay	1994		45	0	810	0	0	0	810
Thorne Bay	1995		39	0	1,093	0	0	0	1,093
Thorne Bay	1996	92	82	0	1,511	0	0	0	1,511
Thorne Bay	1997	123	106	0	1,416	3	0	45	1,464
Thorne Bay	1998	135	114	2	1,070	37	2	4	1,116

Table XIII-57. Historic Subsistence Salmon Harvests, Thorne Bay 1987-200 (continued)1

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Thorne Bay	1999	86	76	0	824	8	2	33	867
Thorne Bay	2000	91	81	0	669	16	1	18	705
Thorne Bay	2001	71	67	0	652	8	0	7	668
1997 – 2001 Average				0	926	15	21	1	964
1992 – 2001 Average				0	1,071	9	22	3	1,105
All Years Average				0	890	6	17	3	916

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

The record of subsistence salmon harvests for Whale Pass is uneven. For two years, 1991 and 2000 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.

Table XII-58. Historic Subsistence Salmon Harvests, Whale Pass 1988-2001

		Permits*		Estimated Harvest**					Total
Community	YEAR	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Salmon
Whale Pass	1988		2	0	117	0	0	15	132
Whale Pass	1989		6	17	129	0	0	0	146
Whale Pass	1990		3	0	30	0	0	75	105
Whale Pass	1991								
Whale Pass	1992		1	0	31	0	0	0	31
Whale Pass	1993		3	0	40	0	0	0	40
Whale Pass	1994		1	0	0	0	17	3	20
Whale Pass	1995		2	0	25	0	0	0	25
Whale Pass	1996	1	1	0	27	0	0	0	27
Whale Pass	1997	1	1	0	10	0	0	0	10
Whale Pass	1998	2	2	0	0	0	0	0	0
Whale Pass	1999	2	1	0	0	3	0	5	8
Whale Pass	2000								
Whale Pass	2001	2	2	0	0	0	0	0	0
1997 – 2001 Average				0	7	1	1	0	9
1992 – 2001 Average				0	15	0	1	2	18
All Years Average				1	34	0	8	1	45

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20
* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data
** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

KETCHIKAN MANAGEMENT AREA: SAXMAN & METLAKATLA SUBSISTENCE AND KETCHIKAN PERSONAL USE FISHERIES: 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.

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-59 the estimated salmon harvest in the Ketchikan/Saxman area in 2001 (District 1) was 10,599, including 7,213 sockeye (68.1 percent), 226 chinook (2.1 percent), 61 coho (0.6 percent), 1,290 chum (12.2 percent) and 1,810 pink (17.1 percent). Most permits were issued to residents of Ketchikan, and Ketchikan residents harvested most of the salmon reported on the permits. Saxman does not show up in the database, likely due to the fact that zip code for Saxman is the same as for Ketchikan.

Table XIII-59. Ketchikan Area Subsistence/Personal Use Salmon Permit Estimated Harvest [District 1], 2001

YEAR	Community	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon	Percent of Total
2001	Craig	1	1	0	12	0	0	0	12	0.1%
2001	Ketchikan	241	274	226	7,080	61	1,288	1,810	10,463	98.7%
2001	Metlakatla	5	5	0	101	0	0	0	101	1.0%
2001	Skagway	1	1	0	20	0	2	0	22	0.2%
		248	282	226	7,213	61	1,290	1,810	10,599	100.0%
	Percent of Total			2.1%	68.1%	0.6%	12.2%	17.1%	100.0%	

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

Table XIII-60 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-60. Ketchikan Community Subsistence/Personal Use Permit Estimated Harvest, 2001

YEAR	Fishing Location	Permits Fished Reported	Permits Fished Estimated	Estimated Harvest Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
2001	**District 1**	**241**	**274**	**226**	**7,080**	**61**	**1,288**	**1,810**	**10,463**
2001	Herring Cove	14	16	200	0	0	2	2	205
2001	Wolverine Creek	223	254	25	7,079	61	1,269	1,790	10,224
2001	Naha River	4	5	0	1	0	16	17	34
2001	**District 2**	**26**	**30**	**0**	**477**	**2**	**0**	**2**	**482**
2001	Kegan Cove	13	15	0	145	0	0	2	147
2001	Karta River	13	15	0	333	2	0	0	335
2001	**District 3**	**18**	**21**	**0**	**776**	**0**	**0**	**11**	**788**
2001	Klakas Lake Creek	5	6	0	4	0	0	0	4
2001	Eek Creek	1	1	0	34	0	0	0	34
2001	Hetta Inlet	2	2	0	482	0	0	11	493
2001	Klawock River	8	9	0	175	0	0	0	175
2001	Sarkar	2	2	0	80	0	0	0	80
2001	**District 6**	**13**	**15**	**0**	**190**	**0**	**0**	**0**	**190**
2001	Hatchery Ck Sweethrt	11	13	0	170	0	0	0	170
2001	Salmon Bay Creek	1	1	0	17	0	0	0	17
2001	Red Lake Creek	1	1	0	3	0	0	0	3
2001	**District 9**	**2**	**3**	**0**	**28**	**0**	**0**	**0**	**28**
2001	Falls Ck Baranof Is	1	1	0	13	0	0	0	13
2001	Kutlaku Creek	1	1	0	15	0	0	0	15
2001	**District 13**	**1**	**2**	**0**	**75**	**0**	**0**	**0**	**75**
2001	Necker Bay Lake	1	2	0	75	0	0	0	75
2001	**District 15**	**1**	**1**	**0**	**48**	**0**	**12**	**1**	**61**
2001	Chilkat River	1	1	0	48	0	12	1	61
	All Districts Total			**226**	**8,674**	**63**	**1,300**	**1,824**	**12,086**

[2] Includes Ward Cove

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

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 2001 Ketchikan's harvest remained below the 5-year and 10-year averages, but above the all-year average. Number of permits returned has dropped in recent years.

Table XIII-61. Historic Community Subsistence Salmon Harvests, Ketchikan* 1988-2001

Community	YEAR	Permits Issued	Permits Returned	Chinook	Sockeye	Coho	Chum	Pink	Total Salmon
Ketchikan	1985		323	0	5,484	0	27	353	5,864
Ketchikan	1986		275	0	4,506	0	36	97	4,639
Ketchikan	1987		293	0	6,675	0	19	134	6,828
Ketchikan	1988		163	0	3,561	0	111	169	3,841
Ketchikan	1989		311	155	5,749	77	119	1,184	7,284
Ketchikan	1990		259	7	7,240	30	385	372	8,034
Ketchikan	1991		329	60	9,975	13	1,384	580	12,012
Ketchikan	1992		343	13	11,089	36	828	794	12,760
Ketchikan	1993		371	16	11,899	48	760	677	13,400
Ketchikan	1994		387	7	11,766	63	1,797	709	14,342
Ketchikan	1995		347	6	8,384	39	1,543	1,589	11,561
Ketchikan	1996	613	494	9	8,563	30	1,168	803	10,573
Ketchikan	1997	621	512	2	10,702	11	850	1,007	12,572
Ketchikan	1998	621	559	51	8,095	126	2,263	1,171	11,706
Ketchikan	1999	615	532	301	9,504	30	1,024	815	11,673
Ketchikan	2000	555	481	197	10,428	74	1,243	890	12,833
Ketchikan	2001	520	455	226	8,674	63	1,300	1,824	12,086
1997-2001 Average				155	9,481	61	1,336	1,141	12,174
1992-2001 Average				83	9,910	52	1,277	1,028	12,351
All Years Average				62	8,370	38	874	775	10,118

* Includes Ward Cove

Source: ADFG Division of Subsistence, Alaska Subsistence Fisheries Database, Ver. 3.20

* Number prior to 1996 represent permits returned with harvest data. From 1996 onward, numbers represent all returned permits with or without data

** Harvest figures prior to 1996 represent reported harvest only. From 1996 onward, harvest figures are expanded from reported harvest to account for non-returned permits

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

2002 Subsistence and Personal Use Salmon Harvests in the Alaska Portion of the Yukon River Drainage, 2001. Regional Information Report 3A02-32. 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
2002 2001 Lower Cook Inlet Annual Finfish Management Report. Alaska Department of Fish and Game, Division of Commercial Fisheries Regional Information Report 2A02-16. 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.

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.

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.