Fishery Management Report No. 13-52

Annual Management Report Yukon and Northern Areas 2011

by

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Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

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)

Mathematics, statistics

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

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The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: http://www.adfg.alaska.gov/sf/publications/ This publication has undergone regional peer review.

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PREFACE

This report summarizes the 2011 season and historical information concerning management of the subsistence, commercial, and personal use fisheries of the Yukon–Northern Area of the Arctic-Yukon-Kuskokwim (AYK) Region. Data from selected management and research projects are included in this report. A more complete documentation of project results is presented in separate reports.

Data in this report supersedes information found in previous management reports. An attempt has been made to update information and correct errors in earlier reports.

This report is organized into 3 major sections:

1. Salmon Fishery
2. Other Marine and Freshwater Finfish Fisheries
3. Northern Area

Yukon Area salmon information is provided in Appendices A, B, C, D, and E, Yukon Area freshwater finfish information is provided in Appendix F, Cape Romanzof herring information is provided in Appendix G, and Northern Area information is provided in Appendix H.

ABSTRACT

The 2011 Yukon and Northern Area management report summarizes management activities of the Alaska Department of Fish and Game, Division of Commercial Fisheries in the Yukon and Northern Areas of Alaska. The report provides the Yukon Area status of salmon stocks in 2011 with reference to historical data, presents an outlook for the 2012 fishing season, and provides data on the utilization of salmon species by commercial and subsistence (aboriginal) harvests, personal use (domestic), and sport (recreational) fisheries. Alaska and Canada fisheries are summarized as the Yukon River is a transboundary river. The report further compiles summaries of selected Yukon River projects (e.g., mark–recapture, sonar, stock identification). Complete documentation of these projects and results may appear in separate reports. Fisheries data in this report supersede information in previous annual management reports. Some of the data presented are preliminary and may be presented with minor differences in future reports. The Yukon Area report is organized into the following sections: 1) Salmon Fishery: this section presents a description of the area, fishery resources, and fisheries management practices, and a comprehensive report of the 2011 salmon fisheries, by summer and fall season, and makes comparisons with previous years, 2) Other Marine and Freshwater Finfish Fisheries: this section presents a description of the fishery resources and freshwater finfish fisheries other than salmon, including whitefish, lamprey, and the Cape Romanzof District Herring Fishery, and 3) Northern Area, which includes a description of the area and documentation of the Colville River commercial freshwater finfish fishery.

Key words Yukon River, Yukon Area, Yukon River Salmon Agreement, Chinook salmon, *Oncorhynchus tshawytscha*, chum salmon, *Oncorhynchus keta*, coho salmon, *Oncorhynchus kisutch*, Pacific herring, *Clupea pallasii*, whitefish, *Coregonus*, Arctic lamprey, *Lethenteron camtschaticum*, escapement, commercial harvest, subsistence harvest, season outlook.

YUKON AREA

INTRODUCTION

The Division of Commercial Fisheries of the Alaska Department of Fish and Game (ADF&G) is responsible for the management of state subsistence, personal use, and commercial fisheries in the Yukon Area. This annual management report details the activities of ADF&G in the Yukon Area during 2011.

The Yukon Area includes all waters of the Yukon River drainage in Alaska and all coastal waters of Alaska from Point Romanof southward to the Naskonat Peninsula (Figure 1).

SALMON FISHERY

DESCRIPTION OF AREA AND DISTRICT BOUNDARIES

The Yukon River is the largest river in Alaska and the fifth largest drainage in North America. The river originates in British Columbia, Canada, within 30 miles of the Gulf of Alaska, and flows over 2,300 miles to its terminus at the Bering Sea. It drains an area of approximately 330,000 square miles and approximately 222,000 square miles of the state. With the possible exception of a few fish taken near the mouth of the adjacent coastal waters, only salmon of Yukon River origin are harvested in the Yukon Area.

Excluding the greater Fairbanks area (approximately 97,580 residents), there are approximately 22,230 rural residents in the Alaska portion of the drainage (Hunsinger 2012), the majority of whom reside in 43 small communities scattered along the coast and major river systems. Most of these people are dependent, to varying degrees, on fish and game resources for their livelihood.

Commercial salmon fishing is allowed along the entire 1,200 mile length of the mainstem Yukon River in Alaska, the lower 225 miles of the Tanana River, and lower 12 miles of the Anvik River. The Yukon Area is divided into 7 districts and 10 subdistricts for management and

regulatory purposes (Figure 2). The district boundaries were originally established in 1961 and redefined in 1962, 1974, 1978, 1994, and 1996. The Lower Yukon Area (Districts 1, 2, and 3) includes the Yukon River drainage from the mouth to Old Paradise Village at river mile 301. The Coastal District was established in 1994, redefined in 1996, and is open only to subsistence fishing. The Upper Yukon Area (Districts 4, 5, and 6) is that portion of the Yukon River drainage upstream of Old Paradise Village to the border with Canada. The districts and subdistricts are further divided into 28 statistical areas for management and reporting purposes (Figures 3–9). Yukon River mileages at specific locations are listed in Appendix A2.

In addition to the U.S. fisheries, Aboriginal, commercial, sport, and domestic salmon fisheries occur in the Canadian portion of the Yukon River drainage. The Canadian Department of Fisheries and Oceans Canada (DFO) conducts the corresponding fishery management activities. Details about fisheries management in the Canadian portion of the Yukon River drainage can be found in annual reports by Joint Technical Committee (JTC; such as JTC 2011 and 2012).

FISHERY RESOURCES

Five species of Pacific salmon are found in the Yukon River drainage: Chinook salmon *Oncorhynchus tshawytscha*, chum salmon *O. keta*, coho salmon *O. kisutch*, pink salmon *O. gorbuscha*, and sockeye salmon *O. nerka*.

Chinook salmon are the largest salmon found in the Yukon River, ranging from 2 to 90 pounds. Spawning populations of Chinook salmon have been documented throughout the Yukon River drainage from the Archuelinguk River, located approximately 80 miles from the mouth, to nearly 2,000 miles upstream at the headwaters of the drainage in Canada. Chinook salmon begin entering the mouth of the Yukon River after ice breakup in late May or early June and continue to migrate upriver through mid-July.

The chum salmon return is made up of 2 genetically distinct runs, an early summer chum salmon run and a later fall chum salmon run. Summer chum salmon are characterized by: earlier run timing (early June to mid-July at the river mouth); rapid maturation in freshwater; and smaller body size (average 6 to 7 pounds). Summer chum salmon spawn primarily in run-off streams in the lower 700 miles of the drainage and in the Tanana River drainage. Fall chum salmon are distinguished by: later run timing (mid-July to early September at the mouth); robust body shape; and larger body size (average 7 to 8 pounds). Fall chum salmon primarily spawn in the upper portion of the drainage in streams that are spring fed. Major fall chum salmon spawning areas include the Tanana, Porcupine, and Chandalar River drainages, as well as various streams in Yukon Territory, Canada, including the mainstem Yukon River. Fall chum salmon run size is typically much smaller than that of summer chum salmon.

Coho salmon enter the Yukon River from late July through September. Coho salmon weigh on average approximately 7 pounds. Coho salmon spawn discontinuously throughout the Alaska portion of the drainage, primarily in tributaries in the lower 700 miles of the drainage and in the Tanana River drainage. Major spawning populations of coho salmon have been documented in tributaries of the Tanana River and in the Andreafsky River.

Pink salmon enter the lower river from late June to late July. Pink salmon weigh on average approximately 2 to 3 pounds. They primarily spawn in the lower portion of the drainage, downstream of the community of Grayling (river mile 336); however, pink salmon have been caught in the mainstem Yukon River upstream as far upriver as Fort Yukon (river mile 1,002)

(Busher et al. 2009). In the past decade, pink salmon have exhibited an abundance cycle alternating between high and low every 2 years, with high abundance typically observed during even numbered years.

Sockeye salmon are uncommon in the Yukon River drainage and only a few fish are caught each year. Sockeye salmon have been reported in the mainstem Yukon River upstream of Rampart (river mile 763). Observations of sockeye salmon have occurred in the Innoko (ADF&G 1986), Kantishna (L. Barton, Fisheries Biologist, ADF&G, Fairbanks, personal communication 1988), Tanana River upstream of confluence with Kantishna River (B. Borba, Commercial Fisheries Biologist, ADF&G, Fairbanks; personal communications 2004), Anvik (M. Erickson, Fisheries Biologist, ADF&G, Anchorage; personal communication 1989), and Gisasa (Melegari 2011a) River drainages. Sockeye salmon are annually counted at the Andreafsky River weir (Maschmann 2011a).

FISHERIES OVERVIEW

A list of indigenous fishes found in the Yukon Area is provided in Appendix A1. Of the 5 species of Pacific salmon found in the Yukon Area, Chinook, chum, and coho salmon are predominantly harvested in the subsistence, commercial, personal use, and sport fisheries. Lamprey and whitefish are also commercially harvested. Other marine and freshwater finfish are harvested primarily for subsistence use.

Chinook salmon is the most targeted subsistence species by number of fishermen with total (Alaska and Canada) harvests since 2001 averaging about 53,000 fish (Appendix A13). Restrictions to subsistence fishing opportunity, because of poor Chinook salmon runs in 2007, 2009, and 2010, have limited their harvest. Chum salmon (summer and fall) provide the largest subsistence harvest in terms of numbers, with an average harvest of summer chum salmon since 2001 of 72,000 fish, and an average (Alaska and Canada) harvest since 2001 of 72,000 fall chum salmon (Appendices A14 and A15). Coho salmon are the least targeted salmon in the subsistence fisheries with harvests averaging (Alaska and Canada) since 2001 of about 19,000 fish (Appendix A16).

Historically, Chinook, summer chum, and fall chum salmon were targeted in the commercial fisheries, while coho salmon were harvested incidentally during fall chum directed fisheries. However, ADF&G now has options to conduct late season coho salmon directed commercial fishing if certain stipulations are met (such a fishery was prosecuted in 2009–2011). Since 2001, commercial harvests of Chinook salmon have averaged 26,000 fish (Appendix A13). Chinook salmon harvest has been limited by poor runs during that time. Chinook salmon directed commercial fishery have not been prosecuted since 2007 and the harvest since then has been incidental during the summer and fall chum directed fisheries. Summer chum and fall chum salmon harvests were limited by poor runs in the early 2000s and by poor market conditions in the mid-2000s. Since 2007, salmon markets have been improving. Summer chum commercial harvests since 2001 have averaged 104,000 fish (Appendix A14). As a result of summer chum salmon run timing overlapping with Chinook salmon runs, their harvests have been limited by recent measures to conserve Chinook salmon. Fall chum salmon commercial harvests (Alaska and Canada) since 2001 have averaged 65,000 fish (Appendix A15), while coho salmon harvests since 2001 have averaged 26,000 fish (Appendix A16).

MANAGEMENT

The policy of ADF&G is to manage salmon runs to the extent possible for maximum sustainable yield, unless otherwise directed by state regulation (*Policy for the Management of Sustainable Salmon Fisheries* (SSFP; 5 AAC 39.222)). Over the past few decades, ADF&G has managed salmon fisheries in the Yukon Area with the dual goal of achieving desired escapements consistent with the Sustainable Salmon Fisheries Policy while at the same time maintaining important fisheries. The Alaska State Legislature and the Alaska Board of Fisheries (BOF) have designated subsistence use as the highest priority among beneficial uses of the resource. In order to maintain the subsistence priority and provide for spawning escapements to ensure sustainable yields, Yukon River salmon fisheries must be managed conservatively.

Salmon fisheries within the Yukon River drainage may harvest stocks that are up to several weeks and over a thousand miles from their spawning grounds. Since the Yukon River subsistence and commercial fisheries is a mixed stock fishery, some tributary populations may be under or over exploited in relation to their actual abundance. Based on current knowledge, it is not possible to manage for individual stocks in most areas where fishing occurs. Fisheries within the Tanana and Anvik River drainages are managed as terminal areas.

Management of the Yukon River salmon fishery is complex due to overlapping multispecies salmon runs, increasing efficiency of the fishing fleet, allocation issues, the inability to determine stock specific abundance and timing, and the immense geographic expanse of the Yukon River drainage. ADF&G uses an adaptive management strategy that evaluates run strength inseason to determine a harvestable surplus above escapement requirements and subsistence uses. The primary tools used by ADF&G to manage the salmon fisheries are management plans, guideline harvest ranges (GHR) established by the BOF, and emergency order (EO) authority, which is used to implement time and area openings, closures, and mesh size restrictions. Guideline harvest ranges have been established for Chinook, summer chum, and fall chum salmon commercial fisheries throughout the Alaska portion of the drainage (Table 1). ADF&G attempts to manage the commercial salmon fisheries so the harvest in each district or subdistrict is proportional to the respective guideline harvest ranges. Typically, coho salmon harvest is incidental to the fall chum salmon fishery and their management is conditional to the abundance of fall chum salmon. ADF&G does have the options to conduct late season coho salmon directed commercial fishing if certain stipulations are met.

During the fishing season, management is based on preseason projections and inseason run assessment. Inseason run assessment includes abundance indices from test fisheries, passage estimates from various sonar projects, and spawning escapement and harvest data. Since 1995, the mainstem sonar project at Pilot Station has provided inseason estimates of salmon passage for fisheries management. The level of subsistence, commercial, sport, and personal use harvests can be adjusted through the use of EOs to control time and area of openings and closures. News releases announcing EOs are broadcast on local radio stations, posted on the state web site (http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main), VHF radio where available, transmitted by fax, and emailed to select communities, processors, buyers, and fishermen. Additionally, most processors and buyers are notified of EOs by telephone.

In 2011, various government and non-government agencies operated projects in the Alaska and Canadian portions of the Yukon Area to obtain the biological information necessary for

management of salmon runs (Appendices A20 and A21). Some the projects operating in the Alaska portion of the drainage include:

1. *Catch and Effort Assessment*: The harvest and effort of commercial, subsistence, personal use, and sport salmon fisheries were assessed for the Alaska portion of the Yukon River drainage. Commercial salmon fishing was monitored from June through October using fish tickets of commercial sales of salmon. In the majority of the Yukon Area, there is no regulatory requirement for fishermen to report their subsistence salmon harvest. The subsistence salmon harvest from communities is estimated through a voluntary survey program. In areas of the drainage with road access, fishermen must obtain subsistence or personal use household permits on which their daily harvest is recorded. Similarly, sport fishing harvest and effort was estimated by Division of Sport Fish using mail-out questionnaires to sport fishing permit holders. Weekly teleconferences were held from June to August by the Yukon River Drainage Fisheries Association (YRDFA) as a forum for fishermen along the Yukon River to interact with state and federal managers and for the dissemination of fisheries information.
2. *Test Fishing*: ADF&G operated a test fishing project in the lower Yukon River at the South, Middle, and North Mouths. The project utilized set gillnets from late May through July 15 to index the Chinook salmon run. Additionally, test fishing utilized drift gillnets from June through July 15 to provide an index of Chinook and summer chum salmon, and from July 16 through mid-September for fall chum and coho salmon runs. The test fisheries also provided run timing and age composition information. Since 2009, an offshore test salmon fishing feasibility study has been operated in Hooper Bay, approximately 90 miles south of the Yukon River mouth. The coastal test fishery assessed run abundance, species composition, and run timing information of salmon bound for the Yukon River in offshore waters to assist with timely management decisions. A test fishery in Mountain Village has been operated by the Asa'carsarmiut Traditional Council to index fall chum and coho salmon run timing and relative abundance using drift gillnets. Additionally, beginning in 2010, a test fishery in Mountain Village was operated by Yukon Delta Fisheries Development Association (YDFDA) to index Chinook salmon run timing and relative abundance using drift gillnets. Test fish wheels equipped with video monitoring systems were also used to index passage of salmon and species other than salmon based on catch per unit effort (CPUE) at the following locations: 1) on the south (left) bank of the mainstem Yukon River near the community of Tanana (fall season only); 2) in the area known as “Rapids” between the communities of Tanana and Rampart on the mainstem Yukon River; and 3) downstream of the community of Nenana on the Tanana River.
3. *Mainstem Sonar Projects*: Hydroacoustic equipment was operated in the mainstem Yukon River at 2 locations; near Pilot Station to obtain inseason salmon passage estimates by species and near Eagle to estimate passage of Chinook and chum salmon into Canada.
4. *Tributary Sonar Projects*: Hydroacoustic equipment was operated in the Anvik and Sheenjek rivers to estimate summer and fall chum salmon spawning escapements, respectively. Hydroacoustic equipment was also operated in the Chandalar River to estimate fall chum salmon escapement.

5. *Age, Sex, and Size Composition*: Data were collected from salmon harvested in commercial and subsistence fisheries, as well as test fisheries and escapement projects located throughout the Yukon River drainage. Samples were collected using gillnets, fish wheels, beach seines, weir traps, and carcass surveys. Scales were collected from salmon harvested to determine age composition of the runs. Chum salmon carcass sampling uses vertebra instead of scales for aging because of resorption problems. Sex was determined by examining internal reproductive organs or external characteristics. Length was measured from mid eye to tail fork.
6. *Genetic Stock Identification:* Genetic samples were collected from Chinook and chum salmon caught in the various test fisheries throughout the drainage, Chinook samples were collected from the commercial fishery in Districts 1 and 2, and Chinook salmon samples are were collected from the subsistence fishery throughout the drainage.
7. *Aerial and Ground Surveys of Salmon Spawning Streams*: Aerial surveys were flown to monitor spawning escapements in major spawning tributaries throughout the Yukon River drainage. Surveys for Chinook and summer chum salmon were flown in July and August. Fall chum salmon foot surveys were conducted at selected areas in the Tanana River drainage in October and November. Additionally, aerial and ground surveys were conducted in the Nenana River drainage to estimate fall chum and coho salmon escapement in October and November.
8. *Tower Projects*: Tower counting projects were used on the Chena and Salcha rivers to estimate escapement of Chinook and summer chum salmon from July through August. A tower project was operated on the Goodpaster River in the Tanana River drainage to estimate Chinook salmon escapement during July.
9. *Weir Projects*: Weirs weree operated on the East Fork Andreafsky River, Gisasa River, and Henshaw Creek from June to August to estimate Chinook and summer chum salmon escapement.

The Yukon River Chinook salmon run is managed according to the guidelines described in the *Yukon River King Salmon Management Plan* (5 AAC 05.360). The management plan provides for escapement needs and subsistence users while aiming to reestablish the historic range of harvest levels by other users. Additionally, when the projected commercial harvest is 0–67,350 Chinook salmon, a specific percentage of harvest determined by the BOF should be allocated by district or subdistrict based on the low end of the established guideline harvest ranges. At the 2010 BOF meeting, the management plan was amended to allow closure to all salmon fishing in a district or subdistrict, and the option of prohibiting the commercial sale of Chinook salmon if run assessment information indicated an insufficient abundance of Chinook salmon. Also, in 2011, the 7.5 inch maximum gillnet mesh size restriction adopted by the BOF in 2010 went into effect.

The Yukon River summer chum salmon run is managed according to the guidelines described in the *Yukon River Summer Chum Salmon Management Plan* (5 AAC 05.362). The intent of this plan is to conservatively manage harvests in order to provide for escapement needs and subsistence use as a priority over other consumptive uses such as commercial, sport, and personal use fishing. Since 2001, this management plan has allowed for varying levels of harvest opportunity depending on the run size projection. If the projected run is size is 700,000 to 1,000,000 summer chum salmon and a district, subdistrict, or tributary is projected to meet its escapement goals, then a directed commercial fishery may be opened in the immediate area. When the run size is projected to be greater than 1,000,000 fish based on the Pilot Station sonar

project, a directed summer chum salmon commercial fishing may be opened to harvest the available surplus. When the projected commercial harvest range is 0–400,000 summer chum salmon, a specific percentage of harvest determined by the BOF should be allocated by district or subdistrict based on the low end of the established guideline harvest ranges. In 2010, the BOF modified the management plan to allow a commercial harvest of up to 50,000 fish if the run size was between 900,000 and 1,000,000 fish, distributed by district or subdistrict in proportion to the guideline harvest levels.

The *Anvik River Chum Salmon Fishery Management Plan* (5 AAC 05.368.) allows a harvest of the available Anvik River summer chum salmon above spawning escapement goals and to decrease the harvest pressure on non-Anvik River summer chum salmon stocks located in the mainstem Yukon River. Under this plan, the Anvik River may be opened to summer chum salmon commercial fishing if a surplus beyond the escapement goal of 500,000 fish is available. All Chinook salmon taken in the Anvik River during commercial fishing periods must be returned to the water alive.

Management of the Yukon Area fall season commercial salmon fisheries is in accordance with the *Yukon River Drainage Fall Chum Salmon Management Plan* (5 ACC 01.249), the *Yukon River Coho Salmon Management Plan* 5 ACC 05.369, and the *Tanana River Salmon Management Plan* 5 AAC 05.367. The threshold number of fall chum salmon needed to prosecute a commercial fishery is 500,000 fish and commercial fishing is generally allowed only on the surplus above that level. The fall chum salmon plan incorporates the amount of fall chum salmon needed to meet U.S./Canada treaty objectives for border passage and provides guidelines necessary for escapement and prioritized uses. The intent of the plan is to align management objectives with the established escapement goals, provide flexibility in managing subsistence harvests when stocks are low, and bolster salmon escapement as run abundance increases. The sustainable escapement goal (SEG) range for the Yukon River drainage is 300,000 to 600,000 fall chum salmon. There are provisions in the plan to allow incremental levels of subsistence salmon fishing balanced with requirements to attain escapement objectives during low runs.

The coho salmon plan allows a coho salmon directed commercial fishery in the absence of achieving the threshold number of fall chum salmon if a harvestable surplus of coho salmon exists and a commercial fishery will not have a significant impact on fall chum salmon escapement and allocation.

Finally, under the Tanana River plan, commercial fishing in Subdistrict 5-A and District 6 is based on the assessment and timing of salmon stocks bound for the Tanana River drainage.

Since 2001, the subsistence fishery has been based on a schedule implemented chronologically by ADF&G and consistent with migratory timing as the run progresses upstream. Subsistence fishing is open 7 days per week until the schedule is established. The subsistence salmon fishing schedule is based on current or past fishing and provides reasonable opportunity for subsistence during years of average to below average runs. The objectives of the schedule are to 1) reduce harvest early in the run when there is a higher level of uncertainty in run assessment, 2) spread the harvest throughout the run to reduce harvest impacts on any particular component of the run, and 3) provide subsistence fishing opportunity among all user groups during years of low salmon runs.

The schedule for subsistence salmon fishing is as follows:

(1) Coastal District, Innoko, Koyukuk, and Kantishna rivers, and Subdistrict 5-D: 7 days per week;
(2) Districts 1, 2, 3: two 36-hour periods a week;
(3) District 4 and Subdistricts 5-A, 5-B and 5-C: two 48-hour periods a week;
(4) District 6: two 42-hour periods a week; and
(5) Old Minto Area: 5 days per week.

FEDERAL SUBSISTENCE MANAGEMENT

The Alaska National Interest Lands Conservation Act (ANILCA) of 1980 mandates that rural subsistence users have a priority over other users to take wildlife on Federal public lands where recognized customary and traditional use patterns exist and required the creation of Regional Advisory Councils (RAC) to enable rural residents to have a meaningful role in Federal subsistence management. On October 1, 1999, the Secretaries of Interior and Agriculture published regulations to expand Federal management of subsistence fisheries to Alaska rivers, lakes, and limited marine waters within, and adjacent to, Federal public lands. The Secretary of Interior and the Secretary of Agriculture delegated their authority in Alaska to the Federal Subsistence Board (FSB) to manage fish and wildlife resources for subsistence uses on Federal public land, including waters running through or next to these lands. Federal subsistence fishing regulations are adopted by the FSB. The RACs provide recommendations and information to the FSB, review policies and management plans, provide a public forum, and deal with other matters relating to subsistence uses. The FSB or U.S. Fish and Wildlife Service (USFWS) may close fishing for other uses in these waters and implement a priority for federally qualified rural subsistence users if it is determined that state-managed fishery management is causing subsistence or conservation concerns (Ward and Horn 2003).

Federal subsistence fishing schedules, openings, closures, and fishing methods are established in regulations (Department of Interior 2011). In general, the regulations are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060); however, differences in regulations do exist. In some cases, state regulations can be superseded by a Federal Special Action.

FEDERAL SUBSISTENCE MANAGEMENT ACTIONS

The Federal Subsistence Board (FSB) met in January 2011 to review proposals regarding regulation changes to the Code of Federal Regulations under the Federal Subsistence Management Program on Federal public lands within the State of Alaska. The following summary is for informational purposes only and is not intended to detail, reflect, or fully interpret reasons for the FSB's actions. Nine proposals submitted for review by the FSB were relevant to federal fishery regulations on the Yukon River and 4 were withdrawn and 2 proposals were rejected. The FSB deferred on 2 additional proposals, 1 which requested that Federal public waters of Yukon River Subdistrict 5-D be further subdivided into 3 subdistricts to provide managers additional flexibility to more precisely regulate harvest while conserving Chinook salmon run that spawn in the upper Yukon River and another which requested that customary trade in the Yukon River Fisheries Management Area be prohibited in any year when Chinook salmon runs are insufficient to fully satisfy subsistence needs and subsistence fisheries are restricted. Due to deference on the latter proposal, the FSB took no action on 1 proposal to limit

customary trade of Chinook salmon in the Yukon River Management Area and require a customary trade recordkeeping form.

The Yukon Area Federal management staff work closely with ADF&G Division of Commercial Fisheries Yukon Area managers, sharing information and coordinating management actions. Many public fisheries related meetings are attended throughout the year by both agencies jointly and individually that are preceded with considerable effort to provide consistent stock information, management strategy expectations, and rational for enacted management actions. The State of Alaska area managers are the lead agency staff with authority throughout the entire Yukon Area while the Federal management authority is primarily limited to overlapping waters adjacent to Federal Conservation Units. During the 2011 fishing season, Federal managers issued 28 Streamlining Actions (24 summer; 4 fall) which aligned Federal regulations with state regulations that were established through EO authority. Management of the Yukon Area commercial fishery by the state prompted issuance of 8 Federal Memorandums of Concurrence (6 summer; 2 fall). These memorandums documented federal consideration which resulted in concluding state actions taken in regulating the commercial fishery provided adequate assurances for escapement and Federal subsistence needs. No Federal Special Actions were issued during the 2011 season which would be used to implement changes in F`ederal rules that differ from state regulations.

CANADIAN YUKON RIVER SALMON FISHERY

DFO has provided annual harvest data from the Canadian portion of the Yukon River drainage since 1962. Records indicate a Canadian commercial fishery occurred sporadically from 1903 to 1917 and continuously from 1918 to 1947 (Estensen et al. 2012). No harvest records are available from 1948 to 1957. Harvest records document the annual salmon harvest by species since 1958 and also by user group since 1961.

The Canadian portion of the Yukon River drainage maintains Aboriginal, domestic, commercial, and recreational fisheries for salmon. The Aboriginal and domestic fisheries are comparable to subsistence and personal use fisheries in Alaska, although the Aboriginal fishery is only open to native people. All of the commercial salmon harvests in Canada occur on the mainstem Yukon River. Canadian salmon harvests in the Porcupine River drainage consist only of an Aboriginal fishery.

U.S./CANADA YUKON RIVER SALMON PANEL AND TREATY NEGOTIATIONS

Negotiations were initiated in 1985 between the U.S. and Canada regarding a Yukon River salmon treaty, which would enhance the coordination of management for salmon stocks that spawn in the Canadian portion of the Yukon River drainage. Reaching a comprehensive long-term agreement remained a formidable challenge through the mid-1990s. In February 1995, an agreement was formalized and an interim Yukon River Salmon Agreement (YRSA) went into effect. A U.S./Canada Yukon River Panel (Panel) was formed to implement the YRSA. The focus of the Panel was on the salmon stocks that spawn in the Canadian portion of the Yukon River drainage.

In 1995 a 6 year stabilization plan was completed to prevent further declines in spawning escapement of Canadian Yukon River mainstem Chinook salmon by achieving an escapement of at least 18,000 Chinook salmon annually. In April 1996, the Panel agreed to the first 6 years of a rebuilding plan for recognizing the desirability of rebuilding stocks. In April 1996, in effort to

rebuild Canadian mainstem Chinook salmon stocks, the Panel agreed to an interim minimum spawning escapement objective of 28,000 fish for 6 years beginning in 1996. The U.S. obligation was to deliver 44,800 to 47,800 Chinook salmon to the Canadian mainstem Yukon River. The Canadian contribution was to manage the harvest of Chinook salmon in the mainstem Yukon River drainage in Canada by all user groups combined within a guideline harvest range of 16,800 to 19,800 Chinook salmon.

For Canadian Yukon River mainstem fall chum salmon, a 12 year plan was agreed upon to rebuild the stock by achieving a spawning escapement of more than 80,000 fish for all brood years by 2001. The U.S. obligation was to deliver to the Canadian border on the mainstem Yukon River a set number of fall chum salmon agreed to upon the rebuilding schedule. The Canadian contribution was to manage the harvest of fall chum salmon in the mainstem Yukon River drainage in Canada by all user groups combined within a guideline harvest range of 23,600 to 32,600 fall chum salmon.

In December 2002, the United States and Canada signed a formal YRSA that set salmon harvest share target ranges based on a postseason assessment of run strength for Chinook and fall chum salmon into the Canadian mainstem of the Yukon River. Under the YRSA, the Alaska and Canadian fisheries will be managed consistent with stock rebuilding and conservation objectives that have been jointly developed. The Yukon River Panel meets annually during the fall to resume management recommendations. The Panel advises the United States and Canadian Governments on conservation and management of the salmon originating in the Canadian portion of the Yukon River. In recognition of the changing dynamics of the fishery and the spirit of the agreement, interim management objectives are reviewed and agreed upon jointly each spring prior to the salmon returns.

For the 2011 season, the U.S./Canada panel agreed to 1 year Canadian interim management escapement goal (IMEG) ranges of 42,500 to 55,000 Chinook salmon and 70,000 to 104,000 fall chum salmon based on the Eagle sonar project. The IMEG range for the Fishing Branch River is 22,000 to 49,000 fall chum salmon based on the Fishing Branch River weir count. In addition to escapement needs, Alaska is obligated to share harvestable surpluses of the Canadian run component, with Canada receiving 20% to 26% of the available total allowable catch (TAC) for Canadian bound Chinook salmon and 29% to 35% of the available TAC for Canadian bound fall chum salmon.

Canadian Chinook Salmon

Cooperative Canada/U.S. management of Canadian-origin Yukon River Chinook salmon was based on an agreed escapement goal range for rebuilt stocks of 33,000 to 43,000 fish for many years. This goal was developed from, and was subsequently monitored by, a mark–recapture program located just upstream of the international border on the Yukon River. Since 2005, the parties have developed a new and improved technique, the Eagle sonar project, to assess the abundance of salmon migrating into Canada. Estimates derived from the mark–recapture program were consistently lower than those produced from the sonar project. Based on the disparity between the mark–recapture and sonar project estimates of Canadian border passage, it was inappropriate to continue to apply the longstanding escapement goal based on mark–recapture to escapement estimates derived from the sonar project.

The JTC recommended using the Eagle sonar project in 2008 as the primary assessment tool for the border passage estimate and reviewed the best approach to transition from the mark–

recapture based escapement goal to a new goal based on and assessed by the sonar project. Considerable analyses were conducted to construct a new database of stock and recruitment information that was not solely based on mark–recapture estimates. These have included examining the relationships between aerial survey indices (3 scenarios: 3-area index; 4-area index; and a single index) and independent border passage estimates (2 scenarios: Eagle sonar project passage estimates; and passage estimates derived from a radiotelemetry program). A JTC working group reviewed extensive analyses undertaken by Gene Sandone with ADF&G and, after thorough discussion at the March 2008 JTC meeting, made proposals to the JTC as a whole.

The JTC discussed recommendations provided by the Chinook Salmon Escapement Goal working group for a minimum IMEG in 2008. Although working group members could justify IMEG targets ranging from 45,000 to 50,000, consensus was eventually achieved. The JTC recommended that the Yukon River Panel adopt an IMEG of >45,000 Canadian-origin Yukon River Chinook salmon for 2008, to be assessed using information from the Eagle sonar project. This recommendation was established for 1 year, recognizing that further analysis of a biologically based escapement goal was required and additional factors such as habitat capacity had yet to be incorporated. In 2009, the JTC recommended that the minimum IMEG (>45,000) established for 2008 be used for the second year.

In 2010, the JTC recommended that the IMEG be established as a range to allow for the uncertainty of information from assessment projects. The JTC reached consensus for an upper bound of 55,000 and the Yukon River Panel agreed to adopt a lower bound of 42,500. The success of achieving this escapement goal, was to be assessed using the Eagle sonar estimate minus catches from fisheries occurring upstream of the sonar, namely U.S. subsistence catch near the community of Eagle, Alaska and the catch data from Canadian fisheries. The Chinook Salmon Escapement Goal working group will continue to examine other data that may be used in recommending a revised escapement goal for future years. Ongoing analysis includes the use of a habitat capacity approach, which may be useful in improving other analyses.

Canadian Fall Chum Salmon

The upper Yukon River escapement goal specified within the YRSA is >80,000 fall chum salmon. This goal was achieved 17 times within the 30 year period from 1982 to 2011. The DFO fall chum salmon mark–recapture program was conducted from 1982 to 2008[1] while the joint U.S./Canada Eagle sonar program was conducted from 2006 to 2011. The mark–recapture estimates generally agreed with Eagle sonar project estimates when the 2 programs were conducted concurrently. The JTC recommended using the Eagle sonar project as the primary assessment tool for the Canadian border passage estimate starting in 2008.

The upper Yukon River escapement goal was reviewed in 2001 and after considerable analysis of the available data a recommendation was made for a biological escapement goal (BEG) of 60,000 to 129,000 fall chum salmon (Eggers 2001); however, due to concerns over the quality of the data and analytical issues, the BEG recommendation was not accepted during a Pacific Scientific Advice Review Committee (PSARC) review.

For 2011, the JTC recommended that the upper Yukon interim management escapement goal (IMEG) remain as established in 2010 as a range from 70,000 to 104,000 fall chum salmon. This

[1] Mark–recapture estimates were used to determine border passage and spawning escapement estimates from 1982 to 2007.

range was developed as 0.8 to 1.2 times the estimated spawners at maximum sustained yield (86,600) which was derived prior to the returns from the exceptional 2005 spawning escapement of 477,498 fall chum salmon. An update of the spawner-recruit model will be conducted to reevaluate the returns off of the 2005 run once returns are completed. The JTC Escapement Goal Working Group will continue to examine other data that may be used in recommending a revised escapement goal for future years.

Fishing Branch River Fall Chum Salmon

The escapement goal specified within the YRSA is a range of 50,000 to 120,000 fall chum salmon to the Fishing Branch River. This goal has been achieved only 10 times since 1974 and only 5 times since 1985 when the weir program went back into operation. The Fishing Branch escapement goal was reviewed in 2001 and after considerable analysis of the available data a recommendation was made for a BEG of 27,000 to 56,000 fall chum salmon (Eggers 2001); however, due to concerns over the quality of the data and analytical issues, the BEG recommendation was not accepted during a Pacific Scientific Advice Review Committee (PSARC) review.

The inability to reach the 50,000–120,000 goal, particularly when considering the goal was achieved once over the 2 fall chum salmon 4 year cycles preceding 2008 when escapements to the upper Yukon River in Canada were rebuilding, led the JTC to question whether the lack of success was related to an unrealistically high goal. As a result, a JTC Escapement Goal Working Group revisited the goal and attempted to address some of the issues raised during the PSARC review. Although there are some approaches that can improve data quality and analysis of a BEG, the working group recommended postponing this analysis until the returns from the recent high escapement of 119,058 fall chum salmon in 2005 were documented.

For 2008–2010, the JTC recommended an IMEG range of 22,000 to 49,000 Fishing Branch River fall chum salmon. In 2011 the JTC recommended maintaining the IMEG for an additional 3 years (2011–2013) before the next review. The IMEG is based on the Bue and Hasbrouck (*Unpublished*) method of determining a sustainable escapement goal (SEG) and has been used in Alaska. The Fishing Branch River SEG analyses incorporates weir counts from 1985 to 2007 (22 years; excluding 1990) and the contrast in these escapements, i.e., the ratio of the highest to lowest count (24:1). The escapement goal range reflects the approximated 25 and 75 percentiles of the 22 years of weir counts.

The SEG range encompasses the escapement levels that preliminary analysis of the stock recruitment information indicates will produce maximum returns and maximum sustainable yield, 22,188 and 39,400 respectively; however, while weir counts provide good estimates of spawning escapement, the stock specific harvest data necessary for robust stock recruitment estimates is lacking, lending a high degree of uncertainty to the current estimates.

SEASON SUMMARIES

Total Yukon Area Salmon Harvest

The total 2011 harvest for the Yukon River drainage, including Canada, was 45,740 Chinook, 353,609 summer chum, 327,376 fall chum, and 89,350 coho salmon (Table 2). The 2011 estimated total Yukon River drainage harvests compared to the recent 5 year (2006–2010) averages were as follows: Chinook salmon, 34% below average (Appendix A13); summer chum salmon, 45% above average (Appendix A14); fall chum salmon, 89% above average (Appendix

A15); and coho salmon, 89% above average (Appendix A16). The subsistence harvest in the Alaska Coastal District (Scammon Bay and Hooper Bay) of 769 Chinook, 18,305 summer chum, 315 fall chum, and 55 coho salmon brought the total Yukon River Area harvest to 46,509 Chinook salmon, 371,914 summer chum, 327,691 fall chum, and 89,405 coho salmon (Appendices A13–A16).

Alaska Commercial Fishery

A total of 11 salmon processors and/or catcher-sellers registered in the Yukon Area in 2011 (Table 3). The total 2011 commercial harvest for the Yukon Area in Alaska was 82 Chinook, 275,161 summer chum, 238,979 fall chum, and 76,303 coho salmon (Tables 4, 5 ,6, and 7). The 2011 totals compared to the recent 5 year averages (2006–2010) were as follows: Chinook 99 % below (Appendix A13); summer chum 63 % above (Appendix A14); fall chum, 190 % above (Appendix A15); and coho salmon 140 % above average (Appendix 16). A total of 446 permit holders participated in the commercial fishery compared to the 2006–2010 average of 512 permit holders (Appendix A8). Yukon River fishermen in Alaska received an estimated $3.4 million for their salmon harvest in 2011 compared to the 2006–2010 average of $2.0 million (Appendix A11).

Chinook and Summer Chum Salmon

ADF&G monitors a suite of assessment projects that provide critical salmon run timing, relative abundance, and stock composition information. Inseason run assessment includes abundance indices from test fisheries, sonar passage estimates, subsistence and commercial harvest data, and age, sex, and length (ASL) data. In addition, genetic samples collected were analyzed inseason to investigate stock contribution for both Chinook and chum salmon. Information from multiple projects was corroborated when possible to provide the best possible run assessment.

Initial assessment in the lower river is critical to implementing an inseason management plan to operate an orderly fishery throughout the drainage. Three projects on the lower river provide inseason abundance and timing information: the Lower Yukon test fishery (LYTF), a set gillnet project designed primarily to assess Chinook salmon run timing operated near Emmonak using 8.5 inch mesh; a summer chum salmon directed drift gillnet test fishery using 5.5 inch mesh; and the Pilot Station sonar project which provides mainstem abundance estimates for Chinook and summer chum salmon. The 2011 Chinook salmon forecast was a total run size of 216,200 fish. The outlook for summer chum salmon was approximately 1.6 million fish.

Breakup occurred in the lower river on May 22, which is average (Appendix A22). The LYTF was operational at the Big Eddy site on May 30 and at the Middle Mouth site on June 2. On June 3, the first Chinook salmon was caught in the LYTF and the first Chinook salmon subsistence catch was reported in the lower river. An early group of Chinook and chum salmon entered the river from June 5 through June 9 as indicated by an increase in catch rates recorded by the LYTF and reports from subsistence fishermen. Due to difficulties experienced at the Big Eddy set net sites caused by high water and excessive drift, additional drift test fishing for Chinook salmon was conducted throughout the season in the South Mouth with 8.25 inch mesh gillnets to provide supplemental run assessment information. The first pulse of Chinook salmon was observed in the LYTF project on June 14–18, a second pulse on June 20–23, and a third on June 27–31. The LYTF concluded operations on July 14 with a cumulative CPUE of 15.34, which was below the average of 22.49 at this date. The first quarter point, midpoint, and third quarter point were June 16 (1 day late), June 21 (1 day early), and June 28 (average) respectively.

The Pilot Station sonar project cumulative passage estimate was 123,369 (Appendix E3) Chinook salmon, compared to the average[2] of about 159,700. The first quarter point, midpoint, and third quarter point were on June 19, June 23, and July 1 respectively. Sonar assessment provided an estimate for the first pulse of Chinook salmon of approximately 20,800 fish. The estimate for the second pulse was about 37,000 fish and the third pulse came in lower than anticipated at 17,300 fish.

The summer chum salmon drift project in the Lower Yukon River indicated pulses entering the mouth on approximately June 5, June 14, June 20, and June 28. The largest of these pulses passed the Pilot Station sonar project from June 21 to 23 and consisted of approximately 580,300 summer chum salmon. The Pilot Station sonar project cumulative passage estimate was 1,977,808 (Appendix E3) summer chum salmon, which was above the median of 1.4 million for the project. The first quarter point, midpoint, and third quarter point were June 22, June 26, and July 4, respectively.

Though management actions are initially implemented based upon the lower river monitoring projects, assessment continues upriver using tools such as test fish wheels, subsistence harvest reports, weirs, counting towers, aerial surveys, and sonar projects. All projects along the Yukon River and its tributaries contribute to informing management actions.

According to preseason management strategies and inseason assessment through the early portion of the run, the Chinook salmon run was expected to be large enough to provide for escapement but not large enough to meet all subsistence uses.

Consistent with preseason management strategies, a conservative management plan was initiated in District 1 and the northern portion of the Coastal District on June 13. Based upon historical run timing and the current inseason information, a subsistence salmon fishing period was cancelled to protect the first pulse of Chinook salmon in each fishing district and subdistrict based on migratory timing (Tables 8 and 9). As the run developed it became evident that the Chinook salmon run size would likely be at or below the lower end of preseason projections. Consequently, it was necessary to protect the second pulse of Chinook salmon. An additional 2 subsistence periods were reduced by half in District 1, one additional subsistence period in Districts 2, 3, 4, and Subdistricts 5-A, 5-B, 5-C, and lower 5-D were cancelled, and 2 additional periods were cancelled in middle and upper Subdistrict 5-D to ensure that escapement goals were met.

Furthermore, beginning June 27 in District 1 and June 29 in District 2, mesh size during subsistence fishing periods was restricted to 6 inch or smaller for the remainder of the summer season to provide further protection on the third pulse of Chinook salmon as it passed through the districts. This management action was taken with the intent that Chinook salmon incidentally harvested during summer chum directed commercial fishing periods in these districts would be used for subsistence purposes, which would help offset a reduction in subsistence fishing opportunity.

Some subsistence fishermen were able to take advantage of the early Chinook salmon throughout the drainage, but many delayed harvest effort, preferring better processing weather and higher abundance later in the run. Preliminary reports from fishermen indicate that management actions

[2] Average includes years 1995, 1997, 1999, 2002-2008, and 2010. The sonar did not operate in 1996 and project difficulties occurred in 2000, 2001, and 2009.

taken later in the run to reduce the subsistence harvest of Chinook salmon resulted in many fishermen throughout the drainage not meeting there subsistence needs.

Due to the uncertainty concerning Chinook salmon run strength and the need to fulfill the Canadian border passage obligation, meet Alaska escapement needs, and provide for subsistence uses, management of the Chinook salmon commercial fishery continued to follow the conservative preseason management strategy. No commercial periods targeting Chinook salmon were allowed in 2011 in the Yukon River mainstem or in the Tanana River.

In an effort to reduce incidental harvest of Chinook salmon during a poor run, management actions regarding the summer chum commercial salmon fishery were delayed until near the midpoint in the Chinook salmon run at LYTF. At that time, a harvestable surplus of summer chum had been identified as a total run size of approximately 2 million summer chum salmon was projected based on Pilot Station sonar. The first summer chum directed commercial periods were established June 24 in District 1 and June 26 in District 2 (Table 4). Gillnet gear was restricted to 6 inch or smaller mesh. Concurrent subsistence and commercial fishing periods in Districts 1 and 2 were instituted intermittently throughout the season, primarily early in the summer chum salmon commercial season when the subsistence schedule was still in effect (Tables 8 and 4). The intent of these concurrent openings was to decrease the amount of time that Chinook salmon were susceptible to harvest.

When it appeared the third pulse of Chinook salmon was not developing as expected, ADF&G took further measures to provide commercial summer chum salmon harvest opportunities while still protecting Chinook salmon. The area open in the third, fourth, fifth, and sixth periods in District 1 was restricted to the South Mouth only (Figure 3). This action was taken because Chinook salmon abundance was low in the South Mouth and Chinook salmon were entering the river primarily through the North and Middle mouths throughout the season. The area open to commercial fishing included waters from the lower point of Head of Passes downstream to Chris Point, both of which were identified by ADF&G regulatory markers, and included Black River, Kwiguk Pass, and coastal waters from Chris Point to 1 mile north of Kwiguk Pass. North and Middle Mouth passes north of the mainstem South Mouth were closed to commercial fishing. The third commercial fishing period in District 2 was delayed until July 6 because of the high abundance of Chinook salmon in the district. Once it was expected that most of the third pulse of Chinook salmon was in the upstream portion of District 2, ADF&G scheduled 2 periods in which the fishing area was limited to downstream of the Andreafsky River (period 3), and from downstream of the slough at Pilot Station (period 4) (Table 4). ADF&G scheduled 11 commercial fishing periods in District 1 and 9 in District 2 (Table 4).

Sale of incidentally caught Chinook salmon was not allowed during the summer season because subsistence fishing had been restricted during the season in Districts 1–5, and this action helped ensure escapement goals would be met. Fishermen could release any incidentally caught live Chinook salmon or use them for subsistence purposes. It was required to report on fish tickets any Chinook salmon caught but not sold. A total of 4,156 Chinook salmon were reported as incidentally harvested in Districts 1 and 2 and not sold (Table 4). The prohibition of Chinook salmon sales was lifted partway through the fall season. During the fall season, a total of 36 Chinook salmon were sold in District 1 and 46 Chinook salmon were sold in District 2 (Table 5). The cumulative summer chum salmon harvest for Districts 1 and 2 combined was 266,510 fish (Table 4). The summer chum salmon harvest was 216% above the 2001–2010 Lower Yukon Area average harvest of 84,326 fish (Appendix A4).

No commercial fishing periods were established during the summer season in Districts 3–5. In Subdistrict 4-A, 1 buyer had expressed interest in harvesting summer chum salmon prior to the season but withdrew interest just before the season would have begun. Because there were no buyers interested in this area, there were no commercial fishing periods scheduled.

District 6 is managed using inseason assessment information provided by multiple projects operated in the Tanana River drainage. Run assessment was difficult this season due to high water and drift that hampered operation of projects on the Chena, Salcha, and Goodpaster rivers; however, a harvestable surplus of summer chum salmon was identified based upon subsistence harvest information, the Nenana test fish wheel, and indications from lower river genetics and assessment data. Based upon this surplus and market interest, the first commercial fishing period to target chum salmon in District 6 was opened on July 18. As in Districts 1 and 2, the sale of incidentally caught Chinook salmon was not allowed. ADF&G scheduled 11 commercial fishing periods and the cumulative harvest was 8,651 summer chum salmon (Table 4). A total of 352 Chinook salmon were reported as incidentally harvested but not sold in District 6.

Harvest, Effort and Exvessel Value

There were a total of 31 commercial periods (Table 4) in 2011 with majority of commercial fishing occurring in the lower river districts (Tables 2, 6 and 7, Appendices A3, A4, A13, A14, B1–B3, C4–C13). The total commercial harvest for Districts 1, 2, and 6 combined was 275,161 summer chum salmon, which is 164% above the 2001–2010 average harvest of 104,061 fish (Appendix A4).

A total of 408 permit holders participated in the summer chum salmon fishery, approximately 21% below the 2006–2010 average of 520 permit holders (Appendix A8). The Lower Yukon Area (Districts 1–3) and Upper Yukon Area (Districts 4–6) are separate Commercial Fisheries Entry Commission (CFEC) permit areas. A total of 403 permit holders fished in the Lower Yukon Area in 2011, which was approximately 21% below the 2006–2010 average of 513. In the Upper Yukon Area, 5 permit holders fished, which was approximately 74% below the 2006–2010 average of 19 (Appendix A8).

Yukon River fishermen in Alaska received an estimated $1.3 million for their summer chum salmon harvest in 2011 compared to the 2006–2010 average of $427,109 (Appendix A11). Lower Yukon River fishermen were paid $0.75 per pound for summer chum salmon (Appendix A10). The estimated average income for Lower Yukon Area fishermen in 2011 was $3,260.

Upper Yukon Area fishermen received an average of $0.26 per pound for summer chum salmon sold in the round (Appendix A10). The average price paid in the Upper Yukon Area was slightly above the 2006–2010 average of $0.23 per pound (Appendix A10). No Chinook salmon were sold in the Upper Yukon Area. The average income for Upper Yukon Area fishermen that participated in the 2011 fishery was $2,593.

Fall Chum and Coho Salmon

The fall season began with subsistence fishing in Districts 1–3 and Subdistrict 5-D open 7 days a week, 24 hours a day, while District 4 and Subdistricts 5-A, 5-B, and 5-C were on a 5 days a week schedule (Tables 8 and 9). A limited commercial harvest was allowed in Districts 1 and 2 during the transition time between the summer and fall seasons. The strategy was to allow a conservative commercial harvest early in the run. If the fall chum salmon run assessment indicated the run was meeting the expectations of the preseason projection, more commercial

opportunity would be provided. There were 3 commercial openings in District 1 between July 16 and August 1. A total of 19,561 fall chum salmon were harvested during those openings; however, by the last week of July, run assessment indicated that the 2011 run strength was below average and no further commercial fishing occurred during that time.

As the fall chum salmon run approached the first quarter point (late July), management decisions started incorporating abundance and run timing information from Pilot Station sonar project and the drift gillnet test fisheries located at Emmonak and Mountain Village. Cumulative fall chum salmon passage estimates from the Pilot Station sonar project were used to determine inseason run size projections. In turn, the projections triggered management actions in accordance with the fall chum salmon management plan. Run timing and strength information from the drift gillnet test fisheries were compared inseason for consistency with the Pilot Station sonar project estimates as a method to check that the projects were operating correctly. In 2011, fall chum salmon run timing past Pilot Station sonar correlated well with the drift gillnet projects in the Lower Yukon Area.

The first and largest pulse of fall chum salmon entered Yukon River on July 30. After that, fall chum salmon continued to enter the Yukon River over 4 additional pulses through September 7. Inseason run size projections estimated a run size ranging from 800,000 to 1.0 million fall chum salmon. Commercial fishing continued in Districts 1 and 2 through the remainder of the season. Attempts were made to align commercial openings with pulses as they entered the river. In between pulses, commercial openings occurred on a set schedule. Limited commercial fishing also occurred in Subdistricts 5-B and 5-C in early August and in District 6 into early October. The subsistence schedule in District 4 was liberalized to 7 days per week on August 30. The subsistence schedule in Subdistricts 5-A, 5-B, and 5-C was increased to 7 days a week on September 13. The subsistence schedule in Subdistricts 6-A and 6-B was relaxed to 7 days a week on September 30.

The 2011 outlook for coho salmon was for a below average to average run size. The coho salmon run was assessed to be above average early in the run; however, below average passage past Pilot Station sonar project from mid to late August resulted in the 2011 run being late. The coho salmon run was assessed as being below average during that time. The largest pulse of coho salmon entered the river around August 24. Because of the number of coho salmon run in the pulse, the run strength improved but continued to be assessed as below average for the remainder of the 2011 run.

In the mainstem Yukon River districts, coho salmon were harvested incidentally in the fall chum salmon directed commercial fisheries. Three coho salmon directed commercial openings were prosecuted in District 1 in early September (Table 5). In District 6, coho and fall chum salmon were both targeted in the commercial fishery.

Harvest, Effort, and Exvessel Value

There were a total of 32 commercial periods including those in the Set Net Only Area of District 1 (Table 5; Figure 10) in 2011 with majority of commercial fishing occurring in the lower river districts (Tables 2, 6 and 7), Appendices A5, A6, A15, A16, B4 and B5, C14–C20). The 2011 total commercial harvest for the Yukon River fall season in the Alaska portion of the drainage was 238,979 fall chum (Table 5, Appendices A5 and A15) and 76,303 coho salmon (Table 5, Appendices A6, and A16). The fall chum salmon harvest was the largest since 1995 and the coho salmon harvest was the largest since 1996 (Appendices A15 and A16). All salmon were sold in

the round and no salmon roe was sold separately. The average price per pound for fall chum and coho salmon in the lower river was $1.00, which was well above average (Appendix A10). The exvessel value of the total harvest was a record $2,123,435; $1,644,444 for fall chum and $478,991 for coho salmon (Appendix A11). A total of 403individual permit holders participated in the 2011 fall chum and coho salmon fishery; 395 in Districts 1 and 2 combined and 8 in Districts 5 and 6 combined (Appendix A8). Participation in all districts was above recent averages.

ALASKA SUBSISTENCE FISHERY

Subsistence Harvest

A total of 41,069 Chinook, 96,459 summer chum, 80,549 fall chum, 12,576 coho salmon (Table 10; Jallen et al. 2012), 2,291 pink salmon (Appendix D5), and 279 sockeye salmon (Appendix D18) were estimated to have been harvested for subsistence in the Yukon Area. The Yukon Area includes the Alaska portion of the Yukon River drainage and the communities within the Coastal District. Harvest estimates included salmon given away by test fishing projects, retained from commercial fisheries for subsistence, and salmon harvested by households with subsistence and personal use permits. An estimated 1,543 households participated in the Yukon Area subsistence and personal use fisheries in 2011 with 45% of households using set gillnets as their primary gear type, 48% of households using drift gillnet, and 6% of households drainage wide using fish wheels as their primary gear type (Table 10).

Subsistence salmon harvest survey and permit programs collected quantitative information on salmon harvest by species, gear types used to harvest salmon, harvest distribution, miscellaneous species harvest, number of dogs and salmon fed to dogs. Qualitative information was also collected from households about salmon health and quality, subsistence fishing success, and fishery concerns.

Stratified random sampling techniques were used to select Yukon Area households to be interviewed during the 2011 postseason survey (Cochran 1977, Jallen et al. 2012). The harvest surveys include salmon retained for subsistence from commercial fishing which are reported by households as part of their subsistence harvest. The majority of households (57%) used drift gill nets as their primary gear types. An estimated 39% of households used set gillnets and 4% of households used fish wheels as their primary gear type (Jallen et al. 2012).

A total of 418 subsistence permits were issued in 2011 for the harvest of salmon and nonsalmon species. The number of subsistence fishing permits issued includes permits issued for the permit area near Stevens Village and harvest from permits for species other than salmon (Appendix D6). Harvest from the community of Stevens Village is primarily estimated for by the subsistence survey program to avoid double counting salmon (Jallen et al. 2012). As of February 15, 2012, 97% of the permits issued were returned and 229 permits reported fishing information (Appendix D6). Information collected annually on the number of dogs owned by permit households and salmon harvested for dogs is included in the annual subsistence salmon harvest report (Jallen et al. 2012).

Households that returned permits reported harvesting 5,291 Chinook, 2,444 summer chum, 33,173 fall chum, and 6,127 coho salmon (Appendix D6). Salmon harvested commercially and reported as retained for subsistence on fish tickets are added to permit harvests in permit areas.

In 2011, 352 Chinook, 1,650 fall chum, and 718 coho salmon were added to the community harvest totals of Nenana and Fairbanks (Table 10).

The number of permits issued in 2011 (Appendix D6) was 5% above the recent 5 year average (2006–2010) and 15% above the recent 10 year average (2001–2010). Harvest of Chinook salmon reported on permits was 14% below the recent 5 year average and 9% below the recent 10 year average (Jallen et al. 2012). The harvests of summer chum and fall chum salmon in 2011 were 16% and 1% above the recent 5 year average for each species, and 26% and 37% above the recent 10 year averages (Jallen et al. 2012). Harvest of coho salmon was 14% below the recent 5 year average and 31% below the recent 10 year average (Jallen et al. 2012).

In order to monitor and manage the Yukon Area salmon fisheries, ADF&G operates or oversees, several test fishing projects within the area. Fish harvested during operation of these projects are provided to the local community to supplement their subsistence harvests. In 2011, test fishery projects throughout the drainage provided a total of 2,696 Chinook, 7,499 summer chum, 2,777 fall chum, and 824 coho salmon to households for subsistence use (Jallen et al. 2012). Residents of the communities of Alakanuk, Emmonak, Eagle, Hooper Bay, Kotlik, Mountain Village, Pilot Station, and Scammon Bay were the primary recipients of these fish. Salmon caught in the test fisheries were assumed to replace fish that would have been obtained through normal fishing activities; therefore, salmon given away from the test fisheries were added into the subsistence harvest for that community. These totals include 5 Chinook salmon and 1 fall chum salmon given to residents of the permit community of Eagle from the Eagle sonar project (Jallen et al. 2012). Fishermen gave 290 incidentally harvested Chinook salmon to Kwik'pak Fisheries LLC (Jallen et al. 2012). These Chinook salmon were donated by Kwik'pak Fisheries to other communities along the river (Jallen et al. 2012). These fish were not added to subsistence harvest totals (Jallen et al. 2012).

Historic Trends and Amounts Necessary for Subsistence

One method for assessing the relative success of Yukon Area fishermen is to compare the annual drainagewide estimated subsistence harvest to historic averages and to the "amounts (reasonably) necessary for subsistence" (ANS) harvest ranges established by the BOF (ADF&G 2001). The ANS levels outlined in 5 AAC 01.236 are 45,500–66,704 Chinook, 83,500–142,192 summer chum, 89,500–167,900 fall chum, and 20,500–51,980 coho salmon. Except for the harvest of summer chum salmon, which was within its ANS range, results indicate subsistence harvests of each of the other salmon species in 2011 were below the lower level of their ANS ranges.

Salmon harvest estimates based on survey results indicated the Chinook salmon subsistence harvest was 10% below the recent 5-year average (2006–2010) and 23% below the previous 5-year average (2001–2005) (Appendix D1). The 2011 summer chum salmon subsistence harvest was 4% above the recent 5-year average and 16% above the previous 5-year average (Appendix D2). The 2011 harvest of fall chum salmon was 2% below the recent 5-year average and 51% above the previous 5-year average (Appendix D3). Coho salmon harvest was nearly 28% below the recent 5-year average and 44% below the previous 5-year average (Appendix D4). Overall, the 2011 Yukon Area subsistence salmon harvest of 229,546 Chinook, summer chum, fall chum and coho salmon combined (Appendices D1–D4) was approximately 3% below the recent 5-year average (2006–2010) of 237,065 fish and 9% above the previous 5-year average (2001–2005). This 10 year period includes years with very low harvests and fishing restrictions, such as the closures during the first pulse of Chinook salmon in 2009 and the low returns of fall fish in the

2002 season. While the 2011 harvest of Chinook salmon was low compared to the recent and previous 5-year averages, it was 21% higher than the 2009 harvest of 33,805 Chinook salmon.

Of the households that answered survey questions in 2011 about whether their subsistence needs were met, the majority of households reported meeting over 50% of their needs for summer chum (64% of households) and coho salmon (51% of households). Approximately 46% of households that responded reported meeting over 50% of their needs for either Chinook or fall chum salmon. The percentage of households meeting over 50% of their needs for each species in 2011 was greater than the recent 5 year average (2006–2010) for each species (Jallen et al. 2012). Commonly cited reasons for not meeting needs included comments that the fishing schedule conflicted with work opportunities, fishing periods were too short and families could not afford to travel back and forth to fish camps, and fishing took place during poor weather conditions for fish preservation. Several fishermen reported they were unable to fish because they did not have gear meeting the new 7.5 inch maximum mesh size regulation. Remarks on poor weather conditions included wet, cold, and rainy weather, especially in the Lower Yukon Area. Surveyed households mentioned other factors that contributed to the inability to meet subsistence salmon needs including expenses such as fuel or fishing equipment, low salmon abundance, and health or other personal reasons (Jallen et al. 2012).

ALASKAN PERSONAL USE FISHERY 2011

A household permit is required for personal use fishing in the portion of the Tanana River drainage within the Fairbanks Nonsubsistence Area (Figure 11). Fishermen are required to document their personal use harvest on household permits and return them to ADF&G at the end of the season.

In 2011, 67 personal use salmon permits were issued (Appendix D16). Sixty-four personal use salmon permits were returned and 33 returned permits reported fishing. This compares to the recent 5-year average (2006 to 2010) of 59 permits returned and 30 reporting harvest. The reported personal use harvest was 89 Chinook, 439 summer chum, 347 fall chum, and 232 coho salmon (Appendix D6).

ENFORCEMENT

The primary enforcement authority for violations of Fish and Game regulations is the Division of Alaska Wildlife Troopers (AWT) with the Department of Public Safety. State AWT officers worked cooperatively with federal USFWS officers for the purpose of enforcing subsistence, personal use, and commercial fishing regulations within the Yukon Area.

During 2011, four AWT officers conducted patrols in the Lower Yukon River, Upper Yukon River, and Kuskokwim River. A total of 636 contacts were made and 62 citations were issued, including violations for improper vessel identification, not possessing a crewmember license, unmarked gear, over maximum net size, fishing during a closed period, and no vessel registration.

CANADIAN FISHERIES

A total of 4,884 Chinook salmon, 8,163 fall chum salmon, and 63 coho salmon were harvested in the 2011 Canadian fisheries (Table 2; Appendices A13, A15, and A16), including fish harvested in Canadian commercial, recreational, domestic, and test fisheries.

Canadian Commercial Fishery

A total of 5,312 fall chum salmon were harvested in the Canadian Yukon River commercial fishery in 2011 (Table 2; Appendix A15). A total of 4 Chinook salmon and zero coho salmon were commercially harvested in 2011. The chum salmon commercial harvest was slightly above the 10 year (2001–2010) average (Appendix A15).

Chinook Salmon

The total run of Canadian Yukon River mainstem Chinook salmon in 2011 was expected to be below average, with a preseason outlook range of 65,000 to 89,000 Chinook salmon. This outlook included an adjustment to reflect a recent trend where actual runs were lower than the preseason outlooks (JTC 2012).

The inseason Chinook salmon run status indicated that there would not be a sufficient run to support a commercial fishery. As a result, the fishery remained closed throughout the 2011 Chinook salmon season. A total of 4 Chinook salmon was harvested incidentally during the early fall chum salmon opening in late August. The average commercial Chinook salmon catch for the 2001–2010 period was 1,910 fish (Appendix A13). Since 1997, there has been a marked decrease in commercial catch of Canadian Yukon River mainstem Chinook salmon, resulting from closures and/or very limited fishing opportunities. The recent 5-year average (2006–2010) commercial catch in the fishery was 899 Chinook salmon (Appendix A13; JTC 2012).

Fall Chum and Coho Salmon

The preseason outlook for the Upper Yukon fall chum salmon run in 2011 was a run of 151,000 to 217,000 fish. A stronger than expected return of fall chum salmon resulted in opportunities for commercial fishery openings throughout the fall season. A total of 5,312 fall chum salmon were harvested during 4 commercial fishery openings. Since 1997, there has been a marked decrease in commercial catches of Canadian Yukon River mainstem fall chum salmon that have resulted from a limited market as well as reduced fishing opportunities in some years due to below average run sizes (JTC 2012).

Genetic stock identification data were used in conjunction with the Pilot Station sonar counts to develop a preliminary index of the Canadian-origin fish run size estimates. These data have been useful in recent years since they provide an early indication of potential Canadian fall chum salmon run strength as the fish move through the lower section of the Yukon River in Alaska. Other data such as the Rampart Rapids video test fish wheel project results were used to assess run timing for use in projection models. In 2011, projections from the Eagle sonar program were used for the third year for inseason management. Prior to 2008, the Canadian inseason management regime was based primarily on the DFO tagging program (JTC 2012).

The objective of management actions in 2011 was to ensure that the conservation objective (70,000–104,000 escapement goal range) was achieved. By mid-August, it was evident that the fall chum salmon run was at or above the upper end of the preseason forecast based on projections from the LYTF and Pilot Station sonar project and indications from the Rampart Rapids fish wheel. The commercial fishery was opened on a conservative schedule commencing on August 26 to provide opportunities for the catch and sale of early run chum salmon, considered to be marketable as food for human consumption. Two 4-day openings followed on September 2 and September 9. As further confidence in Eagle sonar-guided projections was realized, the commercial fishery was opened for 7 days per week commencing September 16 and

remained open until October 9 with a further extension to October 16 (JTC 2012). The total 2011 commercial fall chum salmon catch of 5,312 fish was close to the 2001–2010 average of 5,134 and 50% higher than the 2006–2010 average of 3,549 (Appendix A15). Within the 2001–2010 period, the commercial fall chum salmon catch ranged from 293 in 2009, when the run was late and the fishery was closed most of season due to conservation concerns, to 11,931 fall chum salmon in 2005 (Appendix A15). The fall chum salmon commercial fishery is somewhat of a misnomer as virtually all of the catch is used for what could be termed personal needs; few fish are sold. This situation could change with the recent development of local value-added products such as smoked fall chum salmon and salmon caviar (JTC 2012).

No coho salmon were recorded in the 2011 commercial fishery. The harvest of coho salmon is negligible within the Canadian Yukon River mainstem commercial, domestic, recreational, and aboriginal fisheries. This is thought to be related to a combination of low abundance and limited availability of this species based on migration timing (JTC 2012).

CANADIAN ABORIGINAL, DOMESTIC, AND RECREATIONAL FISHERIES 2011

Aboriginal Fishery

In 2011, as part of the implementation of the Yukon River Final Agreements (comprehensive land claim agreements), the collection of inseason harvest information for the Canadian Yukon River mainstem was conducted by First Nations within their respective traditional territories. Before the start of the fishing season, locally hired surveyors distributed catch calendars to known fishermen and asked them to voluntarily record catch and effort information on a daily basis. Interviews were then conducted inseason to obtain more detailed catch, effort, gear, and location information at fish camps or in the community, 1–3 times weekly. In most cases, weekly summaries were completed by the surveyors and e-mailed to the DFO office in Whitehorse. Late or incomplete information was obtained post season and reviewed by First Nation staff in conjunction with DFO (JTC 2012).

Based on a preseason outlook for a below average run of 65,000 to 89,000 Canadian Yukon River mainstem Chinook salmon, it was prudent to consider that conservation measures would likely be required in Canadian fisheries (i.e. commercial, domestic and recreational fisheries). It was suggested to the First Nation governments that they take a precautionary approach early in the season and on July 25 it was recommended that they reduce their harvest to 75% of normal. The voluntary recommended reduction was relaxed on August 3 as confidence grew in the border escapement. In response to early information, the majority of fishermen decided not to open their fish camps and the Chinook salmon needs of Yukon aboriginal communities were not met in 2011 (JTC 2012).

In 2011, the Canadian Yukon River mainstem aboriginal Chinook salmon catch was estimated to be 4,550 fish (Appendix A13); including 2,879 reported harvest and an adjustment of 1,674 to account for underreporting. The adjustment was derived through recent harvest data that was expanded based on average percentage of harvest to reflect harvest numbers by each First Nation. This adjusted estimate is 43% below the 8,000 Chinook salmon considered to be the harvest of a full unrestricted fishery. While intensive surveys regarding salmon harvest of First Nation communities carried out between 1996 and 2001 provided accurate harvest data, recent data has been less robust, indicating the need to incorporate the adjusted harvest numbers. The total reported harvest (2,879) and adjusted harvest (4,550) in the First Nation Fishery was 45%

and 13% respectively, below the recent 10-year average (2001–2010) of 5,260 salmon and is one of the lowest on record since the 1970's (Appendix A13; JTC 2012).

The preseason outlook for Canadian Yukon River mainstem fall chum salmon in 2011 indicated a run of 151,000 to 217,000 fish and no restrictions were expected in the First Nation fishery. As inseason information became available, it became apparent that the run was strong and would support an unrestricted First Nation fishery. The 2011 Canadian Yukon River mainstem fall chum salmon harvest reported in the aboriginal fishery totaled 771. This reported harvest was increased to 1,000 to account for underreporting (Table 2 and Appendix A15). The chum salmon adjusted value was based on recent average harvests during conservation years (JTC 2012).

In the Canadian Porcupine River drainage, DFO and the Vuntut Gwitch'in Government (VGG) held regular teleconference calls to provide updated information on run timing, abundance and to address conservation concerns for Chinook salmon within the Porcupine River drainage. No specific management actions were required inseason, but as with Canadian Yukon River mainstem First Nations, a precautionary approach was taken in the early season when Lower Yukon estimates indicated a poor return of Chinook salmon. VGG developed their own management strategies accordingly, and there were no official restrictions required in 2011. The Porcupine aboriginal harvest was 290 Chinook salmon (Table 2; JTC 2012).

Canadian fishery management considered inseason information on the status of the fall chum salmon run from Alaska portions of the river including fishery information, sonar estimates from Pilot Station, and the Ramparts Rapids video test fish wheel data. U.S. genetic stock identification data were used in conjunction with the Pilot Station sonar estimates to develop a preliminary index of the potential run size destined for the Canadian section of the Porcupine River drainage; however, early season forecasts are highly uncertain (JTC 2012). Due to the interruption of Fishing Branch weir operations during flooding, the lack of late run information from the new Porcupine River sonar project, and the lack of certainty regarding the reliability of the sonar estimate, the upstream information was not sufficient to determine that the escapement goal would not be achieved until the Old Crow fishing season was over (JTC 2012). The Porcupine aboriginal harvest was 1,851 fall chum salmon (Table 2, Appendix A15).

Coho salmon were not recorded in the Canadian Yukon River mainstem fisheries (aboriginal, commercial, domestic and recreational) but 63 coho salmon were reportedly harvested in the Porcupine aboriginal fishery (Table 2, Appendix A16). The harvest of coho salmon is usually negligible within the Canadian Yukon River mainstem fisheries. This is thought to be related to a combination of low abundance and limited availability of this species based on late migration timing. Within the Porcupine River drainage, there is often some aboriginal fishing for coho salmon that occurs with nets set under the ice (JTC 2012).

Domestic Fishery

The domestic fishery was closed during the Chinook salmon season and opened concurrently with the commercial fishery for 5 openings during the fall chum salmon season. In recent years, domestic fishermen have targeted Chinook salmon, although historically fall chum salmon were targeted in some years. There was no reported domestic fishing for fall chum salmon in 2011. The average domestic fishery catch of Chinook and fall chum salmon for the 1974 to 2010 period was 393 and 514, respectively; domestic fishery catches were not recorded prior to 1974 (Appendices A13 and A15; JTC 2012).

Recreational Fishery

In 1999, a mandatory Yukon Salmon Conservation Catch Card (YSCCC) was introduced in an attempt to improve harvest estimates and to serve as a statistical base to ascertain the importance of salmon to the Yukon River recreational fishery. Anglers are required to report their catch by mail by late fall. The information requested includes the number, species, sex, size, date, and location of all salmon caught and released (JTC 2012).

In 2011, in response to early season projections for a poor return of Chinook salmon, the daily catch and possession limits in the recreational fishery were reduced to zero effective 1200 hours July 9. On July 25, continued low border escapement projections and subsequent reductions in the Aboriginal fishery triggered the closure of the Tatchun River to all angling to allow unimpeded passage of Chinook salmon through this popular fishing site; however, by the end of the first week of August, the inseason Chinook salmon run projections climbed slightly allowing for normal catch and possession limits (2 and 4, respectively) in the recreational fishery to be reinstated and for the Tatchun River area to be re-opened for angling (JTC 2012).

From catch card information received as of this publication, 40 Chinook salmon were retained in the 2011 recreational fishery (Table 2, Appendix A13) and 27 reported as released. The average retained Chinook salmon catch within the 2001–2010 period was 238 fish (JTC 2012).

For the 2011 season, the daily catch and possession limits of fall chum salmon in the recreational fishery remained at 2 and 4, respectively. There are no reports of fall chum salmon caught (JTC 2012).

ESCAPEMENT

Escapement Goals

BEGs have been established for several Yukon River drainage salmon spawning streams or areas (Appendix E1). Escapement goals (EG) for Chinook, summer chum, and fall chum salmon were reviewed for the 2010 BOF cycle (Volk et al. 2009). The EGs developed or modified through this process are primarily presented as ranges. The underlying principle in establishing an EG is that maintenance of average or better spawning escapements which should provide for sustained yield consistent with historic levels (*Policy for the Management of Sustainable Salmon Fisheries* (5 AAC 39.222.) and *Policy for Statewide Salmon Escapement Goals* (5 AAC 39.223.)). The use of EG ranges should allow for uncertainty associated with measurement techniques, observed variability in the salmon stock measured, changes in climate and oceanographic conditions, and varying abundance within related populations of the salmon stock being measured. ADF&G undertakes a triennial review of salmon escapement goals in conjunction with the BOF meeting cycle. Chinook, summer chum, and fall chum salmon were reviewed for the 2010 BOF cycle. Under these policies ADF&G determines either a BEG or a SEG (ADF&G 2004; Brannian et al. 2006). BEG means a level of escapement that provides the highest potential to produce maximum sustainable yield. SEG means a level of escapement known to provide for sustainable yield over a 5 to 10 year period.

Most of the EG ranges established within the Yukon River drainage represent the number of desired spawners considered necessary to maintain the historical yield from the stocks and are based upon historical performance, i.e., they are predicated upon some measure of historic averages. Establishment of escapement goals based upon a rigorous analysis of maximum sustained yield is not possible at this time due to the nature of the Yukon River mixed stock

fisheries, lack of stock identification data, and consequential inability to reconstruct total inriver stock-specific returns. Consequently, most escapement goals are based upon aerial survey index estimates that do not represent total escapement but are assumed to reflect relative spawner abundance when using standard survey methods under acceptable survey conditions. However, the goals established for Anvik River summer chum salmon (Clark and Sandone 2001), East Fork Andreafsky River summer chum salmon (Fleischman and Evenson 2010) and selected fall chum salmon spawning stocks (Eggers 2001) represent the desired range for total spawning abundance as they are based upon a more comprehensive database. In 2010 the most significant change affecting fall chum salmon EGs included changing the Yukon River drainagewide goal from a BEG to a SEG (Fleischman and Borba 2009). At this time, the analysis did not include the component stocks and they remain listed as BEGs based on Eggers (2001) analysis.

Most Arctic-Yukon-Kuskokwim (AYK) Region escapement goals were originally set in the late 1970s or early 1980s. These goals were first documented by Buklis (1993) as required under ADF&G's original escapement goal policy signed in 1992. Most BEGs were generally established using a simple escapement averaging methodology based on aerial survey counts. Changes to these goals were adopted in 2001 when BEGs were set for Yukon River fall chum salmon (Eggers 2001), Anvik River summer chum salmon (Clark and Sandone 2001), and Andreafsky River summer chum salmon (Clark 2001). These goals are now referred to as SEGs because of precision issues inherent to aerial survey methodology. The SEGs for Chinook salmon were developed using historical aerial survey information.

Beginning in December of 2002, ADF&G undertook the first full review of its escapement goals following the adoption of 2001 policies. Recommendations were presented to the BOF in January 2004 and formally adopted by ADF&G in 2005. Because the 2001 and 2004 escapement goals received thorough review, no changes to escapement goals were recommended for the February 2007 BOF meeting. ADF&G completed another review of escapement goals in preparation for the January 2010 BOF meeting. As in previous cycles, the review included formal meetings open to agencies and the public. Draft analyses were prepared and distributed in March 2009, and a final document summarizing the escapement goal review was completed in December 2009 (Volk et al. 2009).

In May 2011, ADF&G began another escapement goal review cycle to prepare for the January 2013 Alaska Board of Fisheries meeting. Data series were reviewed and updated before and after the 2011 season, and this information was presented at a meeting open to agencies and the public was in November 2011. Draft analyses are being prepared for a second public meeting scheduled for March 1–2, 2012, and following that meeting, formal recommendations and an updated escapement goal report will be prepared. Escapement goal changes are being considered for 2 Chinook salmon and 1 fall chum salmon stock, and reviews are being conducted on several other stocks.

Five Chinook salmon aerial survey goals were converted to escapement goal ranges and formally adopted in 2005, using the method devised by Bue and Hasbrouck (unpublished; Appendix E1). Current escapement goals for Chinook salmon in the U.S. portion of the Yukon River drainage include aerial survey goals on the West Fork Andreafsky, Anvik, and Nulato (North and South Forks combined) Rivers; a weir count goal on the East Fork Andreafsky River; and tower count goals on the Chena and Salcha Rivers. At the January 2010 BOF meeting, the escapement goal for East Fork Andreafsky River Chinook salmon was revised to a weir based goal, and the aerial survey escapement goal for Gisasa River Chinook salmon was discontinued (Volk et al. 2009).

All other Yukon Chinook salmon goals were retained, and the goals as established or left in place at the 2010 meeting continued to be used in 2011 and will be used in 2012. All of these goals are under discussion in preparation for the 2013 BOF meeting.

Current summer chum salmon escapement goals are in place only for East Fork Andreafsky and Anvik Rivers. In 2010, the East Fork Andreafsky River weir based goal was revised to a lower bound SEG replacing the BEG range primarily because it would be difficult or undesirable to hold escapements below the upper bound of a range through inseason management actions (Fleischman and Evenson 2010; Appendix E1). Both the East and West Fork Andreafsky River aerial survey based goals were eliminated (Volk et al. 2009). The existing summer chum escapement goals are expected to be retained during the next BOF cycle, and a small number of others are being reviewed, in particular, a Yukon River drainagewide goal.

SALMON SPAWNING ESCAPEMENT

An essential requirement for management of the Yukon River salmon fisheries is documentation of annual salmon spawning escapements. Such documentation provides for:

1. Determination of appropriate escapement levels or goals for selected spawning areas or management units;
2. Evaluation of escapement trends;
3. Evaluation of the effectiveness of the management program, which in turn forms the basis for proposing regulatory changes and management strategies; and
4. Evaluation of stock status for use in projecting subsequent returns.

Genetics

Scale pattern analysis, age composition estimates, and geographic distribution has been used by ADF&G on an annual basis from 1981 through 2003 to estimate stock composition of Chinook and chum salmon in Yukon River harvests. In 2004, the feasibility of using genetic analysis in replacement of scale pattern analysis to assess stock composition was first tested (JTC 2012). Since that time, the development of genetic methods and techniques for Chinook and chum salmon stock identification in the Yukon River drainage has been ongoing (Flannery et al. 2010). Salmon stock composition using genetic techniques demonstrates promise as a useful tool for fisheries management on the Yukon River in future years.

Aerial Survey Escapement Assessment Methods

The Yukon River drainage is too extensive for complete comprehensive escapement coverage of all salmon spawning streams. Consequently, low-level aerial surveys from single-engine, fixed-wing aircraft form an integral component of the escapement assessment program. The greatest advantage of aerial surveys is the cost-effectiveness of obtaining escapement information throughout an extremely vast and remote area. Another advantage to aerial surveillance is that current or potential habitat-related problems arising from natural or man-induced causes can be identified. Among the disadvantages are that results may be highly variable if non-standardized procedures are used.

Variability in aerial survey accuracy is dependent upon a number of factors such as weather, water turbidity, timing of surveys with respect to peak spawning, aircraft type, survey altitude, experience of both pilot and observer, and species of salmon being assessed. It is recognized that aerial estimates are lower than actual stream abundance due to these factors. Further, peak

abundance measured by aerial survey methods is significantly lower than total spawning abundance due to the die-off of early spawners and arrival of fish after the survey. Aerial estimates in a given stream may demonstrate a wide range in the proportion of fish being estimated from year to year. To the extent that this variability can be controlled, peak aerial counts may serve as indices of relative abundance for examination of annual trends in escapement.

Aerial escapement estimates are obtained from as many spawning streams as possible within the confines of fiscal, personnel, and weather constraints. However, selected spawning streams or "index areas" which represent a larger geographic area have been identified and receive highest priority. Index areas have been designated due to their importance as spawning areas and/or by their geographic location with respect to other unsurveyable salmon spawning streams in the general area.

ESCAPEMENT

Summer Season Escapement

Chinook Salmon Escapement

The actual 2011 Chinook salmon run was weaker than the preseason projection. Escapement objectives into Canada, as dictated by the YRSA, were achieved. Chinook salmon escapement goals for the East Fork and West Fork Andreafsky rivers were achieved; however, the Anvik River escapement goal was not met. Season cumulative counts on the Gisasa and Henshaw rivers were above average, but these systems are relatively small contributors. High water conditions on the Chena, Salcha, and Goodpaster rivers precluded counting at towers or on aerial surveys for much of the season, but aerial surveys on the Salcha River were adequate to obtain total counts meeting the escapement goal.

Most aerial surveys in the lower Yukon River drainage were conducted under fair or good conditions. Water conditions were generally turbid with high water levels. Ten surveys were rated good, 11 surveys were rated fair, 1 was rated poor and 1 survey was incomplete. Salmon entering the Yukon River exhibited near average run timing. Most surveys on the Koyukuk River tributaries and many on the Lower Yukon River tributaries were conducted at peak spawning.

Escapement on the Chena, Salcha, and Goodpaster rivers was monitored using tower counts, though high water prevented accurate counting on these systems for much of the season, and tower count estimates were not generated. The Salcha River missed 16 days of counting during the season. The Goodpaster River experienced 10 days in which counts were hampered or suspended due to water clarity issues. Operation of the Chena River tower was delayed because of the high water conditions, and only 4 days of complete counts and 4 days of partial counts were documented.

The Chinook salmon escapement counts for selected spawning areas in the Alaska portion of the Yukon River drainage can be found in Appendices E4 and E5.

A weir was operated on the East Fork Andreafsky River by USFWS, and the estimated passage of 5,213 Chinook salmon was the highest escapement achieved in the last 5 years (Appendix E5). Age, sex, and length data was collected from Chinook salmon caught in the weir trap. The estimated age composition was 0.0% age-3, 45.6% age-4, 39.6% age-5, 14.6% age-6, and 0.2%

age-7 fish. The sex composition of fish sampled (*n*=542) was 19.9% female and 80.1% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

Age, sex, and length data was collected from the Anvik River using a carcass survey conducted by ADF&G. The estimated age composition was 16.9% age-4, 56.8% age-5, 25.8% age-6, and 0.4% age-7 fish. The sex composition of fish sampled (*n*=236) was 25.8% female and 74.2% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The Gisasa River weir was operated by USFWS, and the passage estimate was 2,692 Chinook salmon (Appendix E5). Age, sex, and length data was collected from fish caught in the weir trap. The estimated age composition from scale samples was 0.0% age-3, 30.4% age-4, 56.7% age-5, 12.3% age-6, 0.3% age-7, and 0.3% age-8 fish. The sex composition of fish sampled (*n*=597) was 18.0% female and 82.0% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

Escapement through the weir operated at Henshaw Creek by TCC and USFWS Office of Subsistence Management was estimated at 1,796 Chinook salmon (Appendix E5). Age, sex, and length data was collected from fish caught in the weir trap. The estimated age composition from scale samples was 0.2% age-3, 20.7% age-4, 47.4% age-5, 31.2% age-6, and 0.4% age-7 fish. The sex composition of fish sampled (*n*=428) was 35.0% female and 65.0% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

BEGs have been established for the Chena and Salcha rivers located on the Tanana River, which are the 2 largest spawning tributaries for Chinook salmon in the Yukon River drainage. There are no tower estimates for either Chena or Salcha rivers due to high water conditions; however, an aerial survey conducted on July 25 for Salcha River revealed that escapement was met.

Age, sex, and length information was collected from the Chena and Salcha rivers using carcass surveys conducted by ADF&G and the Bering Sea Fishermen's Association, respectively. The estimated age composition of Chinook salmon in the Chena River was 0.2% age-3, 22.6% age-4, 46.8% age-5, 28.7% age-6, and 1.6% age-7 fish. The sex composition of fish sampled (*n*=425) was 31.8% female and 68.2% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012). The estimated age composition of the Chinook salmon in the Salcha River was 0.2% age-3, 14.6% age-4, 35.5% age-5, 48.2% age-6, and 1.5% age-7 fish. The sex composition of fish sampled (*n*=527) was 42.1% female and 57.9% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The Eagle sonar project was used to determine the Canadian Upper Yukon River border passage estimate in 2011. The border passage estimate for 2011 is 50,901 Chinook salmon based on the Eagle sonar project estimate of 51,271 minus an estimated Alaska subsistence harvest upstream of the sonar project site of 370 fish (Appendix E6). After subtracting the Canadian Yukon River mainstem harvest of 4,594 fish, a total of 46,307 Chinook salmon is estimated to have reached Canadian spawning areas (Appendix E6). The spawning escapement is approximately 25% within the IMEG range of 42,500 to 55,000 adopted by the Yukon River Panel in 2011 (Appendix E6).

In addition to operating the sonar project, a drift gillnet project was conducted near Six-Mile Bend to monitor species composition and to collect biological information, including ASL and genetic samples from fish passing the sonar project site. The estimated age composition of Chinook salmon caught in the drift gillnet project was 2.2% age-4, 29.6% age-5, 60.3% age-6,

and 8.0% age-7 fish. The sex composition of fish sampled (*n*=416) from the drift gillnet project was 51.0% female and 49.0% males (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

Aerial surveys of the Little Salmon, Big Salmon and Wolf rivers index areas were conducted by DFO in 2011 (Appendix E2). The Nisutlin River aerial survey was not completed due to extreme high water and turbidity. A single survey was flown for each river system. Peak annual historical counts are documented in Appendix E6.

The Little Salmon aerial survey was flown on August 19. Survey conditions were rated as being poor, due to high water levels and turbidity; surveyors counted 38 Chinook salmon, 4.4% of the 2001–2010 (10-year) average count of 869 fish.

The Big Salmon and Wolf River aerial survey was flown on August 22. For both surveys, conditions were rated as being fair, due to high water, wind, and turbidity. On the Big Salmon River, surveyors counted 405 Chinook salmon, which was the third lowest count since 2000. This survey count was 35% of the 2001–2010 (10-year) average count of 1,149 fish (Appendix E2). The Wolf River count of 81 was 57% of the 10-year average count of 143 fish (Appendix E2).

Single (or multiple) aerial surveys do not count the entire escapement within an aerial index area as runs are usually protracted with the early spawning fish disappearing before the late ones arrive. Weather and water conditions, the density of spawning fish, as well as observer experience and bias also affect survey accuracy. Index surveys are rated according to survey conditions. Potential ratings include excellent, good, fair, and poor. Survey ratings that rank higher than poor are considered useful for inter-annual comparisons.

J. Wilson and Associates conducted the Blind Creek weir project in 2011, and a total of 360 Chinook salmon were counted between July 15 and October 18 (Appendix E2 and E6). This is approximately 57% of the average total count of 627. Age-sex-length samples were randomly collected from migrating Chinook salmon throughout the period of weir operation. A total of 203 Chinook salmon (69% of the run) were sampled, of which 111 (55%) were female and 92 (45%) were male. Jacks (males with a snout to fork length ≤630 mm) comprised 25% of the males sampled. The mean fork length of females and males sampled was 882 mm and 770 mm respectively. Scale samples are currently undergoing analysis by the Pacific Biological Station, Fish Ageing Lab, Nanaimo, British Columbia under the aegis of DFO Whitehorse.

The 2011 Whitehorse Rapids Fishway Chinook salmon count of 1,534 was 131% of the 2001–2010 average count of 1,170 fish (Appendix E6), and 3.3% of the Yukon spawning escapement estimate of 46,307. The overall sex ratio was 37% female (*n*=573 fish). Hatchery-produced fish accounted for 48.3% of the return, and consisted of 536 males and 205 females. The non-hatchery count consisted of 793 fish, 425 wild males and 368 wild females.

In 2011, fish were not specifically removed from the fishway for coded wire tag sampling; however, several samples were obtained from the brood stock collected. No weirs, i.e. the Wolf or Michie creek weirs, were operated in the drainage upstream of the Whitehorse Rapids Fishway in 2011.

Summer Chum Salmon Escapement

Summer chum salmon escapement was above average in most tributaries in 2011. Summer chum goals for East Fork Andreafsky and Anvik Rivers were achieved. Counts at the Gisasa and

Henshaw rivers were above average. Salcha River escapement as assessed by tower counts was near average; however, because this project experienced problems due to high water conditions, it is likely that these counts were very conservative. Escapement on the Chena River was impossible to assess because of environmental conditions. The estimated cumulative passage of 1,977,808 summer chum salmon at the Pilot Station sonar project, through July 18, exceeded the management threshold of 600,000 summer chum salmon (Appendix E3).

The summer chum salmon escapement counts for selected spawning areas in the Alaska portion of the Yukon River drainage can be found in Appendix E7.

The Anvik River sonar project based escapement count of 642,528 summer chum salmon was within the BEG range of 400,000 to 800,000 fish (Appendix E7). Age, sex, and length samples were collected in 2011 by beach seine. The estimated age composition was 0.4% age-3, 49.2% age-4, and 49.7% age-5, and 0.7% age-6 fish. The sex composition of the fish sampled (*n*=509) was 52.5% female and 47.5% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The East Fork Andreafsky River weir escapement estimate for chum salmon was 100,473 (Appendix E7). Age, sex, and length data was collected from fish caught in the weir trap. The estimated age composition was 0.4% age-3, 36.0% age-4, 63.4% age-5, and 0.2% age-6 fish. The sex composition of the fish sampled (*n*=944) was 42.1% female and 57.9% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The escapement estimate of summer chum salmon through the Gisasa River weir was 95,796 fish (Appendix E7). Age, sex, and length data was collected from fish caught in the weir trap. The age composition of samples was 1.4% age-3, 54.8% age-4, 43.7% age-5, and 0.1% age-6 fish. The sex composition of the fish sampled (*n*=846) was 55.3% female and 44.7% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The escapement estimate of summer chum salmon through the Henshaw Creek weir was 248,247 fish (Appendix E7). Age, sex, and length data was collected from the weir trap. The estimated age composition from scale samples was 2.4% age-3, 44.2% age-4, 53.4% age-5, and 0.0% age-6 fish. The sex composition of fish sampled (*n*=580) was 61.2% females and 38.8% males (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

The Kaltag Creek, Nulato River, and Tozitna River escapement projects did not operate in 2011.

Age, sex, and length information was collected from the Salcha River using carcass surveys conducted by BSFA. Vertebrae were collected for age estimation. The estimated age composition of the summer chum salmon in the Salcha River was 1% age-3, 31% age-4, 63% age-5, and 6% age-6. The sex composition of fish sampled (*n*=160) was 50% female and 50% male (K. Schumann, Fisheries Biologist, ADF&G, Anchorage, personal communication 2012).

Fall Season Escapement 2011

Fall Chum Salmon Escapement

Historical fall chum salmon escapement information in addition to 2011 escapement results are presented in Appendices E8, E9, and E17. Fall chum salmon are discrete spawners choosing areas of upwelling and relatively warmer water to incubate their eggs in a shorter time when compared to other species. Major fall chum salmon spawning areas are located in the Tanana, Chandalar, and Porcupine River drainages and within the Canadian portion of the mainstem

Yukon River drainage, monitoring projects concentrate on these areas. Drainagewide run reconstruction for fall chum salmon is based on estimates of escapement from each component along with inriver estimates of harvest. Current escapement goals for the Yukon River drainagewide and individual portions were developed based on the analysis done by Eggers (2001) with a recent modification of the drainagewide goal from a BEG to a SEG based on Fleischman and Borba (2009).

The Tanana River produces the largest component of the drainagewide fall chum salmon run. Based on abundance estimates from mark–recapture studies conducted from 1995 to 2007 (Cleary and Hamazaki 2008), the Tanana River drainage contributes 22% to 42% of the overall run, averaging 33%. Estimated escapement in those years averaged 184,000 fall chum salmon with a range of 56,000 in 2000 fish to 373,000 fish in 2005. In 2011, inseason assessment of the fall chum salmon run into the Tanana River drainage monitored run timing and catch at 2 test fish wheels located near the village of Tanana and Nenana. In addition, subsistence and commercial harvest in the fisheries were assessed. Mixed Stock Analysis (MSA), based on genetics, is also used to assess the fall chum salmon run into the Tanana River drainage.

In 2011, there were concerns when the MSA was indicating a low abundance of the fall chum salmon returning to the Tanana River drainage when compared to abundance estimates for other areas of the Yukon River drainage (e.g. U.S. Border and Mainstem Canadian border). Estimation of the Tanana River component based on the relationship between the Tanana River (Upper Tanana and Kantishna rivers mark–recapture) and the Delta River produced a run size estimate of 293,000 fall chum salmon. Subtracting the estimated inriver harvest of 20,000 gives an estimate escapement of 271,000 fall chum salmon which is above the Tanana River BEG range of 61,000 to 136,000 fall chum salmon.

Evaluation of the fall chum salmon run to the Delta River, an index tributary of the Tanana River, was based on 7 replicate foot surveys conducted between October 4 and November 29, 2011. The Delta River escapement was estimated to be 23,639 fall chum salmon using the area under the curve method (Appendix E8). Escapement exceeded the upper end of the BEG range of 6,000 to 13,000. Escapement to the Delta River since 1990 has averaged 16,802 fall chum salmon and ranged from 3,000 fish in 2000 to 33,000 fish in 1991. The Delta River has the longest consistent dataset and is currently used in conjunction with information from the mark–recapture project that operated from 1995 to 2007 to estimate the Tanana River drainage run size.

Chandalar River is the second largest component of overall Yukon River drainage fall chum salmon run. Since 1995, the Chandalar River contribution of fall chum salmon has ranged from 22% to 40%, averaging 28%. The project has used various sonar types (splitbeam 1995–2006 and DIDSON 2007 to present) to enumerate fall chum salmon passage (Melegari 2011b). Passage estimates of fall chum salmon have ranged from a low of 66,000 fish in 2000 to 496,000 fish in 2005. In 2011, the project operated from August 9 through September 26 and ended with a cumulative count of 273,297 fish. However, because the project was still passing more than 5,000 fish a day when the project ceased operation, an expansion of passage through October 9 was made. The resulting escapement estimate was 295,335 fall chum salmon (Appendix E8) and was 35% above the 2006–2010 average of 202,356 fish. The 2011 estimate was above the upper end of the biological escapement goal range of 74,000 to 152,000 fish. Since 1995, fall chum salmon passage has met or exceeded the BEG in all years except 2000.

Fall chum salmon escapement to the Sheenjek River provides an average contribution of 15% (ranging from 4% to 29% from 1986 to 2010) to the overall Yukon River drainage run. The Sheenjek River was monitored by sonars operating on both banks from 2005 to 2009 and 2011 and estimates of escapement have ranged from 50,000 fish in 2008 to 562,000 fish in 2005 (Dunbar 2010). In 2011, a passage estimate of 97,976 was attributed to fall chum salmon, including an expansion of counts to reflect the end of the season portion after monitoring ceased for winter (Appendix E8). Most of the historical Sheenjek River escapement estimates (pre-2005) were derived from right bank operations with earlier generations of sonar technology. The right bank estimated escapement of approximately 62,000 fish in 2011 was 20% above the lower end of the BEG range of 50,000 to 104,000 fall chum salmon. Fall chum salmon passage has met or exceeded the BEG 58% of the 38 years the Sheenjek River has been monitored.

An IMEG of 22,000 to 49,000 fish was established for the Fishing Branch River weir for the years 2008 through 2011 (JTC 2011). This goal uses percentiles based on weir data only, excluding all years with extrapolations based on other methods of measurement. The average escapement from 1985 to 2010 is 35,000 fall chum salmon ranging from 5,000 in 2000 to 121,413 in 2005. In 2011, the Fishing Branch River weir experienced a high water event early in the season that prevented counting therefore extrapolation was used to estimate passage during that portion of the run. Additionally an expansion was used to estimate the end of the run. The 2011 estimated passage of approximately 13,085 fish is below the lower end of the IMEG (Appendix E9). Fall chum salmon passage has met or exceeded the current IMEG 71% of the 38 years the Fishing Branch River has been monitored.

The Yukon River mainstem sonar project at Eagle counted fall chum salmon from August 13 through October 6 and then counts were extrapolated through October 18, 2011. The estimated passage was 224,355 fall chum salmon. Subtracting an estimated harvest of 12,477 fall chum salmon from the community of Eagle (those who fished between the sonar site and the U.S./Canada border) resulted in a border passage estimate of 211,878 fish (Appendix E9). Harvests in Canada resulted in an escapement estimate of approximately 205,566 fall chum salmon. In 2011, the upper end of the IMEG range of 70,000 to 104,000 fall chum salmon (JTC 2012) was exceeded. Border passage of fall chum salmon has been monitored by sonar since 2006 and has ranged between 94,000 fish in 2009 and 236,000 fish in 2007 with an average of 170,000 fish (Crane and Dunbar 2011).

Tributary escapement goals are generally met during years of high abundance, particularly the ones with the larger components of the run. In 2 of the lowest abundance years (1982 and 2000), none of the fall chum salmon escapement goals were achieved; however, in 1982 exploitation was at 67%, whereas in 2000, exploitation was at 12% (because of very different management practices in those respective decades). The Tanana, Chandalar, Mainstem Yukon, Delta, Sheenjek, and Fishing Branch systems have achieved their current individual goals 95%, 94%, 56%, 87%, 58%, and 71% respectively. The relatively lower achievement in the Yukon Mainstem may be an artifact of the dataset. Mainstem passage was estimated using mark–recapture methods until 2006. Since then, the Eagle sonar project has been used as an enumeration technique that should not be affected by gear avoidance or mark recoveries. The Porcupine River systems, including the Sheenjek and Fishing Branch rivers, have consistently been the weakest contributors to the overall drainagewide run.

Drainagewide run size is calculated postseason using information from monitoring projects such as Chandalar, Sheenjek and Fishing Branch rivers, and abundance estimates adjusted for harvest

in Mainstem Yukon at the U.S./Canada border and in Tanana River. Historically (1974–2010) the average drainagewide run size is 861,000 fall chum salmon and ranges between 239,000 fish in 2000 to 2,280,000 fish in 2005. From 1974 to 1991, fall chum salmon run sizes alternated consistently between low even-numbered years and high odd-numbered years (averaging 700,000 and 1,200,000 respectively). Since 1992, there appears to be a decadal cycle occurring where the fall chum salmon run peaked in 1995 and 2005 and was at lows in the cycles in 1992, 2000, and 2010. Both the record low and record high abundances occurred in the last decade. The 2011 fall chum salmon run could be characterized overall as being above average for both the all year averages and the odd-numbered year averages from 1974 to 2010.

The total run size minus harvest is used to derive drainagewide escapement. The 2011 escapement estimate of 881,000 fall chum salmon exceeded the upper end of the SEG range of 300,000 to 600,000 fish for the Yukon River drainage. The drainagewide escapement goal has been achieved the last 11 years. The goal was not achieved from 1998 to 2000 even with restrictions to fisheries causing reduction in harvests to between 22% and 32%. Four even-numbered years between 1976 and 1984 also had extremely low escapements (based on current measures) but were mostly caused by high harvests of fall chum salmon, ranging between 56% and 67%. The overall drainagewide goal for fall chum salmon has been achieved 82% of the last 38 years.

Coho Salmon Escapement

Assessment of coho salmon spawning escapement is constrained in the Yukon River drainage because of funding limitations and marginal survey conditions during periods of peak spawning. Historic coho salmon escapement information along with the most current 2011 escapement results are presented in Appendix E11. The coho salmon passage estimate at Pilot Station sonar project does not represent the total return because the project ceases operations on September 7, before the end of the run. The preliminary passage estimate of 124,931 coho salmon at Pilot Station was slightly below the historical average passage of 149,000 fish (Appendices E3 and E11). Tributary escapement estimate information was limited to portions of the Tanana River drainage.

Presently, only 1 escapement goal has been established (in 2004) for coho salmon in the Yukon River drainage. The Delta Clearwater River, in the Tanana River drainage, has an SEG range of 5,200 to 17,000 fish (ADF&G 2004). The Delta Clearwater River spawning count was 6,180 coho salmon (Appendix E11) and was conducted by boat survey on October 28, 2011. This escapement level achieved the lower end of the escapement goal range. Coho salmon escapements in the Nenana River and the upper Tanana River evaluated by aerial surveys were all below average in 2011.

In recent years, a coho salmon run reconstruction index has been developed that adjusts Pilot Station sonar project passage estimates by comparing timing of the next closest monitoring project at Mountain Village (river mile 87) using a lag of 1 day in travel time. The Mountain Village drift gillnet test fishery typically operates through September 11 and has detected late pulses of coho salmon entering the river. Further, commercial and subsistence harvests below the sonar site are included to provide an index of coho salmon abundance for the Yukon River. Subsistence harvest in this area is fairly stable averaging 3,000 coho salmon annually however the commercial harvest can vary drastically (<1,000 to 57,000) depending on the prosecution of the fall chum salmon fishery.

All of the data used for run reconstruction of coho salmon is based on the years 1995 and 1997 to present (excluding 2009) because these are the years the mainstem sonar was operational. This model results in an average of 213,000 coho salmon entering the Yukon River. An index of Yukon River drainagewide escapement is derived from the run reconstruction minus the total harvest of coho salmon providing an average escapement of 164,000 fish. The 2011 coho salmon escapement is estimated to be 133,000 fish which is the fourth lowest in the 15 year dataset. When evaluating the lower escapement it should be noted that the exploitation rate was estimated to be 1 of the highest on record at 42% based on run reconstruction.

2012 SALMON OUTLOOK

Chinook Salmon

The total Yukon River Chinook salmon run was estimated by applying historical average proportions of Canadian-origin fish in the total run to the outlook estimated for the Canadian component of the run. The average proportion of Canadian origin fish in the total run is approximately 50%. The drainagewide run outlook based on the adjusted Canadian-origin model estimate, which attempts to account for low productivity since 2007, is 109,000–146,000 Chinook salmon. Thus, the 2012 Yukon River Chinook salmon run will likely be poor to below average.

Summer Chum Salmon

The strength of the summer chum salmon run in 2012 will be dependent on production from the 2008 (age-4 fish) and 2007 (age-5 fish) escapements, as these age classes generally dominate the run. The total runs during 2007 and 2008 were both approximately 2.0 million summer chum salmon, though tributary escapements were highly variable.

The total run in the Yukon River will be similar to the 2011 run of approximately 2.0 million fish. The 2012 summer chum salmon run will likely be average and is anticipated to provide for escapements, a normal subsistence harvest, and a surplus for commercial harvest. Summer chum salmon runs have provided for a harvestable surplus in each of the last 9 years (2003–2011). The commercially harvestable surplus could range from 500,000 to 1,000,000 summer chum salmon. The actual commercial harvest of summer chum salmon in 2012 will likely be affected by a potentially poor Chinook salmon run, as Chinook salmon are incidentally harvested in chum salmon directed fisheries.

Fall Chum Salmon

The 2012 run will be comprised of fish returning from the parent years 2006 through 2009. Estimates of returns per spawner (R/S), based on brood year return, were used to estimate production for 2006 and 2007. An auto-regressive Ricker spawner-recruit model was used to predict returns from 2008 and 2009. The point projection in 2012 will use the 1984 to the current complete brood year returns applied to the odd/even maturity schedule, because current production is reduced from the pre-1984 level. The result is a point estimate of 1,114,000 fall chum salmon. The 2012 run size forecast is expressed as a range from 986,000 to 1,200,000 fall chum salmon. This forecasted run size is above average for even-numbered year run.

The contributing parent year escapements from 2006 through 2008 all exceeded the upper end of the drainagewide escapement goal range while 2009 was within the drainagewide escapement goal range of 300,000 to 600,000 fall chum salmon. Production from the age-0.5 parent year is

approaching 1.0 return per spawner while production from the others age classes appear to be exceeding 1.0 return per spawner. The major contributor to the 2012 fall chum salmon run is anticipated to be age-0.3 fish returning from 2008 parent year (Appendix E10).

There is uncertainty as to how well returns from large escapements (>700,000) produce since 6 out of 8 failed to yield replacement values. The most recent high production levels at 2.1 return/spawner (average R/S 1998 to 2003 excluding 2001) are well above the poor returns observed in 1994–1997 (average 0.50 R/S). Production in 2005 was at a record low of 0.25 R/S indicating poor survival. However production has increased in the 2006 and 2007 parent years respectively. With improved production in combination with large escapements the result could be above average runs for the next couple years. With a projected run size range from 986,000 to 1,242,000 fall chum salmon, it is anticipated that escapement goals would be met while supporting normal subsistence fishing activities. Commercial harvest could be between 500,000 and 700,000 fall chum salmon.

Coho Salmon

Although there is little comprehensive escapement information for Yukon River drainage coho salmon, it is known that coho salmon primarily return as age-2.1 (4-year-old) fish. The major contributor to the 2012 coho salmon run will be age-2.1 fish returning from the 2008 parent year. Based on run reconstruction using Pilot Station sonar project estimates, the 2008 passage estimate of 135,000 coho salmon was below average (146,000). The commercial harvest in 2008 was the sixth highest since 1991, and the majority (93%) of the harvest occurred in the Lower Yukon Area while harvests in the Upper Yukon Area were well below average. Coho salmon overlap in run timing with fall chum salmon to a large degree and therefore affect management strategies.

Escapements are mostly monitored in the Tanana River drainage. The Delta Clearwater River (DCR) is a major producer of coho salmon in the upper Tanana River drainage with comparative escapement monitoring data since 1972. The parent year escapement of 7,500 fish in 2008 was within the SEG range of 5,200 to 17,000 coho salmon. DCR escapement has increased since 1972, with substantial increases between 2001 and 2005, a time when fishing effort in river was low. During the most recent years 2006–2010, DCR escapement estimates have been fluctuating within the goal. However, in some of those years the escapement surveys were conducted before peak spawning and the estimates may be low. Coho salmon escapements in the Nenana River complex were average to above average in 2008. Assuming average survival, the 2012 coho salmon run, is anticipated to be average based on escapements observed in 2008.

OTHER MARINE AND FRESHWATER FINFISH FISHERIES

SUBSISTENCE AND PERSONAL USE FISHERY

The estimated subsistence and personal use harvest of nonsalmon species in 2011 was 44,890 whitefish (*Coregonus spp. and Prosopium cylindraceum)*, 14,270 northern pike (*Esox lucius)*, and 10,139 sheefish (*Stenodus leucichthys)* (Appendix D18). Other species are only reported by total harvest as they are harvested in small amounts or do not occur during salmon season and include a total of 2,470 burbot (*Lota lota)*, 6,037 Arctic lamprey (*Lampetra camtschatica)*, 6,797 tomcod (*Eleginus gracilis)*, 1,273 Arctic grayling (*Thymallus arcticus)*, 286 longnose suckers (*Catostomus*

catostomus), 205 Arctic char (*Salvelinus alpinus)*, and 87,064 Alaska blackfish (*Dallia pectoralis)*.

Non-salmon species (e.g. pike, sheefish, whitefish, blackfish, etc) are an important subsistence resource for people in most areas throughout the Yukon River drainage, largely because they are available for harvest all season (Brown et al. 2005, Andersen et al. 2004). Many subsistence users harvest marine and freshwater finfish other than salmon and herring either as an incidental bycatch while fishing for salmon or by directly targeting those species. Subsistence users particularly rely on non-salmon species when other sources of fish or wildlife are unavailable, such as during the winter.

During the annual ADF&G postseason subsistence salmon harvest surveys, non-salmon harvest information is documented; however, this information is gathered ancillary to salmon specific surveys and usually without species distinctions. Surveys have begun to identify whitefish harvest by species in the Koyukuk River drainage and lower-middle communities of Grayling, Anvik, Shageluk, and Holy Cross (Brown et al. 2005, Andersen et al. 2004). Estimates of non-salmon harvest is poorly understood at a species level throughout the Yukon River drainage, thus a comprehensive assessment of non-salmon harvest and use by species has been identified as a research priority for the Yukon Area (Brown et al. 2011).

Historical estimated and reported subsistence catches of freshwater finfish from subsistence surveys throughout the drainage are presented in Appendix D18. Since 1988, subsistence salmon surveys have included the collection of freshwater finfish harvest data. Prior to 1988, non-salmon subsistence harvest data was collected with less consistency during the postseason subsistence salmon surveys. Subsistence and personal use catches of freshwater finfish taken under authority of a permit in the Upper Yukon Area are presented in Appendices D6–D18.

A variety of fishing methods are used in the main rivers and coastal marine waters to harvest non-salmon finfish. Beach seines are occasionally used near spawning grounds to capture salmon and other species of schooling fish. In the fall and winter months, various designs of traps and fish weirs are used to capture whitefish, blackfish, and burbot. In the winter and spring months, hand lines are used through the ice to take sheefish, northern pike, char, and "tomcod" (saffron cod). A limited number of sheefish are also harvested during the upriver migration of Chinook salmon. In the spring and early summer, smelt are harvested in the Yukon River Delta area using dip nets. During the fall months, dip nets and “eel sticks” are used to harvest Arctic lamprey in the mainstem Yukon River downstream of Grayling. During the fall months, whitefish and sheefish are also harvested incidentally in fish wheels located in the Upper Yukon and Tanana rivers.

COMMERCIAL FISHERY

Regulations adopted by the BOF allow ADF&G to issue permits for the commercial harvest of non-salmon freshwater fish, including whitefish, sheefish, burbot, northern pike, blackfish, and Arctic lamprey, throughout the Yukon and Tanana River drainages. Most of these fisheries are issued as limited or experimental permits and operate in discrete time periods throughout the year. Following the decline in salmon runs a marked increase in non-salmon fisheries emerged on the Yukon River. Despite the strengthening chum salmon returns in recent years, the interest in freshwater fisheries has remained, particularly for Bering cisco and Arctic lamprey.

Whitefish Fishery Summary

Beginning in 2005 there has been an experimental whitefish commercial fishery in the Lower Yukon River. A Commissioner's permit has been issued annually allowing for a combined harvest total of 10,000–15,000 pounds of all coregonid ('whitefish') species in Districts 1 and 2. The species of whitefish for which commercial permits are issued have varied between years. Commissioner's permits are issued for the experimental commercial harvest of species not managed under existing State of Alaska commercial fishing regulations. In response to market preference, commercial permits were targeted for the specific harvest of Bering cisco, and to a lesser extent least cisco, in District 1 beginning in 2009. The catch was sold in the kosher market in New York City. The harvest cap was based on historical commercial harvest information from 1980 to 1990 of sheefish and other whitefish species in the Lower Yukon Area. The exact dates of the fishery have varied each year in response to the seasonal movements of whitefish and the river conditions; however, the commercial harvest has generally occurred in the months of September and October. Gear restrictions were implemented in 2007 to reduce the stretch-mesh size from a maximum of 6 inches (allowed in 2005 and 2006) to maximum of 4 inches in effort to target cisco species while reducing harvest on other species such as sheefish and broad whitefish.

In 2011, one freshwater commercial fishery permit for Bering and least cisco was issued to Kwik'pak Fisheries in the Lower Yukon River. Since 2009, commercial fishing was prohibited in designated areas around the village of Kotlik because of concerns about potential impact on subsistence fishing in the local area. Fishing gear was restricted to 1 set or drift gillnet up to 150 feet in length with a maximum stretch-mesh size of 4 inches or 1 hand line/hook and line.

The permit was issued for up to 10,000 pounds of cisco in District 1 and was valid from September 5, 2011 to December 31, 2011. The commercial harvest occurred from September 8 to September 15, 2011, and 12,523 pounds of Bering cisco and 258 pounds of least cisco were harvested (Appendix F1). Due to the relatively high catch rates, the total harvest inadvertently exceeded the harvest cap of 10,000 pounds.

A total of 19 fishermen made 47 deliveries to the commercial processor and 12,781 total pounds of whitefish were harvested (Appendix F1). The harvest was 50% above the 5-year (2006–2010) average for Bering cisco and 42% below the 5-year (2006–2010) average for least cisco. The price per pound was $1.00 and the estimated harvest value to fishermen was $12,781. The average harvest value for each fisherman was approximately $670, which was roughly half the 2010 value. The commercial fishing effort consisted of local residents from the Lower Yukon River communities of Emmonak, Alakanuk, and Kotlik. Fishermen from Kotlik were responsible for 68% of the total whitefish harvest during the commercial fishery.

In the Upper Yukon Area, commercial freshwater fisheries targeting whitefish occurred primarily through the late 1970s. Since 1980 there has been sporadic and small quantity commercial harvest of whitefish in the upriver districts. In 2011 no permits were requested; possibly due to high operational costs and limited market interest; however, some whitefish were sold in the commercial salmon fishery. Permit authorization is not required for the sale of whitefish species taken incidentally during commercial salmon fishing in any district. In District Y-6, whitefish have been taken incidentally to the salmon harvest and sold since the early 1990s. In 2011, 148 pounds of whitefish were harvested incidentally and sold, which is 48% below the 5-year average (Appendix F3).

Harvest Sampling

Fish were identified by species at the processing facility in Emmonak prior to shipment. Deliveries from Kotlik (North Mouth) and Emmonak (South and Middle Mouth) were kept separate until sampling was complete. The goal of this sampling procedure was to identify, by genetic markers, whether Kuskokwim River stocks primarily inhabit one area of the Yukon River delta or another. Genetic samples have not been processed at this time.

Only Bering cisco were sampled in 2011. ASL data were collected by ADF&G staff at a processing facility in Anchorage. A total of 640 Bering cisco commercially harvested in 2011 were sampled for sex and length. An incision was made on the ventral side of each specimen to identify reproductive organs. Fork length (tip of snout to fork of tail) was measured to the nearest millimeter. Otoliths were collected from all fish sampled, and will later be analyzed for age classification. Body and organ weights of Bering cisco females were used to index reproductive condition. Gonadosomatic index (GSI) was calculated as gonad weight/total body weight x 100. The weight of the gonads was subtracted from the body weight to minimize the effect of the reproductive cycle on these indices. Average and standard deviation of length for each species was calculated by sex.

Average and standard deviation of female weight and GSI was also calculated. A 2-sample t-test (α=0.05) was used to determine differences in fish length by sex and mouth and difference in GSI by river mouth.

Bering cisco males were shorter than females sampled ($t(638)$=-12.256, p=0.000). Approximately 49% of the Bering cisco sampled were female. There was no significant difference in the length of female Bering cisco between the North and South mouth ($t(258)$=-1.578, p=0.116). There was also no significant difference in male Bering cisco length in the North and South mouth ($t(218)$=0.124, p=0.902). There was no significant difference in female GSI between the South and North mouth ($t(142)$=1.875, p=0.063).

Arctic Lamprey Fishery Summary

Beginning in 2003 an experimental commercial Arctic lamprey fishery emerged on the Yukon River. A Commissioner's permit has been issued annually allowing for a harvest total of 5,000 to 44,080 pounds of Arctic lamprey in District 2 and Subdistrict 4-A. The exact dates of the fishery have varied each year in response to run timing; however, the commercial harvest has generally occurred in the mid- to late-November. Gear is restricted to 1 hand dip net per freshwater commercial permit holder.

Fishing Effort and Conditions

The Arctic lamprey fishery was monitored by ADF&G representatives via phone communications with the commercial processor in Anchorage and with processor representatives located in the lower and middle Yukon River. Community contacts were also established with local subsistence fishermen in the villages of Alakanuk, Emmonak, Mountain Village, St. Mary's, Pilot Station, Marshall, Russian Mission, Holy Cross, Anvik, Grayling, and Kaltag. Information regarding subsistence fishing effort, harvest rates, local weather, river conditions, and run timing was gathered during these phone communications.

The 2011 subsistence lamprey fishery was marked by limited effort and low harvest. The lower river communities of Alakanuk, Emmonak, Mountain Village, St. Mary's, and Pilot Station

reported no harvest as fishing effort was hindered by unsafe ice conditions. Upstream of these communities ice conditions were better suited for travel and fishing. The first reported lamprey harvest occurred on November 10, 2 miles downstream of Marshall. Fishing success improved when fishermen relocated 10 miles upstream of Marshall later that day. The harvest was reported to be fair to good in the Marshall area. Fishermen in Russian Mission reported harvesting lamprey with limited success on November 14–16. A subsistence fisherman characterized the harvest in Russian Mission as poor to fair. Based on the harvest information from Marshall and Russian Mission and estimated rates of travel, lamprey were expected to pass by the village of Holy Cross around November 20. However, a group of fishermen from Holy Cross fished from November 19–22 without significant harvest. Similarly, a fisherman from Anvik reported fishing from November 22–28 and harvesting just a few individual lamprey on November 26. A few fishermen from Grayling began fishing November 25 downstream of the village. However, fishing effort was low due to poor harvest rates and extremely cold temperatures. Monitoring of traditional fishing sites was less than continuous and 1 fisherman stated it was likely the bulk of the lamprey passed undetected. The peak of the harvest in Grayling occurred on November 28, about 15 miles upstream of the village. Fishing effort had ceased by December 3 and the harvest was characterized as poor.

Based on the November 10 report from subsistence fishermen in Marshall and the subsistence harvest which occurred on November 28 in Grayling, the estimated mean lamprey travel speed was approximately 9 miles per day.

Additional subsistence harvest information is being collected postseason. In November ADF&G sent lamprey subsistence harvest surveys to 685 households in Yukon River communities of Anvik, Grayling, Holy Cross, Marshall, Mountain Village, Pilot Station, Pitkas Point, Russian Mission, and St. Mary's. Results from these surveys will be made available in an ADF&G annual subsistence harvest report (Jallen et al. 2012).

Commercial Fishery

In 2011, one freshwater commercial fishery permit was issued to Kwik'pak Fisheries allowing a harvest of up to 44,080 lbs (20 metric tons) of Arctic lamprey. The permit was valid October 30 through December 10, 2011, or until the harvest limit was reached. A buying station was established in Mountain Village and Grayling.

Due to the low effort and poor fishing conditions present in the lower river communities, no commercial fishery operations occurred at the buying station located in Mountain Village. Communications with the Kwik'pak Fisheries buying agent in Grayling began on November 22 in an effort to monitor the commercial fishery. The buying agent in Grayling indicated that Kwik'pak Fisheries personnel in Anchorage had not given authorization to begin purchasing when the peak of harvest occurred on November 28. However, on December 5, Kwik'pak Fisheries personnel in Anchorage stated that all previously landed fish that had not been taken home for subsistence purposes, including those harvested on November 28 would be purchased.

A total of 3 commercial freshwater permit holders delivered a harvest of 783 lbs to the commercial processor. The number of lamprey harvested in the commercial fishery was

estimated to be approximately 2,888 fish[3]. The buyer paid $1.25 per pound for lamprey, and the estimated commercial value of lamprey was $979. The average value per fisherman was $326.

Assessment

The life history of Arctic lamprey in the Yukon River is sparsely documented. Traditional Ecological Knowledge (TEK) provides valuable information regarding harvest sites and run timing in the Lower Yukon River and is readily shared between user groups and local communities. Information on population distribution and exact or relative abundance is generally lacking. In coordination with ADF&G, commercial fishermen provided logs of their fishing time and catch in effort to generate baseline data regarding run timing, harvest, and relative abundance. This methodology has been in the developmental stage since 2003, therefore, provides a limited and unreliable harvest rate index.

While the timing of the lamprey run has been closely monitored by subsistence fishermen, the harvest and use quantities by the subsistence community have been more difficult to estimate; thus there is limited assessment of lamprey harvest abundance from which to gauge exploitation rates. Despite the lacking baseline information, historic levels of harvest are believed to have been conservative and are sustainable based on the following factors:

i. Duration of the run compared to the duration of the fishery.
ii. Timing of the harvest relative to run. Commercial harvest generally occurs during the heaviest pulse of the run. This is the preferred timing for harvest in order to reduce potential impact to population structure and distribution. While exact characteristics of the lamprey run are unknown, evidence does suggest that the run follows a normal distribution curve with the run building slowly, peaking, and then slowly diminishing.
iii. Relative inefficiency of the fishing gear and comparison to catch rates. Commercial fishermen use a single manually operated dip net with a variable mesh size. Based on catch rates, such gear is inherently inefficient. Typically a fisherman begins dip netting with no initial success. Catch rate success then increases to 1 to 2 fish per dip, and slowly builds over the course of a couple of hours to 20–30 fish per dip. The total volume of water fished per dip relative to the harvest yield suggests that only small percentage of fish passing through the area is caught.

Recent increases in market interest, along with drastic decreases in commercial salmon harvests on the Yukon River, have prompted buyers to request an augmentation of the allowable commercial lamprey harvest. Such requests have not been met by ADF&G as basic biological and demographic information important to sustainable management are lacking.

Cape Romanzof Herring Fishery

Introduction

The Cape Romanzof Herring District consists of all state waters from Dall Point to 62 degrees north latitude (Appendix G1). Pacific herring *Clupea harengus pallasi* are present in coastal waters of the Yukon Area during May and June. Spawning populations occur primarily in the Cape Romanzof area in Kokechik Bay and Scammon Bay where spawning habitat consists of

[3] The estimated number of fish harvested is the quotient of the total commercial harvest and the historical average sample weight collected from harvests in Grayling.

rocky beaches and rockweed *Fucus* sp. The arrival of herring on the spawning grounds is influenced by ocean water temperature and ice conditions. Typically, herring appear immediately after ice breakup. Spawning usually occurs between mid-May and mid-June.

Local residents harvest herring in Hooper Bay, Kokechik Bay, and Scammon Bay for subsistence purposes. Additionally, a few fishermen in the Yukon River Delta report harvesting herring along the coast near Black River and Kwiguk Pass for subsistence use. It is speculated that these herring are migrating toward southern Norton Sound. Additionally, some Yukon River Delta residents harvest herring spawn-on-kelp (*Fucus* sp) north of Stebbins in southern Norton Sound.

A commercial herring sac-roe fishery was initiated in the Cape Romanzof District in 1980. Commercial harvests increased steadily after inception of the fishery, reaching a peak harvest of 1,865 tons in 1986 (Appendix G2) Harvests have greatly decreased since then because of declining markets resulting in lower prices paid and lower fishing effort. There has not been a commercial opening since 2006 because of the lack of market interest.

In 1982, the BOF reduced the area open to commercial fishing by closing the waters outside of Kokechik Bay. In 2004, the BOF opened the Cape Romanzof District for commercial herring fishing to the pre-1982 boundaries. Gillnets are the only legal commercial gear type. The use of mechanical shakers has been prohibited since 1988. Limited entry to the fishery began with a moratorium on new entrants in 1988. The fishery is now limited to 101 permits.

Commercial Fishery

Since the fishery was initiated in 1980, commercial harvests have ranged from 25 tons in 2005 to 1,865 tons in 1986 (Appendix G2). The exvessel value of the fishery has ranged from $10,000 in 2001–2004 to $1.1 million in 1986. The number of permit holders participating has ranged from 8 in 2006 to 157 in 1987. The commercial fishery saw an increasing trend in effort, harvests, and value from the inception of the fishery in 1980 until its peak in 1986. Declining market value after 1986 through 1990s kept effort, harvest, and exvessel values below early 1980s numbers, eventually leading to record low harvests and effort in the 2000s. There have not been any commercial openings in the district since 2006. In recent years, fishermen in the district have been using larger mesh gillnets to selectively harvest larger (older) herring and a higher percentage of females. This change in the mesh size has increased the harvest quality, but also resulted in lower harvest rates. Harvest of a high percentage of males and partially spawned out herring have historically contributed to low roe recovery rates in the Cape Romanzof fishery.

Historically, short commercial herring fishing openings have been scheduled around high tide events in the Cape Romanzof District. Beginning with the 2004 season, opening and closing the commercial herring fishery based on tide events was modified by opening fishing in the district on a continuous basis. Opening the commercial fishery on a continual basis was justified based on the reduced commercial fishing effort, limited tendering capacity, and decreased processor interest in the area. Conducting commercial fisheries this way allows fishermen the maximum opportunity to explore the district to find marketable quality of sac roe herring and allows the buyer to direct when fishing will occur based on current harvest information.

Subsistence Fishery

The subsistence harvest and effort figures represent only the harvest which was reported. Therefore, the reported harvest is a minimum estimate since not all fishing families were

contacted and not all households who received questionnaires returned them. Subsistence herring harvest questionnaires were not mailed out in 2011. Harvest of herring (Appendix G3) or spawn on kelp (Appendix G4) were not estimated for 2011.

Stock Status

Because of turbid water in the Cape Romanzof area, it is typically not possible to estimate herring biomass using aerial survey techniques. Herring biomass has been estimated using a combination of information from aerial surveys, test and commercial catches, spawn deposition, and age composition. Aerial surveys were not flown in 2011. Qualitative spawn deposition surveys were conducted from 1992 through 2003 (Bue et al. 2011). Although these surveys were discontinued in 2004 because of budget limitations, ADF&G continued to make periodic observations of spawn deposition near the field camp through 2006.

Variable Mesh Gillnet Test Fishery

Test fishing with variable mesh gillnets has been conducted since 1978 to determine distribution, timing and relative abundance of spawning herring, and to collect samples for age, sex, size, and relative maturity information (Bue et al. 2011). Due to the recent lack of market interest a test fishery has not occurred at Cape Romanzof since 2006.

Herring Outlook 2012

Projections of herring abundance in the upcoming year are made annually. Estimates of survival rates are applied to age-specific estimates of herring escapement to project the number of herring which will survive until the next year. Assumptions of age-specific recruitment rates are used in combination with age-specific abundance to project the number of herring of each age that will recruit to the fishery for the first time (Wepestad 1982). Projections of abundance are converted to units of biomass using data on mean weights at age from the current year. In cases where age-specific abundance or mean weights were not empirically measured, projections from the previous year were applied.

The 2012 projected biomass for the Cape Romanzof District is expected to be 4,794 tons and the minimum biomass threshold is 1,500 tons. Based on the *Bering Sea Herring Fishery Management Plan* (5AAC 27.060), the exploitation rate shall not exceed 20% of the estimated biomass. Therefore, the allowable harvest is 959 tons.

No commercial buyers are anticipated to be available in 2012. If a commercial market develops, ADF&G will monitor the fishery. Inseason assessment of stock abundance will be determined using information collected from test fishing, commercial harvest rates if available, herring distribution, age composition, and if possible, aerial surveys. Commercial fishing periods will be determined by the amount of fishing effort present and roe quality. ADF&G will likely open the fishery on a continuous basis until the quota is landed or there is no longer market interest. Commercial fishing will be opened when it is determined that marketable percentage of sac roe herring and a commercial buyer is present. Fishermen are encouraged to bring more than one mesh size of gillnet if they are available. The quality of roe is dependent on size and maturity of the herring, thus it would benefit fishermen to have some flexibility. It is important that fishermen, buyers, and ADF&G obtain the highest roe recovery possible.

It is likely that gear will initially be restricted to no more than 50 fathoms and 1 gillnet (1 shackle of gear) per vessel; however, because of the lower fishing effort in recent years it is likely that 100 fathoms (2 shackles of gear) per vessel may be permitted in 2012, as was allowed in 2006.

Two shackles of gear were allowed for several openings in 2003, 2004, and 2006, but few fishermen took advantage of the opportunity. Fishermen should be prepared and bring 2 nets to the fishing grounds if a market develops.

NORTHERN AREA

The Northern Area includes all waters of Alaska north of the latitude of the western most tip of Point Hope and west of 141 degrees West longitude, including those waters draining into the Arctic Ocean and the Chukchi Sea (Figure 12).

SUBSISTENCE FISHERIES

Many subsistence fishermen operate gillnets in the rivers and coastal marine waters of the Northern Area to harvest marine and freshwater finfish. Small numbers of chum, pink, and Chinook salmon have been reported by subsistence fishermen along the Arctic coast. Traps and fish weirs of various designs are also used, mainly in the fall and winter months, to capture whitefish, blackfish, and burbot. Northern pike, char, and "tomcod" are frequently taken through the ice by hand lines. The extent of the harvest of non-salmon finfish in the Northern Area is inadequately documented. Some fishery harvest studies were undertaken for 2 small Inupiat communities in the Northern Area, by ADF&G's Subsistence Division. It was found that annual community fish catches for Kaktovik consisted of Dolly Varden (*Salvelinus malma*), Arctic cisco (*Coregonus autumnalis*), Arctic grayling, Lake trout, salmon and Arctic cod (Pedersen and Linn 2005a and b). Similarly, community fishermen in Anaktuvuk Pass produced annual catches of "char" (a mix of Arctic char and Dolly Varden), lake trout, Arctic grayling, Arctic cisco, and few burbot (Pedersen and Hugo 2005 a and b).

In 2008, a cooperative project was initiated and is ongoing (ADF&G, Divisions of Commercial Fisheries, Habitat and Subsistence and North Slope Borough Department of Wildlife Management and Planning) to assess Pacific salmon resources in the Northern Area. Components of the project include documenting: 1) subsistence salmon fishing patterns such as species targeted, fishing gear and methods, harvest timing, local salmon abundance and run timing, historical knowledge, and observations of spawning locations; 2) conducting aerial surveys to document adult salmon distribution in river systems and determining which rivers could be used as index areas for future monitoring; and 3) acquiring age, sex, length, and genetic samples for salmon.

COMMERCIAL FISHERIES

Regulations adopted by BOF allow ADF&G to issue permits for the commercial harvest of freshwater species of fish such as whitefish, sheefish, char, northern pike, blackfish and Arctic lamprey. However, there are no commercial fisheries for salmon species in the Northern Area. A commercial fishery for freshwater finfish has existed in the Colville River delta (located approximately 60 miles west of Prudhoe Bay) since 1964 (Appendix H1). Historically, commercial fishing generally took place during late June and July for broad and humpback whitefish, and October through early December for Arctic and least cisco. However, since 1990 commercial fishing effort has predominately occurred in October and November for arctic and least cisco. Set gillnets are used as capture gear, and fishing during fall months occurs under the ice. All fish are harvested with the intent to sell commercially, and are reported daily on a catch form. However, not all fish reported on permits for this area are sold. Those fish not commercially sold are retained and used for subsistence purposes (Appendix H1).

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TABLES AND FIGURES

Table 1.–Guideline harvest ranges and midpoints for commercial harvest of Chinook, summer chum and fall chum salmon, Yukon Area, Alaska, 2011.

Chinook Salmon						
	Guideline Harvest Range [a]					
District or	Lower		Midpoint		Upper	
Subdistrict	Numbers	Percent	Numbers	Percent	Numbers	Percent
1 and 2	0 to 60,000	89.1	90,000	91.6	120,000	92.9
3	0 to 1,800	2.7	2,000	2.0	2,200	1.7
4	0 to 2,250	3.3	2,550	2.6	2,850	2.2
5B, C	0 to 2,400	3.6	2,600	2.6	2,800	2.2
5D	0 to 300	0.4	400	0.4	500	0.4
6	0 to 600	0.9	700	0.7	800	0.6
Total	67,350	100.0	98,250	100.0	129,150	100.0
Summer Chum Salmon						
	Guideline Harvest Range [b]					
District or	Lower		Midpoint		Upper	
Subdistrict	Numbers	Percent	Numbers	Percent	Numbers	Percent
1 and 2	0 to 251,000	62.9	503,000	62.9	755,000	62.9
3	0 to 6,000	1.6	12,500	1.6	19,000	1.6
4A [c]	0 to 113,000	28.2	225,500	28.2	338,000	28.2
4B, C	0 to 16,000	3.9	31,500	3.9	47,000	3.9
5B, C, D	0 to 1,000	0.3	2,000	0.3	3,000	0.3
6	0 to 13,000	3.2	25,500	3.2	38,000	3.2
Total	400,000	100.0	800,000	100.0	1,200,000	100.0
Anvik River Management Area roe cap of 100,000 pounds. [d]						
Fall Chum Salmon						
	Guideline Harvest Range [e]					
District or	Lower		Midpoint		Upper	
Subdistrict	Numbers	Percent	Numbers	Percent	Numbers	Percent
1, 2, and 3	60,000	82.5	140,000	71.2	220,000	68.6
4	5,000	6.9	22,500	11.4	40,000	12.5
5B, C	4,000	5.5	20,000	10.2	36,000	11.2
5D	1,000	1.4	2,500	1.3	4,000	1.2
6	2,750	3.8	11,625	5.9	20,500	6.4
Total	72,750	100.0	196,625	100.0	320,500	100.0
Subdistrict 5-A range of 0 to 4,000 pounds of roe. [f]						

[a] The Chinook salmon guideline harvest ranges have been in effect since 1981.

[b] Summer chum salmon guideline harvest ranges were established in February 1990 based on the average harvest shares from 1975 to 1989.

[c] Or the equivalent roe poundage of 61,000 to 183,000 pounds or some combination of fish and pounds of roe.

[d] The current Anvik River Management Area roe cap was established in March 1996.

[e] The current fall chum salmon guideline harvest ranges were established in 1990.

[f] Subdistrict 5-A was removed from the guideline harvest ranges for Chinook and summer chum salmon and a separate guideline harvest range of 0 to 4,000 pounds of fall chum salmon roe was established in November 1998.

Table 2.–Total utilization in numbers of salmon by district and country, Yukon River drainage, 2011.

District	Fishery	Chinook [a]	Summer Chum [a]	Fall Chum [a]	Coho [a]
1	Subsistence	6,255	28,590	3,434	1,127
	Commercial	36 [b]	163,439	127,735	45,336
	Test Fish Sales	0	0	0	0
	Total	6,291	192,029	131,169	46,463
2	Subsistence	8,069	24,692	2,578	823
	Commercial	46 [c]	103,071	100,731	24,195
	Test Fish Sales	0	0	0	0
	Total	8,115	127,763	103,309	25,018
3	Subsistence	4,134	2,733	354	36
	Commercial	0	0	0	0
	Total	4,134	2,733	354	36
Total Lower Yukon Area	Subsistence	18,458	56,015	6,366	1,986
	Commercial	82	266,510	228,466	69,531
	Test Fish Sales	0	0	0	0
	Total	18,540	322,525	234,832	71,517
4	Subsistence	9,893	13,166	7,260	2,072
	Commercial	0	0	0	0
	Total	9,893	13,166	7,260	2,072
5	Subsistence [b]	10,493	7,709	51,885	1,389
	Commercial	0	0	1,246	0
	Total	10,493	7,709	53,131	1,389
6	Subsistence [b]	1,367	825	14,376	6,842
	Commercial	0 [d]	8,651	9,267	6,784
	Personal use	89	439	347	232
	Total	1,456	9,915	23,990	13,858
Total Upper Yukon Area	Subsistence	21,753	21,700	73,521	10,303
	Commercial	0	8,651	10,513	6,784
	Personal use	89	439	347	232
	Total	21,842	30,790	84,381	17,319
Total Yukon River (Alaska)	Subsistence	40,211	77,715	79,887	12,289
	Commercial	82	275,161	238,979	76,315
	Personal use	89	439	347	232
	Test Fish sales	0	0	0	0
	Sport Fish [e]	474	294	0	463
	Total	40,856	353,609	319,213	89,299
Total Canada	Domestic	0	0	0	0
	Aboriginal (mainstem)	4,550	0	1,000	0
	Sport Fish	40	0	0	0
	Test Fish harvest	0	0	0	0
	Commercial	4	0	5,312	0
	Subtotal	4,594	0	6,312	0
	Porcupine Aboriginal	290	0	1,851	63
	Total	4,884	0	8,163	63
	Grand Total	45,740	353,609	327,376	89,362

[a] Commercial harvest includes only fish sold in the round. Does not include subsistence harvest from coastal communities of Hooper Bay and Scammon Bay.

[b] Chinook salmon sold in the fall season. A total of 2,156 Chinook salmon were caught but not sold in District 1 in the summer and first 3 periods of fall season in 2011.

[c] Chinook salmon sold in the fall season. A total of 2,000 Chinook salmon were caught but not sold in District 2 the summer season in 2011.

[d] A total of 352 Chinook salmon were caught but not sold in the District 6 commercial fishery.

[e] Assume majority of chum salmon harvested during summer season.

Table 3.–Salmon processors, buyers, catcher-sellers, and associated data, Yukon Area, 2011.

Commercial Operation (Processing location/buying station)	Product	District
Kwik'pak Fisheries 1016 West Sixth Avenue, Suite 301 Anchorage, AK 99501 (Emmonak/St. Mary's)	Fresh Salmon Frozen Salmon Salmon Roe	1 and 2
Francis C. Beans P.O. Box 325, St. Mary's, AK 99658 (St. Mary's)	Fresh Salmon	2
BB's Kings HC 60 Box 227 I Copper Center, AK 99573 (St. Mary's)	Fresh Salmon	2
David Herbert P.O. Box 287 St. Mary's, AK 99658 (St. Mary's)	Fresh Salmon	2
Michael D. Irving P.O. Box 1091 Girdwood, AK 99587 (St. Mary's)	Fresh Salmon	2
Interior Alaska Fish Processors 2400 Davis Rd. Fairbanks, AK 99709 (Fairbanks, Yukon Bridge, Nenana)	Fresh/Frozen Salmon Salmon Roe Salted/Brined Salmon Smoked Salmon	5 and 6
David Dausel PO Box 80291, Fairbanks, AK 99708 (Fairbanks)	Fresh Salmon	6
Great Pacific Seafoods Inc. 4201 W. Old International Airport Road Anchorage, AK99502 (Nenana)	Fresh Salmon Salmon Roe	6
Edmond R. Lord PO Box 183, Nenana, AK 997760 (Nenana)	Fresh Salmon	6
Victor W. Lord PO Box 374, Nenana, AK 99760 (Nenana)	Fresh Salmon	6
Gregory Taylor 1477 Chena Point Road Fairbanks, AK 99709 (Fairbanks)	Fresh Salmon	6

Table 4.–Chinook and summer chum salmon commercial harvest by district or subdistrict and by period, set and drift gillnets combined for Districts 1, 2, and 3 and set gillnets and fish wheels combined for Districts 4, 5, and 6, Yukon Area, 2011.

District 1

									Chinook Salmon				Summer Chum Salmon		
Period		Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number Fishermen	Number Caught but Not Sold	Number Sold	Pounds	Avg. Wt.	Number	Pounds	Avg. Wt.
1		6:00 PM	6/24	12:00 midnight	6/24	6	R	154	522	0	0	–	10,913	73,123	6.7
2		8:00 PM	6/27	2:00 AM	6/28	6	R	161	649	0	0	–	30,189	203,622	6.7
3	[a]	6:00 PM	6/29	10:00 PM	6/29	4	R	128	145	0	0	–	28,237	183,747	6.5
4	[a]	6:00 PM	7/1	10:00 PM	7/1	4	R	153	222	0	0	–	22,540	147,524	6.5
5	[a]	6:00PM	7/3	12:00 midnight	7/3	6	R	149	134	0	0	–	17,184	113,030	6.6
6	[a]	6:00PM	7/4	12:00 midnight	7/4	6	R	85	72	0	0	–	8,539	54,304	6.4
7		8:00 PM	7/6	2:00 AM	7/7	6	R	133	94	0	0	–	11,472	75,479	6.6
8		9:00 PM	7/8	6:00 AM	7/9	9	R	125	87	0	0	–	6,752	43,535	6.4
9		10:00 AM	7/11	10:00 PM	7/11	12	R	62	18	0	0	–	1,364	8,647	6.3
10		6:00 PM	7/12	6:00 AM	7/13	12	R	96	50	0	0	–	10,270	67,488	6.6
11		9:00 AM	7/14	9:00 PM	7/14	12	R	123	97	0	0	–	15,979	106,775	6.7
								Fall Season	66	36	405	11.3			
District 1 Subtotal:						83		228	2,156	36	405	11.3	163,439	1,077,274	6.6

District 2

									Chinook Salmon				Summer Chum Salmon		
Period		Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number Fishermen	Number Caught but Not Sold	Number Sold	Pounds	Avg. Wt.	Number	Pounds	Avg. Wt.
1		8:00 PM	6/26	12:00 midnight	6/26	4	R	137	768	0	0	–	15,338	102,252	6.7
2		6:00 PM	6/28	10:00 PM	6/28	4	R	137	532	0	0	–	10,821	70,467	6.5
3	[b]	5:00 PM	7/6	8:00 PM	7/6	3	R	29	19	0	0	–	2,340	14,798	6.3
4	[c]	5:00 PM	7/7	9:00 PM	7/7	4	R	103	108	0	0	–	10,271	66,303	6.5
5		3:00 PM	7/10	12:00 midnight	7/10	9	R	150	239	0	0	–	22,187	139,518	6.3
6		6:00 PM	7/11	3:00 AM	7/12	9	R	79	98	0	0	–	8,716	53,182	6.1
7		6:00 PM	7/13	3:00 AM	7/14	9	R	103	89	0	0	–	6,546	39,657	6.1
8		12:00 noon	7/15	9:00 PM	7/15	9	R	115	84	0	0	–	12,159	77,862	6.4
9		9:00 AM	7/17	9:00 PM	7/17	12	R	127	63	0	0	–	14,693	93,476	6.4
								Fall Season		46	580	12.6			
District 2 Subtotal:						63		182	2,000	46	580	12.6	103,071	657,515	6.4
Lower Yukon Area, Summer Season, Districts 1, 2, and 3 Subtotal: [d,e]						146		403	4,156	82	985	12.0	266,510	1,734,789	6.5

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Table 4.–Page 2 of 2.

Subdistricts 6–A, 6–B, and 6–C															
								Chinook Salmon				Summer Chum Salmon			
Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished 6–A	Hours Fished 6–BC	Number Fishermen	Number Caught but Not Sold	Number Sold	Pounds	Avg. Wt.	Number	Pounds	Avg. Wt.
1	8:00 PM	7/18	8:00 AM	7/19	12	12	1	30	0	0	–	235	1,410	6.0
2	8:00 PM	7/19	8:00 AM	7/20	12	12	3	81	0	0	–	667	4,002	6.0
3	8:00 PM	7/22	8:00 AM	7/23	12	12	4	71	0	0	–	1,139	6,491	5.7
4	8:00 PM	7/23	8:00 AM	7/24	12	12	4	69	0	0	–	1,224	6,976	5.7
5	8:00 PM	7/25	8:00 AM	7/26	12	12	3	47	0	0	–	1,630	9,290	5.7
6	8:00 PM	7/26	8:00 AM	7/27	12	12	2	22	0	0	–	982	5,597	5.7
7	6:00 PM	7/29	12:00 noon	7/31	42	42	4	32	0	0	–	2,651	14,579	5.5
8	6:00 PM	8/1	12:00 noon	8/3	42	42	1	0	0	0	–	123	861	7.0
9	6:00 PM	8/5	12:00 noon	8/7	42	42	0	0	0	0	–	0	0	–
10	6:00 PM	8/8	12:00 noon	8/10	42	42	0	0	0	0	–	0	0	–
11	6:00 PM	8/12	12:00 noon	8/14	42	42	0	0	0	0	–	0	0	–
District 6 Subtotal:					282	282	5	352	0	0	–	8,651	49,206	5.7
Upper Yukon Area, Summer Season, Districts 4, 5, and 6 Subtotal:						282	5	352			–	8,651	49,206	5.7
Yukon Area, Summer Season, Districts 1 Through 6 Total: [d,e]						428	408	4,508	82	985	12.0	275,161	1,783,995	6.5

Note: No commercial fishing occurred in Districts 3, 4, and 5. Mesh size R indicates 6 inch maximum mesh size.

[a] The area open to commercial fishing was restricted to the South Mouth only.

[b] The area open to commercial fishing was downriver from the confluence of the Andreafsky and the Yukon Rivers to the Y-1 and Y-2 boundary line at the Anuk River.

[c] The area open to commercial fishing was downriver of the slough at the community of Pilot Station to the Y-1 and Y-2 boundary line at the Anuk River.

[d] The "Number of Fishermen" is the unique number of permits fished. Some fishermen may fish multiple areas, therefore the subtotals will not necessarily add up by district.

[e] Includes Chinook salmon caught and sold in the fall season.

Table 5.–Fall chum and coho salmon commercial harvest by district or subdistrict and by period, set and drift gillnets combined for Districts 1, 2, and 3, and set gillnets and fish wheels combined for Districts 4, 5, and 6, Yukon Area, 2011.

District 1

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished Drift	Hours Fished Set	Mesh Size	Number Fishermen	Fall Chum Salmon Number	Fall Chum Salmon Pounds	Fall Chum Salmon Avg. Wt.	Coho Salmon Number	Coho Salmon Pounds	Coho Salmon Avg. Wt.	Coho Salmon Percent Coho	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Avg. Wt.
1	12:00 PM	7/18	12:00 AM	7/18	9	12	R	147	11,206	73,751	6.6	1	5	5.0	0.01%	52 [a]		
2	12:00 PM	7/21	12:00 AM	7/21	9	12	R	81	1,718	10,876	6.3	15	112	7.5	0.87%	8 [a]		
3	9:00 AM	7/25	9:00 PM	7/25	9	12	R	79	6,637	47,049	7.1	18	120	6.7	0.27%	4 [a]		
4	3:00 PM	8/2	9:00 PM	8/2	6	6	U	160	8,405	60,494	7.2	1,219	7,994	6.6	12.67%	11	134	12.2
5	3:00 PM	8/4	12:00 AM	8/4	9	9	U	136	23,157	169,678	7.3	2,074	14,042	6.8	8.22%	8	70	8.8
6	6:00 PM	8/7	12:00 AM	8/7	6	6	U	139	8,409	60,489	7.2	1,673	11,108	6.6	16.59%	8	78	9.8
7	12:00 PM	8/11	12:00 AM	8/11	12	12	U	108	1,859	13,389	7.2	1,896	12,746	6.7	50.49%	0	0	–
8	9:00 AM	8/14	9:00 PM	8/14	9	12	U	164	22,759	164,967	7.2	8,993	60,412	6.7	28.32%	2	36	18.0
9	9:00 AM	8/18	9:00 PM	8/18	12	12	U	102	579	4,018	6.9	1,612	11,035	6.8	73.57%	1	9	9.0
10	9:00 AM	8/21	6:00 PM	8/21	6	9	U	172	21,827	156,528	7.2	12,675	86,590	6.8	36.74%	1	21	21.0
11	9:00 AM	8/25	6:00 PM	8/25	9	9	U	139	2,922	20,108	6.9	2,970	20,768	7.0	50.41%	0	0	–
12	9:00 AM	8/28	9:00 PM	8/28	9	12	U	145	4,666	34,038	7.3	4,666	32,488	7.0	50.00%	0	0	–
13	9:00 AM	8/31	9:00 PM	8/31	9	12	U	154	8,549	60,824	7.1	4,290	30,962	7.2	33.41%	2	12	6.0
14	12:00 PM	9/2	9:00 PM	9/2	9	9	U	133	2,499	17,415	7.0	2,200	15,483	7.0	46.82%	2	29	14.5
15	8:00 AM	9/5	5:00 PM	9/5	9	9	U	99	1,246	9,141	7.3	654	4,598	7.0	34.42%	0	0	–
16	9:00 AM	9/9	6:00 PM	9/9	9	9	U	55	1,297	9,305	7.2	379	2,684	7.1	22.61%	1	16	16.0
District 1 Subtotal:					141	162		234	127,735	912,070	7.1	45,335	311,147	6.9	26.19%	36	405	11.3

District 2

Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Mesh Size	Number Fishermen	Fall Chum Salmon Number	Fall Chum Salmon Pounds	Fall Chum Salmon Avg. Wt.	Coho Salmon Number	Coho Salmon Pounds	Coho Salmon Avg. Wt.	Coho Salmon Percent Coho	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Avg. Wt.
1	3:00 PM	8/1	9:00 PM	8/1	6	U	128	24,526	177,409	7.2	423	2,723	6.4	1.7%	18	217	12.1
2	9:00 AM	8/6	6:00 PM	8/6	9	U	124	11,074	78,039	7.0	2,408	15,535	6.5	17.9%	14	188	13.4
3	12:00 PM	8/9	9:00 PM	8/9	9	U	127	15,434	108,960	7.1	2,842	18,635	6.6	15.6%	5	51	10.2
4	9:00 AM	8/14	6:00 PM	8/14	9	U	118	6,971	48,991	7.0	3,551	23,263	6.6	33.7%	2	11	5.5
5	9:00 AM	8/17	6:00 PM	8/17	9	U	142	17,481	123,266	7.1	5,670	37,448	6.6	24.5%	6	102	17.0
6	9:00 AM	8/23	6:00 PM	8/23	9	U	149	25,245	178,840	7.1	9,290	63,417	6.8	26.9%	1	11	11.0
District 2 Subtotal:					51		169	100,731	715,505	7.1	24,184	161,021	6.7	19.4%	46	580	12.6

	Hours Fished Drift	Hours Fished Set	Number Fishermen	Fall Chum Salmon Number	Fall Chum Salmon Pounds	Fall Chum Salmon Avg. Wt.	Coho Salmon Number	Coho Salmon Pounds	Coho Salmon Avg. Wt.	Coho Salmon Percent Coho	Chinook Salmon Number	Chinook Salmon Pounds	Chinook Salmon Avg. Wt.
Lower Yukon Area, Fall Season, Districts 1, 2, and 3 Subtotal:	141	162	395	228,466	1,627,575	7.1	69,519	472,168	6.8	23.33%	82	985	12.0

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	Hours Fished		Number	Fall Chum Salmon			Coho Salmon				Chinook Salmon		
						Avg.			Avg.	Percent			Avg.
	Drift	Set	Fishermen	Number	Pounds	Wt.	Number	Pounds	Wt.	Coho	Number	Pounds	Wt.
Lower Yukon Area, Fall Season, Districts 1, 2, and 3 Subtotal:	141	162	395	228,466	1,627,575	7.1	69,519	472,168	6.8	23.33%	82	985	12.0

Subdistricts 5–B and 5–C

							Fall Chum Salmon			Coho Salmon			
Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Number Fishermen	Number	Pounds	Avg. Wt.	Number	Pounds	Avg. Wt.	Percent Coho
1	6:00 PM	8/5	6:00 PM	8/7	48	1	291	2,037	7.0	0	0	–	–
2	6:00 PM	8/9	6:00 PM	8/14	120	2	955	6,685	7.0	0	0	–	–
3	6:00 PM	8/16	6:00 PM	8/21	120	0	0	0	–	0	0	–	–
District 5 Subtotal:					288	2	1,246	8,722	7.0	0	0	–	–

Subdistricts 6–A, 6–B, and 6–C

							Fall Chum Salmon			Coho Salmon			
Period	Starting Time	Start Date	Ending Time	End Date	Hours Fished	Number Fishermen	Number	Pounds	Avg. Wt.	Number	Pounds	Avg. Wt.	Percent Coho
1	6:00 PM	8/26	12:00 PM	8/28	42	3	769	4,998	6.5	17	111	6.5	2.2%
2	6:00 PM	9/9	12:00 PM	9/11	42	5	876	4,818	5.5	447	3,129	7.0	33.8%
3	6:00 PM	9/16	12:00 PM	9/18	42	5	2125	14,875	7.0	1759	11,480	6.5	45.3%
4	6:00 PM	9/19	12:00 PM	9/23	90	5	4998	34,986	7.0	4138	26,898	6.5	45.3%
5	6:00 PM	9/23	12:00 PM	9/25	42	1			–			–	–
6	6:00 PM	9/26	12:00 PM	9/28	42	1			–			–	–
7	6:00 PM	9/30	12:00 PM	10/2	42	3	499	3,493	7.0	423	2,618	6.2	45.9%
District 6 Subtotal:					342	6	9,267	63,170	6.8	6,784	44,236	6.5	42.3%
Upper Yukon Area, Fall Season, Districts 4, 5, and 6 Subtotals:					630	8	10,513	71,892	6.8	6,784	44,236	6.5	39.2%
Yukon Area, Fall Season, Districts 1 Through 6 Total:					792	403	238,979	1,699,467	7.1	76,303	516,404	6.8	24.2%

Note: No commercial fishing occurred in Districts 3 and 4 and Subdistricts 5-A and 5-D. U= unrestricted mesh size ≤ 7.5 inches.

[a] Caught but not sold.

Table 6.–Commercial salmon sales by statistical area, Yukon Area, 2011.

Statistical Area	Chinook [a] Number	Summer Chum [a] Number	Fall Chum [a] Number	Coho [a] Number	Total Salmon Number
334–11	1	150	11	21	183
12	8	28,715	10,019	5,257	43,999
13	1	20,807	3,673	1,851	26,332
14	0	39,517	10,142	4,696	54,355
15	4	19,948	34,153	9,424	63,529
16	17	10,720	35,432	9,101	55,270
17	4	35,634	27,230	12,725	75,593
18	1	7,948	7,075	2,261	17,285
Subtotal District 1	36	163,439	127,735	45,336	336,546
334–21	2	15,959	14,239	6,184	36,384
22	16	27,109	33,639	8,102	68,866
23	6	20,506	18,123	3,705	42,340
24	22	37,868	32,063	5,987	75,940
25	0	1,629	2,667	217	4,513
Subtotal District 2	46	103,071	100,731	24,195	228,043
334–31	–	–	–	–	–
32	–	–	–	–	–
Subtotal District 3	–	–	–	–	–
Total Lower Yukon	82	266,510	228,466	69,531	564,589

Statistical Area	Chinook [a] Number	Summer Chum [a] Number	Fall Chum [a] Number	Coho [a] Number	Total Salmon Number
334–42	–	–	–	–	–
43	–	–	–	–	–
44	–	–	–	–	–
45	–	–	–	–	–
46	–	–	–	–	–
47	–	–	–	–	–
Subtotal District 4	–	–	–	–	–
334–51	–	–	–	–	–
52	–	–	1,246	0	1,246
53	–	–	0	0	0
54	–	–	–	–	–
55	–	–	–	–	–
Subtotal District 5	–	–	1,246	0	1,246
334–61	0	0	0	0	0
62	0	4,964	9,267	6,784	21,015
63	0	3,687	0	0	3,687
Subtotal District 6	0	8,651	9,267	6,784	24,702
Total Upper Yukon	0	8,651	10,513	6,784	25,948
Grand Total Yukon Area	82	275,161	238,979	76,315	590,537

Note: En dash indicates no commercial fishing activity occurred.

[a] Sales reported in number of fish sold in the round and pounds of unprocessed roe. Does not include ADF&G test fishery sales.

Table 7.–Commercial salmon sales and estimated harvest by district and country, Yukon River drainage, 2011.

District/ Subdistrict	Number of Fishermen [a]	Chinook	Summer Chum	Fall Chum	Coho
1	260	36	163,439	127,735	45,336
2	201	46	103,071	100,731	24,195
Subtotal		82	266,510	228,466	69,531
3	–	–	–	–	–
Total Lower Yukon	437	82	266,510	228,466	69,531
Anvik River	–	–	–	–	–
4–A	–	–	–	–	–
4–BC	–	–	–	–	–
Subtotal District 4	–	–	–	–	–
5–ABC	2	–	–	1,246	0
5–D	–	–	–	–	–
Subtotal District 5	2	–	–	1,246	0
6	7	–	8,651	9,267	6,784
Total Upper Yukon	9	–	8,651	10,513	6,784
Total Alaska	446	82 [b]	275,161	238,979	76,315
Total Canada	7	4	–	5,312	0
Grand Total	453	86	275,161	244,291	76,315

Note: En dash indicates no commercial fishing activity occurred.

[a] Number of unique permits fished by district, subdistrict or area. Totals by area may not add up due to transfers between districts or subdistricts.

[b] No Chinook salmon were sold during the summer season. A total of 82 Chinook salmon were sold in Districts 1 and 2 in the fall season.

Table 8.–Subsistence salmon fishing closures and gear restrictions, Lower Yukon Area, 2011.

	Coastal District				
	Southern [a]	Northern [b]	District 1	District 2	District 3 [c]
6/1	Open	Open	Open	Open	Open
6/2	Open	Open	Open	Open	Open
6/3	Open	Open	Open	Open	Open
6/4	Open	Open	Open	Open	Open
6/5	Open	Open	Open	Open	Open
6/6	6" mesh	Open	Open	Open	Open
6/7	6" mesh	Open	Open	Open	Open
6/8	6" mesh	Open	Close 8am	Open	Open
6/9	6" mesh	Open	Open 8pm	Open	Open
6/10	6" mesh	Open	Open	Close 8am	Open
6/11	6" mesh	Open	Close 8am	Closed	Open
6/12	6" mesh	Open	Closed	Open 8pm	Open
6/13	Open	Close 8pm	Closed	Open	Open
6/14	24 Hours/day	Closed	Closed	Close 8am	Close 8am
6/15	7 Days/week	Closed	Closed	Closed	Open 8pm
6/16		Open 8pm	Open 8pm	Closed	Open
6/17		Open	Open	Closed	Close 8am
6/18		Open	Close 8am	Closed	Closed
6/19		Open	Closed	Open 8pm	Closed
6/20		Close 8pm	Closed	Open	Closed
6/21		Open 2pm	Open 2pm		Closed
6/22		Open	Close 8am	Closed	Open 8pm
6/23		24 Hours/day	Closed	Closed	Open
6/24		7 Days/week	Open 6pm [d, e]	Closed	Close 8am
6/25			Close 12 noon	Closed	Closed
6/26			Closed	Open 8pm [d]	Closed
6/27			Open 8pm, 6" mesh [d, e]	Open	Closed
6/28			Open, 6" mesh	Close 8am [f]	Closed
6/29			Close 8am [e, f, g]	Open 8pm, 6" mesh	Open 8pm
6/30			Open 8pm, 6" mesh	Open, 6" mesh	Open
7/1	Open	Open	Open, 6" mesh [e, g]	Close 8am	Close 8am
7/2	24 Hours/day	24 Hours/day	Close 8am	Closed	Closed
7/3	7 Days/week	7 Days/week	Closed [e, f, g]	Open 8pm, 6" mesh	Open 8pm
7/4			Open 8pm, 6" mesh [d,e,g]	Open, 6" mesh	Open
7/5			Open, 6" mesh	Close 8am	Close 8am
7/6			Close 8am [f]	Open 8pm, 6" mesh [e,f,h]	Open 8pm
7/7			Open 2pm, 6" mesh	Open, 6" mesh [d,e,i]	Open
7/8			Close 3am [e, f]	Close 8am, Open 6pm	Close 8am
7/9			Open 6pm, 6" mesh	6" mesh, Close 9pm	Closed
7/10			Close 4pm	Closed [e, f]	Open 8pm
7/11			Closed [e, f]	Open 12-6pm, 6"mesh [e,f]	Open
7/12			Open 10am, 6" mesh [d,e]	Open 3pm, 6" mesh [e,f]	Close 8am
7/13			Close 6am-noon, 6"mesh	Close noon [e, f]	Open 8pm
7/14			Close 3am [e, f]	Open 9am, 7.5" mesh	Open
7/15			Open 3am, 7.5" mesh	Close 6am [e, f]	Close 8am
7/16			Open	Open 3am	Closed
7/17			Open	Close 3am [e, f]	Open 8pm

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Table 8.–Page 2 of 3.

	Coastal District				
	Southern [a]	Northern [b]	District 1	District 2	District 3 [c]
7/18			Close 3am [e, j]	Open 3am	Open 24 Hours/day
7/19			Open noon		7 Days/week
7/20			Open	Open	
7/21			Close 3am [e, j]	24 Hours/day	Open
7/22			Open noon	7 Days/week	24 Hours/day
7/23			Open	except 12 hrs	7 Days/week
7/24			Close midnight [j]	before, during and	
7/25			Closed [e, j]	after commercial	
7/26			Open 9am	openings	
7/27			Open		
7/28	Open	Open	Open 24 Hours/day	Open	Open
7/29	24 Hours/day	24 Hours/day	7 Days/week		24 Hours/day
7/30	7 Days/week	7 Days/week	except 12 hrs before		7 Days/week
7/31			during, and after		
8/1			commercial periods	Close 3am [f]	
8/2			Close 3am [f]	Open 9am	
8/3			Open 9am		
8/4			Close 3am [f]		
8/5			Open noon	Close 9pm [f]	
8/6			Open	Closed [f]	
8/7			Close 6am [f]	Open 6am	
8/8			Open noon		
8/9			Open	Close 12am [f]	
8/10			Close midnight	Open 9am	
8/11			Closed [f]		
8/12			Open noon		
8/13			Close midnight [j]	Close 9pm	
8/14			Closed [f, j]	Closed [f]	
8/15	Open	Open	Open 9am	Open 6am	
8/16	24 Hours/day	24 Hours/day	Open	Close 9pm	
8/17	7 Days/week	7 Days/week	Close 9pm	Closed [f]	
8/18			Closed [f]	Open 6am	
8/19			Open 9am		
8/20			Close midnight [j]		
8/21			Closed [f, j]		
8/22			Open 6am	Close 9pm	
8/23			Open	Closed [f]	
8/24			Close 9pm	Open 6am	
8/25			Closed [f]		
8/26			Open 6am		
8/27			Close midnight [j]	Open	
8/28			Closed [f, j]	24 Hours/day	
8/29			Open 9am	7 Days/week	
8/30			Close midnight [j]		
8/31			Closed [f, j]		
9/1			Close midnight		

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Table 8.–Page 3 of 3.

		Coastal District				
		Southern [a]	Northern [b]	District 1	District 2	District 3 [c]
	9/2			Closed [f]		
	9/3			Open 9am		
Sun	9/4			Close 8pm		
Mon	9/5			Closed [f]		
Tue	9/6			Open 5am [k]		
Wed	9/7					
Thu	9/8			Close 9pm		
Fri	9/9			Closed [f]		
Sat	9/10	Open	Open	Open 6am	Open	Open
Sun	9/11	24 Hours/day	24 Hours/day	Open 24 Hours/day	24 Hours/day	24 Hours/day
Mon	9/12	7 Days/week	7 Days/week	7 Days/week	7 Days/week	7 Days/week

Note: Shaded areas indicate fishery closures, outlined shaded days were closed to protect the first and second pulses of Chinook salmon. Unless noted, mesh size was restricted to 7.5 inches or less in all districts and subdistricts in 2011.

[a] The portion of the Coastal District from the Naskonat Peninsula north to 62 degrees North latitude, including communities of Chevak, Hooper Bay, and Scammon Bay.

[b] The portion of the Coastal District from 62 degrees North latitude to Point Romanoff and 3 miles offshore.

[c] The Innoko River remained open to subsistence fishing 24 hours a day, 7 days per week for the entire season.

[d] Commercial opening concurrent with subsistence opening.

[e] Commercial opening restricted to 6 inch mesh.

[f] Commercial opening during a subsistence closure. In Districts Y1 and Y2, subsistence fishing is typically closed before, during, and after a commercial opening. Subsistence closures before and after commercial openings ranged from 0 to 18 hours by emergency orders.

[g] Commercial opening restricted to South Mouth of District Y1.

[h] Commercial opening restricted to the lower portion of District Y2 from the District Y1 and Y2 boundary to below the confluence of the Andreafsky River.

[i] Commercial opening restricted to a lower portion of District Y2 from the District Y1 and Y2 boundary to downriver of the slough at the community of Pilot Station.

[j] Coastal Set Net Only Area opened to commercial fishing and closed to subsistence fishing 3 hours earlier than the rest of District Y1 to correspond more closely with tides. Subsistence fishing closed for 12 hours before, during and after commercial openings.

[k] District Y1 remained open for subsistence fishing 24 hours a day, 7 days a week except for a closure from 9 pm September 9 to 6 am September 10 around a commercial opening.

Table 9.–Subsistence salmon fishing closures and gear restrictions, Upper Yukon Area, 2011.

	Subdistrict 4A [a]		Sub 4B/4C	5A/5B /5C	Subdistrict 5D [b]		
	Lower	Upper			Lower [c]	Middle [d]	Upper [e]
6/13	Open	Open	Open	Open	Open	Open	Open
6/14	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day
6/15	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk
6/16							
6/17	Close 6pm	Close 6pm					
6/18	Closed	Closed					
6/19	Open 6pm	Open 6pm	Open	Open	Open	Open	Open
6/20	Open	Open	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day
6/21	Close 6pm	Close 6pm	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk
6/22	Closed	Open 6pm					
6/23	Closed	Open					
6/24	Closed	Close 6pm	Close 6pm	Open	Open	Open	Open
6/25	Closed	Closed	Closed	24 Hrs/day	24 Hrs/day	24 Hrs/day	24 Hrs/day
6/26	Open 6pm	Closed	Open 6pm	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk
6/27	Open	Closed	Open				
6/28	Close 6pm	Closed	Close 6pm				
6/29	Closed	Open 6pm	Closed	Close 6pm	Open	Open	Open
6/30	Closed	Open	Closed	Closed	24 Hrs/day	24 Hrs/day	24 Hrs/day
7/1	Closed	Close 6pm	Closed	Closed	7 Days/wk	7 Days/wk	7 Days/wk
7/2	Closed	Closed	Closed	Closed			
7/3	Open 6pm	Closed	Open 6pm	Closed	Close 6pm	Open	Open
7/4	Open	Closed	Open	Open 6pm	Closed	24 Hrs/day	24 Hrs/day
7/5	Close 6pm	Closed	Close 6pm	Open	Closed	7 Days/wk	7 Days/wk
7/6	Open 6pm	Open 6am [f]	Closed	Close 12pm	Closed		
7/7	Open	Open	Closed	Closed	Closed	Close 6pm	Open
7/8	Close 6pm	Close 6pm	Closed	Closed	Open 6pm	Closed	24 Hrs/day
7/9	Closed	Closed	Closed	Closed	Open	Closed	7 Days/wk
7/10	Open 6pm	Open 6pm	Open 6pm	Closed	Open	Closed	
7/11	Open	Open	Open	Open 6pm	Close 6pm	Closed	
7/12	Close 6pm	Close 6pm	Close 6pm	Open	Closed	Open 6pm	Close 6pm
7/13	Open 6pm	Open 6pm	Open 6pm	Close 6pm	Closed	Open	Closed
7/14	Open	Open	Open	Closed	Closed	Close 6pm	Closed
7/15	Close 6pm	Close 6pm	Close 6pm	Open 6pm	Open 6am	Closed	Closed
7/16	Closed	Closed	Closed	Open		Closed	Closed
7/17	Open 6pm	Open 6pm	Open 6pm	Close 6pm	Open	Open 6pm	Open 6pm
7/18	Open	Open	Open	Closed	24 Hrs/day	Open	Open
7/19	Close 6pm	Close 6pm	Close 6pm	Open 6pm	7 Days/wk		Close 6pm
7/20	Open 6pm	Open 6pm	Open 6pm	Open		Open	Closed
7/21	Open	Open	Open	Close 6pm			Closed
7/22	Close 6pm	Close 6pm	Close 6pm	Open 6pm	Open	Open	Closed
7/23	Closed	Closed	Closed	Open	24 Hrs/day	Close 6pm	Closed
7/24	Open 6pm	Open 6pm	Open 6pm	Close 6pm	7 Days/wk	Closed	Open 6 pm
7/25	Open	Open	Open	Closed		Closed	Close 6pm
7/26	Close 6pm	Close 6pm	Close 6pm	Open 6pm		Closed	Closed
7/27	Open 6pm	Open 6pm	Open 6pm	Open	Open	Open 6pm	Closed
7/28	Open	Close 6pm	Open	Close 6pm	24 Hrs/day		Closed

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Table 9.–Page 2 of 3.

	Subdistrict 4A [a]		Sub 4B/4C	5A/5B /5C	Subdistrict 5D [b]		
	Lower	Upper			Lower [c]	Middle [d]	Upper [e]
7/29		Closed	Close 6pm	Open 6pm	7 Days/wk		Open 6pm [g]
7/30	Open	Open 6pm	Closed	Open		Open	Open/Closed
7/31	Close 6pm	Close 6pm	Open 6pm	Close 6pm	Open	24 Hrs/day	Open/Closed
8/1				Closed	24 Hrs/day	7 Days/wk	Open 6pm
8/2	Open 6pm	Open 6pm	Open	Open 6pm	7 Days/wk		
8/3				Open			
8/4	Open	Open	Open	Close 6pm	Open	Open	Open
8/5			Close 6pm	Open 6pm [h]	24 Hrs	24 Hrs	24 Hrs
8/6	Open	Open		Open [h]	7 Days/wk	7 Days/wk	7 Days/wk
8/7	Close 6pm	Close 6pm	Open 6pm	Close 6pm			
8/8				Closed			
8/9	Open 6pm	Open 6pm	Open	Open 6pm [h]			
8/10				Open [h]			
8/11	Open	Open	Open	Open [h]			
8/12			Close 6pm	Open [h]			
8/13	Open	Open		Open [h]			
8/14	Close 6pm	Close 6pm	Open 6pm	Close 6pm			
8/15				Closed	Open	Open	Open
8/16	Open 6pm	Open 6pm	Open	Open 6pm [h]	24 Hrs	24 Hrs	24 Hrs
8/17				Open [h]	7 Days/wk	7 Days/wk	7 Days/wk
8/18	Open	Open	Open	Open [h]			
8/19			Close 6pm	Open [h]			
8/20	Open	Open		Open [h]			
8/21	Close 6pm	Close 6pm	Open 6pm	Close 6pm			
8/22				Closed			
8/23	Open 6pm	Open 6pm	Open	Open 6pm			
8/24							
8/25	Open	Open	Open	Open			
8/26			Close 6pm				
8/27	Open	Open		Open			
8/28	Close 6pm	Close 6pm	Open 6pm	Close 6pm			
8/29				Closed			
8/30	Open 6pm	Open 6pm	Open	Open 6pm			
8/31							
9/1	Open	Open	Open	Open			
9/2	24 Hrs	24 Hrs	24 Hrs				
9/3	7 Days/wk	7 Days/wk	7 Days/wk	Open	Open	Open	Open
9/4				Close 6pm	24 Hrs	24 Hrs	24 Hrs
9/5	Open	Open	Open	Closed	7 Days/wk	7 Days/wk	7 Days/wk
9/6	24 Hrs	24 Hrs	24 Hrs	Open 6pm			
9/7	7 Days/wk	7 Days/wk	7 Days/wk				
9/8				Open			
9/9	Open	Open	Open				
9/10	24 Hrs	24 Hrs	24 Hrs	Open			
9/11	7 Days/wk	7 Days/wk	7 Days/wk	Close 6pm			
9/12				Closed			

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Table 9.–Page 3 of 3.

	Subdistrict 4A [a]		Sub 4B/4C	5A/5B /5C	Subdistrict 5D [b]		
	Lower	Upper			Lower [c]	Middle [d]	Upper [e]
9/13	Open	Open	Open	Open 6pm			
9/14	24 Hrs	24 Hrs	24 Hrs	24 Hrs			
9/15	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk			
9/16							
9/17	Open	Open	Open	Open			
9/18	24 Hrs	24 Hrs	24 Hrs	24 Hrs			
9/19	7 Days/wk	7 Days/wk	7 Days/wk	7 Days/wk			
9/20							

Note: Shaded areas indicate fishery closures, outlined shaded days were closed to protect the first and second pulses of Chinook salmon. Unless noted, mesh size was restricted to 7.5 inches or less in all districts and subdistricts in 2011. Other upper Yukon River areas remained on their regulatory schedules; the Koyukuk River remained open 7 days per week, the Old Minto Area was open for one 5-day per week period from 6 pm Fridays until 6 pm Wednesdays, District 6 (Tanana River) was open for two 42-hour periods per week from 6pm Monday until 12 noon Wednesdays, and from 6 pm Fridays until 12 noon Sundays. Six commercial periods occurred in District 6 and were held concurrently with subsistence openings. Personal use fishing within one-half mile of the mouth of the Chena River was closed from July 22 to August 12.

[a] Subdistrict 4-A was divided into 2 separate areas above and below Stink Creek to protect the first pulse of Chinook salmon as it passed through this long section of river.

[b] Subdistrict 5-D was divided into 3 separate areas to protect the first pulse of Chinook salmon as it passed through this long section of river.

[c] Subdistrict 5-D Lower: from the ADF&G marker 2 miles downstream of Waldron Creek upstream to the Hadweenzic River.

[d] Subdistrict 5-D Middle: from the Hadweenzic River upstream to 22 Mile Slough.

[e] Subdistrict 5-D Upper: from 22 Mile Slough to the U.S./Canada border.

[f] Subsistence fishing open for an extra 12 hours in addition to normal schedule.

[g] The Upper portion of Subdistrict 5-D upper was subdivided further. Subsistence fishing upstream of the Charlie River to the US/Canada Border was closed for an additional 3 days.

[h] Commercial fishing open concurrently with subsistence and only in Subdistricts 5B and 5C.

Table 10.–Subsistence and personal use salmon harvest estimates, including commercially related and test fish harvests provided for subsistence use, and related information, Yukon Area, 2011.

Community	Survey Date or Permit [a]	Number of Fishing Households [b]	Number of Dogs [c]	Estimated Harvest				Primary Gear Used [d]		
				Chinook	Summer Chum	Fall Chum	Coho	Set Gillnet	Drift Gillnet	Fish Wheels
Hooper Bay [e]	9/14–17	93	243	252	13,460	267	0	92	1	0
Scammon Bay	9/12–14	57	98	517	4,845	48	55	53	4	0
Coastal District Total		150	341	769	18,305	315	55	145	5	0
Nunam Iqua [f]	9/12–13	20	46	250	2,077	51	23	20	0	0
Alakanuk [e]	9/9–12	80	161	1,464	7,447	881	431	28	52	0
Emmonak [e, g]	9/6–9	91	147	2,172	12,468	1,540	472	10	81	0
Kotlik [e]	9/10–12	76	148	2,369	6,598	962	201	37	39	0
District 1 Subtotal		*267*	*502*	*6,255*	*28,590*	*3,434*	*1,127*	*95*	*172*	*0*
Mountain Village [e]	9/21–22	109	171	2,063	9,355	800	261	8	101	0
Pitkas Point	9/23	12	33	246	585	30	37	0	12	0
St. Mary's [e]	9/19–24	76	143	1,734	6,760	611	230	0	76	0
Pilot Station [e]	9/24–26	63	51	1,340	4,182	575	145	4	59	0
Marshall	9/27–28	61	126	2,686	3,810	562	150	0	61	0
District 2 Subtotal		*321*	*524*	*8,069*	*24,692*	*2,578*	*823*	*12*	*309*	*0*
Russian Mission	9/28–29	47	121	1,550	1,225	11	0	15	32	0
Holy Cross	9/28–29	35	83	2,231	363	94	0	9	26	0
Shageluk	9/27–9/28	17	76	353	1,145	249	36	9	8	0
District 3 Subtotal		*99*	*280*	*4,134*	*2,733*	*354*	*36*	*33*	*66*	*0*
Lower Yukon River Total		687	1,306	18,458	56,015	6,366	1,986	140	547	0
Anvik	9/26–27	20	63	1,052	220	202	19	8	12	0
Grayling	9/25–26	35	99	1,374	838	1,152	119	15	20	0
Kaltag	10/6–8	41	66	2,488	163	196	258	0	41	0
Nulato	10/8–10	58	50	1,538	246	652	118	7	51	0
Koyukuk	10/5–6	34	91	1,349	890	1,388	137	2	32	0
Galena	10/10–13	67	259	1,434	3,414	2,739	1,013	32	35	0
Ruby	10/24–25	14	70	482	775	592	312	11	0	3
District 4 Yukon River Subtotal		*269*	*698*	*9,717*	*,546*	*6,921*	*1,976*	*75*	*191*	*3*
Huslia	10/9–11	17	151	121	3,166	183	70	17	0	0
Hughes	10/7–9	6	71	10 *6*	954	64	13	6	0	0
Allakaket	10/5–7	6	91	42	2,368	92	13	6	0	0
Alatna	10/5	4	4	3	132	0	0	4	0	0
Bettles	phone	0	13	0	0	0	0	0	0	0
Koyukuk River Subtotal		*33*	*330*	*176*	*6,620*	*339*	*96*	*33*	*0*	*0*
District 4 Subtotal		*302*	*1,028*	*9,893*	*13,166*	*7,260*	*2,072*	*108*	*191*	*3*

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Table 10.–Page 2 of 3.

Community	Survey Date or Permit [a]	Number of Fishing Households [b]	Number of Dogs [c]	Estimated Harvest				Primary Gear Used [d]		
				Chinook	Summer Chum	Fall Chum	Coho	Set Gillnet	Drift Gillnet	Fish Wheels
Tanana	10/14–16	55	334	2,936	4,381	21,728	312	39	0	16
Rampart	permits	4	2	201	67	340	0	4	0	0
Fairbanks NSB [h]	permits	52	159	2,186	688	1,696	2	48	0	4
Stevens Village [i]	10/16–17 [i]		86	415	43	911	0	5	0	0
Birch Creek	phone	3	12	49	6	0	0	3	0	0
Beaver	10/17–18	13	28	356	393	122	0	11	0	2
Fort Yukon	10/26–28	76	616	2,472	1,297	7,188	1,040	38	1	37
Circle	permits	9	74	297	48	299	0	3	0	6
Central	permits 5	3	6	66	0	0	0	2	0	1
Eagle [e]	permits	32	273	728	2	17,455	1	23	0	9
Other District 5 [j]	permits	15	105	777	784	208	0	15	0	0
District 5 Yukon River Subtotal		*267*	*1,695*	*10,483*	*7,709*	*49,947*	*1,355*	*191*	*1*	*75*
Venetie	10/18–20	14	181	10	0	1,938	34	14	0	0
Chalkyitsik	10/28–29	0	25	0	0	0	0	0	0	0
Chandalar and Black Rivers Subtotal		*14*	*206*	*10*	*0*	*1,938*	*34*	*14*	*0*	*0*
District 5 Subtotal		*281*	*1,901*	*10,493*	*7,709*	*51,885*	*1,389*	*205*	*1*	*75*
Manley	permits	10	73	287	142	2,333	1,482	9	0	1
Minto	permits	6	118	61	27	1,500	0	5	0	1
Nenana [k]	permits	25	120	681	477	5,268	3,304	14	0	11
Healy	permits	3	33	0	0	950	944	3	0	0
Fairbanks NSB [k]	permits	52	362	419	618	4,664	1,341	45	0	7
Other District 6 [l]	permits	27	71	8	0	8	3	21	0	0
District 6 Tanana River Subtotal [k]		*123*	*777*	*1,456*	*1,264*	*14,723*	*7,074*	*97*	*0*	*20*
Upper Yukon River Total		706	3,706	21,842	22,139	73,868	10,535	410	192	98
Survey Village Subtotal		1,305	3,957	32,586	85,991	43,052	4,675	503	744	58
Subsistence Permit Subtotal [m]		200	1,396	5,265	2,414	32,723	6,127	158	0	38
Subsistence Test Fish Subtotal [n]		–	–	2,777	7,615	2,777	824	–	–	–
District 6 Commercial Related [o]		–	–	352	0	1,650	718	–	–	–
Subsistence Harvests Subtotal		*1,505*	*5,353*	*40,980*	*96,020*	*80,202*	*12,344*	*661*	*744*	*96*
Personal Use Permit Subtotals		*38*	–	*89*	*439*	*347*	*232*	*34*	*0*	*2*
Alaska, Yukon River Total [p]		1,393	5,012	40,300	78,154	80,234	12,521	550	739	98
Alaska, Yukon Area Total		1,543	5,353	41,069	96,459	80,549	12,576	695	744	98
AK, Yukon Area Percentages of the Total	_		–	18%	42%	35%	5%	45%	48%	6%

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[a] Data collected by Alaska Department of Fish and Game (ADF&G), Division of Commercial Fisheries. Survey data are expanded for number of fishing households, number of dogs, and harvest. Permit data are unexpanded, and are from all permits received as of February 15, 2012.

[b] Estimated number of households that fished in surveyed communities or number of permit households who reported fishing in permit required areas. Does not include 23 Tolovana River pike permits issued in 2011.

[c] The number of dogs is based on survey information or from permits issued.

[d] Primary fishing gear used is based on survey information or from subsistence permits issued. Totals for gear and household may not be equal due to a small number of fishermen using unknown or 'Other' gear types. Primary gear information for surveyed communities was expanded in 2011 for households that were not surveyed. Primary gear is determined by the larger number of salmon harvested by gear types in the household.

[e] Includes salmon given to communities from test fisheries. Test fish given away for subsistence use. Residents of Eagle received 5 Chinook and one fall chum salmon from the Eagle sonar project test fishery.

[f] Formerly known as Sheldon or Sheldon’s Point.

[g] Includes 10 Chinook and 30 summer chum salmon donated to Kwik'pak Fisheries from the Lower Yukon test fishery and donated to unknown communities.

[h] Fairbanks North Star Borough (FNSB) households that obtained a permit and indicated they fished in the Yukon River permit required area.

[i] Permit harvest information from Stevens Village residents was used to complement the information obtained by the survey.

[j] "Other District 5" includes residents of Anchorage, Manley, Minto, Nenana, Tanana, Wasilla, and Wiseman, and the Upper Tanana River drainage community of Tok who obtained a household permit and fished in a Yukon River permit required area.

[k] Includes harvest from the personal use permit area and salmon retained from commercial fishing from households that fished in the Tanana River.

[l] Subsistence permit subtotal does not include Stevens Village permit information or commercially retained salmon from District 6.

[m] "Other District 6" includes residents of the Upper Tanana River drainage communities of Delta Junction, Dot Lake, Northway, Tanacross, and Tok, and the communities of Anchorage and Clear who obtained a permit and fished in the Tanana River.

[n] District 6 "Commercial Related" included fish caught during commercial fishing and "not sold" but retained for subsistence use. These salmon are included in the Fairbanks NSB and Nenana community harvests.

[o] Does not include Coastal District.

[p] Based on subsistence surveys, 1,270 Chinook, 383 summer chum, 84 fall chum, and 38 coho salmon were retained from commercial harvests in Districts 1 and 2. Commercially retained salmon are included in subsistence harvests from surveyed communities.

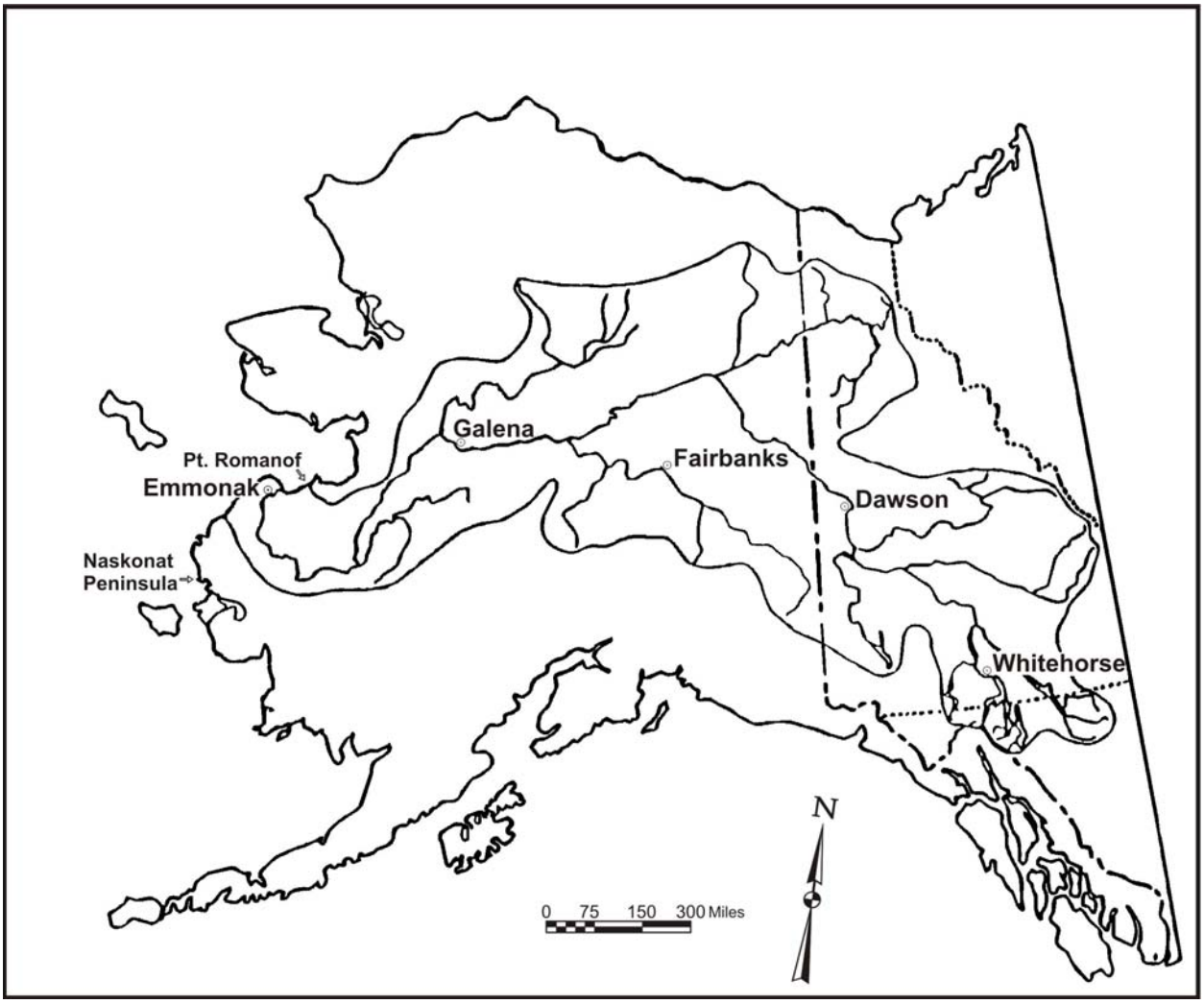

Figure 1.–Map of the Yukon River drainage.

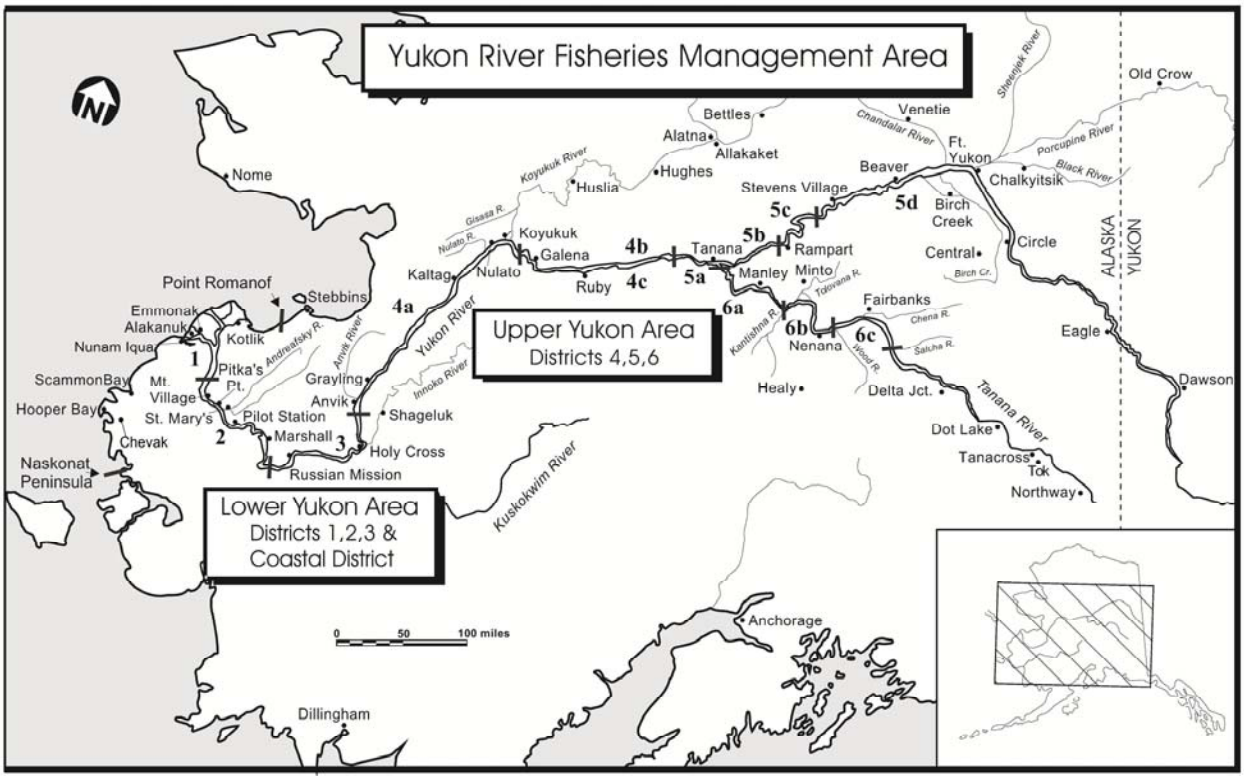

Figure 2.–Map of the Alaska portion of the Yukon River drainage showing communities and fishing districts, 2011.

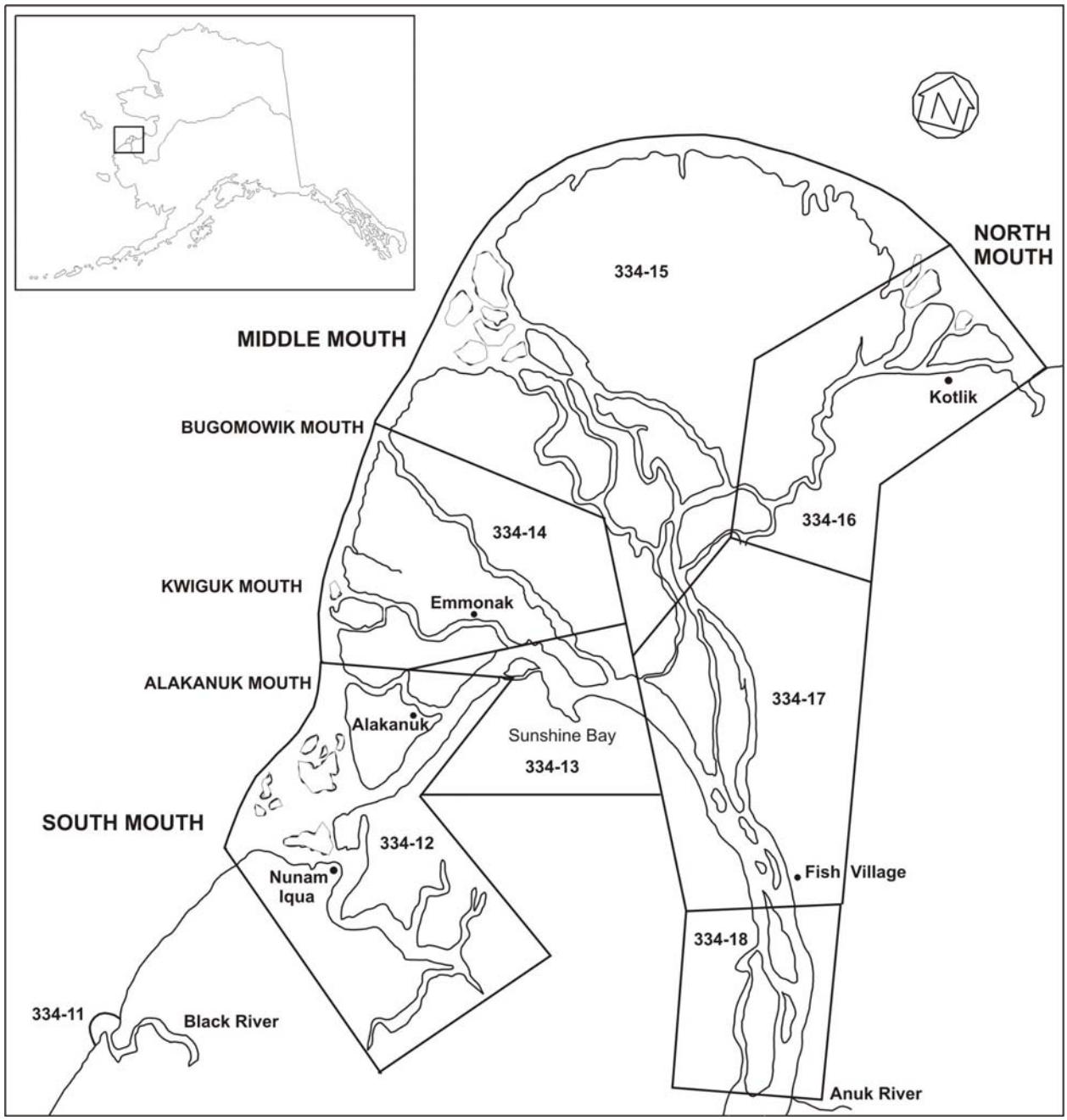

Figure 3.–District 1 showing statistical areas, Yukon Area, 2011.

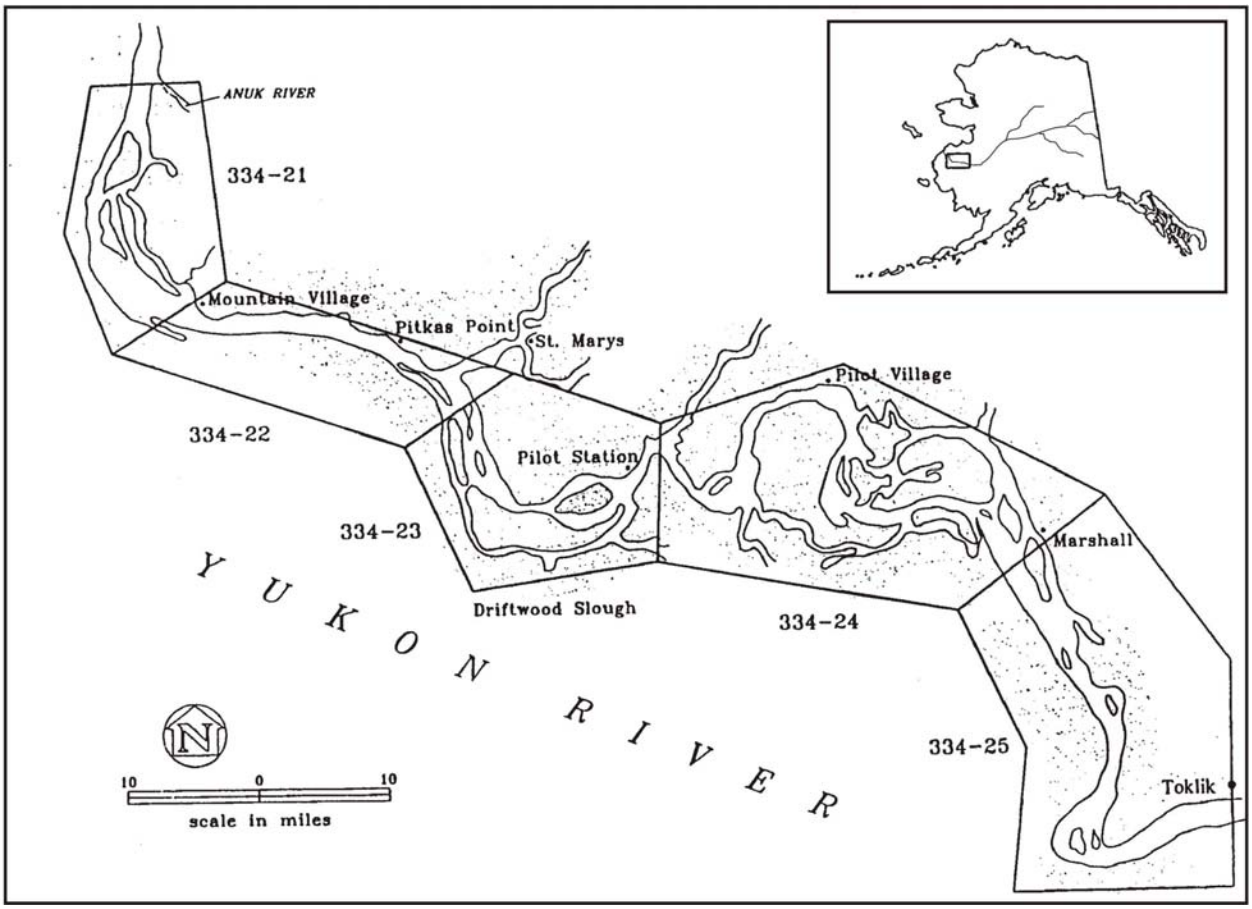

Figure 4.–District 2 showing statistical areas, Yukon Area, 2011.

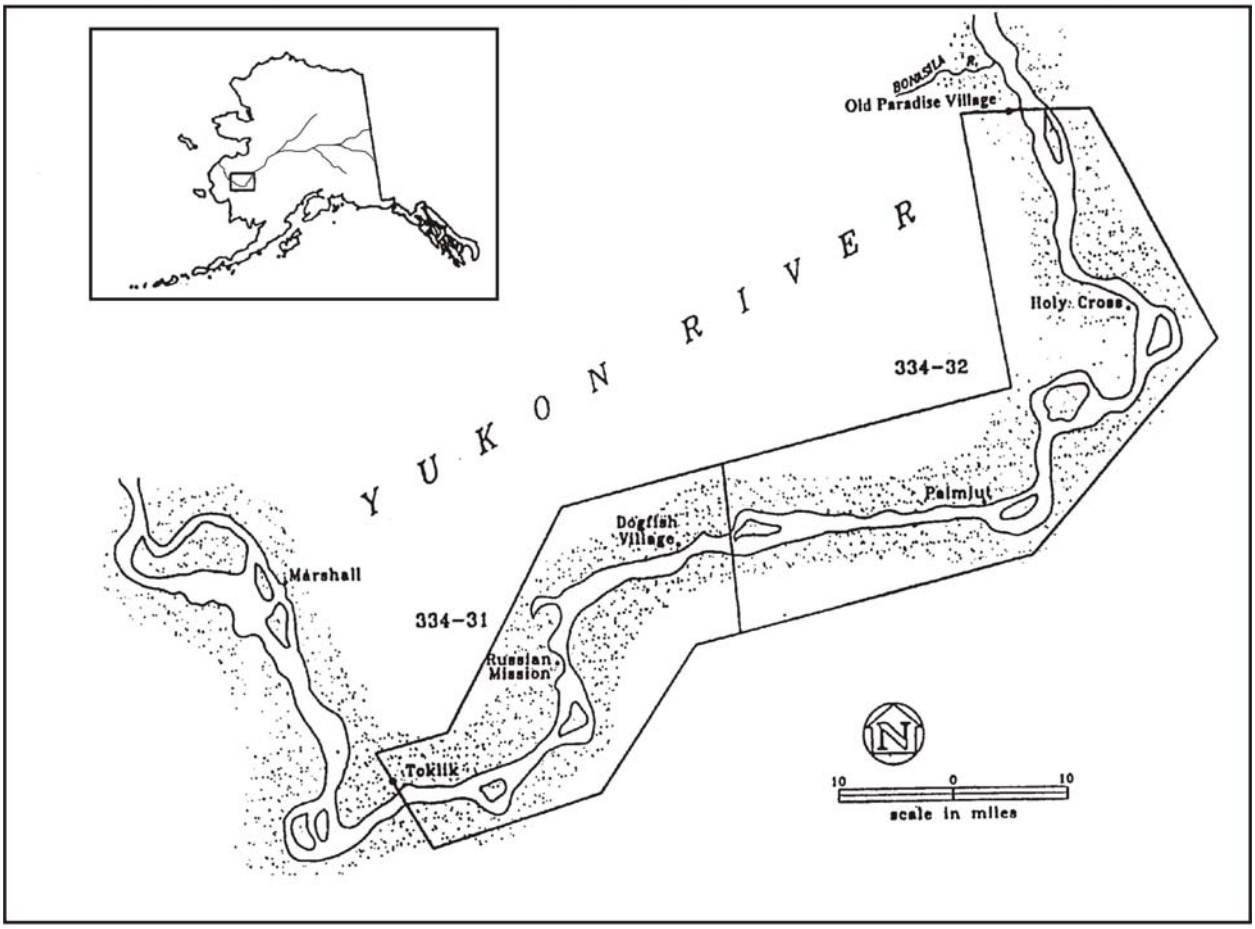

Figure 5.–District 3 showing statistical areas, Yukon Area, 2011.

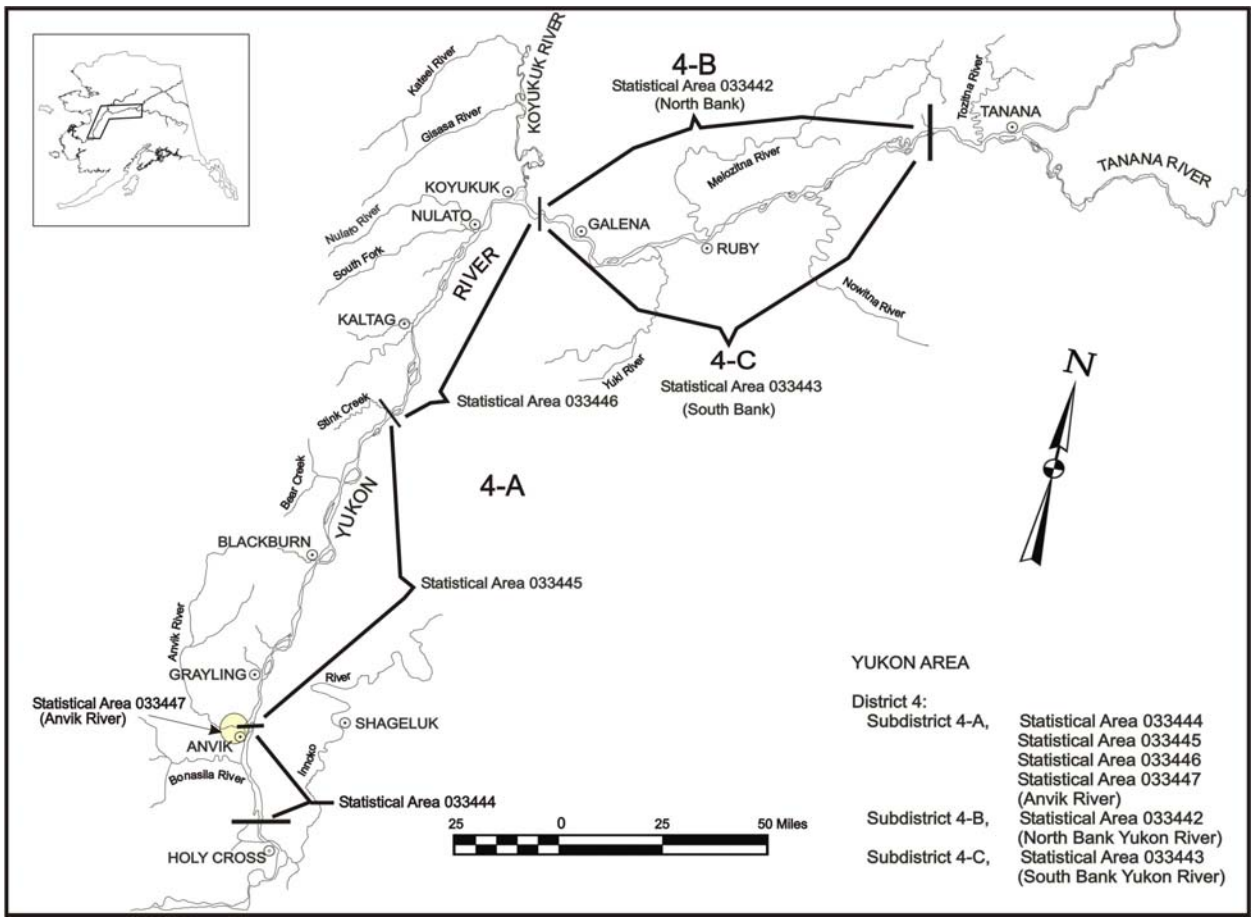

Figure 6.–District 4 showing statistical areas, Yukon Area, 2011.

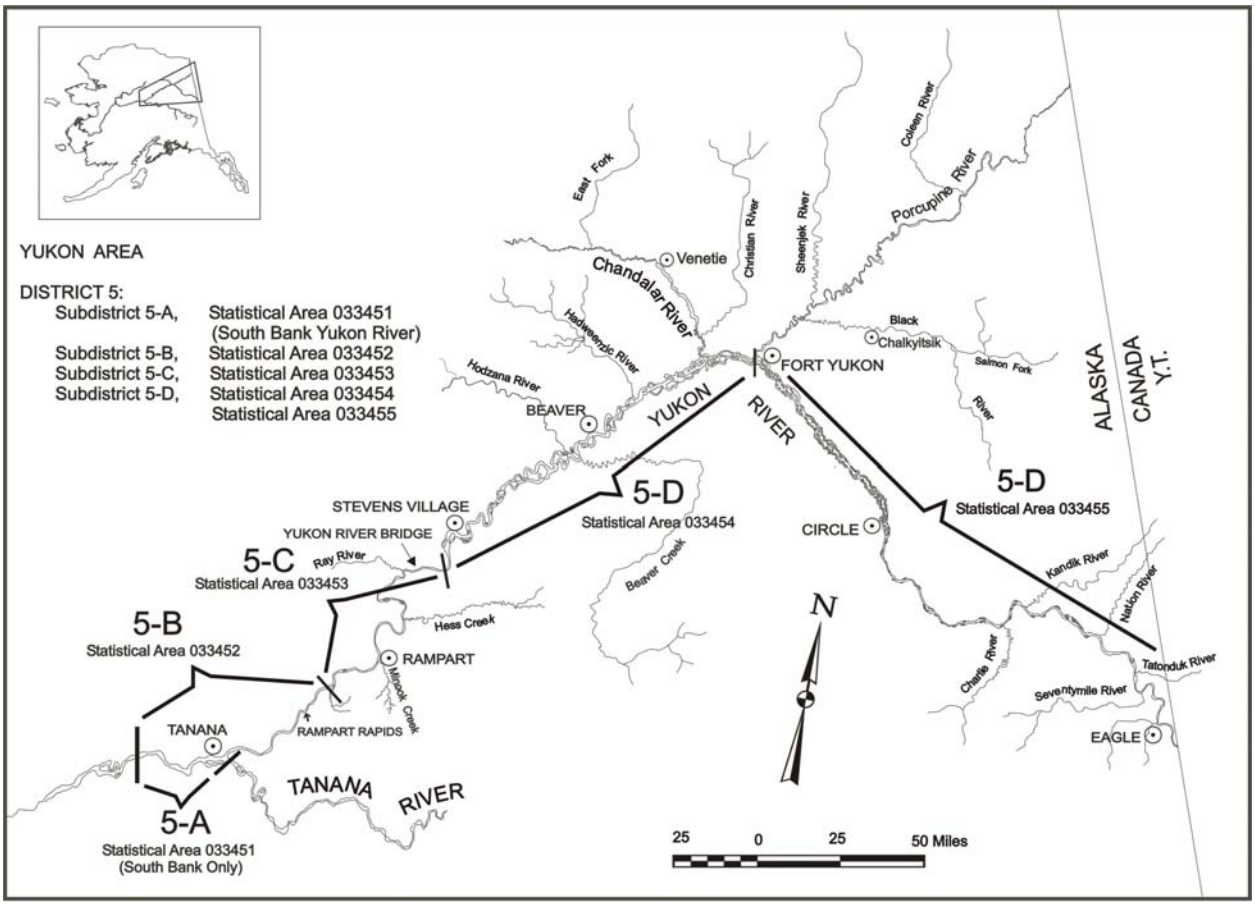

Figure 7.–District 5 showing statistical areas, Yukon Area, 2011.

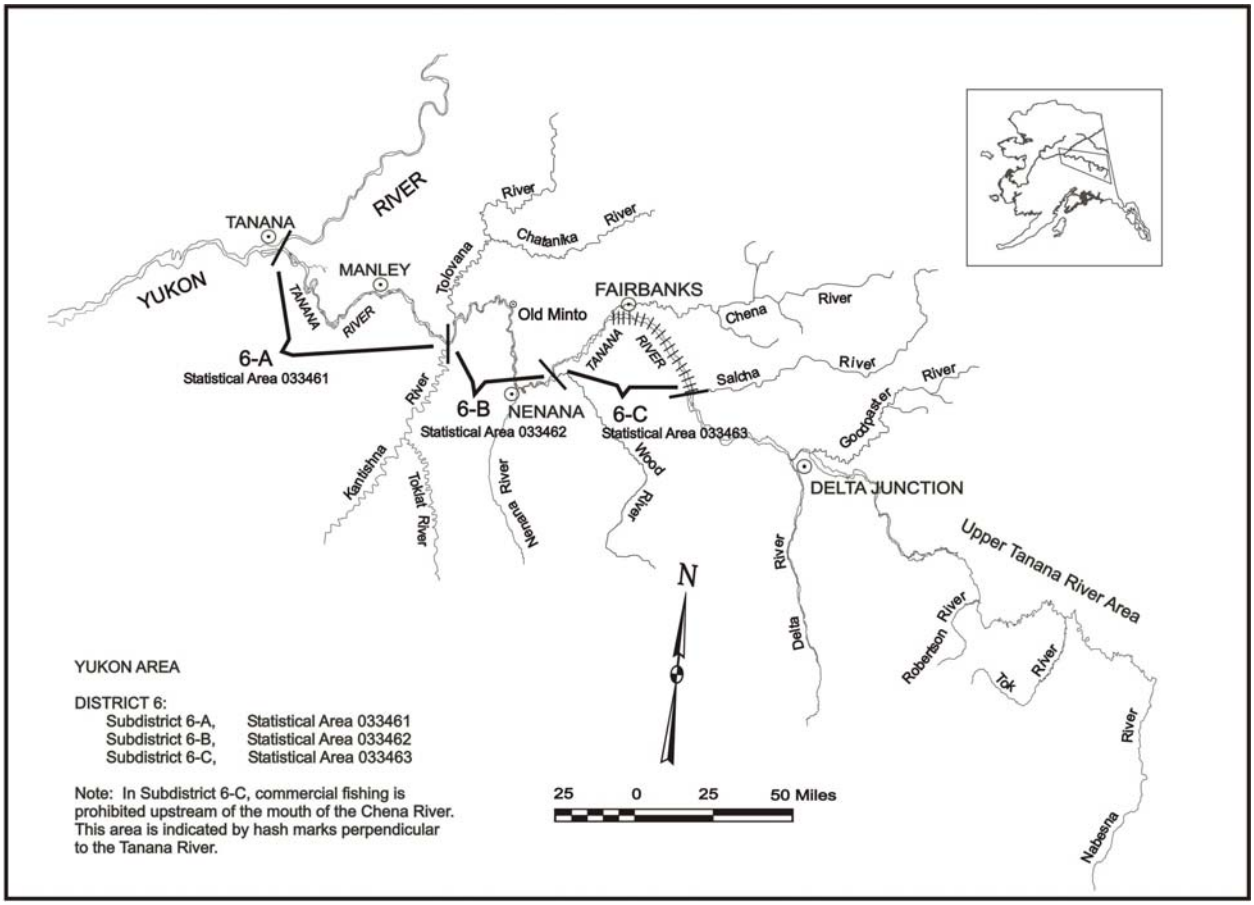

Figure 8.–District 6 showing statistical areas, Yukon Area, 2011.

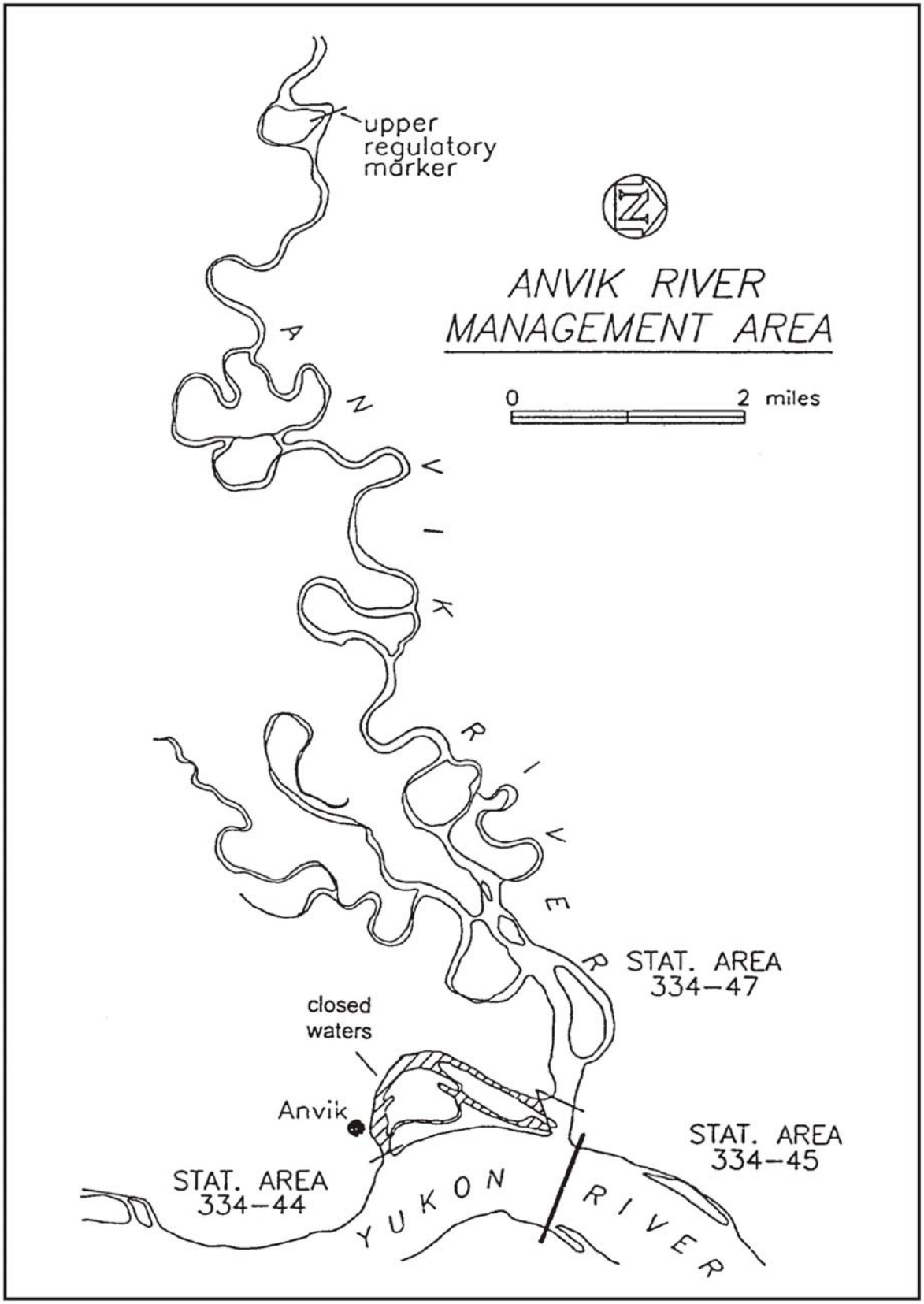

Figure 9.–Anvik River Management Area, Yukon Area, 2011.

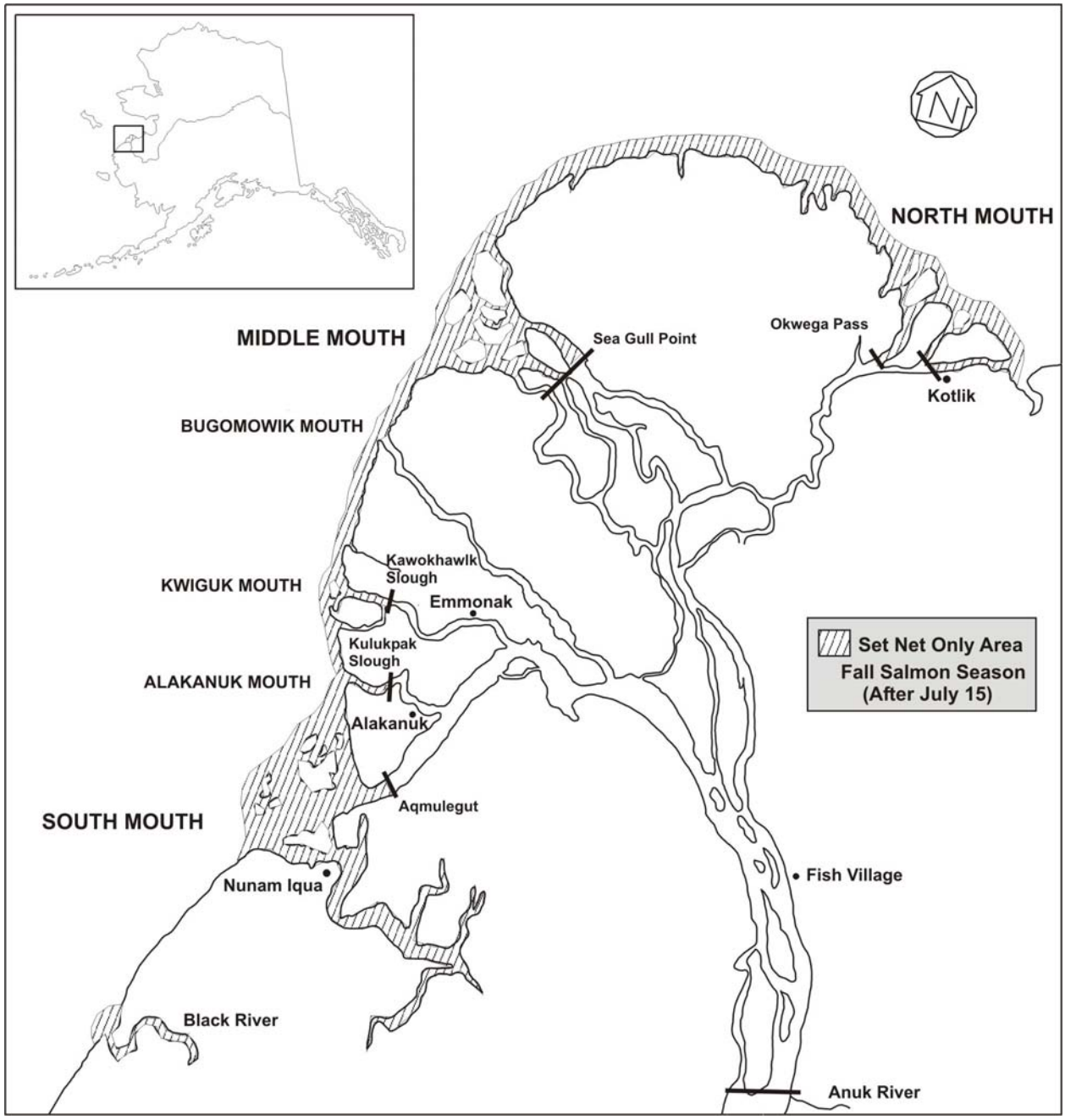

Figure 10.–Set Gillnet Only Area of District 1, Lower Yukon Area, 2011.

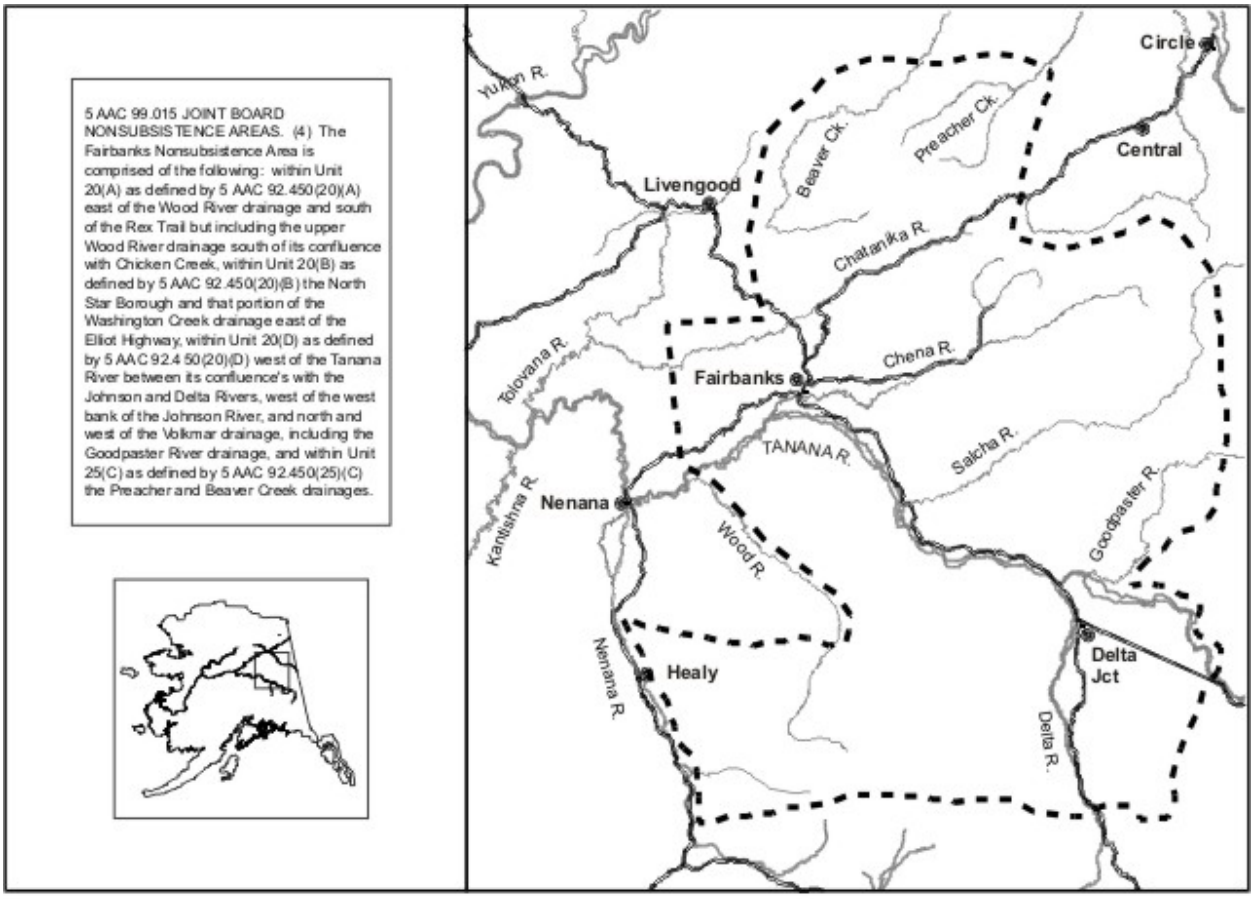

Figure 11.–The Fairbanks Nonsubsistence Area, 2011.

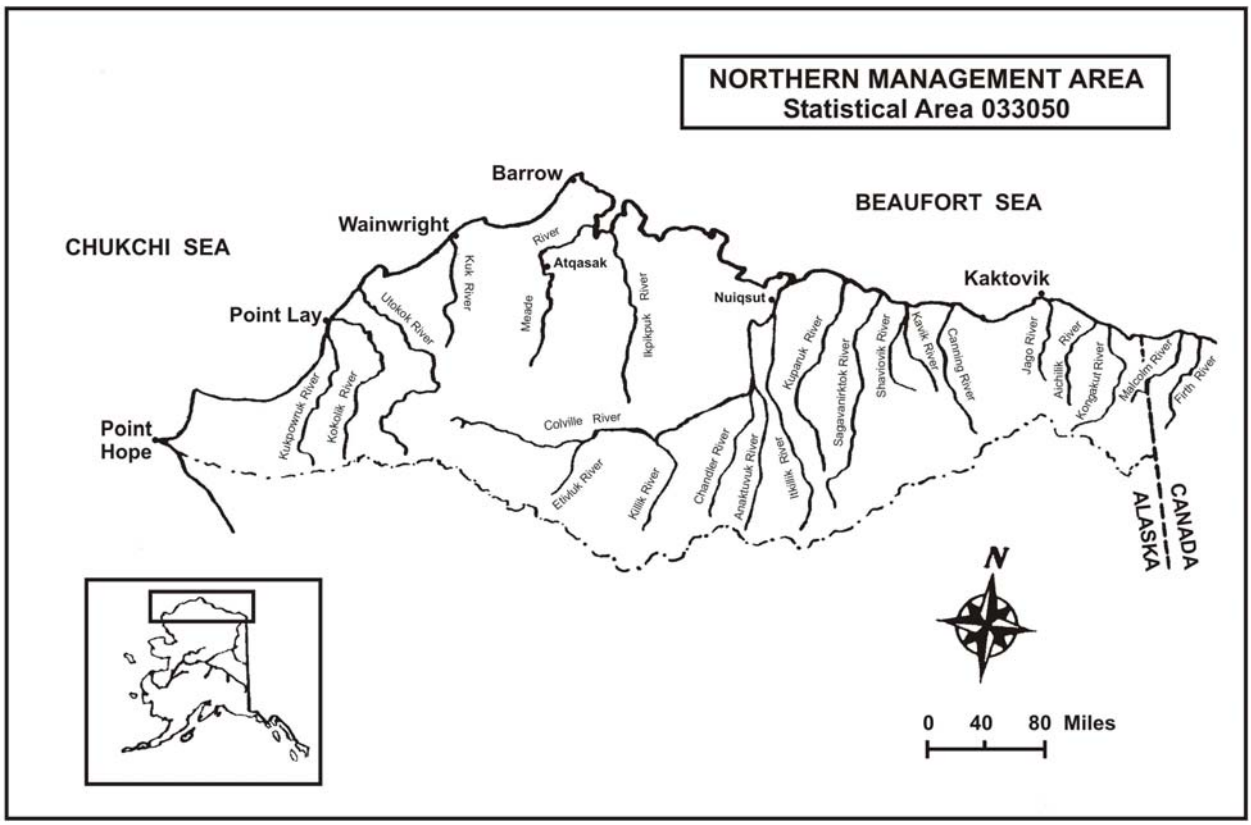

Figure 12.–The Northern Management Area, 2011.

APPENDIX A: YUKON AREA OVERVIEW

Appendix A1.–List of indigenous fishes found in the Yukon Area.

Species Code [a]	Scientific Name	Common Name
601	*Lampetra japonica*	Arctic Lamprey
570	*Stenodus leucichthys*	Inconnu (Sheefish)
588	*Coregonus nasus*	Broad Whitefish
589	*Coregonus pidschian*	Humpback Whitefish
583	*Coregonus sardinella*	Least Cisco
585	*Coregonus laurettae*	Bering Cisco
586	*Prosopium cylindraceum*	Round Whitefish
587	*Prosopium coulteri*	Pygmy Whitefish
610	*Thymallus arcticus*	Arctic Grayling
550	*Salvelinus namaycush*	Lake Trout
520	*Salvelinus alpinus*	Arctic Char
530	*Salvelinus malma*	Dolly Varden
410	*Oncorhynchus tshawytscha*	Chinook Salmon
420	*Oncorhynchus nerka*	Sockeye Salmon
430	*Oncorhynchus kisutch*	Coho Salmon
440	*Oncorhynchus gorbuscha*	Pink Salmon
450	*Oncorhynchus keta*	Chum Salmon
513	*Osmerus mordax*	Rainbow Smelt
514	*Hypomesus olidus*	Pond Smelt
500	*Esox lucius*	Northern Pike
630	*Dallia pectoralis*	Alaska Blackfish
650	*Couesius plumbeus*	Lake Chub
640	*Catostomus catostomus*	Longnose Sucker
670	*Percopsis omiscomaycus*	Trout Perch
590	*Lota lota*	Burbot (lush)
661	*Pungitius pungitius*	Ninespine Stickleback
162	*Cottus cognatus*	Slimy Sculpin
ESTUARINE		
113	*Eleginus gracilis*	Saffron Cod
250	*Microgadus proximus*	Pacific tomcod
122	*Liopsetta glacialis*	Arctic Flounder
127	*Limanda aspera*	Yellowfin Sole
129	*Platichthys stellatus*	Starry Flounder
192	*Hexagrammos stelleri*	Whitespotted Greenling
230	*Clupea harengus pallas*	Pacific Herring
516	*Mallotus villosus*	Capelin
160	*Megalocottus platycephalus*	Sculpin

Note: Includes fishes found in the Yukon River drainage in Canada.

[a] The species code is a 3 digit number that identifies the type of fish caught on harvest fish tickets.

Appendix A2.–Yukon River drainage mileages.

Location	Mileage from Mouth
NORTH MOUTH (APOON PASS)	
Kotlik	6
Hamilton	26
MIDDLE MOUTH (KWIKPAK,KAWANAK PASS)	
Choolunawick	16
Akers Camp	26
New Hamilton	34
SOUTH MOUTH (KWIKLUAK PASS)	
Mouth, Black River	-18
Flat Island	0
Sheldon Point	5
Tin Can Point	8
Alakanuk	17
Emmonak-Kwiguk (Kwiguk Pass)	24
Sunshine Bay	24
Aproka Pass (upstream mouth)	35
Kwikpak Pass (upstream mouth)	44
Head of Passes	48
Fish Village	52
Mouth, Anuk River	63
(District 1/2 Boundary)	
Patsys Cabin	71
Mountain Village	87
Old Andreafsky	97
Pitkas Point	103
Mouth, Andreafsky River	104
St. Mary's	107
Pilot Station	122
Mouth, Atcheulinguk (Chulinak) River	126
Pilot Village	138
Marshall (Fortuna Ledge)	161
Upstream Mouth Owl Slough	163
Ingrihak	170
Ohogamuit	185
Toklik	191
(District 2/3 Boundary)	
Kakamut	193
Russian Mission	213
Dogfish Villaage	227
Paimuit	251
Mouth, Innoko River	274
(South Slough)	
Shageluk	328
Holikachuk	383
Holy Cross	279
Mouth, Koserefski River	286
Old Paradise Village	301
(District 3/4 Boundary)	
Mouth, Bonasila River	306
Anvik	317
Mouth, Anvik River	318
Grayling	336
Mouth, Thompson Creek	349
Blackburn	370
Eagle Slide	402
Mouth, Rodo River	447
Kaltag	450
Mouth, Nulato River	483
Nulato	484
Koyukuk	502
Mouth, Koyukuk River	508
Mouth, Gisasa River	564
Huslia	711
Mouth, Dakli River	755
Mouth, Hogatza River	780
Hughes	881
Mouth, Kanuti River	935
Alatna (Mouth, Alatna R.)	956
Allakaket	956
Mouth, South Fork	986
Mouth, John River	1,117
Bettles	1,121
Middle Fork	1,141
Cold Foot	1,174
Wiseman	1,186
Bishop Rock	514
Prospect Point	519
Galena	530
Whiskey Creek	555
Mouth, Yuki River	562
Ruby	581
Mouth, Melozitna River	583
Horner Hot Springs	605
Kokrines	608
Mouth, Nowitna River	612
Birches	647

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Location	Mileage from Mouth
(District 4/5 Boundary)	
Kallands-Mouth of Illinois Creek	664
Mouth, Tozitna River	681
Tanana Village	695
Mouth, Tanana River	695
(District 5/6 Boundary)	
Manley Hot Springs	765
Mouth, Kantishna River	793
Mouth, Toklat River	838
Mouth, Sushana R.	850
Mouth, Bearpaw River	887
Outlet, L. Minchumina	959
Minto	835
Nenana	860
Mouth, Nenana River	860
Mouth, Wood River	894
Rosie Creek Bluffs	912
Mouth, Chena R. (Fairbanks)	920
Mouth, Salcha River	965
Benchmark #735 Slough	991
Mouth, Little Delta R.	1,000
Mouth, Delta Creek	1,014
Mouth, Clear Creek (Richardson-Clearwater)	1,015
Mouth, Shaw Creek	1,021
Mouth, Delta River (Big Delta)	1,031
Delta Junction	1,041
Mouth, Goodpaster River	1,049
Bluff Cabin Slough	1,050
Outlet, Clearwater Lake	1,052
Outlet, Clearwater Crk (Delta Clearwater)	1,053
Mouth, Gerstle River	1,059
Outlet, Healy Lake	1,071
Outlet, Lake George	1,086
Tanacross	1,128
Outlet, Tetlin Lake	1,188
Mouth, Nabesna River	1,210
Northway Junction	1,214
Mouth, Chisana River	1,215
Mouth, Sheep Creek	1,297
Rampart Rapids	731
Rampart	763
Mouth, Hess Creek	789
Mouth, Ray River	817
Highway Bridge – Pipeline Crossing	820
Mouth, Dall River	841
Stevens Village	847
Mouth, Hodzana River	897
Beaver	932
Mouth Hadweenzic River	952
Mouth, Chandalar River (Venetie Landing)	982
Venetie	1,025
Fort Yukon	1,002
Mouth, Porcupine River	1,002
Mouth, Black River	1,026
Chalkyitsik	1,084
Mouth, Salmon Fork R.	1,142
Mouth, Sheenjek River	1,054
Mouth, Coleen River	1,157
Mouth, Salmon Trout R.	1,193
U.S. - Canadian Border	1,219
Old Crow	1,259
Fishing Branch R. spawning area	1,600
Circle	1,061
Woodchopper	1,110
Mouth, Charley River	1,124
Mouth, Kandik River	1,135
Mouth, Nation River	1,166
Mouth, Tatonduk River	1,186
Mouth, Seventymile River	1,194
Eagle	1,213
U.S.-Canadian border	1,224
Mouth, Fortymile River	1,269
Dawson	1,319
Mouth, Klondike River	1,320
Mouth, Sixty Mile River	1,369
Mouth, Stewart River	1,375
McQuesten	1,455
Stewart Crossing	1,491
Mayo	1,520
Mouth, Hess River	1,594
Mouth, White River	1,386
Mouth, Donjek River	1,455

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Location	Mileage from Mouth
Mouth Kluane River	1,541
Outlet Kluane L.	1,587
Burwash Landing	1,595
Kluane	1,625
Fort Selkirk	1,477
Mouth, Pelly River	1,478
Pelly Crossing	1,510
Mouth, MacMillan River	1,542
Ross River	1,602
Minto	1,499
Mouth Tatchun Creek	1,530
Carmacks	1,547
Mouth, Little Salmon River	1,583
Mouth, Big Salmon River	1,621
Mouth, N. Big Salmon R.	1,641
Mouth, S. Big Salmon R.	1,657
Outlet, Big Salmon Lake	1,714
Mouth, Teslin River	1,654
Roaring Bull Rapids	1,707
Johnson's Crossing (Outlet, Teslin L.)	1,756
Teslin	1,780
Mouth Nisutlin River	1,788
Mouth, Sidney Creek	1,837
Mouth, Hundred Mi. Creek	1,851
Mouth, NcNeil River	1,887
Outlet, Nisutlin Lake	1,892
Outlet, Lake Laberge	1,679
Inlet, Lake Laberge	1,712
Mouth, Takhini River	1,718
Whitehorse	1,745
Outlet, Marsh Lake	1,764
Mouth, M'Clintock River	1,769
Outlet, Little Atlin L.	1,788
Outlet, Atlin Lake	1,812
Atlin	1,844
Tagish	1,786
Outlet, Tagish Lake	1,788
Carcross (Outlet L.Bennett)	1,810
Bennett	1,835

Appendix A3.–Commercial Chinook salmon sales and estimated harvest by area, district, and country, Yukon River drainage, 1990–2011.

	Lower Yukon Area [a]			
Year	District 1	District 2	District 3	Subtotal
1990	51,199 [b]	33,061	2,341	86,601
1991 [c]	56,332	39,260	2,344	97,936
1992 [d]	74,212	38,139	1,819	114,170
1993	49,286	37,293	1,501	88,080
1994	62,241	41,692	1,114	105,047
1995	76,106	41,458	–	117,564
1996	56,642	30,209	0	86,851
1997	66,384	39,363	–	105,747
1998	25,413	16,806	0	42,219
1999	37,161	27,133	538	64,832
2000	4,735	3,783	–	8,518
2001	–	–	–	–
2002	11,081 [e]	11,434	–	22,515
2003	22,709	14,220	–	36,929
2004	28,403	24,145	–	52,548
2005	16,694	13,413	–	30,107
2006	23,748	19,843	315	43,906
2007	18,616	13,306	190	32,112
2008	2,530	2,111	–	4,641
2009	90	226	–	316
2010	5,744	4,153	–	9,897
2011 [f]	36	46	–	82
2001–2010 Average	12,962	10,285	51	23,297
2006–2010 Average	10,146	7,928	101	18,174

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	Upper Yukon Area [g]								
	District 4			District 5			District 6		
Year	Number	Roe	Estimated Harvest [h]	Number	Roe	Estimated Harvest [h]	Number	Roe	Estimated Harvest [h]
1990	3,536	8	3,538	3,353	47	3,365	1,757	1,676	2,156
1991	2,446	2,222	3,582	3,810	62	3,826	686	1,545	1,072
1992	1,651	2,273	2,394	3,852	7	3,855	572	884	753
1993	1,349	701	1,577	3,008	0	3,008	1,113	1,313	1,445
1994	2,216	564	2,443	3,739	10	3,744	2,135	1,820	2,606
1995	262	626	499	3,242	0	3,242	1,660	4,731	2,747
1996	45	202	137	2,497	518	2,757	278	750	447
1997	1,450	14	1,457	3,678	0	3,678	1,966	3,211	2,728
1998	–	–	–	517	0	517	882	260	963
1999	1,437	0	1,437	2,604	0	2,604	402	1,096	689
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	– [i]	– [i]	– [i]	771	0	771	836	896	1,066
2003	562	0	562	1,134	0	1,134	1,813	0	1,813
2004	–	–	–	1,546	0	1,546	2,057	0	2,057
2005	–	–	–	1,469	0	1,469	453	0	453
2006	–	–	–	1,839	0	1,839	84	0	84
2007	–	–	–	1,241	0	1,241	281	0	281
2008	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–
2001–2010 Average	56	0	56	800	0	800	552	90	575
2006–2010 Average				616	0	616	73	0	73

-continued-

	Upper Yukon Area [g]					
	Subtotal			Total		
Year	Number	Roe	Estimated Harvest [h]	Estimated Harvest [h]	Canada Total	Grand Total
1990	8,646	1,731	9,059	95,660	11,324	106,984
1991	6,942	3,829	8,480	106,416	10,906	117,322
1992	6,075	3,164	7,002	121,172	10,877	132,049
1993	5,470	2,014	6,030	94,110	10,350	104,460
1994	8,090	2,394	8,793	113,840	12,028	125,868
1995	5,164	5,357	6,488	124,052	11,146	135,198
1996	2,820	1,470	3,341	90,192	10,164	100,356
1997	7,094	3,225	7,863	113,610	5,311	118,921
1998	1,399	260	1,480	43,699	390	44,089
1999	4,443	1,096	4,730	69,562	3,160	72,722
2000	–	–	–	8,518	–	8,518
2001	–	–	–	–	1,351	1,351
2002	1,607	896	1,837	24,352	708	25,060
2003	3,509	0	3,509	40,438	2,672	43,110
2004	3,603	0	3,603	56,151	3,785	59,936
2005	1,922	0	1,922	32,029	4,066	36,095
2006	1,923	0	1,923	45,829	2,332	48,161
2007	1,522	0	1,522	33,634		33,634
2008	–	–	–	4,641	1	4,642
2009	–	–	–	316	364	680
2010	–	–	–	9,897	0	9,897
2011	–	–	–	82	4	86
	2001–2010					
	1,409	90	1,432	24,729	1,698	26,257
	2006–2010					
	689	0	689	18,863	674	19,403

Note: En dash indicates that no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round and pounds of roe. Since 1990, efforts were made to separate Chinook salmon roe from summer chum salmon roe. Does not include ADF&G test fish sales.

[b] All fish sold in the round.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold.

[d] Includes the illegal sales of 1,101 Chinook salmon.

[e] Includes the illegal sales of 2,711 Chinook salmon in District 1 and 284 Chinook salmon in District 2.

[f] Includes the illegal sales of 1,218 Chinook salmon in District 1 and 207 Chinook salmon in District 2.

[g] Does not include 6 confiscated Chinook salmon in District 1.

[h] Commercial periods were opened but no fishing activity occurred.

[i] In an effort to conserve Chinook salmon, commercial sales were prohibited during the summer season.

Appendix A4.–Commercial summer chum salmon sales and estimated harvest by area and district, Yukon River drainage in Alaska, 1990–2011.

	Lower Yukon Area			
Year	District 1 [a]	District 2 [a]	District 3	Subtotal
1990	146,725	131,755	643	279,123
1991	140,470 [b]	175,149	8,912	324,531
1992 [c]	177,329	147,129	65	324,523
1993	73,659	19,332	463	93,454
1994	42,332	12,869	35	55,236
1995	142,266	83,817	–	226,083
1996	92,506	30,727	1,534 [d]	124,767
1997	59,915	18,242	–	78,157
1998	21,270	6,848	–	28,118
1999	16,181	11,702	0	27,883
2000	3,315	3,309	–	6,624
2001	–	–	–	–
2002	6,327	4,027	–	10,354
2003	3,579	2,583	–	6,162
2004	13,993	5,782	–	19,775
2005	23,911	8,313	–	32,224
2006	21,816	25,543	116	47,475
2007	106,790	69,432	1	176,223
2008	67,459	58,139	–	125,598
2009	71,335	86,571	–	157,906
2010	102,267	80,948	–	183,215
2011	163,439	103,071	–	266,510
2001–2010 Average	46,386	37,926	59	84,326
2006–2010 Average	73,933	64,127	59	138,083

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	Upper Yukon Area [e]								
	District 4			District 5			District 6		
Year	Number	Roe	Estimated Harvest [f]	Number	Roe	Estimated Harvest [f]	Number	Roe	Estimated Harvest [f]
1990	12,364	105,723	222,550	11	594	671	11,127 [g]	3,059	14,833
1991	6,381	137,232	309,644	4	28	35	18,197	4,716	23,892
1992	2,659	110,809	211,396	102	295	430	5,029	1,892	7,228
1993	27	22,447	42,957	0	0	0	3,041	515	3,705
1994	3,611	89,717	171,607	229	212	464	21,208	7,828	31,434
1995	8,873	281,074	554,587	107	188	316	24,711	9,475	37,428
1996	0	295,190	510,240	0	302	336	22,360	18,332	46,890
1997	2,062	74,231	124,671	137	0	137	14,886	9,036	25,287
1998	–	–	–	96	13	110	397	140	570
1999	1,267	0	1,267	115	0	115	124	24	148
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	–	–	–	6	0	6	3,198	16	3,218
2003	62	0	62	0	0	0	4,461	0	4,461
2004	–	–	–	25	0	25	6,610	0	6,610
2005	–	–	–	0	0	0	8,986	0	8,986
2006		–	–	20	0	20	44,621	0	44,621
2007	7,304	0	7,304 [h]	0	0	0	14,674	0	14,674
2008	23,746	0	23,746 [h]	–	–	–	1,842	0	1,842
2009	4,589	0	4,589 [h]	–	–	–	7,777	0	7,777
2010	44,207	0	44,207 [i]	–	–	–	5,466	0	5,466
2011	–	–	–	–	–	–	8,651	0	8,651
2001–2010 Average	15,982	0	15,982	9	0	9	10,848	2	10,851
2006–2010 Average	19,962	0	19,962	10	0	10	14,876	0	14,876

-continued-

	Upper Yukon Area [e]					
	Subtotal			Total		
Year	Number	Roe	Estimated Harvest [f]	Number	Roe	Estimated Harvest [f]
1990	23,502	109,376	238,054	302,625	109,376	517,177
1991	24,582	141,976	333,571	349,113	141,976	658,102
1992	7,790	112,996	219,054	332,313	112,996	543,577
1993	3,068	22,962	46,662	96,522	22,962	140,116
1994	25,048	97,757	203,505	80,284	97,757	258,741
1995	33,691	290,737	592,331	259,774	290,737	818,414
1996	22,360	313,824	557,466	147,127	313,824	682,233
1997	17,085	83,267	150,095	95,242	83,267	228,252
1998	493	153	680	28,611	153	28,798
1999	1,506	24	1,530	29,389	24	29,413
2000	–	–	–	6,624	–	6,624
2001	–	–	–	–	–	–
2002	3,204	16	3,224	13,558	16	13,578
2003	4,523	0	4,523	10,685	0	10,685
2004	6,635	0	6,635	26,410	0	26,410
2005	8,986	0	8,986	41,210	0	41,210
2006	44,641	0	44,641	92,116	0	92,116
2007	21,978	0	21,978	198,201	0	198,201
2008	25,588	0	25,588	151,186	0	151,186
2009	12,366	0	12,366	170,272	0	170,272
2010	49,673	0	49,673	232,888	0	232,888
2011	8,651	0	8,651	275,161	0	275,161
2001–2010 Average	19,733	2	19,735	104,058	2	104,061
2006–2010 Average	30,849	0	30,849	168,933	0	168,933

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round and pounds of roe. Roe sales may include some pink and Chinook salmon roe. Does not include ADF&G test fish sales.

[b] All sales are fish in the round in District 1 and 2.

[c] From 1990 to 2006, the estimated harvest is the fish sold in the round plus the estimated number of females caught to produce the roe sold. In addition, the estimated harvest for Districts 3 and 4 includes the estimated number of unsold males.

[d] Does not include 1,233 female summer chum salmon sold in Subdistrict 6-C with roe extracted and roe sold separately. These fish are included in estimated harvest to produce roe sold.

[e] Includes the illegal sales of 1,023 summer chum salmon.

[f] Includes the illegal sales of 31 summer chum salmon in District 1 and 91 summer chum salmon in District 2.

[g] Number of males and females harvested to produce 935 pounds of roe.

[h] The number of female fish from which roe were extracted is the number harvested. Males were not purchased and accounted for as caught but not sold are included in personal use totals. Roe information is included in Zephyr as both numbers of fish and pounds of roe were recorded on fish tickets.

[i] Both males and females were purchased and are included in the number harvested.

Appendix A5.–Commercial fall chum salmon sales and estimated harvest by area, district, and country, Yukon River drainage, 1990–2011.

	Lower Yukon Area			
Year	District 1 [a]	District 2 [a]	District 3 [a]	Subtotal
1990	27,337	37,173	3,715	68,225
1991	59,724	102,628	9,213	171,565
1992	–	–	–	–
1993	–	–	–	–
1994	–	–	–	–
1995	79,345	90,831	–	170,176
1996	33,629	29,651	–	63,280
1997	27,483	24,326	–	51,809
1998	–	–	–	–
1999	9,987	9,703	–	19,690
2000	–	–	–	–
2001	–	–	–	–
2002	–	–	–	–
2003	5,586	–	–	5,586
2004	660	–	–	660
2005	130,525	–	–	130,525
2006	101,254	39,905	–	141,159
2007	38,852	35,826	–	74,678
2008	67,704	41,270	–	108,974
2009	11,911	12,072	–	23,983
2010	545	270	–	815
2011	127,735	100,731	–	228,466
2001–2010 Average	35,704	12,934	0	48,638
2006–2010 Average	44,053	25,869	0	69,922

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	Upper Yukon Area								
	District 4			District 5			District 6		
Year	Numbers [a]	Roe [b]	Estimated Harvest [c]	Numbers [a]	Roe [b]	Estimated Harvest [c]	Numbers [a]	Roe [b]	Estimated Harvest [c]
1990	4,989	2,351	8,166	7,778	1,058	8,836	43,182	7,535	50,975
1991	3,737	1,616	6,091	27,355	3,625	30,980	28,195	14,154	44,448
1992	–	–	–	–	–	–	15,721	2,806	19,022
1993	–	–	–	–	–	–	–	–	–
1994	–	–	–	3,630	0	3,630	1	4,368	4,369
1995	2,924	4,126	8,731	9,778	18,816	30,033	67,855	9,560	74,117
1996	2,918	0	2,918	11,878	8,498	20,376	10,266	6,173	17,574
1997	2,458	0	2,458	2,446	1,194	3,640	–	–	–
1998	–	–	–	–	–	–	–	–	–
1999	681	0	681	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–
2003	1,315	0	1,315	–	–	–	4,095	0	4,095
2004	–	–	–	–	–	–	3,450	0	3,450
2005	–	–	–	–	–	–	49,637	0	49,637
2006	–	–	–	1,667	0	1,667	23,353	0	23,353
2007	–	–	–	427	0	427	15,572	0	15,572
2008	–	–	–	4,556	0	4,556	5,967	0	5,967
2009	–	–	–	–	–	–	1,893	0	1,893
2010	–	–	–	–	–	–	1,735	0	1,735
2011	–	–	–	1,246	0	1,246	9,267	0	9,267
2001–2010 Average	132	0	132	665	0	665	10,570	0	10,570
2006–2010 Average	0	0	0	1,330	0	1,330	9,704	0	9,704

-continued-

Year	Upper Yukon Area Subtotal Numbers [a]	Roe [b]	Estimated Harvest [c]	Total Estimated Harvest	Canada Total	Grand Total
1990	55,949	10,944	67,977	136,202	27,537	163,739
1991	59,287	19,395	81,519	253,084	31,404	284,488
1992	15,721	2,806	19,022	19,022	18,576	37,598
1993	–	–	–	–	7,762	7,762
1994	3,631	4,368	7,999	7,999	30,035	38,034
1995	80,557	32,502	112,881	283,057	39,012	322,069
1996	25,062	14,671	40,868	104,148	20,069	124,217
1997	4,904	1,194	6,098	57,907	8,068	65,975
1998	–	–	–	–	–	–
1999	681	0	681	20,371	10,402	30,773
2000	–	–	–	–	1,319	1,319
2001	–	–	–	–	2,198	2,198
2002	–	–	–	–	3,065	3,065
2003	5,410	0	5,410	10,996	9,030	20,026
2004	3,450	0	3,450	4,110	7,365	11,475
2005	49,637	0	49,637	180,162	11,931	192,093
2006	25,020	0	25,020	166,179	4,096	170,275
2007	15,999	0	15,999	90,677	7,109	97,786
2008	10,523	0	10,523	119,497	4,062	123,559
2009	1,893	0	1,893	25,876	293	26,169
2010	1,735	0	1,735	2,550	2,186	4,736
2011	10,513	0	10,513	238,979	5,312	244,291
2001–2010 Average	11,193	0	11,193	59,750	5,047	64,797
2006–2010 Average	20,614	0	20,614	116,478	5,498	121,976

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reports in numbers of fish sold in the round.

[b] Sales reported in numbers of fish sold in the round and pounds of unprocessed roe, which may include small amounts of coho salmon roe. Since 1990, efforts were made to separate coho roe from fall chum salmon roe.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Prior to 1990, the ratio of pounds of roe to females to produce roe was assumed to be 1.0 pounds of roe per female.

Appendix A6.–Commercial coho chum salmon sales and estimated harvest by area and district, Yukon River drainage in Alaska, 1990–2011.

	Lower Yukon Area			
Year	District 1 [a]	District 2 [a]	District 3 [a]	Subtotal
1990	13,354	16,435	918	30,707
1991	54,095	40,898	1,905	96,898
1992	–	–	–	–
1993	–	–	–	–
1994	–	–	–	–
1995	21,625	18,488	–	40,113
1996	27,705	20,974	–	48,679
1997	21,450	13,056	–	34,506
1998	–	–	–	–
1999	855	746	–	1,601
2000	–	–	–	–
2001	–	–	–	–
2002	–	–	–	–
2003	9,757	–	–	9,757
2004	1,583	–	–	1,583
2005	36,533	–	–	36,533
2006	39,323	14,482	–	53,805
2007	21,720	21,487	–	43,207
2008	13,946	19,248	–	33,194
2009	5,992	1,577	–	7,569
2010	1,027	1,023	–	2,050
2011	45,335	24,184	–	69,519
2001–2010 Average	16,235	11,563	–	23,462
2006–2010 Average	16,402	11,563	–	27,965

-continued-

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	Upper Yukon Area								
	District 4			District 5			District 6		
Year	Numbers [a]	Roe [b]	Estimated Harvest [c]	Numbers [a]	Roe [b]	Estimated Harvest [c]	Numbers [a]	Roe [b]	Estimated Harvest [c]
1990	0	0	0	–	–	–	11,549	4,042	14,804
1991	14	0	14	–	–	–	6,268	4,299	9,774
1992	–	–	–	–	–	–	6,556	1,680	7,979
1993	–	–	–	–	–	–	–	–	–
1994	–	–	–	–	–	–	120	5,588	4,451
1995	–	–	–	–	–	–	5,826	2,229	6,900
1996	161	0	161	–	–	–	3,803	4,829	7,142
1997	814	0	814	–	–	–	–	–	–
1998	–	–	–	–	–	–	–	–	–
1999	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–
2003	367	0	367	–	–	–	15,119	0	15,119
2004	–	–	–	0	0	0	18,649	0	18,649
2005	–	–	–	–	–	–	21,778	0	21,778
2006	–	–	–	–	–	–	11,137	0	11,137
2007	–	–	–	–	–	–	1,368	0	1,368
2008	–	–	–	91	0	91	2,408	0	2,408
2009	–	–	–	–	–	–	742	0	742
2010	–	–	–	–	–	–	1,700	0	1,700
2011	–	–	–	0	0	0	6,784	0	6,784
2001–2010 Average	367	0	367	46	0	46	9,113	0	9,113
2006–2010 Average	–	–	–	91	91	91	3,471	0	3,471

-continued-

Year	Upper Yukon Area Subtotal Numbers [a]	Roe [b]	Estimated Harvest [c]	Alaska Total Harvest
1990	11,549	4,042	14,804	45,511
1991	6,282	4,299	9,788	106,686
1992	6,556	1,680	7,979	7,979
1993	0	0	0	0
1994	120	5,588	4,451	4,451
1995	5,826	2,229	6,900	47,013
1996	3,964	4,829	7,303	55,982
1997	814	0	814	35,320
1998	–	–	–	0
1999	–	–	–	1,601
2000	–	–	–	0
2001	–	–	–	0
2002	–	–	–	0
2003	15,486	0	15,486	25,243
2004	18,649	0	18,649	20,232
2005	21,778	0	21,778	58,311
2006	11,137	0	11,137	64,942
2007	1,368	0	1,368	44,575
2008	2,499	0	2,499	35,693
2009	742	0	742	8,311
2010	1,700	0	1,700	3,750
2011	6,784	0	6,784	76,303
2001–2010 Average	9,170	0	9,170	26,106
2006–2010 Average	3,489	0	3,489	31,454

Note: En dash indicates no commercial fishing activity occurred. Numbers based on reports generated from the state TIX and Zephyr programs.

[a] Harvest reports in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Since 1990, efforts were made to separate coho salmon roe from the fall chum salmon roe sold.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Prior to 1990, the ratio of pounds of roe to females to produce roe was assumed to be 1:1.

Appendix A7.–Commercial Fisheries Entry Commission (CFEC) salmon permits issued by gear type, Yukon Area, 1990–2011.

	Lower Yukon Area Set or Drift Gillnet		Upper Yukon Area Set Gillnet		Upper Yukon Area Fish wheel		Total	
Year	Permits Issued [a]	Permits Fished [b]	Permits Issued [a]	Permits Fished [b]	Permits Issued [a]	Permits Fished [b]	Permits Issued [a]	Permits Fished [b]
1990	708	675	71	35	157	116	936	826
1991	708	680	72	36	155	110	935	826
1992	707	678	71	32	179	111	957	821
1993	708	682	72	35	166	88	946	805
1994	707	659	72	30	165	73	944	762
1995	707	663	73	36	166	106	946	805
1996	707	627	72	28	165	107	944	762
1997	705	640	72	22	163	63	940	725
1998	704	643	72	6	162	22	938	671
1999	704	632	72	13	162	25	938	670
2000	704	560	72	0	161	0	937	560
2001	701	0	72	0	157	0	930	0
2002	702	539	72	12	156	12	930	563
2003	703	557	72	7	157	20	932	584
2004	693	551	67	9	137	14	897	574
2005	691	579	67	6	135	15	893	600
2006	686	574	66	10	128	26	880	610
2007	684	565	66	6	124	24	874	595
2008	681	473	64	2	124	20	869	495
2009	678	391	61	2	122	10	861	403
2010	670	444	58	0	115	11	843	455
2011	667	456	55	0	115	9	837	465
2006-2010 Average	680	489	63	4	123	18	865	512

[a] Information obtained from CFEC.

[b] Data obtained from ADF&G fish ticket database.

Appendix A8.–Number of commercial salmon fishing gear permit holders by district and season, Yukon Area, 1990–2011.

	Chinook and Summer Chum Salmon Season								
	Lower Yukon Area				Upper Yukon Area				Yukon Area
Year	District 1	District 2	District 3	Subtotal [a]	District 4	District 5	District 6	Subtotal	Total
1990	453	242	15	679	92	27	23	142	821
1991	489	253	27	678	85	32	22	139	817
1992	438	263	19	679	90	28	19	137	816
1993	448	238	6	682	75	30	18	123	805
1994	414	250	7	659	55	28	20	103	762
1995	439	233	0	661	87	28	21	136	797
1996	448	189	9	627	87	23	15	125	752
1997	457	188	0	639	39	29	15	83	722
1998	434	231	0	643	0	18	10	28	671
1999	412	217	5	631	5	26	6	37	668
2000	350	214	0	562	0	0	0	0	562
2001 [b]	–	–	–	–	–	–	–	–	–
2002	322	223	0	540	0	18	6	24	564
2003	351	217	0	556	3	16	7	26	582
2004	396	212	0	549	0	14	6	20	569
2005	370	228	0	578	0	12	5	17	595
2006	379	214	6	569	0	15	10	25	594
2007	359	220	3	564	5	12	10	27	591
2008	266	181	0	444	8	0	5	13	457
2009	213	166	0	376	6	0	5	11	387
2010	264	181	0	440	5	0	5	10	450
2011	228	182	0	403	0	0	5	5	408
2006–2010 Average	296	192	2	479	5	5	7	17	496

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Fall Chum and Coho Salmon Season									
	Lower Yukon Area				Upper Yukon Area				Yukon Area
Year	District 1	District 2	District 3	Subtotal [a]	District 4	District 5	District 6	Subtotal	Total
1990	301	227	19	529	11	11	27	49	578
1991	319	238	19	540	8	21	25	54	594
1992	0	0	0	0	0	0	22	22	22
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	1	11	12	12
1995	189	172	0	357	4	12	20	36	393
1996	158	109	0	263	1	17	17	35	298
1997	176	130	0	304	3	8	0	11	315
1998	0	0	0	0	0	0	0	0	0
1999	146	110	0	254	4	0	0	4	258
2000	0	0	0	0	0	0	0	0	0
2001 [b]	–	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	0	0	0
2003	75	0	0	75	2	0	5	7	82
2004	26	0	0	26	0	0	6	6	32
2005	177	0	0	177	0	0	7	7	184
2006	219	71	0	286	0	4	11	15	301
2007	181	122	0	300	0	2	8	10	310
2008	251	177	0	428	0	3	8	11	439
2009	165	130	0	292	0	0	2	2	294
2010	72	18	0	90	0	0	4	4	94
2011	234	169	0	395	0	2	5	8	403
2006–2010 Average	178	104	0	279	0	2	7	8	288

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	Combined Season								
	Lower Yukon Area				Upper Yukon Area				Yukon Area
Year	District 1	District 2	District 3	Subtotal [a]	District 4	District 5	District 6	Subtotal	Total
1990	459	258	22	679	92	31	30	153	832
1991	497	272	29	680	85	33	28	146	826
1992	438	263	19	679	90	28	25	143	822
1993	448	238	6	682	75	30	18	123	805
1994	414	250	7	659	55	28	20	103	762
1995	446	254	0	664	87	31	24	142	806
1996	455	217	9	628	87	29	19	135	763
1997	463	221	0	640	39	31	15	85	725
1998	434	231	0	643	0	18	10	28	671
1999	422	238	5	632	6	26	6	38	670
2000	349	214	0	561	0	0	0	0	561
2001 [b]	–	–	–	–	–	–	–	–	–
2002	322	223	0	540	0	18	6	24	564
2003	358	217	0	557	3	16	8	27	584
2004	399	212	0	551	0	14	9	23	574
2005	392	228	0	581	0	12	9	21	602
2006	396	224	6	574	0	20	16	36	610
2007	366	236	3	566	5	13	12	30	596
2008	297	208	0	474	8	3	11	22	496
2009	226	172	0	391	6	0	6	12	403
2010	274	183	0	444	5	0	6	11	455
2011	260	201	0	437	0	2	7	9	446
2006–2010 Average	312	205	2	490	5	7	10	22	512

[a] Since 1984 the subtotal for the Lower Yukon Area was the unique number of permits fished. Prior to 1984, the subtotals are additive for Districts 1, 2, and 3. Some individual fishermen in the Lower Yukon Area may have operated in more than one district during the year.

[b] No commercial fishing.

[c] Combined seasons numbers will differ as the data represent the total number of unique permits fished during the entire season.

Appendix A9.–Commercial salmon pack by species and type of processing, Yukon Area, 1990–2011.

Year	Cases (48#)			Fresh–Frozen (round wt. in lbs.)			Cured Chinook		Cured Chum		Salmon Roe (lbs.)
	Chinook	Coho	Chum	Chinook	Coho	Chum	Tierces	Half Tierces	Tierces	Half Tierces	
1990 [a]	0	0	0	1,846,081	283,504	3,166,199	0	3	0	1,368 [b]	261,016
1991 [c]	0	0	0	2,047,188	708,902	3,978,482	0	0	0	2,547 [b]	350,174
1992	0	0	0	2,537,833	40,685	2,398,093	0	0	0	0	260,590
1993	0	0	0	1,905,414	0	634,931	0	0	0	0	97,630
1994	0	0	0	2,260,301	744	528,666	0	0	0	0	183,873
1995	0	0	0	2,635,972	317,357	3,524,754	0	0	0	0	498,925
1996	0	0	0	1,836,242	400,960	1,733,129	0	0	0	0	443,939
1997	0	0	0	2,324,306	255,228	1,089,678	0	0	0	0	190,359
1998	0	0	0	779,936	9	191,692	0	0	0	0	28,919
1999	0	0	0	1,368,658	10,342	352,970	0	0	0	0	50,696
2000	0	0	0	158,636	0	50,782	0	0	0	0	6,286
2001	–	–	–	–	–	–	–	–	–	–	–
2002	0	0	0	472,625	–	93,416	0	0	0	0	931
2003	0	0	0	841,748	165,757	144,942	0	0	0	0	0
2004	0	0	0	1,142,053	117,295	165,587	0	0	0	0	0
2005	0	0	0	597,192	410,398	1,637,210	0	0	0	0	273
2006	0	0	0	857,552	390,502	1,844,981	0	0	0	0	0
2007	0	0	0	594,003	331,412	1,890,820	0	0	0	0	5,939
2008	0	0	0	65,558	243,030	1,877,346	0	0	0	0	29,094
2009	0	0	0	4,194	55,722	1,261,342	0	0	0	0	4,709
2010	0	0	0	127,846	23,986	1,457,912	0	0	0	0	0
2011	0	0	0	985	516,498	3,483,462	0	0	0	0	0

Note: En dash indicates no commercial fishing activity occurred. Pack represents type of processing when fish were shipped out of districts; roe includes unprocessed roe sold by fishermen and estimated production of roe from in the round purchases.

[a] Does not include District 6 test fish sales.

[b] Chum salmon are represented in pounds of salted fillets.

[c] Beginning in 1991, ADF&G test fish sales are included.

Appendix A10.–Estimated average prices paid to fishermen, Yukon Area, 1990–2011.

	Lower Yukon Area				Upper Yukon Area							
Year	Chinook	Summer Chum	Fall Chum	Coho	Chinook	Chinook Roe	Summer Chum	Summer Chum Roe	Fall Chum	Fall Chum Roe	Coho	Coho Roe
1990	2.84	0.24	0.45	0.66	0.72		0.11	4.41	0.29		0.34	
1991	3.70	0.36	0.34	0.44	0.70	2.92	0.18	4.21	0.23	3.56	0.30	2.50
1992	4.12	0.27	–	–	0.91	2.82	0.30	4.53	0.39	4.50	0.39	2.18
1993	2.70	0.38	–	–	1.06	5.52	0.35	8.53	–	–	–	–
1994	2.07	0.21	–	–	0.92	3.11	0.20	3.77	0.16	1.50	0.48	1.50
1995	2.09	0.16	0.15	0.29	0.77	2.64	0.13	3.57	0.13	2.96	0.14	2.51
1996	1.95	0.09	0.10	0.26	0.95	2.57	0.07	3.05	0.13	1.71	0.09	2.16
1997	2.46	0.10	0.22	0.32	0.97	1.62	0.07	1.08	0.17	1.75	0.20	–
1998	2.51	0.14	–	–	0.91	2.00	0.18	1.90	–	–	–	–
1999	3.80	0.10	0.25	0.35	1.10	2.11	0.18	2.25	0.20	–	–	–
2000	4.57	0.17	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	3.77	0.06	–	–	0.75	1.75	0.32	2.25	–	–	–	–
2003	2.37	0.05	0.15	0.10	0.80	–	0.27	–	0.10	–	0.05	–
2004	2.80	0.05	0.25	0.05	0.77	–	0.27	–	0.05	–	0.06	–
2005	3.43	0.05	0.32	0.32	0.87	–	0.25	–	0.14	–	0.12	–
2006	3.94	0.05	0.20	0.20	1.30	–	0.16	–	0.14	–	0.19	–
2007	3.73	0.19	0.27	0.39	1.33	–	0.25	2.36	0.20	–	0.20	–
2008	4.64	0.40	0.55	0.97	–	–	0.25	3.00	0.27	–	0.20	–
2009	5.00	0.50	0.70	1.00	–	–	0.26	3.00	0.19	–	0.15	–
2010	5.00	0.70	1.00	1.50	–	–	0.23	–	0.23	–	0.26	–
2011	5.00 [a]	0.75	1.00	1.00	–	–	0.26	–	0.22	–	0.15	–
2006–2010 Average	4.46	0.37	0.54	0.81	0.53	0.00	0.23	1.67	0.21	0.00	0.20	0.00

Note: En dash indicates no commercial fishing activity occurred.

[a] Chinook salmon sold in fall season only.

Appendix A11.–Value of commercial salmon fishery to Yukon Area fishermen, 1990–2011.

	Summer Season						
	Chinook			Summer Chum			
	Lower Yukon	Upper Yukon		Lower Yukon	Upper Yukon		Total
Year		Value	Subtotal		Value	Subtotal	Season
1990	4,820,859	105,295	4,926,154	497,571	506,611	1,004,182	5,930,336
1991	7,128,300	97,140	7,225,440	782,300	627,177	1,409,477	8,634,917
1992	9,957,002	168,999	10,126,001	606,976	525,204	1,132,180	11,258,181
1993	4,884,044	113,217	4,997,261	226,772	203,762	430,534	5,427,795
1994	4,169,270	124,270	4,293,540	79,206	396,685	475,891	4,769,431
1995	5,317,508	87,059	5,404,567	241,598	1,060,322	1,301,920	6,706,487
1996	3,491,582	47,282	3,538,864	89,020	966,277	1,055,297	4,594,161
1997	5,450,433	110,713	5,561,146	56,535	96,806	153,341	5,714,487
1998	1,911,370	17,285	1,928,655	26,415	821	27,236	1,955,891
1999	4,950,522	74,475	5,024,997	19,687	1,720	21,407	5,046,404
2000	725,606	–	725,606	8,633	–	8,633	734,239
2001	–	–	–	–	–	–	–
2002	1,691,105	20,744	1,711,849	4,342	6,176	10,518	1,722,367
2003	1,871,202	40,957	1,912,159	1,585	6,879	8,464	1,920,623
2004	3,063,667	38,290	3,101,957	8,884	9,645	18,529	3,120,486
2005	1,952,109	24,415	1,976,524	11,004	13,479	24,483	2,001,007
2006	3,290,367	32,631	3,322,998	23,862	42,988	66,850	3,389,848
2007	1,939,114	27,190	1,966,304	220,715	34,421	255,136	2,221,440
2008	325,470	–	325,470	326,930	65,840	392,770	718,240
2009	20,970	–	20,970	514,856	20,430	535,286	556,256
2010	639,230	–	639,230	823,967	61,534	885,501	1,524,731
2011	4,925	–	4,925	1,301,008	12,966	1,313,974	1,318,899
2006–2010 Average	1,243,030	29,911	1,254,994	382,066	45,043	427,109	1,682,103

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	Fall Season							
	Fall Chum			Coho				
Year	Lower Yukon Value	Upper Yukon Value	Subtotal	Lower Yukon Value	Upper Yukon Value	Subtotal	Total Season	Total Value
1990	238,165	174,965	413,130	137,302	37,026	174,328	587,458	6,517,794
1991	438,310	157,831	596,141	300,182	21,556	321,738	917,879	9,552,796
1992	0	54,161	54,161	0	19,529	19,529	73,690	11,331,871
1993	0	0	0	0	0	0	0	5,427,795
1994	0	8,517	8,517	0	8,739	8,739	17,256	4,786,687
1995	185,036	167,571	352,607	80,019	11,292	91,311	443,918	7,150,405
1996	48,579	45,438	94,017	96,795	13,020	109,815	203,832	4,797,993
1997	86,526	7,252	93,778	79,973	1,062	81,035	174,813	5,889,300
1998	–	–	–	–	–	–	–	1,955,891
1999	35,639	876	36,515	3,620	0	3,620	40,135	5,086,539
2000	–	–	–	–	–	–	–	734,239
2001	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	1,722,367
2003	5,993	3,398	9,391	18,168	5,095	23,263	32,654	1,953,277
2004	1,126	848	1,974	2,774	6,372	9,146	11,120	3,131,606
2005	316,698	48,159	364,857	83,793	19,182	102,975	467,832	2,468,839
2006	202,637	33,806	236,443	50,299	11,137	61,436	297,879	3,687,727
2007	144,256	16,907	161,163	127,869	1,368	129,237	290,400	2,511,840
2008	428,969	22,089	451,058	216,777	3,717	220,494	671,552	1,389,792
2009	108,778	1,286	110,064	52,176	457	52,633	162,697	718,953
2010	5,428	2,761	8,189	20,535	442	20,977	29,166	1,553,897
2011	1,628,329	16,115	1,644,444	472,199	6,792	478,991	2,123,435	3,442,334
2006–2010 Average	178,014	15,370	193,383	93,531	3,424	96,955	290,339	1,972,442

Note: En dash indicates no commercial fishing activity occurred.

Appendix A12.–Average weight of salmon harvests in the commercial fishery, Yukon Area, 1990–2011.

	Lower Yukon Area [a]				Upper Yukon Area [a]			
Year	Chinook	Summer Chum	Fall Chum	Coho	Chinook	Summer Chum	Fall Chum	Coho
1990	19.6	7.3	7.7	6.8	16.8	6.9	7.0	6.2
1991	20.4	6.7	7.4	7.0	17.6	6.5	6.8	5.7
1992	21.5	6.9	–	–	19.9	5.6	6.8	6.2
1993	20.5	6.6	–	–	17.8	7.2	–	–
1994	20.3	6.5	–	–	15.7	5.8	6.2	6.2
1995	21.6	6.7	7.5	6.9	17.8	5.4	7.0	7.0
1996	20.6	7.8	7.7	7.6	16.2	6.0	6.2	7.2
1997	20.9	7.2	7.6	7.3	15.4	5.9	6.4	6.5
1998	18.0	6.7	–	–	13.2	6.1	–	–
1999	20.1	7.1	7.2	6.5	14.8	6.1	6.4	–
2000	18.0	7.7	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–
2002	19.9	7.2	–	–	15.9	6.0	–	–
2003	21.4	7.3	7.2	7.4	14.6	6.1	6.1	6.0
2004	20.8	6.9	6.8	7.0	13.8	5.7	4.9	5.7
2005	18.9	6.8	7.8	7.1	14.6	6.0	7.1	6.9
2006	19.0	6.8	7.2	6.2	13.1	6.1	7.0	5.1
2007	17.9	6.5	7.1	7.5	13.5	5.8	5.4	5.0
2008	14.1	6.6	7.2	6.8	–	7.3	7.8	7.6
2009	13.3	6.5	6.6	6.9	–	5.4	5.2	6.8
2010	12.9	6.4	6.7	6.7	–	5.3	6.9	6.0
2011	12.0	6.5	7.1	6.8	–	5.7	6.8	6.5
2001–2010 Average [b]	17.6	6.8	7.1	7.0	14.2	6.0	6.3	6.1

Note: En dash indicates no commercial fishing activity occurred.

[a] Data obtained from weight samples or from fish ticket information.

[b] Average does not include years with no data.

Appendix A13.–Chinook salmon total utilization in numbers of fish by district, area, and country, Yukon River drainage, 1990–2011.

	District 1					District 2			
			Personal	Test Fish				Test Fish	
Year	Subsistence [a]	Commercial [b]	Use [c]	Sales	Total	Subsistence	Commercial [b]	Sales	Total
1990	6,619	51,199	450	1,063	59,331	9,546	33,061	152	42,759
1991	5,925	56,332		485	62,742	7,617	39,260	113	46,990
1992	5,141	74,212		930	80,283	7,074	38,139	0	45,213
1993	10,408	49,286		1,408	61,102	11,513	37,293	164	48,970
1994	6,540	62,241		1,561	70,342	8,956	41,692	70	50,718
1995	5,960	76,106		2,078	84,144	9,037	41,458	74	50,569
1996	3,646	56,642		1,698	61,986	7,780	30,209	0	37,989
1997	7,550	66,384		2,791	76,725	9,350	39,363	20	48,733
1998	7,242	25,413		878	33,533	9,455	16,806	48	26,309
1999	6,848	37,161		1,049	45,058	10,439	27,133	156	37,728
2000	5,891	4,735		275	10,901	9,935	3,783	322	14,040
2001	7,089	0		0	7,089	13,442	0	0	13,442
2002	5,603	11,087		494	17,184	8,954	11,434	34	20,422
2003	6,332	22,709		619	29,660	9,668	14,220	61	23,949
2004	5,880	28,403		722	35,005	9,724	24,145	70	33,939
2005	5,058	16,694		310	22,062	9,156	13,413	0	22,569
2006	5,122	23,748		817	29,687	8,039	19,843	0	27,882
2007	6,059	18,616		792	25,467	10,553	13,306	57	23,916
2008	6,163	2,530		0	8,693	8,826	2,111	0	10,937
2009	4,125	90		0	4,215	6,135	226	0	6,361
2010	5,856	5,744		0	11,600	8,676	4,153	0	12,829
2011	6,255	36		0	6,291	8,069	46	0	8,115
2006-2010 Average	5,465	10,146		322	15,932	8,446	7,928	11	16,385
2001-2010 Average	5,729	12,962		375	19,066	9,317	10,285	22	19,625

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	District 3			Lower Yukon Area Subtotals				
Year	Subsistence	Commercial	Total	Subsistence [a]	Commercial	Personal Use [c]	Test Fish Sales	Total
1990	4,093	2,341	6,434	20,258	86,601	450	1,215	108,524
1991	3,187	2,344	5,531	16,729	97,936		598	115,263
1992	4,991	1,819	6,810	17,206	114,170		930	132,306
1993	6,592	1,501	8,093	28,513	88,080		1,572	118,165
1994	6,124	1,114	7,238	21,620	105,047		1,631	128,298
1995	5,419	–	5,419	20,416	117,564		2,152	140,132
1996	6,783	0	6,783	18,209	86,851		1,698	106,758
1997	6,311	–	6,311	23,211	105,747		2,811	131,769
1998	4,514	0	4,514	21,211	42,219		926	64,356
1999	7,715	538	8,253	25,002	64,832		1,205	91,039
2000	3,914	–	3,914	19,740	8,518		597	28,855
2001	6,361	–	6,361	26,892	0		0	26,892
2002	4,139	–	4,139	18,696	22,521		528	41,745
2003	5,002	–	5,002	21,002	36,929		680	58,611
2004	4,748	–	4,748	20,352	52,548		792	73,692
2005	5,131	–	5,131	19,345	30,107		310	49,762
2006	5,374	315	5,689	18,535	43,906		817	63,258
2007	4,651	190	4,841	21,263	32,112		849	54,224
2008	5,855	–	5,855	20,844	4,641		0	25,485
2009	2,924	–	2,924	13,184	316		0	13,500
2010	4,299	–	4,299	18,831	9,897		0	28,728
2011	4,134	–	4,134	18,458	82		0	18,540
2006–2010 Average	4,621	253	4,722	18,531	18,174		333	37,039
2001–2010 Average	4,848	253	4,899	19,894	23,298		398	43,590

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	District 4				District 5				
		Commercial				Commercial Personal			
Year	Subsistence	Commercial	Related [d]	Total	Subsistence	Commercial	Related [d]	Use [c]	Total
1990	11,122	3,536	2	14,660	14,589	3,353	12	1,693	19,647
1991	11,100	2,446	1,136	14,682	16,429	3,810	16		20,255
1992	8,291	1,651	743	10,685	17,691	3,852	3		21,546
1993	10,936	1,349	228	12,513	21,365	3,008	0		24,373
1994	10,327	2,216	227	12,770	18,760	3,739	5		22,504
1995	9,474	262	237	9,973	16,866	3,242	0		20,108
1996	8,193	45	92	8,330	15,727	2,497	260		18,484
1997	12,006	1,450	7	13,463	18,049	3,678	0		21,727
1998	15,801	–	–	15,801	14,802	517	0		15,319
1999	11,238	1,437	0	12,675	14,330	2,604	0		16,934
2000	6,264	–	–	6,264	8,854	–	–		8,854
2001	10,152	–	–	10,152	13,566	–	–		13,566
2002	9,456	–	–	9,456	13,401	771	0		14,172
2003	12,771	562	0	13,333	19,191	1,134	0		20,325
2004	16,269	0	–	16,269	15,666	1,546	0		17,212
2005	13,964	0	–	13,964	17,424	1,469	0		18,893
2006	12,022	–	–	12,022	15,924	1,839	0		17,763
2007	11,831	–	–	11,831	19,165	1,241	0		20,406
2008	10,619	–	–	10,619	11,626	–	–		11,626
2009	9,514	–	–	9,514	8,917	–	–		8,917
2010	12,888	–	–	12,888	10,397	–	–		10,397
2011	9,893	–	–	9,893	10,493	–	–		10,493
2006–2010 Average	11,375	–	–	11,375	13,206	1,540	0		13,822
2001–2010 Average	11,949	187	0	12,005	14,528	1,333	0		15,328

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	District 6					
Year	Subsistence	Commercial	Commercial Related [d]	Personal Use [c]	Test Fish Sales	Total
1990	2,618	1,757	399	451	833	6,058
1991	2,515	686	386	0	91	3,678
1992	2,438	572	181	0	32	3,223
1993	1,672	1,113	332	426	0	3,543
1994	2,370	2,135	471	0	0	4,976
1995	1,779	1,660	1,087	399	0	4,925
1996	1,177	278	169	215	0	1,839
1997	2,712	1,966	762	313	0	5,753
1998	1,919	882	81	357	0	3,239
1999	1,624	402	288	331	0	2,645
2000	983	–	–	75	0	1,058
2001	2,327	–	–	122	0	2,449
2002	1,067	836	0	126	0	2,029
2003	2,145	1,813	0	204	0	4,162
2004	1,388	2,057	0	201	0	3,646
2005	1,828	453	0	138	0	2,419
2006	1,229	84	0	89	0	1,402
2007	1,717	281	0	136	0	2,134
2008	605	–	–	126	–	731
2009	1,285	–	–	127	–	1,412
2010	1,143	–	–	162	–	1,305
2011	1,367	–	–	89	–	1,456
2006–2010 Average	1,196	183	0	128	0	1,397
2001–2010 Average	1,473	921	0	143	0	2,169

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	Upper Yukon Area Subtotals					
Year	Subsistence	Commercial	Commercial Related [d]	Personal Use [c]	Test Fish Sales	Total
1990	28,329	8,646	413	2,144	833	40,365
1991	30,044	6,942	1,538	0	91	38,615
1992	28,420	6,075	927	0	32	35,454
1993	33,973	5,470	560	426	0	40,429
1994	31,457	8,090	703	0	0	40,250
1995	28,119	5,164	1,324	399	0	35,006
1996	25,097	2,820	521	215	0	28,653
1997	32,767	7,094	769	313	0	40,943
1998	32,522	1,399	81	357	0	34,359
1999	27,192	4,443	288	331	0	32,254
2000	16,101	0	0	75	0	16,176
2001	26,045	0	0	122	0	26,167
2002	23,924	1,607	0	126	0	25,657
2003	34,107	3,509	0	204	0	37,820
2004	33,323	3,603	0	201	0	37,127
2005	33,216	1,922	0	138	0	35,276
2006	29,175	1,923	0	89	0	31,187
2007	32,713	1,522	0	136	0	34,371
2008	22,850	0	0	126	0	22,976
2009	19,716	0	0	127	0	19,843
2010	24,428	0	0	162	0	24,590
2011	21,753	0	0	89	0	21,842
2006–2010 Average	25,776	689	0	128	0	26,593
2001–2010 Average	27,950	1,409	0	143	0	29,501

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	Alaska Yukon River Totals						
Year	Subsistence [a]	Commercial	Commercial Related [d]	Personal Use [c]	Test Fish Sales	Sport Fish [e]	Total
1990	48,587	95,247	413	2,594	2,048	544	149,433
1991	46,773	104,878	1,538	0	689	773	154,651
1992	45,626	120,245	927	0	962	431	168,191
1993	62,486	93,550	560	426	1,572	1,695	160,289
1994	53,077	113,137	703	0	1,631	2,281	170,829
1995	48,535	122,728	1,324	399	2,152	2,525	177,663
1996	43,306	89,671	521	215	1,698	3,873	139,284
1997	55,978	112,841	769	313	2,811	2,174	174,886
1998	53,733	43,618	81	357	926	654	99,369
1999	52,194	69,275	288	331	1,205	1,023	124,316
2000	35,841	8,518	0	75	597	276	45,307
2001	52,937	0	0	122	0	679	53,738
2002	42,620	24,128	0	126	528	486	67,888
2003	55,109	40,438	0	204	680	2,719	99,150
2004	53,675	56,151	0	201	792	1,513	112,332
2005	52,561	32,029	0	138	310	483	85,521
2006	47,710	45,829	0	89	817	739	95,184
2007	53,976	33,634	0	136	849	960	89,555
2008	43,694	4,641	0	126	0	409	48,870
2009	32,900	316	0	127	0	863	34,206
2010	43,259	9,897	0	162	0	474	53,792
2011	40,211	82	0	89	0	474	40,856
2006–2010 Average	44,308	18,863	0	128	333	689	64,321
2001–2010 Average	47,844	24,706	0	143	398	933	74,024

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	Canada: Yukon Territories Totals							
	Mainstem Yukon							
	Non–Commercial						Porcupine	Total
Year	Domestic	Aboriginal	Sport	Test fish [f]	Commercial	Subtotal	Aboriginal	Canadian
1990	247	7,109	300		11,324	18,980	247	19,227
1991	227	9,011	300		10,906	20,444	163	20,607
1992	277	6,349	300		10,877	17,803	100	17,903
1993	243	5,576	300		10,350	16,469	142	16,611
1994	373	8,069	300		12,028	20,770	428	21,198
1995	300	7,942	700		11,146	20,088	796	20,884
1996	141	8,451	790		10,164	19,546	66	19,612
1997	288	8,888	1,230		5,311	15,717	811	16,528
1998	24	4,687	–	737	390	5,838	99	5,937
1999	213	8,804	177	–	3,160	12,354	114	12,468
2000	–	4,068	–	761	–	4,829	50	4,879
2001	89	7,421	146	767	1,351	9,774	370	10,144
2002	59	7,139	128	1,036	708	9,070	188	9,258
2003	115	6,121	275	263	2,672	9,446	173	9,619
2004	88	6,483	423	167	3,785	10,946	292	11,238
2005	99	6,376	436	–	4,066	10,977	394	11,371
2006	63	5,757	606	–	2,332	8,758	314	9,072
2007	–	4,175	2	617	–	4,794	300	5,094
2008	–	2,885	–	513	1	3,399	314	3,713
2009	17	3,791	125	–	364	4,297	461	4,758
2010	–	2,455	1	–	–	2,456	250	2,706
2011	–	4,550	40		4	4,594	290	4,884
2006–2010 Average	40	3,813	184	565	899	4,741	328	5,069
2001–2010 Average	76	5,260	238	561	1,910	7,392	306	7,697

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	Yukon River Drainage (Alaska/Canada) Totals						
Year	Subsistence [a,g]	Commercial	Commercial Related [d]	Personal Use [c]	Alaska Test Fish	Sport Fish	Total
1990	56,190	106,571	413	2,594	2,048	844	168,660
1991	56,174	115,784	1,538	0	689	1,073	175,258
1992	52,352	131,122	927	0	962	731	186,094
1993	68,447	103,900	560	426	1,572	1,995	176,900
1994	61,947	125,165	703	0	1,631	2,581	192,027
1995	57,573	133,874	1,324	399	2,152	3,225	198,547
1996	51,964	99,835	521	215	1,698	4,663	158,896
1997	65,965	118,152	769	313	2,811	3,404	191,414
1998	59,280	44,008	81	357	926	654	105,306
1999	61,325	72,435	288	331	1,205	1,200	136,784
2000	40,720	8,518	0	75	597	276	50,186
2001	61,584	1,351	0	122	0	825	63,882
2002	51,042	24,836	0	126	528	614	77,146
2003	61,781	43,110	0	204	680	2,994	108,769
2004	60,705	59,936	0	201	792	1,936	123,570
2005	59,430	36,095	0	138	310	919	96,892
2006	53,844	48,161	0	89	817	1,345	104,256
2007	59,068	33,634	0	136	849	962	94,649
2008	47,406	4,642	0	126	0	409	52,583
2009	37,169	680	0	127	0	988	38,964
2010	45,964	9,897	0	162	0	475	56,498
2011	45,051	86	0	89	0	514	45,740
2006–2010 Average	48,690	19,403	0	128	333	836	69,390
2001–2010 Average	53,799	26,234	0	143	398	1,147	81,721

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Year	Total Alaska Yukon Area: Coastal District	Alaska Total	Yukon Area Total
1990		149,433	149,433
1991		154,651	154,651
1992	1,451	168,191	169,642
1993	1,429	160,289	161,718
1994	825	170,829	171,654
1995	2,085	177,663	179,748
1996	2,365	139,284	141,649
1997	1,139	174,886	176,025
1998	391	99,369	99,760
1999	1,111	124,316	125,427
2000	563	45,307	45,870
2001	2,882	53,738	56,620
2002	1,122	67,888	69,010
2003	1,850	99,150	101,000
2004	2,038	112,332	114,370
2005	848	85,521	86,369
2006	883	95,184	96,067
2007	1,198	89,555	90,753
2008	1,492	48,870	50,362
2009	905	34,206	35,111
2010	1,300	53,792	55,092
2011	769	40,856	41,625
2006–2010 Average	1,156	64,321	65,477
2001–2010 Average	1,452	74,024	75,475

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Does not include coastal subsistence harvest in Hooper Bay and Scammon Bay.

[b] Includes estimates of illegal sales.

[c] Prior to 1987 and in 1991, 1992, and 1994, personal use was considered part of subsistence. Between 1987 and 1990, personal use fishing was defined by the fisherman's location of residence.

[d] Commercial related refers to the estimated harvest of female Chinook salmon to produce roe sold.

[e] Estimated sport fish harvest for the Alaska portion of the Yukon River drainage. The majority of sport fish harvest occurs in the Tanana River drainage (District 6).

[f] Canadian Chinook test fishery is conducted for management purposes, the fish harvested are retained and given to Aboriginal or Domestic users, but are not reported under those categories.

[g] Includes Alaska subsistence harvest and Canadian Domestic, test fish, and Aboriginal harvests.

Appendix A14.–Summer chum salmon total utilization in numbers of fish by district, area and country, 1990–2011.

	District 1					District 2			
Year	Subsistence [a]	Commercial	Personal Use [b]	Test Fish Sales	Total	Subsistence	Commercial	Test Fish Sales	Total
1990	36,999	146,725	256	2,186	186,166	28,453	131,755	752	160,960
1991	27,790	140,470		1,373	169,633	20,703	175,149	703	196,555
1992	33,239	177,329		1,918	212,486	24,731	147,129	0	171,860
1993	33,986	73,659		1,379	109,024	25,297	19,332	490	45,119
1994	32,145	42,332		2,769	77,246	22,907	12,869	443	36,219
1995	34,990	142,266		5,672	182,928	27,190	83,817	401	111,408
1996	27,289	92,506		7,309	127,104	28,426	30,727	0	59,153
1997	27,248	59,915		2,557	89,720	26,971	18,242	33	45,246
1998	26,888	21,270		2,935	51,093	26,280	6,848	84	33,212
1999	20,169	16,181		799	37,149	24,137	11,702	37	35,876
2000	24,079	3,315		561	27,955	25,331	3,309	87	28,727
2001	22,771	–		0	22,771	26,303	–	0	26,303
2002	24,107	6,327		164	30,598	23,554	4,027	54	27,635
2003	19,701	3,579		37	23,317	16,773	2,583	82	19,438
2004	20,620	13,993		217	34,830	25,931	5,782	0	31,713
2005	27,695	23,911		134	51,740	24,277	8,313	0	32,590
2006	27,881	21,816		456	50,153	31,655	25,543	0	57,198
2007	24,209	106,790		10	131,009	23,507	69,432	0	92,939
2008	22,767	67,459		80	90,306	24,291	58,139	0	82,430
2009	23,998	71,335		0	95,333	21,089	86,571	0	107,660
2010	25,172	102,267		0	127,439	23,738	80,948	0	104,686
2011	28,590	163,439		0	192,029	24,692	103,071	0	127,763
2006–2010 Average	24,805	73,933		109	98,848	24,856	64,127	0	88,983
2001–2010 Average	23,892	46,386		110	65,750	24,112	37,926	14	58,259

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	District 3			Lower Yukon Area Subtotals				
Year	Subsistence	Commercial	Total	Subsistence [a]	Commercial	Personal Use [b]	Test Fish Sales	Total
1990	9,521	643	10,164	74,973	279,123	256	2,938	357,290
1991	5,545	8,912	14,457	54,038	324,531		2,076	380,645
1992	9,599	65	9,664	67,569	324,523		1,918	394,010
1993	7,538	463	8,001	66,821	93,454		1,869	162,144
1994	8,492	35	8,527	63,544	55,236		3,212	121,992
1995	12,143	0	12,143	74,323	226,083		6,073	306,479
1996	11,368	1,534	12,902	67,083	124,767		7,309	199,159
1997	10,316	0	10,316	64,535	78,157		2,590	145,282
1998	6,472	0	6,472	59,640	28,118		3,019	90,777
1999	5,748	0	5,748	50,054	27,883		836	78,773
2000	3,687	0	3,687	53,097	6,624		648	60,369
2001	1,309	–	1,309	50,383	–		0	50,383
2002	2,506	0	2,506	50,167	10,354		218	60,739
2003	5,858	0	5,858	42,332	6,162		119	48,613
2004	2,958	0	2,958	49,509	19,775		217	69,501
2005	5,766	0	5,766	57,738	32,224		134	90,096
2006	3,534	116	3,650	63,070	47,475		456	111,001
2007	2,056	1	2,057	49,772	176,223		10	226,005
2008	2,971	–	2,971	50,029	125,598		80	175,707
2009	1,146	–	1,146	46,233	157,906		0	204,139
2010	1,341	–	1,341	50,251	183,215		0	233,466
2011	2,733	–	2,733	56,015	266,510		0	322,525
2006–2010 Average	2,210	59	2,233	51,871	138,083		109	190,064
2001–2010 Average	2,945	20	2,956	50,948	84,326		123	126,965

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	District 4					District 5				
Year	Subsistence	Commercial	Commercial Related [c]	Anvik River [d]	Total	Subsistence	Commercial	Commercial Related [c]	Personal Use [b]	Total
1990	26,534	12,364	210,186		249,084	9,817	11	660	641	11,129
1991	35,269	6,381	303,263		344,913	24,164	4	31		24,199
1992	35,812	2,659	208,737		247,208	12,612	102	328		13,042
1993	20,076	27	42,930		63,033	11,086	0	0		11,086
1994	27,504	3,611	145,423	22,573	199,111	11,830	229	235		12,294
1995	25,084	8,873	490,970	54,744	579,671	7,655	107	209		7,971
1996	16,425	0	425,607	84,633	526,665	11,509	0	336		11,845
1997	24,230	2,062	109,061	13,548	148,901	4,520	137	0		4,657
1998	18,046	0	0	–	18,046	2,314	96	14		2,424
1999	15,339	1,267	0	–	16,606	2,276	115	0		2,391
2000	7,046	0	0	–	7,046	3,641	0	0		3,641
2001	4,588	–	0	–	4,588	2,856	–	0		2,856
2002	15,971	0	0	–	15,971	5,610	6	0		5,616
2003	17,513	62	0	–	17,575	5,545	0	0		5,545
2004	14,959	0	0	–	14,959	3,411	25	0		3,436
2005	12,350	0	0	–	12,350	6,800	0	0		6,800
2006	14,997	–	–	–	–	11,845	20	0		11,865
2007	16,256	7,304	0	–	23,560	8,846	0	0		8,846
2008	13,517	23,746	0	–	37,263	3,537	–	–		3,537
2009	14,958	4,589	0	–	19,547	5,298	–	–		5,298
2010	11,720	44,207	0	–	55,927	3,555	–	–		3,555
2011	13,166	–	–	–	13,166	7,709	–	–		7,709
2006–2010 Average	14,290	19,962	0	–	34,074	6,616	10	0		6,620
2001–2010 Average	13,683	9,989	0	–	22,416	5,730	9	0		5,735

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	District 6						Upper Yukon Area Subtotals					
Year	Subsistence	Commercial	Commercial Related [c]	Personal Use [b]	Test Fish Sales	Total	Subsistence	Commercial	Commercial Related [c]	Personal Use [b]	Test Fish Sales	Total
1990	4,285	11,127	3,706	930	5,325	25,373	40,636	23,502	214,552	1,571	5,325	285,586
1991	5,069	18,197	5,695	–	1,858	30,819	64,502	24,582	308,989	0	1,858	399,931
1992	9,504	5,029	2,199	–	49	16,781	57,928	7,790	211,264	0	49	277,031
1993	6,793	3,041	664	674	0	11,172	37,955	3,068	43,594	674	0	85,291
1994	7,026	21,208	10,226	–	0	38,460	46,360	25,048	178,457	0	0	249,865
1995	11,661	24,711	12,717	780	0	49,869	44,400	33,691	558,640	780	0	637,511
1996	7,486	22,360	24,530	905	0	55,281	35,420	22,360	535,106	905	0	593,791
1997	3,824	14,886	10,401	391	0	29,502	32,574	17,085	133,010	391	0	183,060
1998	6,004	397	173	84	0	6,658	26,364	493	187	84	0	27,128
1999	2,654	124	24	382	0	3,184	20,269	1,506	24	382	0	22,181
2000	1,111	0	0	30	0	1,141	11,798	0	0	30	0	11,828
2001	412	–	0	146	0	558	7,856	–	0	146	0	8,002
2002	512	3,198	19	175	0	3,904	22,093	3,204	19	175	0	25,491
2003	2,914	4,461	0	148	0	7,523	25,972	4,523	0	148	0	30,643
2004	1,793	6,610	0	231	0	8,634	20,163	6,635	0	231	0	27,029
2005	2,014	8,986	0	152	0	11,152	21,164	8,986	0	152	0	30,302
2006	1,010	44,621	0	262	0	45,893	27,852	44,641	0	262	0	57,758
2007	1,896	14,674	0	184	0	16,754	26,998	21,978	0	184	0	49,160
2008	1,311	1,842	0	138	0	3,291	18,365	25,588	0	138	0	44,091
2009	1,253	7,777	0	308	0	9,338	21,509	12,366	0	308	0	34,183
2010	422	5,466	0	319	0	6,207	15,697	49,673	0	319	0	65,689
2011	825	8,651	0	439	0	9,915	21,700	8,651	0	439	0	30,790
2006–2010 Average	1,178	14,876	0	242	0	16,297	22,084	30,849	0	242	0	50,176
2001–2010 Average	1,354	10,848	2	206	0	11,325	20,767	19,733	2	206	0	37,235

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Year	Alaska Yukon River Totals							Total Alaska Yukon Area	
	Subsistence [a]	Commercial	Commercial Related [c]	Personal [b]	Test Fish Sales	Sport Fish [e]	Total	Coastal District	Yukon Area Total
1990	115,609	302,625	214,552	1,827	8,263	472	643,348		643,348
1991	118,540	349,113	308,989	0	3,934	1,037	781,613		781,613
1992	125,497	332,313	211,264	0	1,967	1,308	672,349	16,695	689,044
1993	104,776	96,522	43,594	674	1,869	564	247,999	20,798	268,797
1994	109,904	80,284	178,457	0	3,212	350	372,207	14,903	387,110
1995	118,723	259,774	558,640	780	6,073	1,174	945,164	17,360	962,524
1996	102,503	147,127	535,106	905	7,309	1,946	794,896	22,235	817,131
1997	97,109	95,242	133,010	391	2,590	662	329,004	15,711	344,715
1998	86,004	28,611	187	84	3,019	421	118,326	1,362	119,688
1999	70,323	29,389	24	382	836	555	101,509	13,461	114,970
2000	64,895	6,624	0	30	648	161	72,358	13,177	85,535
2001	58,239	–	0	146	0	82	58,467	13,916	72,383
2002	72,260	13,558	19	175	218	384	86,614	14,796	101,410
2003	68,304	10,685	0	148	119	1,638	80,894	13,968	94,862
2004	69,672	26,410	0	231	217	203	96,733	8,262	104,995
2005	78,902	41,210	0	152	134	435	120,833	14,357	135,190
2006	90,922	92,116	0	262	456	583	184,339	24,171	208,510
2007	76,770	198,201	0	184	10	245	275,410	16,121	291,531
2008	68,394	151,186	0	138	80	371	220,169	18,120	238,289
2009	67,742	170,272	0	308	0	174	238,496	12,797	251,293
2010	65,948	232,888	0	319	0	1,183	300,338	22,425	322,763
2011	77,715	275,161	0	439	0	294	353,609	18,305	371,914
2006–2010 Average	73,955	168,933	0	242	109	511	243,750	18,727	262,477
2001–2010 Average	71,715	104,058	2	206	123	530	166,229	15,893	182,123

Use

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Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Does not include coastal subsistence harvest in Hooper Bay and Scammon Bay.

[b] Prior to 1987 and in 1991, 1992, and 1994, personal use was considered part of subsistence. Between 1987 and 1990, personal use fishing was defined by the fisherman's location of residence.

[c] Commercial related refers to the estimated number of females and incidental males harvested to produce roe sold, excluding the Anvik River. Beginning in 2006, the numbers of females harvested are included in the total commercial harvest. Beginning in 2006, the numbers of females harvested are included in the total commercial harvest.

[d] Only roe has been sold in the Anvik River commercial fishery. The commercial related harvest shown is the estimated number of females harvested to produce roe sold.

[e] Estimated sport fish harvest for all chum salmon (assumes majority of chum salmon caught during summer season) in the Alaska portion of the drainage. A majority of the sport fish harvest occurs in the Tanana River drainage (District 6).

Appendix A15.–Fall chum salmon total utilization in numbers of fish by district, area, and country, Yukon River drainage, 1990–2011.

	District 1					District 2			
Year	Subsistence [a]	Commercial	Personal Use [b]	Test Fish Sales [c]	Total	Subsistence	Commercial	Test Fish Sales [c]	Total
1990	5,335	27,337	60	2,068	34,800	6,187	37,173	96	43,456
1991	3,935	59,724		2,455	66,114	5,628	102,628	96	108,352
1992	5,216	_		_	5,216	7,382	_	_	7,382
1993	7,770	_		_	7,770	3,094	_	_	3,094
1994	4,887	_		_	4,887	4,151	_	_	4,151
1995	4,698	79,345		1,121	85,164	3,317	90,831	0	94,148
1996	4,147	33,629		1,717	39,493	5,287	29,651	0	34,938
1997	3,132	27,483		867	31,482	4,680	24,326	0	29,006
1998	3,163	_		_	3,163	4,482	_	_	4,482
1999	6,502	9,987		1,149	17,638	4,594	9,703	22	14,319
2000	5,294	_		_	5,294	1,425	_	_	1,425
2001	3,437	_		_	3,437	3,256	_	_	3,256
2002	1,881	_		_	1,881	1,618	_	_	1,618
2003	2,139	5,586		0	7,725	2,901	_	_	2,901
2004	2,067	660		0	2,727	2,421	_	_	2,421
2005	2,889	130,525		87	133,501	3,257	_	_	3,257
2006	3,902	101,254		0	105,156	4,015	39,905	0	43,920
2007	4,390	38,852		0	43,242	3,472	35,826	0	39,298
2008	2,823	67,704		0	70,527	3,522	41,270	0	44,792
2009	1,917	11,911		0	13,828	1,563	12,072	0	13,635
2010	3,202	545		0	3,747	1,419	270	0	1,689
2011	3,434	127,735		0	131,169	2,578	100,731	0	103,309
2006–2010 Average	3,247	44,053		0	47,300	2,798	25,869	0	28,667
2001–2010 Average	2,865	44,630		11	38,577	2,744	25,869	0	15,679

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	District 3			Lower Yukon Area Subtotals				
Year	Subsistence	Commercial	Total	Subsistence [a]	Commercial	Personal Use [b]	Test Fish [c]	Total
1990	2,056	3,715	5,771	13,578	68,225	60	2,164	84,027
1991	615	9,213	9,828	10,178	171,565	Sales	2,551	184,294
1992	2,358	_	2,358	14,956	_		_	14,956
1993	1,449	_	1,449	12,313	_		_	12,313
1994	862	_	862	9,900	_		_	9,900
1995	1,672	–	1,672	9,687	170,176		1,121	180,984
1996	2,706	–	2,706	12,140	63,280		1,717	77,137
1997	787	–	787	8,599	51,809		867	61,275
1998	1,561	_	1,561	9,206	_		_	9,206
1999	415	–	415	11,511	19,690		1,171	32,372
2000	598	_	598	7,317	_		_	7,317
2001	700	_	700	7,393	_		_	7,393
2002	164	_	164	3,663	_		_	3,663
2003	738	–	738	5,778	5,586		0	11,364
2004	298	–	298	4,786	660		0	5,446
2005	1,304	–	1,304	7,450	130,525		87	138,062
2006	480	–	480	8,397	141,159		0	149,556
2007	925	–	925	8,787	74,678		0	83,465
2008	1,821	–	1,821	8,166	108,974		0	117,140
2009	937	–	937	4,417	23,983		0	28,400
2010	1,325	–	1,325	5,946	815		0	6,761
2011	354	–	354	6,366	228,466		0	234,832
2006–2010 Average	1,098	–	1,098	7,143	69,922		0	77,064
2001–2010 Average	869	_	869	6,478	60,798		11	55,125

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	District 4				District 5				
Year	Subsistence	Commercial	Commercial Related [d]	Total	Subsistence	Commercial	Commercial Related [d]	Personal Use [b]	Total
1990	19,241	4,989	3,177	27,407	90,513	7,778	1,198	3,723	103,212
1991	20,875	3,737	2,354	26,966	74,002	27,355	4,759		106,116
1992	21,232	_	_	21,232	45,701	_	_		45,701
1993	10,832	_	_	10,832	43,764	_	_		43,764
1994	13,325	_	_	13,325	66,396	3,630	0		70,026
1995	14,057	2,924	5,807	22,788	57,594	9,778	20,255		87,627
1996	16,786	2,918	0	19,704	63,473	11,878	9,980		85,331
1997	11,734	2,458	0	14,192	55,258	2,446	1,474		59,178
1998	7,898	_	_	7,898	31,393	_	_		31,393
1999	9,174	681	0	9,855	53,580	_	_		53,580
2000	1,759	_	_	1,759	9,920	_	_		9,920
2001	3,352	_	_	3,352	20,873	_	_		20,873
2002	1,549	_	_	1,549	10,976	_	_		10,976
2003	9,750	1,315	0	11,065	28,270	_	_		28,270
2004	7,797	_	_	7,797	40,670	_	_		40,670
2005	9,405	_	_	9,405	51,663	_	_		51,663
2006	6,335	_	_	6,335	52,158	1,667	0		53,825
2007	8,576	_	_	8,576	53,731	427	0		54,158
2008	7,412	_	_	7,412	57,258	4,556	0		61,814
2009	7,382	_	_	7,382	38,083	_	_		38,083
2010	6,788	_	_	6,788	44,334	_	_		44,334
2011	7,260	_	_	7,260	51,885	1,246	_		53,131
2006–2010 Average	7,299	_	_	7,299	49,113	2,217	0		50,443
2001–2010 Average	6,835	1,315	0	6,966	39,802	2,217	0		40,467

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	District 6						Upper Yukon Area Subtotals					
Year	Subsistence [d]	Commercial	Commercial Related [d]	Personal Use [b]	Test Fish Sales [c]	Total	Subsistence [d]	Commercial	Commercial Related [d]	Personal Use [b]	Test Fish Sales [c]	Total
1990	44,568	43,182	7,793	1,393	7,060	103,996	154,322	55,949	12,168	5,116	7,060	234,615
1991	40,469	28,195	16,253	0	1,385	86,302	135,346	59,287	23,366	0	1,385	219,384
1992	25,713	15,721	3,301	0	1,407	46,142	92,646	15,721	3,301	0	1,407	113,075
1993	9,853	_	_	163		10,016	64,449	_	–	163		64,612
1994	33,597	1	4,368	0		37,966	113,318	3,631	4,368	0		121,317
1995	49,168	67,855	6,262	863		124,148	120,819	80,557	32,324	863		234,563
1996	36,467	10,266	7,308	356		54,397	116,726	25,062	17,288	356		159,432
1997	19,550	_	_	284		19,834	86,542	4,904	1,474	284		93,204
1998	14,370	_	_	2		14,372	53,661	_	–	2		53,663
1999	15,471	_	_	261		15,732	78,225	681	0	261		79,167
2000	310	_	_	1		311	11,989	_	–	1		11,990
2001	3,526	_	_	10		3,536	27,751	_	–	10		27,761
2002	3,202	_	_	3		3,205	15,727	_	–	3		15,730
2003	12,986	4,095	0	394		17,475	51,006	5,410	0	394		56,810
2004	8,953	3,450	0	230		12,633	57,420	3,450	0	230		61,100
2005	22,946	49,637	0	133		72,716	84,014	49,637	0	133		133,784
2006	16,925	23,353	0	333		40,611	75,418	25,020	0	333		100,771
2007	29,893	15,572	0	173		45,638	92,200	15,999	0	173		108,372
2008	16,135	5,735	0	181		22,051	80,805	10,291	0	181		91,277
2009	15,099	1,893	0	78		17,070	60,564	1,893	0	78		62,535
2010	11,391	1,735	0	3,209		16,335	62,513	1,735	0	3,209		67,457
2011	14,376	9,267	0	347		23,990	73,521	10,513	0	347		84,381
2006–2010 Average	17,889	9,658	0	795		28,341	74,300	10,988	0	795		86,082
2001–2010 Average	14,106	13,184	0	474		25,127	60,742	14,179	0	474		72,560

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	Alaska Yukon River Totals						Canada: Yukon Area Totals					
			Commercial	Personal	Test Fish		Mainstem Yukon River				Porcupine	
Year	Subsistence [a,b]	Commercial [c]	Related [d]	Use [b]	Sales [c]	Total	Domestic	Aboriginal	Commercial	Subtotal	Aboriginal	Total
1990	167,900	124,174	12,168	5,176	9,224	318,642	0	3,675	27,537	31,212	2,410	33,622
1991	145,524	230,852	23,366	0	3,936	403,678	0	2,438	31,404	33,842	1,576	35,418
1992	107,602	15,721	3,301	0	1,407	128,031	0	304	18,576	18,880	1,935	20,815
1993	76,762	_	_	163	–	76,925	0	4,660	7,762	12,422	1,668	14,090
1994	123,218	3,631	4,368	0	0	131,217	0	5,319	30,035	35,354	2,654	38,008
1995	130,506	250,733	32,324	863	1,121	415,547	0	1,099	39,012	40,111	5,489	45,600
1996	128,866	88,342	17,288	356	1,717	236,569	0	1,260	20,069	21,329	3,025	24,354
1997	95,141	56,713	1,474	284	867	154,479	0	1,218	8,068	9,286	6,294	15,580
1998	62,867	_	_	2	–	62,869	0	1,745	0	1,745	6,159	7,904
1999	89,736	20,371	0	261	1,171	111,539	0	3,234	10,402	13,636	6,000	19,636
2000	19,306	_	_	1	–	19,307	0	2,927	1,319	4,246	5,000	9,246
2001	35,144	_	_	10	–	35,154	3	3,077	2,198	5,278	4,594	9,872
2002	19,390	_	_	3	–	19,393	0	3,109	3,065	6,174	1,860	8,034
2003	56,784	10,996	0	394	0	68,174	0	1,943	9,030	10,973	382	11,355
2004	62,206	4,110	0	230	0	66,546	0	2,180	7,365	9,545	205	9,750
2005	91,464	180,162	0	133	87	271,846	13	2,035	11,931	13,979	4,593	18,572
2006	83,815	166,179	0	333	0	250,327	0	2,521	4,096	6,617	5,179	11,796
2007	100,987	90,677	0	173	0	191,837	0	2,221	7,109	9,330	4,500	13,830
2008	88,971	119,265	0	181	0	208,417	0	2,068	4,062	6,130	3,436	9,566
2009	64,981	25,876	0	78	0	90,935	0	820	293	1,113	898	2,011
2010	68,459	2,550	0	3,209	0	74,218	0	1,523	2,186	3,709	2,078	5,787
2011	79,887	238,979	0	347	0	319,213	0	1,000	5,312	6,312	1,851	8,163
2006–2010 Average	81,443	80,909	0	795	0	163,147	0	1,831	3,549	5,380	3,218	8,598
2001–2010 Average	67,220	74,977	0	474	11	127,685	2	2,150	5,134	7,285	2,773	10,057

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	Yukon River Drainage (Alaska/Canada) Totals						Total Alaska Yukon Area		
Year	Subsistence [a,e]	Commercial	Commercial Related [d]	Personal Use [b]	Alaska Test Fish [c]	Total	Coastal District	Alaska Total	Yukon Area Total
1990	173,985	151,711	12,168	5,176	9,224	352,264	0	318,642	318,642
1991	149,538	262,256	23,366	0	3,936	439,096	0	403,678	403,678
1992	109,841	34,297	3,301	0	1,407	148,846	206	128,031	128,237
1993	83,090	7,762	0	163	–	91,015	120	76,925	77,045
1994	131,191	33,666	4,368	0	0	169,225	347	131,217	131,564
1995	137,094	289,745	32,324	863	1,121	461,147	354	415,547	415,901
1996	133,151	108,411	17,288	356	1,717	260,923	392	236,569	236,961
1997	102,653	64,781	1,474	284	867	170,059	0	154,479	154,479
1998	70,771	0	0	2	–	70,773	34	62,869	62,903
1999	98,970	30,773	0	261	1,171	131,175	204	111,539	111,743
2000	27,233	1,319	0	1	–	28,553	89	19,307	19,396
2001	42,818	2,198	0	10	–	45,026	559	35,154	35,713
2002	24,359	3,065	0	3	–	27,427	284	19,393	19,677
2003	59,109	20,026	0	394	0	79,529	146	68,174	68,320
2004	64,591	11,475	0	230	0	76,296	320	66,546	66,866
2005	98,105	192,093	0	133	87	290,418	70	271,846	271,916
2006	91,515	170,275	0	333	0	262,123	187	250,327	250,514
2007	107,708	97,786	0	173	0	205,667	234	191,837	192,071
2008	94,475	123,327	0	181	0	217,983	386	208,417	208,803
2009	66,699	26,169	0	78	0	92,946	158	90,935	91,093
2010	72,060	4,736	0	3,209	0	80,005	186	74,218	74,404
2011	80,887	244,291	0	347	0	325,525	315	319,213	319,528
2006–2010 Average	86,491	84,459	0	795	0	171,745	230	163,147	163,377
2001–2010 Average	72,144	65,115	0	474	11	137,742	253	127,685	127,938

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Does not include coastal subsistence harvest in Hooper Bay and Scammon Bay.

[b] Prior to 1987 and in 1991, 1992, and 1994, personal use was considered part of subsistence. Between 1987 and 1990, personal use fishing was defined by the fisherman's location of residence versus fishing location. In 1992, the Fairbanks nonsubsistence area was created as the only personal use area in the Yukon River drainage.

[c] The number of salmon sold by ADF&G test fisheries.

[d] Estimated number of females harvested to produce roe sold.

[e] Includes Alaska Yukon River subsistence and Canadian Domestic and Aboriginal harvests.

Appendix A16.–Coho salmon total utilization in numbers of fish by district, area, and country, Yukon River drainage, 1990–2011.

	District 1					District 2			
Year	Subsistence [a]	Commercial	Personal Use [b]	Test Fish Sales [c]	Total	Subsistence	Commercial	Test Fish Sales [c]	Total
1990	3,301	12,160	8	1,194	16,663	6,344	16,405	30	22,779
1991	1,808	54,095		2,094	57,997	3,297	40,898	86	44,281
1992	5,426	_		_	5,426	6,587	_	_	6,587
1993	2,343	_		_	2,343	1,695	_	_	1,695
1994	3,272	_		_	3,272	3,881	_	_	3,881
1995	2,251	21,625		193	24,069	2,142	18,488	0	20,630
1996	2,445	27,705		1,728	31,878	3,475	20,974	0	24,449
1997	1,823	21,450		498	23,771	2,424	13,056	0	15,480
1998	2,171	_		_	2,171	2,297	1	0	2,298
1999	1,730	855		236	2,821	2,793	746	0	3,539
2000	1,067	_		_	1,067	2,351	_	_	2,351
2001	1,274	_		_	1,274	1,440	_	_	1,440
2002	1,295	_		_	1,295	1,233	_	_	1,233
2003	1,260	9,757		0	11,017	1,586	_	_	1,586
2004	1,175	1,583		0	2,758	1,500	_	_	1,500
2005	976	36,533		0	37,509	1,110	_	_	1,110
2006	1,177	39,323		0	40,500	2,459	14,482	0	16,941
2007	2,265	21,720		0	23,985	2,347	21,487	0	23,834
2008	1,211	13,946		0	15,157	1,997	19,246	0	21,243
2009	847	5,992		0	6,839	1,057	1,577	0	2,634
2010	1,122	1,027		0	2,149	557	1,023	0	1,580
2011	1,127	45,335		0	46,462	823	24,184	0	25,007
2006–2010 Average	1,324	16,402		0	17,726	1,683	11,563	0	13,246
2001–2010 Average	1,260	16,235		0	14,248	1,529	11,563	0	7,310

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	District 3			Lower Yukon Area Subtotals				
Year	Subsistence	Commercial	Total	Subsistence [a]	Commercial	Personal Use [b]	Test Fish [c]	Total
1990	1,026	918	1,944	10,671	29,483	8	1,224	41,386
1991	1,340	1,905	3,245	6,445	96,898	0Sales	2,180	105,523
1992	1,549	_	1,549	13,562	_		_	13,562
1993	279	_	279	4,317	_		_	4,317
1994	363	_	363	7,516	_		_	7,516
1995	891	–	891	5,284	40,113		193	45,590
1996	444	–	444	6,364	48,679		1,728	56,771
1997	766	–	766	5,013	34,506		498	40,017
1998	400	–	400	4,868	1		0	4,869
1999	610	–	610	5,133	1,601		236	6,970
2000	94	_	94	3,512	_		_	3,512
2001	0	_	0	2,714	_		_	2,714
2002	115	_	115	2,643	_		_	2,643
2003	711	–	711	3,557	9,757		0	13,314
2004	284	–	284	2,959	1,583		0	4,542
2005	217	–	217	2,303	36,533		0	38,836
2006	83	–	83	3,719	53,805		0	57,524
2007	739	–	739	5,351	43,207		0	48,558
2008	410	–	410	3,618	33,192		0	36,810
2009	321	–	321	2,225	7,569		0	9,794
2010	353	–	353	2,032	2,050		0	4,082
2011	36	–	36	1,986	69,519		0	71,505
2006–2010 Average	381	–	381	3,389	27,965		0	31,354
2001–2010 Average	323	–	323	3,112	23,462		0	21,882

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	District 4				District 5				
Year	Subsistence	Commercial	Commercial Related [d]	Total	Subsistence	Commercial	Commercial Related [d]	Personal Use [b]	Total
1990	3,614	_	_	3,614	11,562	_	_	18	11,580
1991	4,451	14	0	4,465	4,931	_	_		4,931
1992	8,429	_	_	8,429	12,376	_	_		12,376
1993	1,167	_	_	1,167	5,984	_	_		5,984
1994	3,515	_	_	3,515	4,174	_	_		4,174
1995	1,934	_	_	1,934	2,205	_	_		2,205
1996	2,467	161	0	2,628	6,588	_	_		6,588
1997	3,754	814	0	4,568	3,583	_	_		3,583
1998	2,593	_	_	2,593	2,839	_	_		2,839
1999	2,049	_	_	2,049	4,241	_	_		4,241
2000	1,068	_	_	1,068	4,987	_	_		4,987
2001	2,266	_	_	2,266	7,674	_	_		7,674
2002	1,023	_	_	1,023	2,076	_	_		2,076
2003	5,773	367	0	6,140	3,887	_	_		3,887
2004	4,766	_	_	4,766	1,423	_	_		1,423
2005	2,971	_	_	2,971	2,159	_	_		2,159
2006	1,302	_	_	1,302	3,779	_	_		3,779
2007	2,952	_	_	2,952	3,366	_	_		3,366
2008	1,490	_	_	1,490	3,203	91	–		3,294
2009	3,986	_	_	3,986	2,498	_	_		2,498
2010	1,730	_	_	1,730	3,604	_	_		3,604
2011	2,072	_	_	2,072	1,389	_	_		1,389
2006–2010 Average	2,292	–	–	2,292	3,290	–	–		3,308
2001–2010 Average	2,826	367	0	2,863	3,367	–	–		3,514

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	District 6						Upper Yukon Area Subtotals					
Year	Subsistence	Commercial	Commercial Related [d]	Personal Use [b]	Test Fish Sales [c]	Total	Subsistence	Commercial	Commercial Related [d]	Personal Use [b]	Test Fish Sales [c]	Total
1990	17,613	11,549	3,255	1,155	1,426	34,998	32,789	11,549	3,255	1,173	1,426	50,192
1991	21,561	6,268	3,506	_	791	32,126	30,943	6,282	3,506	_	791	41,522
1992	17,554	6,556	1,423	_	1,629	27,162	38,359	6,556	1,423	_	1,629	47,967
1993	4,304	_	–	0		4,304	11,455	_	–	0		11,455
1994	26,489	120	4,331	_		30,940	34,178	120	4,331	_		38,629
1995	18,802	5,826	1,074	417		26,119	22,941	5,826	1,074	417		30,258
1996	14,893	3,803	3,339	198		22,233	23,948	3,964	3,339	198		31,449
1997	11,595	_	_	350		11,945	18,932	814	0	350		20,096
1998	7,472	_	_	9		7,481	12,904	_	_	9		12,913
1999	9,394	_	_	147		9,541	15,684	–	_	147		15,831
2000	5,150	_	_	0		5,150	11,205	–	_	0		11,205
2001	8,966	_	_	34		9,000	18,906	–	_	34		18,940
2002	9,499	_	_	20		9,519	12,598	–	_	20		12,618
2003	10,363	15,119	0	549		26,031	20,023	15,486	0	549		36,058
2004	11,584	18,649	0	233		30,466	17,773	18,649	0	233		36,655
2005	19,538	21,778	0	107		41,423	24,668	21,778	0	107		46,553
2006	10,571	11,137	0	279		21,987	15,652	11,137	0	279		27,068
2007	7,845	1,368	0	135		9,348	14,163	1,368	0	135		15,666
2008	8,428	2,408	0	50		10,886	13,121	2,499	0	50		15,670
2009	7,051	742	0	70		7,863	13,535	742	0	70		14,347
2010	5,555	1,700	0	1,062		8,317	10,889	1,700	0	1,062		13,651
2011	6,842	6,784	0	232		13,858	10,303	6,784	0	232		17,319
2006–2010 Average	7,890	3,471	0	319		11,680	13,472	3,489	0	319		17,280
2001–2010 Average	9,940	9,113	0	254		17,484	16,133	9,170	0	254		23,723

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	Alaska Yukon River Totals								Canada: Yukon Territories Totals		
Year	Subsistence [a]	Commercial	Commercial Related [d]	Personal Use	Test Fish Sales [b]	Test Fish [c]	Sport Fish [e]	Total	Mainstem Yukon River [f]	Porcupine Aborginal	Total
1990	43,460	41,032	3,255	1,181	2,650	1,947	93,525	0	680	680
1991	37,388	103,180	3,506	0	2,971	2,775	149,820	0	235	235
1992	51,921	6,556	1,423	0	1,629	1,666	63,195	0	495	495
1993	15,772	_	_	0	_	897	16,669	0	60	60
1994	41,694	120	4,331	0	0	2,174	48,319	2	332	334
1995	28,225	45,939	1,074	417	193	1,278	77,126	0	509	509
1996	30,312	52,643	3,339	198	1,728	1,588	89,808	0	41	41
1997	23,945	35,320	0	350	498	1,470	61,583	2	298	300
1998	17,772	1	0	9	0	758	18,540	0	214	214
1999	20,817	1,601	0	147	236	609	23,410	0	100	100
2000	14,717	_	_	0	_	554	15,271	0	37	37
2001	21,620	_	_	34	_	1,202	22,856	0	0	0
2002	15,241	_	_	20	_	1,092	16,353	26	449	475
2003	23,580	25,243	0	549	0	1,477	50,849	7	523	530
2004	20,732	20,232	0	233	0	1,623	42,820	5	175	180
2005	26,971	58,311	0	107	0	627	86,016	0	11	11
2006	19,371	64,942	0	279	0	1,000	85,592	1	111	112
2007	19,514	44,575	0	135	0	597	64,821	2	500	502
2008	16,739	35,691	0	50	0	341	52,821	0	200	200
2009	15,760	8,311	0	70	0	964	25,105	0	0	0
2010	12,921	3,750	0	1,062	0	944	18,677	0	12	12
2011	12,289	76,303	0	232	0	463	89,287	0	63	63
2006–2010 Average	16,861	31,454	0	319	0	769	49,403	1	165	165
2001–2010 Average	19,245	32,632	0	254	0	987	46,591	4	198	202

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	Yukon River Drainage (Alaska/Canada) Totals							Total Alaska Yukon Area		
Year	Subsistence [a,g]	Commercial	Commercial Related [d]	Personal Use [b]	Alaska Test Fish [c]	Sport Fish	Total	Coastal District	Alaska Total	Yukon Area Total
1990	44,140	41,032	3,255	1,181	2,650	1,947	94,205	0	93,525	93,525
1991	37,623	103,180	3,506	0	2,971	2,775	150,055	0	149,820	149,820
1992	52,416	6,556	1,423	0	1,629	1,666	63,690	59	63,195	63,254
1993	15,832	0	0	0	0	897	16,729	40	16,669	16,709
1994	42,026	122	4,331	0	0	2,174	48,653	81	48,319	48,400
1995	28,734	45,939	1,074	417	193	1,278	77,635	152	77,126	77,278
1996	30,353	52,643	3,339	198	1,728	1,588	89,849	92	89,808	89,900
1997	24,243	35,322	0	350	498	1,470	61,883	0	61,583	61,583
1998	17,986	1	0	9	0	758	18,754	349	18,540	18,889
1999	20,917	1,601	0	147	236	609	23,510	74	23,410	23,484
2000	14,754	0	0	0	0	554	15,308	222	15,271	15,493
2001	21,620	0	0	34	0	1,202	22,856	548	22,856	23,404
2002	15,690	17	0	20	0	1,101	16,828	248	16,353	16,601
2003	24,103	25,243	0	549	0	1,484	51,379	292	50,849	51,141
2004	20,907	20,236	0	233	0	1,624	43,000	63	42,820	42,883
2005	26,982	58,311	0	107	0	627	86,027	279	86,016	86,295
2006	19,482	64,942	0	279	0	1,001	85,704	335	85,592	85,927
2007	20,014	44,575	0	135	0	599	65,323	110	64,821	64,931
2008	16,939	35,691	0	50	0	341	53,021	116	52,821	52,937
2009	15,760	8,311	0	70	0	964	25,105	246	25,105	25,351
2010	12,933	3,750	0	1,062	0	944	18,689	124	18,677	18,801
2011	12,352	76,303	0	232	0	463	89,350	55	89,287	89,342
2006–2010 Average	17,026	31,454	0	319	0	770	49,568	186	49,403	49,589
2001–2010 Average	19,443	26,108	0	254	0	989	46,793	236	46,591	46,827

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Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Does not include coastal subsistence harvest in Hooper Bay and Scammon Bay.

[b] Prior to 1987 and in 1991, 1992, and 1994, personal use was considered part of subsistence. Between 1987 and 1990, personal use fishing was defined by the fisherman's location of residence versus fishing location. In 1992, the Fairbanks nonsubsistence area was created as the only personal use area in the Yukon River drainage.

[c] The number of salmon sold by ADF&G test fisheries.

[d] Estimated number of females harvested to produce roe sold.

[e] Estimated sport fish harvest for the Alaska portion of the Yukon River drainage. A majority of the sport fish harvest occurs in the Tanana River drainage, District 6.

[f] Includes domestic, commercial, test, sport, and aboriginal harvest from the mainstem of the Yukon River.

[g] Includes Alaska Yukon River subsistence harvest and Canadian Aboriginal harvest.

Appendix A17.–Yukon River pink salmon total utilization in numbers of fish, by district and area, 1990–2011.

	Coastal District			District 1			District 2		
Year	Subsistence [a]	Commercial	Total	Subsistence [a]	Commercial	Total	Subsistence [a]	Commercial	Total
1990					418	418		324	324
1991					0	0		0	0
1992					0	0		0	0
1993					0	0		0	0
1994	2,053	0	2,053	4,233	0	4,233	2,731	0	2,731
1995	385	0	385	132	0	132	15	0	15
1996	3,517	0	3,517	443	0	443	933	0	933
1997	265	0	265	69	0	69	115	0	115
1998	3,732	0	3,732	1,590	0	1,590	1,550	0	1,550
1999	626	0	626	32	0	32	21	0	21
2000	998	0	998	301	0	301	235	0	235
2001	394	–	394	9	–	9	0	–	0
2002	5,892	0	5,892	1,028	0	1,028	1,282	0	1,282
2003	1,470	0	1,470	207	0	207	117	0	117
2004	7,926	0	7,926	615	0	615	1,138	0	1,138
2005	2,505	0	2,505	390	0	390	230	0	230
2006	2,814	0	2,814	1,114	0	1,114	900	0	900
2007	1,548	0	1,548	382	0	382	185	0	185
2008	3,779	0	3,779	3,053	13,391	16,444	942	709	1,651
2009	2,143	0	2,143	132	0	132	14	0	14
2010	2,464	0	2,464	787	0	787	946	0	946
2011	2,098	0	2,098	53	0	53	91	0	91
2006–2010 Average	2,550	0	2,550	1,094	2,678	3,772	597	142	739
2001–2010 Average	3,094	0	3,094	772	1,488	2,111	575	79	646

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	District 3				Lower Yukon Area Subtotals			
Year	Subsistence [a]	Commercial	Commercial Related [b]	Total	Subsistence	Commercial	Commercial Related [b]	Total
1990		1		1		743		743
1991		0		0		0		0
1992		0		0		0		0
1993		0		0		0		
1994	289	0	0	289	7,253	0	0	7,253
1995	0	0[0]	0	0	147	0[0]	0	147
1996	180	0[0]	100	280	1,556	0[0]	100	1,656
1997	0	0[0]	0	0	184	0[0]	0	184
1998	1,617	0[0]	0	1,617	4,757	0[0]	0	4,757
1999	0	0	0	0	53	0	0	53
2000	28	0	0	28	564	0	0	564
2001	0	–	0	0	9	–	0	9
2002	0	0	0	0	8,202	0	0	8,202
2003	130	0	0	130	1,924	0	0	1,924
2004	6	0	0	6	9,685	0	0	9,685
2005	0	0	0	0	3,125	0	0	3,125
2006	25	0	0	25	4,853	0	0	4,853
2007	3	0	0	3	2,118	0	0	2,118
2008	456	0	0	456	8,230	14,100	0	22,330
2009	9	0	0	9	2,298	0	0	2,298
2010	2	0	0	2	4,199	0	0	4,199
2011	9	0	0	9	2,251	0	0	2,251
2006–2010 Average	99	0	0	99	4,340	2,820	0	7,160
2001–2010 Average	63	0	0	63	4,464	1,567	0	5,874

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	District 6				Upper Yukon Area Subtotals			
Year	Subsistence [a]	Commercial	Commercial Related [b]	Total	Subsistence [a]	Commercial	Commercial Related [b]	Total
1990		0	0	0	0	0	0	0
1991		0	0	0	0	0	0	0
1992		0	0	0	0	0	0	0
1993		0	0	0	0	0	0	0
1994	0	0	0	0	995	0	66	1,061
1995	0	0	0	0	0	0	0	0
1996	0	0	0	0	59	0	0	59
1997	0	0	0	0	34	0	0	34
1998	0	0	0	0	700	0	0	700
1999	0	0	0	0	2	0	0	2
2000	0	0	0	0	31	0	0	31
2001	0	–	0	0	0	–	0	0
2002	0	0	0	0	221	0	0	221
2003	0	0	0	0	243	0	0	243
2004	0	0	0	0	12	0	0	12
2005	0	0	0	0	7	0	0	7
2006	0	0	0	0	1	0	0	1
2007	0	0	0	0	0	0	0	0
2008	0	0	0	0	1,299	0	0	1,299
2009	0	0	0	0	2	0	0	2
2010	0	0	0	0	0	0	0	0
2011	0	0	0	0	40	0	0	40
2006–2010 Average	0	0	0	0	260	0	0	260
2001–2010 Average	0	0	0	0	179	0	0	179

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Year	Alaska Yukon Area Totals				
	Subsistence [a]	Commercial	Commercial Related [b]	Sport [c]	Total
1990		743	0	0	743
1991		0	0	0	0
1992		0	0	0	0
1993		0	0	0	0
1994	8,248	0	66	0	8,314
1995	147	0	0	0	147
1996	1,615	0	100	30	1,745
1997	218	0	0	0	218
1998	5,457	0	0	85	5,542
1999	55	0	0	0	55
2000	595	0	0	0	595
2001	9	–	0	0	9
2002	8,423	0	0	0	8,423
2003	2,167	0	0	24	2,191
2004	9,697	0	0	33	9,730
2005	3,132	0	0	0	3,132
2006	4,854	0	0	54	4,908
2007	2,118	0	0	0	2,118
2008	9,529	14,100	0	0	23,629
2009	2,300	0	0	0	2,300
2010	4,199	0	0	0	4,199
2011	2,291	0	0	0	2,291
2006–2010 Average	4,600	2,820	0	11	7,431
2001–2010 Average	4,643	1,567	0	11	6,064

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Subsistence harvest estimates not available until 1994. Subsistence harvests of chum salmon below Kaltag prior to 1995 may include some pink salmon.

[b] Commercial related refers to the estimated number of females and males harvested to produce roe sold.

[c] Estimated sport fish harvest for the Alaska portion of the Yukon River drainage.

Appendix A18.–Percent of age composition of combined commercial and subsistence salmon harvest by species, Yukon River drainage, 1990–2010.

Species / Run	Year	Sample Size	Age In Years (Percent) 3	4	5	6	7	8	Total [a]
Chinook	1990	3,416	0.0	17.2	26.9	49.4	6.3	0.2	100.0
Salmon	1991	3,879	0.0	5.8	45.1	42.6	6.4	0.1	100.0
	1992	3,772	0.1	8.1	20.1	68.6	3.1	0.0	100.0
	1993	4,034	0.2	15.8	25.4	50.5	8.0	0.0	99.9
	1994	3,692	0.3	4.1	47.2	44.5	3.8	0.0	99.9
	1995	5,559	0.0	7.8	13.7	74.7	3.6	0.2	100.0
	1996	5,861	0.0	2.4	44.0	35.6	17.9	0.2	100.1
	1997	5,134	0.0	7.5	17.8	70.5	4.2	0.1	100.1
	1998	3,122	0.7	5.2	55.1	31.4	7.6	0.0	100.0
	1999	4,285	0.1	3.8	17.7	76.7	1.7	0.0	100.0
	2000	1,201	0.0	1.0	29.9	60.5	8.6	0.0	100.0
	2001 [b]	1,182	0.1	9.0	27.2	57.6	6.1	0.0	100.0
	2002	3,580	0.0	8.2	27.0	53.9	10.9	0.0	100.0
	2003	3,850	0.1	3.4	32.3	56.5	7.7	0.0	100.0
	2004	6,556	0.0	9.9	23.3	63.1	3.6	0.0	100.0
	2005	4,515	0.0	5.8	43.0	48.5	2.6	0.0	100.0
	2006	4,470	0.0	4.2	53.6	40.7	1.5	0.0	100.0
	2007	7,095	0.0	11.0	26.8	60.0	2.1	0.0	100.0
	2008	4,431	0.1	5.6	60.9	30.9	2.5	0.0	100.0
	2009	5,232	0.1	14.8	20.2	63.8	1.1	0.0	100.0
	2010	4,244	0.2	15.4	52.3	29.2	3.0	0.0	100.0
	2005–2010 Average	5,094	0.1	10.2	42.8	44.9	2.0	0.0	100.0

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Species / Run	Year	Sample Size	Age In Years (Percent) 3	4	5	6	7	Total [a]
Chum	1990	3,155	0.4	38.3	58.9	2.4	0.0	100.0
Salmon/	1991	5,015	1.3	48.0	49.8	0.9	0.0	100.0
Summer	1992	4,303	0.2	31.0	65.0	3.8	0.0	100.0
	1993	2,011	0.4	47.5	47.7	4.5	0.0	100.1
	1994	3,820	0.1	51.3	46.6	2.0	0.0	100.0
	1995	4,740	0.6	51.9	45.3	2.1	0.0	99.9
	1996	3,863	0.4	46.2	48.8	4.5	0.1	100.0
	1997	3,195	0.2	29.0	67.2	3.6	0.0	100.0
	1998	1,147	0.3	62.8	34.2	2.7	0.0	100.0
	1999	1,627	0.2	40.7	58.2	0.9	0.0	100.0
	2000	442	0.0	44.2	53.4	2.4	0.0	100.0
	2001 [b]	586	0.0	15.4	81.9	2.7	0.0	100.0
	2002	1,103	0.1	52.9	44.4	2.6	0.0	100.0
	2003	1,144	0.3	55.4	39.2	5.1	0.0	100.0
	2004	2,742	1.3	37.2	60.4	1.0	0.1	100.0
	2005	2,381	0.2	83.2	15.2	1.5	0.0	100.0
	2006	2,799	0.1	18.6	81.1	0.2	0.0	100.0
	2007	4,356	0.0	34.5	50.5	14.9	0.1	100.0
	2008	2,292	0.1	35.0	58.6	6.1	0.2	100.0
	2009	4,087	1.3	49.0	47.5	2.1	0.2	100.0
	2010	4,303	5.8	69.1	24.1	1.0	0.0	100.0
	2005–2010 Average	3,567	1.5	41.2	52.3	4.9	0.1	100.0

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Species / Run	Year	Sample Size	Age in Years (Percent) 3	4	5	6	Total [a]
Chum	1990	2,351	2.8	74.9	21.7	0.6	100.0
Salmon/	1991	5,314	2.7	75.4	21.7	0.2	100.0
Fall	1992	3,069	1.2	45.9	51.8	1.1	100.0
	1993	1,616	0.1	62.8	35.2	1.8	99.9
	1994	1,295	2.4	66.4	31.1	0.1	100.0
	1995	1,731	0.8	59.2	37.4	2.6	100.0
	1996	1,391	0.3	52.3	43.9	3.5	100.0
	1997	1,245	0.3	57.2	41.6	0.9	100.0
	1998 [c]	0	–	–	–	–	–
	1999	371	0.0	79.2	20.5	0.3	100.0
	2000 [c]	0	–	–	–	–	–
	2001 [b]	295	0.0	54.2	45.4	0.3	99.9
	2002 [c]	0	–	–	–	–	–
	2003	1,596	0.1	79.6	19.4	0.9	100.0
	2004	1,449	19.6	54.7	25.7	0.0	100.0
	2005	4,754	0.0	97.6	2.1	0.3	100.0
	2006	2,340	1.4	43.1	55.4	0.1	100.0
	2007	3,064	0.7	75.4	22.2	1.8	100.0
	2008	1,557	0.6	45.5	51.9	2.1	100.0
	2009	1,901	2.5	71.6	23.5	2.3	100.0
	2010	1,394	14.8	68.3	16.5	0.3	100.0
	2005–2010 Average	2,051	4.0	60.8	33.9	1.3	100.0

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Species / Run	Year		Sample Size	Age in Years (Percent) 3	4	5	Total [a]
Coho	1990		428	28.9	67.1	3.9	99.9
Salmon	1991		615	8.3	91.6	0.1	100.0
	1992		920	24.1	74.4	1.6	100.1
	1993		522	15.5	83.5	1.0	100.0
	1994		752	22.9	76.2	0.9	100.0
	1995		664	41.7	58.0	0.3	100.0
	1996		944	10.4	87.2	2.4	100.0
	1997		516	6.1	92.0	2.0	100.1
	1998	[c]	0	–	–	–	–
	1999		40	7.5	85.0	7.5	100.0
	2000	[c]	0	–	–	–	–
	2001	[b]	18	22.2	77.8	0.0	100.0
	2002	[c]	0	–	–	–	–
	2003		753	25.1	69.8	5.1	100.0
	2004		590	22.3	75.0	2.7	100.0
	2005		1,921	8.3	84.8	6.8	100.0
	2006		1,231	14.7	80.7	4.6	100.0
	2007		1,234	11.6	85.6	2.8	100.0
	2008		978	14.4	75.3	10.3	100.0
	2009		430	9.3	81.9	8.8	100.0
	2010		608	8.7	87.5	3.9	100.0
	2005–2010 Average		896	11.7	82.2	6.1	100.0

Note: Ages were estimated from samples collected from each gear type, by district and fishery, or from adjacent fisheries with similar gear. Fisheries for which no appropriate samples were available were not included.

[a] Total may not equal 100% due to rounding.

[b] No commercial fishing, samples were from subsistence harvests.

[c] No commercial fishing occurred and subsistence harvests for fall chum and coho salmon were not sampled.

Appendix A19.–Yukon River Chinook salmon historical harvest percentage by stock group for the United States and Canada, 1990–2011.

Year	Lower	Middle	Upper		
			U.S.	Canada	Total
1990	20.2	25.2	43.3	11.4	54.7
1991	28.0	25.3	34.9	11.8	46.7
1992	16.3	21.8	52.3	9.6	61.9
1993	21.5	25.4	43.9	9.2	53.1
1994	18.2	21.4	49.4	11.0	60.4
1995	17.9	22.4	49.2	10.5	59.7
1996	21.0	10.4	56.2	12.4	68.6
1997	26.4	16.8	48.2	8.6	56.9
1998	32.7	17.4	44.2	5.6	49.8
1999	40.1	6.3	44.5	9.1	53.6
2000	33.9	12.3	44.1	9.7	53.8
2001	31.6	16.0	36.5	15.9	52.4
2002	19.4	29.2	39.3	12.1	51.4
2003	6.8	28.9	55.4	8.9	64.3
2004	15.3	28.8	46.8	9.1	55.9
2005	20.7	21.4	46.4	11.5	57.9
2006	17.6	27.6	46.1	8.7	54.9
2007	13.0	30.6	51.1	5.4	56.4
2008	17.0	28.0	48.4	6.6	55.0
2009	11.1	31.4	45.3	12.2	57.5
2010	17.6	32.9	44.9	4.7	49.6
2011 [a]					
1990–2010 Average	21.2	22.8	46.2	9.7	55.9
2001–2010 Average	17.0	27.5	46.0	9.5	55.5
2006–2010 Average	15.2	30.1	47.2	7.5	54.7

[a] Data not available.

Appendix A20.–Salmon fishery projects conducted in the Alaska portion of the Yukon River drainage in 2011.

Project Name	Location, River Mile (RM)	Primary Objective(s)	Duration	Agency	Responsibility
Commercial Catch and Effort Assessment	Alaska portion of the Yukon River drainage	1)Document and estimate the catch and associated effort of the Alaska Yukon River fisheries and 2) Commercial salmon fishery via receipts (fish tickets) of commercial sales of salmon.	June - Oct.	ADF&G	All aspects
Commercial Catch Sampling and Monitoring	Alaska portion of the Yukon River drainage	1)Determine age, sex, and size of Chinook, chum and coho salmon harvested in Alaska Yukon River commercial fisheries and 2) Monitor Alaska commercial fishery openings and closures.	June - Oct.	ADF&G ADPS	All aspects Enforcement
Subsistence and Personal Use Catch and Effort Assessment	Alaska portion of the Yukon River drainage	Document and estimate the catch and associated effort of the Alaska Yukon River subsistence salmon fishery via interviews, catch calendars, mail-out questionnaires, telephone interviews, and subsistence fishing permits, and of the personal use fishery based on fishery permits.	Ongoing	ADF&G YRDFA	All aspects Assistants in communities
Sport Catch, Harvest and Effort Assessment	Alaska portion of the Yukon River drainage	Document and estimate the catch, harvest, and associated effort of the Alaska Yukon River sport fishery via post-season mail-out questionnaires.	Postseason	ADF&G	All aspects
Yukon River Chinook Microsatellite Baseline	Yukon River drainage	Survey standardized microsatellites and Yukon River Chinook salmon populations.	Ongoing	ADF&G USFWS DFO	R&E Funding R&M Funding
Biological Sampling of Yukon River Salmon	Lower Yukon, RM 17-107	Collect genetics samples and age, sex and length information from subsistence caught Chinook salmon.	June-July	AVCP	All aspects
Yukon River Salmon Stock Identification	Yukon River drainage	Estimate Chinook salmon stock composition of the various Yukon River drainage harvests through genetic stock identification, age compositions, and geographical distribution of catches and escapements.	Ongoing	ADF&G	All aspects R&M Funding
Yukon River Chum Salmon Mixed-Stock Analysis	Pilot Station, RM 123	Estimate the stock compositions of chum salmon using samples collected from Pilot Station sonar test fisheries	May - Aug.	USFWS OSM	All aspects R&M Funding-summer, OSM Funding - fall
YRDFA Weekly Teleconference	Yukon River drainage	Acts as a forum for fishermen along the Yukon River to interact with state and federal managers for the collection and dissemination of fisheries information.	May - Sept.	YRDFA	All aspects R&M funding
Lower Yukon River Set Gillnet Test Fishing	South, Middle, and North mouths of the Yukon River Delta, RM 20	1) Index Chinook salmon run timing and abundance using set gillnets and 2) Sample captured salmon for age, sex, size composition information.	June - Aug.	ADF&G	All aspects

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Project Name	Location	Primary Objective(s)	Duration	Agency	Responsibility
Hooper Bay Dall Point Offshore Test Fishing	Coastal Bering Sea south of Yukon River outlets	Assess run abundance, species composition, and run timing information of salmon bound for the Yukon River in offshore waters to assist with timely management decisions.	June - July	ADF&G	All aspects
Lower Yukon River Drift Test Fishing	South, Middle, and North mouths of the Yukon River delta, RM 20	1)Index Chinook, summer and fall chum, and coho salmon run timing and abundance using drift gillnets and 2)Sample captured salmon for age, sex, size composition information.	June - Aug.	ADF&G	All aspects
Mountain Village Drift Gillnet Test Fishing (1)	Mainstem Yukon River, RM 87	1)Index fall chum and coho salmon run timing and relative abundance using drift gillnets and 2)Sample captured salmon for age, sex, and size composition information.	July - Sept.	Asa'carsar miut Trad. Council BSFA	All aspects R&M funding
East Fork Weir, Andreafsky River	Mile 20 East Fork RM 124	1) Estimate daily escapement of summer chum salmon to the East Fork Andreafsky River and; 2) Estimate age, sex, and size composition of the summer chum salmon escapement.	June - Aug.	USFWS	All aspects OSM funding
Acoustic Radio Tagging	St. Mary's, Yukon River Mile 107-123	1) Document 3-deminsional trajectory of Chinook and chum salmon migrating upstream in the Yukon mainstem past the Pilot Station sonar and; 2) Determine trajectory of fish relative to the detection range of the transducers and the drift fishing locations.	June – July	ADF&G	All aspects AKSSF funding
Yukon River Sonar	Pilot Station, RM 123	1) Estimate Chinook and summer and fall chum salmon passage in the mainstem Yukon River. Apportionment of species including coho salmon and other finfish and; 2) Biological sampling includes genetics and age, sex, length of Chinook, chum and coho salmon.	June – Sept.	ADF&G	All aspects YDFDA and R&M funded- extended operations
Anvik River Sonar	Mile 40 Anvik River, RM 358	1)Estimate daily escapement of summer chum salmon to the Anvik River and 2)Estimate age, sex, and size composition of the summer chum salmon escapement.	June - July	ADF&G	All aspects
Gisasa River Weir	Mile 3 Gisasa River, Koyukuk River drainage, RM 567	1)Estimate daily escapement of Chinook and summer chum salmon into the Gisasa River and 2)Estimate age, sex, and size composition of the Chinook and summer chum salmon escapements.	June - Aug.	USFWS	All aspects OSM funding

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Project Name	Location	Primary Objective(s)	Duration	Agency	Responsibility
Henshaw Creek Weir	Mile 1 Henshaw Creek, RM 976	1) Estimate daily escapement of Chinook and summer chum salmon into Henshaw Creek and 2) Estimate age, sex, and size composition of the Chinook and summer chum salmon escapements.	June - Aug.	TCC USFWS-OSM	All aspects oversight & funding report write-up
Y5A Test Fish Wheel	Mainstem Yukon River RM 695	Index the timing of fall chum and coho salmon on the south bank of the Yukon River bound for the Tanana River drainage, using test fish wheel equipped with video monitoring system.	Aug. - Oct.	ADF&G USFWS	R&M funded contract R&E funded tech support
Chandalar River Sonar	RM 14 Chandalar River, RM 43 Chandalar River RM 996 Yukon River	1) Estimate fall chum salmon passage using DIDSON sonar in the Chandalar River and; 2) Collect vertebrae for ageing, sex and size composition of the fall chum salmon escapement.	Aug. - Sept.	USFWS	All aspects TI Funding R&M funding-ASL
Sheenjek River Sonar	Mile 6 Sheenjek River Porcupine River drainage, RM 1,060	1)Estimate daily escapement of fall chum salmon into the Sheenjek River using DIDSON sonar and counted both left and right banks and 2)Estimate age, sex, and size composition of the fall chum salmon escapement.	Aug. - Sept.	ADF&G	All aspects
Yukon River Sonar	Eagle, RM 1,213	1) Estimate daily passage of Chinook and chum salmon in the mainstem Yukon River using both split-beam and DIDSON sonars and; 2) Estimate age, sex, and size composition of salmon captured in the test nets, includes genetic sampling.	July - Oct.	ADF&G DFO	All aspects, technical support, TI Funding, R&E Funding
Middle Yukon River Chinook Sampling Project	Mainstem Yukon River Kaltag, RM 451	Estimate age, sex, and size composition of Chinook salmon harvested in middle Yukon River subsistence fisheries.	June – July	City of Kaltag	All aspects
Nenana River Escapement Surveys	Nenana River drainage, above RM 860	Aerial surveys for numbers and distribution of coho and chum salmon in 10 tributaries of the Nenana River below Healy Creek..	Sept. - Oct.	ADF&G	All aspects
Rapids Test Fish Wheel	Mainstem Yukon River RM 730	1) Index run timing of Chinook and fall chum salmon runs as well as non-salmon species using video monitoring techniques and 2) Characterize the sex, weight, length, and girth composition of Chinook salmon.	June - Sept.	Zuray USFWS	All aspects R&E funding
Nenana Test Fish Wheel	mainstem Tanana River Nenana, RM 860	Index the timing of Chinook, summer chum, fall chum, and coho salmon runs using a test fish wheel equipped with video monitoring system.	June - Sept.	ADF&G USFWS	All aspects R&E funded tech support
Biological Sampling of Yukon River Salmon	Middle Yukon (RM279-581) and Fort Yukon	Collect genetics samples and age, sex, and length information from subsistence caught Chinook salmon.	July - Aug.	TCC	All aspects R&E funded
Delta River Ground Surveys	Tanana River drainage, RM 1,031	1) Estimate fall chum salmon spawning escapement in Delta River and 2) Sample fall chum salmon carcasses for age, sex, and size composition information.	Oct. - Dec.	ADF&G	All aspects

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Project Name	Location	Primary Objective(s)	Duration	Agency	Responsibility
Chena River Tower	Chena River, Tanana River drainage, RM 921	Estimate daily escapement of Chinook and summer chum salmon into the Chena River.	July - Aug.	ADF&G	All aspects AKSSF funding
Salcha River Tower	Salcha River, Tanana River drainage, RM 967	Estimate daily escapement of Chinook and summer chum salmon into the Salcha River.	July - Aug.	BSFA	All aspects R&M funding
Goodpaster River Tower	RM 45 Goodpaster River, Tanana River drainage, RM 1,049	Estimate daily escapement of Chinook and summer chum salmon into the Goodpaster River.	July	TCC	All aspects Pogo Mine funding
Upper Yukon River Chum Salmon Genetic Stock Identification	Yukon River drainage	Establish the feasibility of using DNA marks for genetic stock identification of chum salmon in the Yukon River.	June - Oct.	USFWS	All aspects
Yukon River Inseason Salmon Harvest Interviews	Emmonak, Holy Cross, Nulato, Huslia, Galena, and Beaver	Collect qualitative inseason subsistence salmon harvest information through weekly interviews.	June - Sept	USFWS YRDFA	All aspects OSM funding
Migratory Timing and Harvest Information of Chinook Salmon Stocks	Yukon River drainage	Enlarge existing allozyme and develop a DNA database to characterize the genetic diversity of Chinook salmon in the Yukon River within the U.S. and Canada. U.S. collections include microsatellites and allozyme. Canadian collections include microsatellites.	June - Aug.	USFWS ADF&G DFO OSM	All aspects

Acronyms:

ADF&G = Alaska Department of Fish and Game
ADPS = Alaska Department of Public Safety
AVCP = Association of Village Council Presidents, Inc.
AYKSSF = Arctic-Yukon-Kuskokwim Sustainable Salmon Fund
BSFA = Bering Sea Fishermen's Association
DFO = Department of Fisheries and Oceans (Canada)
DNA = Deoxyribonucleic acid
NPS = National Park Service
OSM = Office of Subsistence Management
R&E =Yukon River Panel Restoration and Enhancement Program
R&M =Research and Management Fund
TCC = Tanana Chiefs Conference, Inc.
UAF = University of Alaska Fairbanks
USFWS = United States Fish and Wildlife Service
USFWS-OSM = United States Fish and Wildlife Service, Office of Subsistence Management
YDFDA =Yukon Delta Fisheries Development Association
YRDFA = Yukon River Drainage Fisheries Association

Appendix A21.–List of harvest/escapement monitoring and incubation/rearing projects involving salmon in the Canadian portion of the Yukon River drainage in 2011.

Project Name	Location	Primary Objective(s)	Duration	Agency	Responsibility
Commercial Catch Monitoring	Yukon River near Dawson City	1) To determine weekly catches and effort in the Canadian commercial fishery (Chinook, chum and coho salmon), and 2) To collect other information as required.	July - Oct.	DFO	All aspects
Aboriginal Catch Monitoring	Yukon communities	1)To determine weekly catches and effort in the aboriginal fishery, and 2) To implement components of the UFA and AFS.	July - Oct.	YFN's DFO	Joint project
Recreational Catch Monitoring	Yukon R mainstem and tributaries	1) To determine the recreational harvest by species including the date, sex, whether released or retained, and fishing location, and 2) Salmon caught are reported through the Yukon Salmon Conservation Catch Card program.	July - Oct.	DFO	All aspects
DFO Escapement Index Surveys	Chinook aerial index streams	To obtain counts in index areas including: Big Salmon, L. Salmon Wolf, and Nisutlin rivers.	Aug.	DFO	All aspects
Escapement Surveys and DNA Collection	Throughout upper Yukon R. drainage	1) To conduct surveys of spawning fish by foot, boat, air etc.; 2) To collect DNA samples from spawning population; and 3) To enumerate and recover tags in terminal areas.	July - Oct.	R&E Projects DFO YFN's AFS	All aspects
Fishing Branch Chum Salmon Weir	Fishing Branch R.	To enumerate fall chum salmon returning to the Fishing Branch River and obtain age, size, tag and sex composition data.	Aug. - Oct.	DFO VGG	Joint project
Whitehorse Rapids Fishway	Whitehorse	To enumerate wild and hatchery reared Chinook salmon returns to the Whitehorse fishway area and obtain age, size, sex and tag data.	July - Aug.	YF&GA	All aspects
Blind Creek Weir	Pelly River	To enumerate Chinook salmon escapement, recover tags and collect ASL data and DNA samples.	July - Aug.	JW&A	All aspects
Big Salmon Sonar	Big Salmon River	1) Installation and operation of a DIDSON sonar program for Chinook salmon, and 2) Carcass survey, ASL, and genetic samples.	July - Aug.	JW&A	All aspects
Klondike River Sonar	Klondike River	Installation and operation of a DIDSON sonar program for Chinook salmon- this was a new program in 2009.	July - Oct.	BM&A	All aspects
Escapement Sampling	Various tributaries	Collect ASL data and DNA samples.	Aug. - Oct.	DFO	All aspects

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Project Name	Location	Primary Objective(s)	Duration	Agency	Responsibility
Porcupine River Sonar-chum	Old Crow	1) Installation and operation of a SIMRAD sonar program for chum salmon; 2) Conduct test netting for species apportionment, sex and length; and 3) To provide inseason projections of run strength from relationship between sonar and Fishing Branch River weir counts	Aug. - Oct.	EDI & VGG	All aspects
Whitehorse Rapids Fish Hatchery and Coded-Wire Tagging Project	Whitehorse	1)To rear and release ~150K Chinook salmon fry produced from Whitehorse Rapids Fishway broodstock; and 2)To mark fry with a CWT, adipose clip, and release upstream of the Whitehorse hydroelectric facility.	Ongoing	GY, YEC YF&GA	All aspects Coded-wire tagging
MacIntyre Incubation Box and Coded-Wire Tagging Project	Whitehorse	1)To rear up to 120K Chinook salmon fry from brood stock collected from the Takhini River and/or Tatchun Creek; 2) To mark fry with a CWT, adipose clip, and release at natal sites.	Ongoing	DFO YC NRI	Technical support field work, project monitoring
Fox Creek Restoration Program	Whitehorse Area	Incubate CK eggs , mark fry with a CWT, and release into Fox CK.	Ongoing	TKC	All aspects

Acronyms:

ASL = Age Sex Length- term that refers to the collection of biological information
AFS = Aboriginal Fisheries Strategy
BM&A = B. Mercer and Associates
CWT = Coded Wire Tag
DFO = Department of Fisheries and Oceans Canada
DNA = Deoxyribonucleic acid
EDI = Environmental Dynamics Incorporated
GY = Government of Yukon-Environment Yukon
JW&A = Jane Wilson & Associates
NRI = Northern Research Institute
R&E = Yukon Panel Restoration and Enhancement Program
TKC = Ta'an Kwa'chin Council
VGG = Vuntut Gwitchin Government
YC = Yukon College
YEC = Yukon Energy Corporation
YFN's = Yukon First Nation's
YF&GA = Yukon Fish and Game Association

Appendix A22.–Selected environmental and salmon catch information, Yukon River drainage, 1990–2011.

Year	Average Nome April Air Temp (°F)	Tanana River Nenana Ice Breakup	Iceout Yukon Delta Area	First Chinook Caught Yukon Delta Area [a]	First Summer Chum Caught Yukon Delta Area [a]	First District 1 Commercial Period
1990	26	4/24	5/28	5/29	5/31	6/14
1991	25	5/01	5/24	5/29	5/29	6/13
1992	22 [b]	5/14	5/30 [c]	6/13	6/13	6/20
1993	28	4/23	5/19	5/26	5/28	6/14
1994	20	4/29	5/22	5/24	5/28	6/13
1995	26	4/26	5/18	5/24	5/26	6/12
1996	21	5/05	5/19	5/24	5/24	6/10
1997	27 [d]	4/30	5/15	5/22	5/25	6/11
1998	26	4/20	5/22	5/28	5/25	6/15
1999	17	4/29 [e]	5/29	6/06	6/13	6/22
2000	21	5/01	5/29	6/03	6/05	6/24
2001	22	5/08	6/05	6/07	6/09	N/A
2002	20	5/07	5/24	5/31	5/30	6/20
2003	26	4/29	5/17	5/22	5/30	6/16
2004	29	4/24	5/08	5/18	5/27	6/17
2005	15	4/28	5/17	5/25	6/01	6/24
2006	12 [f]	5/02	5/29	6/06	6/07	6/19
2007	27 [f]	4/27	5/18	6/03	6/12	6/18
2008	15 [f]	5/05	5/24	6/03	6/16	7/02
2009	17 [f]	5/01	5/26	6/05	6/10	6/20
2010	20 [f]	4/29	5/22 [g]	6/09	6/10	6/28
2011	18 [h]	5/04	5/22	5/31	6/04	6/24

[a] Subsistence or test fishery.

[b] Caught June 1 at St. Mary's and back calculated arrival date to mouth.

[c] The mainstem Yukon River was ice free, but ice remained along the coast until June 10.

[d] Average April air temperature was 9 degrees Fahrenheit above normal.

[e] The Nenana Ice Classic tripod moved on April 29, but the ice did not move out for several more days.

[f] Source: http://climate.gi.alaska.edu/AKCityClimo/AK_Climate_Sum.html

[g] Though breakup on the Lower River occurred May 22, shore-fast sea ice persisted until later than usual in the season.

[h] Source: http://akclimate.org/AKCityClimo/2011/Apr/Apr_2011.html

Appendix A23.–Commercial Fisheries Entry Commission salmon gear permits issued by residence, Yukon Area, 2011.

District	Residence	Gillnet Permits (S04Y)
1, 2, and 3	Alakanuk	68
	Anchorage	39
	Bethel	13
	Chevak	2
	Copper Center	4
	Eagle River	2
	Elim	1
	Emmonak	98
	Ester	1
	Fairbanks	9
	Fortuna Ledge	2
	Glennallen	1
	Holy Cross	7
	Homer	3
	Hooper Bay	2
	Kalskag	1
	Kenai	1
	Kotlik	72
	Kwethluk	2
	Manley Hot Springs	1
	Marshall	39
	McGrath	1
	Mountain Village	76
	Newhalen	1
	Newtok	1
	Nome	1
	Nunam Iqua	10
	Palmer	2
	Pilot Station	54
	Russian Mission	15
	Saint Mary's	71
	Saint Michael	4
	Sand Point	2
	Scammon Bay	30
	Shageluk	1
	Shaktoolik	1
	Sitka	2
	Stebbins	7
	Tuluksak	1
	Wasilla	12
	Willow	1
	Ocean View, HI	1
	Fort Campbell, KY	1
	Rock Hill, SC	1
	Snohomish, WA	2
	De Pere, WI	1
Total Lower Yukon Area		667

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District	Residence	Gillnet Permits (S04P)	Fish Wheel Permits (S08P)	Total
4, 5, and 6	Anchorage	2	3	5
	Aniak	1	0	1
	Anvik	3	6	9
	Circle City	0	1	1
	Delta Junction	0	1	1
	Dot Lake	0	1	1
	Eagle River	0	1	1
	Fairbanks	24	23	47
	Fort Yukon	0	1	1
	Galena	2	8	10
	Grayling	4	4	8
	Holy Cross	1	0	1
	Kaltag	1	8	9
	Manley Hot Springs	2	6	8
	McGrath	1	1	2
	Nenana	6	14	20
	North Pole	2	3	5
	Nulato	0	8	8
	Palmer	0	1	1
	Rampart	1	0	1
	Ruby	1	5	6
	Salcha	1	1	2
	Stevens Village	0	3	3
	Tanana	2	11	13
	Valdez	0	1	1
	Wasilla	0	2	2
	Richmond, CA	0	1	1
	Lusk, WY	1	1	2
Total Upper Yukon Area		55	115	170
Grand Total Yukon Area		722	115	837

Note: Counts are for initial issues only and do not include transfers; includes interim entry permits but not interim use, test fish, or educational permits.

Appendix A24.–List of emergency orders pertaining to the Districts 1–6 Chinook and summer chum salmon fishery, Yukon Area, 2011.

EO Number: 3-S-LY-01-11	Effective Date: June 6, 2011

Implements the subsistence salmon fishing schedule in District 1.

EO Number: 3-S-LY-02-11	Effective Date: June 8, 2011

Implements the subsistence salmon fishing schedule in District 2.

EO Number: 3-S-LY-03-11	Effective Date: June 12, 2011

Implements the subsistence salmon fishing schedule in District 3.

EO Number: 3-S-LY-04-11	Effective Date: June 6, 2011

Specifies that gillnets with a mesh size 4 inches or less and a length 60 feet or less may be used when fishing for non-salmon species during subsistence salmon closures.

EO Number: 3-S-LY-05-11	Effective Date: May 31, 2011

Restricts gillnet mesh size in the portion of the Coastal District south of 62° North latitude to 6-inch or smaller mesh size.

EO Number: 3-S-LY-06-11	Effective Date: June 13, 2011

Closes subsistence salmon fishing in the portion of the Coastal District north of 62° North latitude.

EO Number: 3-S-LY-07-11	Effective Date: June 13, 2011

Cancels the subsistence salmon fishing period scheduled for 8:00 p.m. June 13 in District 1.

EO Number: 3-S-LY-08-11	Effective Date: June 15, 2011

Cancels the subsistence period scheduled for 8:00 p.m. June 15 in District 2.

EO Number: 3-S-LY-09-11	Effective Date: June 16, 2011

Opens subsistence salmon fishing in the Coastal District from 62° North latitude beginning 8:00 p.m. June 16.

EO Number: 3-S-LY-10-11	Effective Date: June 20, 2011

Reduces the amount of time in the scheduled subsistence salmon fishing period scheduled for 8:00 p.m. June 20. Closes subsistence fishing from 8:00 p.m. June 20 until 2:00 p.m. June 21.

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EO Number: 3-S-LY-11-11 Effective Date: June 20, 2011

Closes subsistence salmon fishing from 8:00 p.m. June 20 until 2:00 p.m. June 21 in the portion of the Coastal District north of 62° North latitude.

EO Number: 3-S-LY-12-11 Effective Date: June 22, 2011

Cancels the subsistence salmon fishing period scheduled for 8:00 p.m. June 22 in District 2.

EO Number: 3-S-LY-13-11 Effective Date: June 23, 2011

Reduces the amount of time and restricts gillnet mesh size to 6 inches for the subsistence salmon fishing period scheduled for 8:00 p.m. June 23 in District 1.

EO Number: 3-S-LY-14-11 Effective Date: June 24, 2011

Opens the commercial salmon fishing season in District 1 effective 6:00 p.m. June 24.

EO Number: 3-S-LY-15-11 Effective Date: June 24, 2011

Establishes a 6-hour commercial fishing period beginning 6:00 p.m. June 24.

EO Number: 3-S-LY-16-11 Effective Date: June 26, 2011

Cancels the subsistence salmon fishing period scheduled for 8:00 p.m. June 26 in District 3.

EO Number: 3-S-LY-17-11 Effective Date: June 26, 2011

Opens the commercial salmon fishing season in District 2 effective 8:00 p.m. June 26.

EO Number: 3-S-LY-18-11 Effective Date: June 26, 2011

Establishes a 4-hour commercial fishing period beginning 8:00 p.m. June 26 in District 2.

EO Number: 3-S-LY-19-11 Effective Date: June 27, 2011

Restricts subsistence gillnets to 6-inch or smaller mesh size in Districts 1 and 2 effective 8:00 p.m. June 27.

EO Number: 3-S-LY-20-11 Effective Date: June 27, 2011

Establishes a 6-hour commercial fishing period beginning 8:00 p.m. June 27 in District 1.

EO Number: 3-S-LY-21-11 Effective Date: June 28, 2011

Establishes a 4-hour commercial fishing period beginning 6:00 p.m. June 28 in District 2.

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EO Number: 3-S-LY-22-11 Effective Date: June 29, 2011

Establishes a 4-hour commercial fishing period beginning 6:00 p.m. June 29 in District 1.

EO Number: 3-S-LY-23-11 Effective Date: July 1, 2011

Establishes a 4-hour commercial fishing period beginning 6:00 p.m. July 1 in District 1.

EO Number: 3-S-LY-24-11 Effective Date: July 3, 2011

Establishes a 6-hour commercial fishing period beginning 6:00 p.m. July 3 in District 1.

EO Number: 3-S-LY-25-11 Effective Date: July 4, 2011

Establishes a 6-hour commercial fishing period beginning 6:00 p.m. July 4 in District 1.

EO Number: 3-S-LY-26-11 Effective Date: July 6, 2011

Establishes a 6-hour commercial fishing period beginning 8:00 p.m. July 6 in District 1.

EO Number: 3-S-LY-27-11 Effective Date: July 6, 2011

Establishes a 3-hour commercial fishing period beginning 5:00 p.m. July 6 in District 2.

EO Number: 3-S-LY-28-11 Effective Date: July 7, 2011

Establishes a 4-hour commercial fishing period beginning 5:00 p.m. July 7 in District 2.

EO Number: 3-S-LY-29-11 Effective Date: July 8, 2011

Establishes a 6-hour commercial fishing period beginning 9:00 p.m. July 8 in District 1.

EO Number: 3-S-LY-30-11 Effective Date: July 8, 2011

Extends the commercial fishing period scheduled for 9:00 p.m. July 8 in District 1 by 3 hours.

EO Number: 3-S-LY-31-11 Effective Date: July 8, 2011

Rescinds emergency order 3-S-LY-02-11 effective 6:00 p.m. July 8 and puts District 2 on the subsistence schedule of 18 hours before, during, and 12 hours after a commercial fishing period.

EO Number: 3-S-LY-32-11 Effective Date: July 10, 2011

Establishes a 9-hour commercial fishing period beginning 3:00 p.m. July 10 in District 2.

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EO Number: 3-S-LY-33-11 Effective Date: July 11, 2011

Establishes a 12-hour commercial fishing period beginning 10:00 a.m. July 11 in District 1.

EO Number: 3-S-LY-34-11 Effective Date: July 11, 2011

Establishes a 9-hour commercial fishing period beginning 6:00 p.m. July 11 in District 2.

EO Number: 3-S-LY-35-11 Effective Date: July 12, 2011

Establishes a 12-hour commercial fishing period beginning 6:00 p.m. July 12 in District 1.

EO Number: 3-S-LY-36-11 Effective Date: July 13, 2011

Establishes a 9-hour commercial fishing period beginning 6:00 p.m. July 13 in District 2.

EO Number: 3-S-LY-37-11 Effective Date: July 14, 2011

Establishes a 12-hour commercial fishing period beginning 9:00 a.m. July 14 in District 1.

EO Number: 3-S-LY-38-11 Effective Date: July 15, 2011

Establishes a 9-hour commercial fishing period beginning 12:00 noon July 15 in District 2.

EO Number: 3-S-LY-39-11 Effective Date: July 17, 2011

Establishes a 9-hour commercial fishing period beginning 9:00 a.m. July 17 in District 2.

EO Number: 3-S-UY-01-11 Effective Date: June 15, 2011

Implements subsistence fishing schedule in Subdistrict 4-A of two 48-hour periods per week.

EO Number: 3-S-UY-02-11 Effective Date: June 15, 2011

Implements subsistence fishing schedule in Subdistrict 4-A of two 48-hour periods per week.

EO Number: 3-S-UY-03-11 Effective Date: June 22, 2011

Implements subsistence fishing schedule in Subdistrict 4-B and 4-C of two 48-hour periods per week.

EO Number: 3-S-UY-04-11 Effective Date: June 22, 2011

Cancels the subsistence fishing period in the lower portion of Subdistrict 4-A, below Stink Creek, scheduled for 6:00 p.m. Wednesday, June 22 until 6:00 p.m. Friday, June 24.

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EO Number: 3-S-UY-05-11 Effective Date: June 24, 2011

Cancels the subsistence fishing period in the upper section of Subdistrict 4-A, above Stink Creek, scheduled for 6:00 p.m. Sunday, June 24 until 6:00 p.m. Tuesday, June 28.

EO Number: 3-S-UY-06-11 Effective Date: June 29, 2011

Cancels the subsistence fishing period in the lower portion of Subdistrict 4-A, below Stink Creek, and in Subdistricts 4-B and 4-C scheduled for 6:00 p.m. Wednesday, June 29 until 6:00 p.m. Friday, July 1,

EO Number: 3-S-UY-07-11 Effective Date: July 3, 2011

Cancels the subsistence fishing period in the upper section of Subdistrict 4-A, above Stink Creek, scheduled for 6:00 p.m. Sunday, July 3 until 6:00 p.m. Tuesday, July 5.

EO Number: 3-S-UY-08-11 Effective Date: July 6, 2011

Cancels the subsistence fishing period in Subdistricts 4-B and 4-C scheduled for 6:00 p.m. Wednesday, July 6 until 6:00 p.m. Friday, July 8.

EO Number: 3-S-UY-09-11 Effective Date: June 29, 2011

Closes subsistence fishing in Subdistricts 5-A, 5-B, and 5-C from 6:00 p.m. Wednesday, June 29 until Monday, July 4.

EO Number: 3-S-UY-10-11 Effective Date: July 3, 2011

Closes subsistence fishing in the lower portion of Subdistrict 5-D from an ADF&G regulatory marker approximately two miles downstream of Waldron Creek to the Hadweenzic River from 6:00 p.m. Sunday, July 3, until 6:00 p.m. Friday, July 8.

EO Number: 3-S-UY-11-11 Effective Date: July 7, 2011

Closes subsistence fishing in the middle portion of Subdistrict 5-D from the Hadweenzic River to 22 Mile Slough from 6:00 p.m. Thursday, July 7 until 6:00 p.m. Tuesday, July 12.

EO Number: 3-S-UY-12-11 Effective Date: July 12, 2011

Closes subsistence fishing in the upper portion of Subdistrict 5-D from 22 Mile Slough to the US/Canada Border from 6:00 p.m. Tuesday, July 12, until 6:00 p.m. Sunday, July 17.

EO Number: 3-S-UY-13-11 Effective Date: July 6, 2011

Closes subsistence fishing in Subdistricts 5-A, 5-B, and 5-C from 6:00 p.m. Wednesday, July 6, until further notice.

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EO Number: 3-S-UY-14-11 Effective Date: July 6, 2011

Extends subsistence fishing time in the upper portion of Subdistrict 4-A, above Stink Creek, from 6:00 a.m. Wednesday, July 6, until 6:00 p.m. Wednesday, July 6.

EO Number: 3-S-UY-15-11 Effective Date: July 11, 2011

Opens subsistence fishing in Subdistricts 5-A, 5-B, and 5-C from 6:00 p.m. Monday, July 11, until 6:00 p.m. Wednesday, July 13.

EO Number: 3-S-UY-16-11 Effective Date: July 15, 2011

Implements subsistence fishing schedule of two 48 hour periods in Subdistrict 5-A, 5-B, and 5-C from 6:00 p.m. Tuesdays until 6:00 p.m. Thursdays and 6:00 p.m. Fridays until 6:00 p.m. Sundays.

EO Number: 3-S-UY-17-11 Effective Date: July 11, 2011

Closes subsistence fishing in the lower portion of Subdistrict 5-D from an ADF&G regulatory marker approximately two miles downstream of Waldron Creek to the Hadweenzic River from 6:00 p.m. Monday, July 11, until further notice.

EO Number: 3-S-UY-18-11 Effective Date: July 15, 2011

Closes subsistence fishing in the middle portion of Subdistrict 5-D from the Hadweenzic River to 22 Mile Slough from 6:00 p.m. Thursday, July 14 until further notice.

EO Number: 3-S-UY-19-11 Effective Date: July 15, 2011

Opens subsistence fishing in the lower portion of Subdistrict 5-D from an ADF&G regulatory marker approximately two miles downstream of Waldron Creek to the Hadweenzic River beginning 6:00 a.m. Friday, July 15, until further notice.

EO Number: 3-S-UY-20-11 Effective Date: July 18, 2011

Opens commercial fishing in District 6.

EO Number: 3-S-UY-21-11 Effective Date: July 18, 2011

Opens two commercial fishing periods in District 6 from 8:00 p.m. Monday, July 18 until 8:00 a.m. Tuesday, July 19 and 8:00 p.m. Tuesday, July 19 until 8:00 a.m. Wednesday, July 20. Chinook salmon may not be sold.

EO Number: 3-S-UY-22-11 Effective Date: July 17, 2011

Opens subsistence fishing in the middle portion of Subdistrict 5-D from the Hadweenzic River to 22 Mile Slough beginning 6:00 p.m. Sunday, July 17.

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EO Number: 3-S-UY-23-11 Effective Date: July 19, 2011

Closes subsistence fishing in the upper portion of Subdistrict 5-D from 22 Mile Slough to the US/Canada Border from 6:00 p.m. Tuesday, July 19, until 6:00 p.m. Sunday, July 24.

EO Number: 3-S-UY-24-11 Effective Date: July 22, 2011

Opens two commercial fishing periods in District 6 from 8:00 p.m. Friday, July 22 until 8:00 a.m. Saturday, July 23 and 8:00 p.m. Saturday, July 23 until 8:00 a.m. Sunday, July 24. Chinook salmon may not be sold.

EO Number: 3-S-UY-25-11 Effective Date: July 22, 2011

Closes personal use fishing within one half mile from the mouth of the Chena River from 6:00 p.m. Friday, July 22, until 6:00 p.m. Friday, August 12.

EO Number: 3-S-UY-26-11 Effective Date: July 23, 2011

Closes subsistence fishing in the middle portion of Subdistrict 5-D from the Hadweenzic River to 22 Mile Slough from 6:00 p.m. Saturday, July 23 until 6:00 p.m. Wednesday, July 27.

EO Number: 3-S-UY-27-11 Effective Date: July 25, 2011

Closes subsistence fishing in the upper portion of Subdistrict 5-D from 22 Mile Slough to the US/Canada Border from 6:00 p.m. Monday, July 25, until further notice.

EO Number: 3-S-UY-28-11 Effective Date: July 25, 2011

Opens two commercial fishing periods in District 6 from 8:00 p.m. Monday, July 25 until 8:00 a.m. Tuesday, July 26 and 8:00 p.m. Tuesday, July 26 until 8:00 a.m. Wednesday, July 27. Chinook salmon may not be sold. Chinook salmon may not be sold.

EO Number: 3-S-UY-29-11 Effective Date: July 29, 2011

Opens 3 commercial fishing periods in District 6 from 6:00 p.m. Friday, July 29 until 12:00 noon Sunday, July 31, 6:00 p.m. Monday, August 1 until 12:00 noon Wednesday, August 3, and 6:00 p.m. Friday, august 5 until 12:00 noon Sunday, August 7. Chinook salmon may not be sold.

EO Number: 3-S-UY-30-11 Effective Date: July 29, 2011

Opens subsistence fishing to 7 days per week in that portion of Subdistrict 5-D from 22 Mile Slough to the Charley River 6:00 p.m. Friday, July 29. Opens subsistence fishing to 7 days per week in that portion of Subdistrict 5-D from the Charley River to the US/Canada border 6:00 p.m. Monday, August 1.

EO Number: 3-S-UY-31-11 Effective Date: August 8, 2011

Opens two commercial fishing periods in District 6 from 6:00 p.m. Monday, August 8 until 12:00 noon Wednesday, August 10, and 6:00 p.m. Friday, August 12 until 12:00 noon Sunday, August 14. Chinook salmon may not be sold.

Appendix A25.–List of emergency orders pertaining to the Districts 1–6 Chinook and summer chum salmon fishery, Yukon Area, 2011.

EO Number: 3-S-FY-01-11 Effective Date: July 17, 2011

Opens commercial fishing season in District 3 subsistence fishing to 7 days per week.

EO Number: 3-S-FY-02-11 Effective Date: July 18, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Monday, July 18, 2011 from 12:00 noon until 12:00 midnight. The remainder of District 1 will be open on Monday, July 18, 2011 from 12:00 noon until 12:00 midnight. Gear restricted to maximum of 6 inches and no sale of Chinook salmon.

EO Number: 3-S-FY-03-11 Effective Date: July 21, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Thursday, July 21, 2011 from 12:00 noon until 12:00 midnight. The remainder of District 1 will be open on Thursday, July 21, 2011 from 12:00 noon until 12:00 midnight. Gear restricted to maximum of 6 inches and no sale of Chinook salmon.

EO Number: 3-S-FY-04-11 Effective date: July 25, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Monday, July 25, 2011 from 9:00 a.m. until 9:00 p.m. The remainder of District 1 will be open on Monday, July 25, 2011 from 12:00 noon until 9:00 p.m. Gear restricted to maximum of 6 inches and no sale of Chinook salmon.

EO Number: 3-S-FY-05-11 Effective Date: July 23, 2011

Opens commercial fishing season in Subdistrict 4-A.

EO Number: 3-S-FY-06-11 Effective Date: July 26, 2011

Opens commercial fishing season in Subdistricts 4-B and 4-C.

EO Number: 3-S-FY-07-11 Effective Date: August 1, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Monday, August 1, 2011 from 3:00 p.m. until 9:00 p.m.

EO Number: 3-S-FY-08-11 Effective Date: August 2, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Tuesday, August 2, 2011 from 3:00 p.m. until 9:00 p.m.

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EO Number: 3-S-FY-09-11 Effective Date: August 4, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Thursday, August 4, 2011 from 3:00 p.m. until 12:00 midnight.

EO Number: 3-S-FY-10-11 Effective Date: August 5, 2011

Opens commercial fishing season in Subdistricts 5-B and 5-C.

EO Number: 3-S-FY-11-11 Effective Date: August 5, 2011

Opens two commercial salmon fishing periods in Subdistricts 5-B and 5-C. Salmon may be taken in Subdistricts 5-B and 5-C from 6:00 p.m. Friday, August 5 until 6:00 p.m. Sunday August 7 and from 6:00 p.m. Tuesday August 9 until 6:00 p.m. Thursday, August 11.

EO Number: 3-S-FY-12-11 Effective Date: August 6, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Saturday, August 6, 2011 from 9:00 a.m. until 6:00 p.m.

EO Number: 3-S-FY-13-11 Effective Date: August 7, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Sunday, August 7, 2011 from 6:00 p.m. until 12:00 midnight.

EO Number: 3-S-FY-14-11 Effective Date: August 9, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Tuesday, August 9, 2011 from 12:00 noon until 9:00 p.m.

EO Number: 3-S-FY-15-11 Effective Date: August 9, 2011

Opens subsistence fishing in Subdistricts 5-A, 5-B, and 5-C to 5 days per week.

EO Number: 3-S-FY-16-11 Effective Date: August 9, 2011

Extends commercial salmon fishing period in Subdistricts 5-B and 5-C. scheduled from 6:00 p.m. Tuesday, August 9 until 6:00 p.m. Thursday August 11 until 6:00 p.m. Sunday, August 14.

EO Number: 3-S-FY-17-11 Effective Date: August 11, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Thursday, August 11, 2011 from 12:00 noon until 12:00 midnight.

EO Number: 3-S-FY-18-11 Effective Date: August 14, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Sunday, August 14, 2011 from 9:00 a.m. until 6:00 p.m.

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EO Number: 3-S-FY-19-11 Effective Date: August 14, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Sunday, August 14, 2011 from 9:00 a.m. until 9:00 p.m. The remainder of District 1 will be open on Sunday, August 14, 2011 from 12:00 noon until 9:00 p.m.

EO Number: 3-S-FY-20-11 Effective Date: August 16, 2011

Opens one commercial salmon fishing periods in Subdistricts 5-B and 5-C. Salmon may be taken in Subdistricts 5-B and 5-C from 6:00 p.m. Tuesday, August 16 until 6:00 p.m. Sunday August 21.

EO Number: 3-S-FY-21-11 Effective Date: August 17, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Wednesday, August 17, 2011 from 9:00 a.m. until 6:00 p.m.

EO Number: 3-S-FY-22-11 Effective Date: August 18, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Thursday, August 18, 2011 from 9:00 a.m. until 9:00 p.m.

EO Number: 3-S-FY-23-11 Effective Date: August 21, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Sunday, August 21, 2011 from 9:00 a.m. until 6:00 p.m. The remainder of District 1 will be open on Sunday, August 21, 2011 from 12:00 noon until 6:00 p.m.

EO Number: 3-S-FY-24-11 Effective Date: August 23, 2011

Opens one commercial salmon fishing period in District 2. Salmon may be taken in District 2 on Tuesday, August 23, 2011 from 9:00 a.m. until 6:00 p.m.

EO Number: 3-S-FY-25-11 Effective Date: August 25, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Thursday, August 25, 2011 from 9:00 a.m. until 6:00 p.m.

EO Number: 3-S-FY-26-11 Effective Date: August 26, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Friday, August 26, 2011 until 12:00 noon Sunday, August 28.

EO Number: 3-S-FY-27-11 Effective Date: August 28, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Sunday, August 28, 2011 from 9:00 a.m. until 9:00 p.m. The remainder of District 1 will be open on Sunday, August 28, 2011 from 12:00 noon until 9:00 p.m.

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EO Number: 3-S-FY-28-11 Effective Date: August 31, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in the Set Net Only Area of District 1 on Wednesday August 31, 2011 from 9:00 a.m. until 9:00 p.m. The remainder of District 1 will be open on Wednesday, August 31, 2011 from 12:00 noon until 9:00 p.m.

EO Number: 3-S-FY-29-11 Effective Date: August 30, 2011

Opens subsistence fishing to 7 days per week in District 4.

EO Number: 3-S-FY-30-11 Effective Date: September 2, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Friday, September 2, 2011 from 9:00 a.m. until 9:00 p.m.

EO Number: 3-S-FY-31-11 Effective Date: September 5, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Monday, September 5, 2011 from 8:00 a.m. until 5:00 p.m.

EO Number: 3-S-FY-32-11 Effective Date: September 9, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Friday, September 9, 2011 until 12:00 noon Sunday, September 11.

EO Number: 3-S-FY-33-11 Effective Date: September 9, 2011

Opens one commercial salmon fishing period in District 1. Salmon may be taken in District 1 on Friday, September 9, 2011 from 9:00 a.m. until 6:00 p.m.

EO Number: 3-S-FY-34-11 Effective Date: September 13, 2011

Open subsistence fishing in Subdistricts 5-A, 5-B, and 5-C to 7 days a week, 24 hours a day.

EO Number: 3-S-FY-35-11 Effective Date: September 16, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Friday, September 16, 2011 until 12:00 noon Sunday, September 18.

EO Number: 3-S-FY-36-11 Effective Date: September 19, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Monday, September 19, 2011 until 12:00 noon Wednesday, September 21.

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EO Number: 3-S-FY-37-11 Effective Date: September 21, 2011

Extends commercial fishing period scheduled in District 6 from 6:00 p.m. Monday, September 19, 2011 until 12:00 noon Wednesday, September 21 an additional 48 hours to close at 12:00 noon Friday, September 23.

EO Number: 3-S-FY-38-11 Effective Date: September 23, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Friday, September 23, 2011 until 12:00 noon Sunday, September 25.

EO Number: 3-S-FY-39-11 Effective Date: September 26, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Monday, September 26, 2011 until 12:00 noon Sunday, September 28.

EO Number: 3-S-FY-40-11 Effective Date: September 30, 2011

Opens one commercial salmon fishing period in District 6. Salmon may be taken in District 6 from 6:00 p.m. Friday, September 30, 2011 until 12:00 noon Sunday, October 2.

EO Number: 3-S-FY-41-11 Effective Date: September 30, 2011

Open subsistence fishing in Subdistricts 6-A and 6-B to 7 days a week, 24 hours a day.

APPENDIX B: LOWER YUKON AREA SALMON

Appendix B1.–Commercial catches of Chinook and summer chum salmon by mesh size, Districts 1 and 2, Lower Yukon Area, 1990–2011.

		Unrestricted Mesh Size [a,b]				7.5 inch Maximum Mesh Size [a,c]				6 inch Maximum Mesh Size [a,d]	
		Chinook			Summer Chum	Chinook			Summer Chum	Chinook	Summer Chum
Year	[e]	District 1	District 2	Total	Districts 1 and 2	District 1	District 2	Total	Districts 1 and 2	Districts 1 and 2	Districts 1 and 2
1990	[f]	42,092	24,000	66,092	99,588					18,147	281,418
1991	[f]	52,074	36,290	88,364	108,986					4,145	205,610
1992	[f]	54,569	28,679	83,248	81,458					27,678	242,878
1993		47,084	37,293	84,377	47,488					2,202	45,503
1994	[g]	61,633	41,692	103,325	39,832					608	15,369
1995		74,827	39,607	114,434	113,860					3,098	112,223
1996		56,642	30,209	86,851	123,233					0	0
1997		63,062	39,052	102,114	49,953					3,611	28,204
1998		24,202	16,806	41,008	20,314					1,211	7,804
1999		37,145	27,119	64,264	27,883					0	0
2000		4,735	3,783	8,518	6,624					0	0
2001		–	–	–	–					–	–
2002		11,087	11,434	22,521	10,354					0	0
2003		22,708	14,220	36,928	6,162					0	0
2004		28,401	24,145	52,546	19,775					0	0
2005		16,619	13,413	30,032	32,224					0	0
2006		23,728	19,356	43,084	35,574					478	11,785
2007		13,558	9,238	22,796	11,311					9,121	164,911
2008		–	–	–	–					4,348	125,598
2009	[h]	–	–	–	–					131	157,906
2010		–	–	–	–					9,897	183,215
2011	[h]	–	–	–	–	–	–	–	–	–	266,510
2006–2010 Average		7,457	5,719	13,176	9,377					4,795	128,683
2001–2010 Average		19,350	15,301	34,651	19,233					2,664	71,491

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Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Does not include Chinook salmon caught during the fall season fishery.

[b] Primarily 8.0 to 8.5 inch mesh size used during early June to early July.

[c] In 2010, the Alaska Board of Fisheries adopted new regulation stating the maximum mesh size of gillnets to be used within the Yukon River drainage was 7.5 inches. This went into effect for the 2011 fishing season.

[d] Catch through July 15–20, relatively few Chinook and summer chum salmon taken after these dates.

[e] ADF&G test fishery sales included in 1990. Test fishery sales not included 1991–2011.

[f] Only includes information from fish ticket database; does not include salmon purchased illegally.

[g] 8.0 inch or greater mesh size restriction was in effect until June 27 and fishermen were requested to take chum salmon home for subsistence use until June 22 in order to reduce the harvest of chums.

[h] In summer chum directed commercial fisheries with gillnets restricted to a 6 inch maximum mesh size, the sale of incidentally caught Chinook salmon was prohibited throughout portions or all of the summer season.

Appendix B2.–Commercial Chinook salmon harvest (in numbers of fish) by statistical area, Lower Yukon Area, 1990–2011.

	District 1								
Year	334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1990 [a]	1,473	7,315	4,478	4,257	12,486	2,794	14,619	3,739	51,161
1991 [b]	1,689	4,244	1,624	3,451	12,664	6,251	18,243	5,455	53,621
1992 [c]	11,302	12,601	9,001	6,313	5,880	2,285	18,233	7,379	72,994
1993	3,642	7,368	4,342	3,324	11,407	2,346	9,380	7,477	49,286
1994	4,176	6,723	5,037	3,888	14,580	1,686	17,575	8,576	62,241
1995	3,719	6,939	6,181	5,430	22,357	3,790	18,980	8,710	76,106
1996	6,079	6,858	3,791	3,297	8,850	4,478	16,789	6,500	56,642
1997	4,570	5,865	2,844	6,648	12,460	4,703	21,443	7,851	66,384
1998	226	1,741	654	1,591	7,264	1,934	7,822	4,181	25,413
1999	1,454	2,604	3,112	3,798	4,057	935	13,130	8,071	37,161
2000	78	1,057	144	389	640	85	1,259	1,083	4,735
2001	–	–	–	–	–	–	–	–	–
2002	1,001	1,271	449	742	2,993	69	2,338	2,224	11,087
2003	1,601	4,714	1,089	1,514	4,756	437	3,518	5,080	22,709
2004	975	2,505	1,965	1,502	4,285	1,783	9,270	6,118	28,403
2005	2,137	1,531	944	592	2,580	1,650	3,926	3,334	16,694
2006	2,252	2,106	1,558	928	3,507	2,476	6,201	4,720	23,748
2007	1,116	1,419	1,555	855	4,890	1,168	5,828	1,785	18,616
2008	50	440	209	263	372	226	628	342	2,530
2009	1	16	4	3	36	17	10	3	90
2010	252	824	213	358	1,266	985	1,570	276	5,744
2011	1	8	1	0	4	17	4	1	36
2006–2010 Average	734	961	708	481	2,014	974	2,847	1,425	10,146
2001–2010 Average	1,043	1,647	887	751	2,743	979	3,699	2,654	14,402

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Appendix B2.–Page 2 of 2.

	District 2						District 3		
Year	334-21	334-22	334-23	334-24	334-25	Total	334-31	334-32	Total
1990	5,592	10,675	3,741	8,514	4,691	33,213	2,128	213	2,341
1991 [d]	9,330	10,423	5,332	6,552	7,339	38,976	1,214	1,130	2,344
1992 [e]	9,014	11,647	4,135	11,311	1,825	37,932	1,160	659	1,819
1993	8,641	9,223	6,118	6,085	7,226	37,293	1,478	23	1,501
1994	9,223	14,350	4,514	8,734	4,871	41,692	1,114	0	1,114
1995	7,832	14,041	4,841	5,887	8,857	41,458	0	0	0
1996	8,265	9,134	2,749	3,626	6,435	30,209	0	0	0
1997	13,939	13,344	2,280	6,104	3,696	39,363	0	0	0
1998	2,203	6,081	2,245	4,613	1,664	16,806	0	0	0
1999	4,666	8,565	2,623	6,923	4,356	27,133	0	538	538
2000	1,434	966	415	457	511	3,783	0	0	0
2001	–	–	–	–	–	–	–	–	–
2002	2,140	3,044	1,992	2,712	1,546	11,434	–	–	–
2003	2,965	5,454	993	2,104	2,704	14,220	–	–	–
2004	5,879	8,326	3,459	3,819	2,662	24,145	–	–	–
2005	3,292	5,905	1,397	347	2,472	13,413	–	–	–
2006	3,750	8,457	2,700	3,425	1,511	19,843	315	0	0
2007	2,818	5,509	2,458	1,375	1,146	13,306	190	0	0
2008	420	654	670	252	115	2,111	–	–	–
2009	39	106	56	2	23	226	–	–	–
2010	389	1,690	890	1,184	0	4,153	–	–	–
2011	2	16	6	22	0	46	–	–	–
2006–2010									
Average	1,483	3,283	1,355	1,248	559	7,928	253	0	0
2001–2010									
Average	2,410	4,349	1,624	1,691	1,353	11,428	253	0	0

Note: En dash indicates no commercial fishing activity occurred. Includes fish caught in fall commercial fishing season and sales from test fishery. Does not include fish sold for roe.

[a] Does not include 1,101 Chinook salmon sold illegally.

[b] Does not include 2,711 Chinook salmon sold illegally.

[c] Does not include 1,218 Chinook salmon sold illegally.

[d] Does not include 284 Chinook salmon sold illegally.

[e] Does not include 207 Chinook salmon sold illegally.

Appendix B3.–Commercial summer chum salmon harvest (in numbers of fish) by statistical area, Lower Yukon Area, 1990–2011.

	District 1								
Year	334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1990	23,453	35,542	15,326	12,369	10,931	1,513	39,575	10,202	148,911
1991 [a]	13,767	32,621	5,223	11,133	11,560	23,213	34,775	7,155	139,447
1992 [b]	24,094	39,225	22,293	16,717	12,000	2,500	40,353	20,116	177,298
1993	13,123	17,869	9,745	8,672	2,920	661	9,196	11,473	73,659
1994	11,208	6,340	5,165	2,389	3,602	290	8,693	4,645	42,332
1995	32,084	23,420	15,834	19,154	15,919	3,150	24,349	8,356	142,266
1996	19,432	17,769	6,837	5,611	13,111	2,831	17,864	9,051	92,506
1997	10,764	9,519	6,190	10,374	5,429	1,650	10,719	5,270	59,915
1998	54	2,583	441	2,275	5,115	730	6,601	3,471	21,270
1999	1,128	1,667	1,653	2,979	816	141	3,845	3,952	16,181
2000	146	537	207	650	631	60	546	538	3,315
2001	–	–	–	–	–	–	–	–	–
2002	193	1,303	374	1,519	858	4	1,277	799	6,327
2003	90	588	117	292	690	188	566	1,048	3,579
2004	667	885	1,446	904	2,694	870	4,171	2,356	13,993
2005	4,260	2,791	1,658	2,697	3,631	1,985	3,970	2,919	23,911
2006	4,310	3,181	1,915	899	2,315	1,441	4,382	3,373	21,816
2007	3,724	15,690	14,297	10,746	15,816	8,801	25,753	11,963	106,790
2008	1,200	9,216	5,521	9,224	6,219	5,937	17,423	12,719	67,459
2009	730	7,457	9,120	9,569	12,979	4,930	23,532	3,018	71,335
2010	3,881	19,138	5,707	12,405	12,116	9,484	32,994	6,542	102,267
2011	150	28,715	20,807	39,517	19,948	10,720	35,634	7,948	163,439
2006–2010 Average	2,769	10,936	7,312	8,569	9,889	6,119	20,817	7,523	73,933
2001–2010 Average	2,117	6,694	4,462	5,362	6,369	3,738	12,674	4,971	46,386

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Year		District 2						District 3 334-31		
		334-21	334-22	334-23	334-24	334-25	Total	Number	Roe	Estimated Harvest [c]
1990		15,414	37,585	25,132	34,980	19,396	132,507	562		562
1991		46,378	70,188	32,584	14,915	11,084	175,149	3,347		3,347
1992	[d]	31,399	59,401	22,107	31,085	3,046	147,038	63		63
1993		5,444	3,711	4,445	2,920	2,812	19,332	460		460
1994		4,100	5,314	1,435	1,395	625	12,869	35		35
1995		23,794	38,808	11,541	7,257	2,417	83,817	0		0
1996		9,177	13,056	4,965	2,479	1,050	30,727	0	162	465
1997		7,126	7,938	673	1,667	838	18,242	–	–	–
1998		710	2,350	1,079	2,351	358	6,848	0	0	0
1999		1,758	3,269	1,457	3,415	1,803	11,702	0	0	0
2000		1,552	961	327	220	249	3,309	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002		1,105	997	862	794	269	4,027	–	–	–
2003		1,153	855	218	181	176	2,583	–	–	–
2004		1,724	1,439	1,350	1,061	208	5,782	–	–	–
2005		2,852	3,978	850	105	528	8,313	–	–	–
2006		6,325	10,523	2,080	5,805	810	25,543	116	0	116
2007		21,356	32,583	9,310	1,740	4,443	69,432	1	0	1
2008		15,326	14,017	16,781	10,145	1,870	58,139	–	–	–
2009		13,583	48,571	19,717	3,053	1,647	86,571	–	–	–
2010		9,575	23,029	14,474	33,870	0	80,948	–	–	–
2011		15,959	27,109	20,506	37,868	1,629	103,071	–	–	–
2006–2010 Average		13,233	25,745	12,472	10,923	1,754	64,127	59	0	59
2001–2010 Average		8,111	15,110	7,294	6,306	1,106	37,926	59	0	59

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred. ADF&G test fishery sales included in 1990 but not included from 1991 to 2011.

[a] Does not include 1,023 summer chum salmon sold illegally.

[b] Does not include 31 summer chum salmon sold illegally.

[c] Estimated harvest includes reported harvest of both males and females harvested to produce roe sold.

[d] Does not include 91 summer chum salmon sold illegally.

Appendix B4.–Commercial fall chum salmon harvest (in numbers of fish) by statistical area, Lower Yukon Area, 1990–2011.

		District 1								
Year		334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1990	[a]	255	3,690	501	1,167	7,927	5,618	4,695	3,484	27,337
1991		75	11,976	3,036	5,586	9,968	8,040	11,880	9,163	59,724
1992		–	–	–	–	–	–	–	–	–
1993		–	–	–	–	–	–	–	–	–
1994		–	–	–	–	–	–	–	–	–
1995		1,674	6,766	6,892	11,909	16,450	1,696	23,722	10,236	79,345
1996		0	2,686	2,333	1,243	4,561	9,976	8,504	4,326	33,629
1997		0	2,870	3,452	3,768	3,943	1,596	6,747	5,107	27,483
1998		–	–	–	–	–	–	–	–	–
1999		4	1,931	474	1,182	1,934	1,439	1,103	1,920	9,987
2000		–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–
2003		0	2,784	177	310	958	0	381	976	5,586
2004		0	509	25	67	0	0	19	40	660
2005		117	16,840	8,735	25,330	8,253	31,864	29,546	9,840	130,525
2006		163	16,212	9,929	9,973	7,538	9,568	32,200	15,671	101,254
2007		0	6,395	8,550	4,951	1,423	2,130	12,562	2,841	38,852
2008		22	16,471	6,018	9,138	5,152	7,090	16,072	7,741	67,704
2009		66	1,355	457	301	4,576	2,118	2,415	623	11,911
2010		0	211	0	13	83	10	167	61	545
2011		11	10,019	3,673	10,142	34,153	35,432	27,230	7,075	127,735
2006–2010 Average		50	8,129	4,991	4,875	3,754	4,183	12,683	5,387	44,053
2001–2010 Average		46	7,597	4,236	6,260	3,498	6,598	11,670	4,724	44,630

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Year		District 2						District 3		
		334-21	334-22	334-23	334-24	334-25	Total	334-31	334-32	Total
1990	[a]	6,311	8,298	5,403	10,147	7,014	37,173	1,863	1,852	3,715
1991		10,584	23,195	14,291	28,306	26,252	102,628	7,209	2,004	9,213
1992		–	–	–	–	–	–	–	–	–
1993		–	–	–	–	–	–	–	–	–
1994		–	–	–	–	–	–	–	–	–
1995		147	54,231	20,018	16,435	0	90,831	–	–	–
1996		1,960	14,349	4,184	7,634	1,524	29,651	–	–	–
1997		5,040	9,827	2,316	5,972	1,171	24,326	–	–	–
1998		–	–	–	–	–	–	–	–	–
1999		1,536	2,836	3,254	1,910	167	9,703	–	–	–
2000		–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–
2006		3,362	21,069	11,060	4,414	0	39,905	–	–	–
2007		8,619	17,068	8,245	1,894	0	35,826	–	–	–
2008		10,027	11,630	11,507	7,424	682	41,270	–	–	–
2009		1,107	7,988	1,593	235	1,149	12,072	–	–	–
2010		3	27	165	0	75	270	–	–	–
2011		14,239	33,639	18,123	32,063	2,667	100,731	–	–	–
2006–2010 Average		4,624	11,556	6,514	2,793	381	25,869	–	–	–
2001–2010 Average		4,624	11,556	6,514	2,793	381	25,869	–	–	–

Note: En dash indicates no commercial fishing activity occurred.

[a] Includes ADF&G test fish sales.

Appendix B5.–Commercial coho chum salmon harvest (in numbers of fish) by statistical area, Lower Yukon Area, 1990–2011.

	District 1								
Year	334-11	334-12	334-13	334-14	334-15	334-16	334-17	334-18	Total
1990 [a]	4	736	301	1,684	2,108	2,530	2,429	3,562	13,354
1991	30	4,302	1,072	4,432	8,130	19,630	7,980	8,519	54,095
1992	–	–	–	–	–	–	–	–	–
1993	–	–	–	–	–	–	–	–	–
1994	–	–	–	–	–	–	–	–	–
1995	883	2,472	1,833	2,439	2,454	1,006	8,953	1,585	21,625
1996	0	1,555	1,564	854	3,995	9,634	8,068	2,035	27,705
1997	0	1,355	2,322	2,414	2,742	4,153	5,180	3,284	21,450
1998	–	–	–	–	–	–	–	–	–
1999	3	261	36	45	184	176	88	62	855
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–
2003	0	4,890	305	656	1,939	0	576	1,391	9,757
2004	128	772	201	290	0	0	50	142	1,583
2005	98	4,249	1,069	4,020	1,560	17,728	6,615	1,194	36,533
2006	7	3,034	2,467	2,315	3,508	15,280	10,196	2,516	39,323
2007	0	1,320	2,361	1,983	993	6,331	7,091	1,641	21,720
2008	35	3,122	1,024	1,274	838	2,456	3,712	1,485	13,946
2009	0	225	124	11	1,566	2,486	1,493	87	5,992
2010	0	204	5	6	142	102	445	123	1,027
2011	21	5,257	1,851	4,696	9,424	9,101	12,724	2,261	45,335
2006–2010 Average	8	1,581	1,196	1,118	1,409	5,331	4,587	1,170	16,402
2001–2010 Average	34	2,227	945	1,319	1,318	5,548	3,772	1,072	16,235

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Year		District 2						District 3		
		334-21	334-22	334-23	334-24	334-25	Total	334-31	334-32	Total
1990	[a]	1,226	11,364	962	2,032	851	16,435	752	166	918
1991		8,746	17,939	3,587	6,094	4,532	40,898	1,427	478	1,905
1992		–	–	–	–	–	–	–	–	–
1993		–	–	–	–	–	–	–	–	–
1994		–	–	–	–	–	–	–	–	–
1995		115	12,154	2,951	3,268	0	18,488	–	–	–
1996		761	12,155	2,755	4,409	894	20,974	–	–	–
1997		2,197	6,449	1,238	3,025	147	13,056	–	–	–
1998		–	–	–	–	–	–	–	–	–
1999		147	238	248	65	48	746	–	–	–
2000		–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–
2006		2,138	7,250	3,745	1,349	0	14,482	–	–	–
2007		4,195	12,354	3,253	1,685	0	21,487	–	–	–
2008		3,275	6,076	4,594	4,680	621	19,246	–	–	–
2009		368	1,085	97	8	19	1,577	–	–	–
2010		7	105	606	0	305	1,023	–	–	–
2011		6,184	8,091	3,705	5,987	217	24,184	–	–	–
2006-2010 Average		1,997	5,374	2,459	1,544	189	11,563	–	–	–
2001-2010 Average		1,997	5,374	2,459	1,544	189	11,563	–	–	–

Note: En dash indicates no commercial fishing activity occurred.

[a] Includes ADF&G test fish sales.

Appendix B6.–Daily and cumulative CPUE for Chinook salmon in the set gillnet test fishery, Lower Yukon River, 2011.

	Chinook Salmon in 8.5" Set Gillnets					
	2011				Average 1989-2010 [a]	
Date	Daily Catch	Daily CPUE	Cumulative CPUE	Comm/period Hrs Fished [b]	Percent	Cumulative CPUE
26 May						
27 May					0.00	0.03
28 May					0.00	0.04
29 May	0	0.00	0.00		0.00	0.07
30 May	0	0.00	0.00		0.01	0.12
31 May	0	0.00	0.00		0.01	0.18
1 Jun	0	0.00	0.00		0.01	0.24
2 Jun	0	0.00	0.00		0.01	0.33
3 Jun	7	0.07	0.07		0.02	0.47
4 Jun	17	0.18	0.25		0.03	0.65
5 Jun	27	0.28	0.53		0.04	0.83
6 Jun	20	0.21	0.74		0.05	1.08
7 Jun	12	0.13	0.87		0.06	1.38
8 Jun	15	0.16	1.03		0.08	1.74
9 Jun	23	0.24	1.27		0.10	2.32
10 Jun	7	0.08	1.35		0.13	2.83
11 Jun	7	0.08	1.43		0.15	3.36
12 Jun	9	0.09	1.52		0.18	4.02
13 Jun	3	0.03	1.55		0.21	4.80
14 Jun	76	0.79	2.34		0.25	5.53
15 Jun	82	0.85	3.19		0.28	6.28
16 Jun	93	0.97	4.16		0.32	7.20
17 Jun	52	0.54	4.70		0.36	8.08
18 Jun	71	0.74	5.44		0.40	8.97
19 Jun	57	0.59	6.03		0.44	9.83
20 Jun	127	1.32	7.35		0.47	10.58
21 Jun	130	1.35	8.70		0.51	11.51
22 Jun	64	0.67	9.37		0.55	12.48
23 Jun	44	0.46	9.83		0.59	13.41
24 Jun	43	0.45	10.28		0.64	14.48
25 Jun	32	0.33	10.61		0.68	15.39
26 Jun	23	0.24	10.85		0.72	16.28
27 Jun	35	0.36	11.21		0.76	17.06
28 Jun	59	0.61	11.82		0.79	17.80
29 Jun	38	0.40	12.22		0.82	18.47
30 Jun	78	0.81	13.03		0.84	18.99

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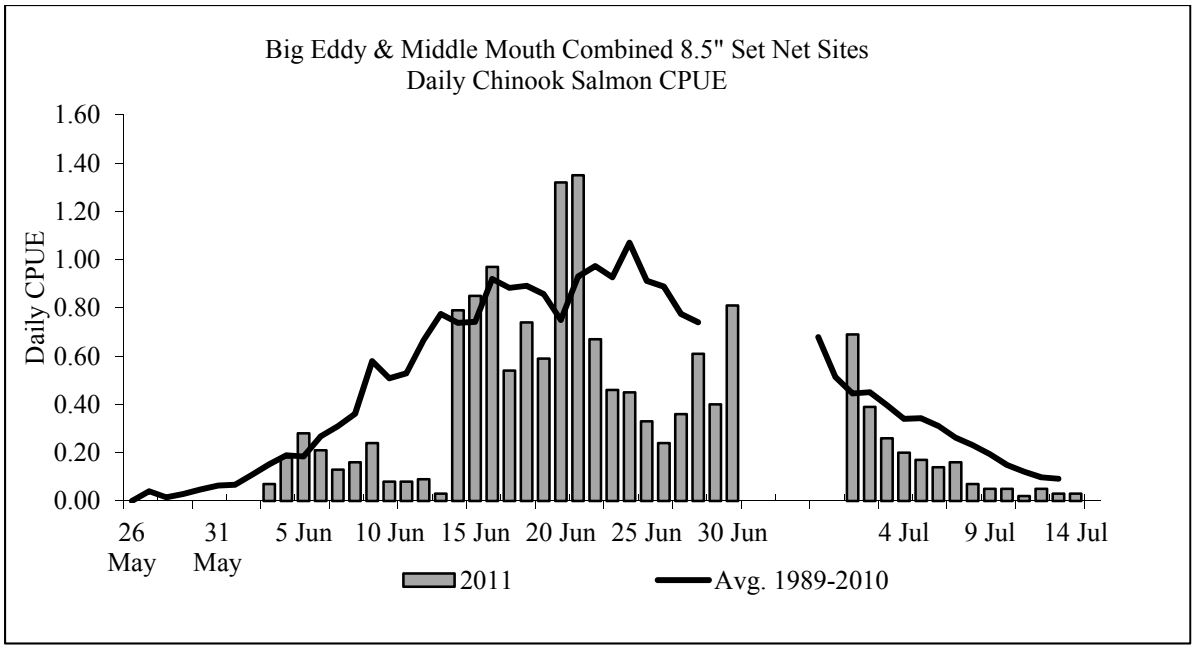
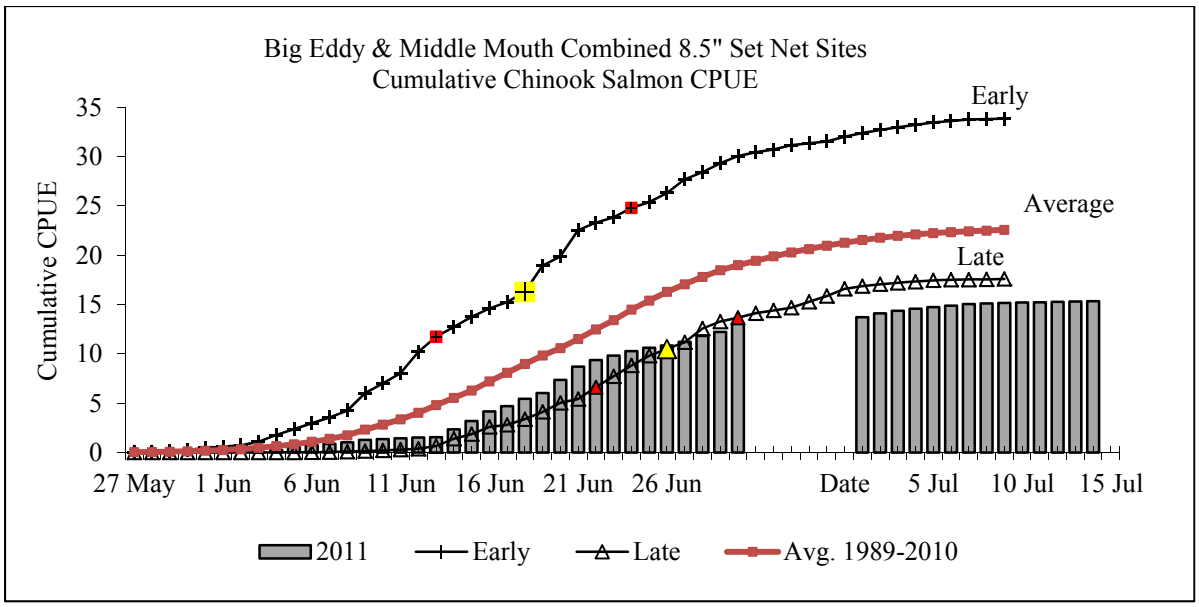
	Chinook Salmon in 8.5" Set Gillnets					
	2011				Average 1989-2010 [a]	
Date	Daily Catch	Daily CPUE	Cumulative CPUE	Comm/period Hrs Fished [b]	Percent	Cumulative CPUE
1 Jul	66	0.69	13.72		0.86	19.43
2 Jul	37	0.39	14.11		0.88	19.88
3 Jul	25	0.26	14.37		0.90	20.28
4 Jul	19	0.20	14.57		0.91	20.62
5 Jul	12	0.17	14.74		0.93	20.96
6 Jul	15	0.14	14.88		0.94	21.27
7 Jul	15	0.16	15.04		0.95	21.54
8 Jul	7	0.07	15.11		0.96	21.77
9 Jul	5	0.05	15.16		0.97	21.96
10 Jul	5	0.05	15.21		0.98	22.11
11 Jul	2	0.02	15.23		0.99	22.23
12 Jul	5	0.05	15.28		0.99	22.33
13 Jul	3	0.03	15.31		0.99	22.42
14 Jul	2	0.03	15.34		1.00	22.49
15 Jul					1.00	22.57
Total	3,480		15.34	0		22.57

Note: The box indicates the first to third quartile of the cumulative catch per unit effort (CPUE). The median date of the cumulative CPUE is also highlighted.

[a] 2009 not included because high water and debris caused considerable difficulty for the project.

[b] No Chinook salmon directed commercial fishing periods were executed in 2011.





Note: The symbols along the cumulative index lines represent the first to third quartile of the cumulative index. The median date of the cumulative index is represented by the center symbol. 2009 not included in the average because high water and debris caused considerable difficulty for the project.

Appendix B7.–Daily and cumulative CPUE for Chinook salmon set gillnet test fishery sites in 2011, compared to historic and late year average run timing, 1989 to 2010.

Appendix B8.–Big Eddy and Middle Mouth summer chum salmon daily and cumulative index, cooperative 5.5” mesh drift gillnet test fishery, Lower Yukon River, 2011.

	Summer Chum Salmon in 5.5" Drift Gillnet												
	Big Eddy Drift				Middle Mouth Drift				Big Eddy and Middle Mouth Combined				
Date	Daily Catch	Daily Index	Percent	Cumulative Index	Daily Catch	Daily Index	Percent	Cumulative Index	Daily Catch	Daily Index	Percent	Cumulative Index	
26 May													
27 May													
28 May													
29 May													
30 May													
31 May													
01 Jun													
02 Jun	0	0.00	0.00	0.00					0	0.00	0.00	0.00	
03 Jun	1	2.40	0.00	2.40					1	2.40	0.00	2.40	
04 Jun	1	10.21	0.00	12.61					1	10.21	0.00	12.61	
05 Jun	54	135.66	0.02	148.28					54	135.66	0.01	148.28	
06 Jun	35	89.36	0.04	237.64	13	46.96	0.01	46.96	48	136.32	0.02	284.59	
07 Jun	4	12.00	0.04	249.64	–	–	0.01	46.96	4	12.00	0.02	296.59	[a]
08 Jun	28	48.00	0.05	297.64	1	1.76	0.01	48.72	29	49.76	0.03	346.36	
09 Jun	20	27.95	0.05	325.59	3	3.08	0.01	51.80	23	31.03	0.03	377.38	
10 Jun	20	22.05	0.06	347.64	0	0.00	0.01	51.80	20	22.05	0.03	399.44	[a]
11 Jun	3	4.25	0.06	351.89	4	4.70	0.01	56.49	7	8.95	0.03	408.39	
12 Jun	0	0.00	0.06	351.89	2	3.00	0.01	59.49	2	3.00	0.03	411.39	
13 Jun	0	0.00	0.06	351.89	0	0.00	0.01	59.49	0	0.00	0.03	411.39	
14 Jun	117	251.43	0.10	603.32	85	104.85	0.02	164.34	202	356.28	0.06	767.66	
15 Jun	240	442.11	0.17	1,045.42	114	166.59	0.05	330.93	354	608.69	0.11	1,376.35	[b]
16 Jun	87	118.78	0.19	1,164.20	198	362.72	0.10	693.64	285	481.49	0.15	1,857.85	
17 Jun	29	39.64	0.20	1,203.84	39	57.42	0.11	751.06	68	97.06	0.15	1,954.90	
18 Jun	24	33.10	0.20	1,236.94	41	61.14	0.12	812.20	65	94.24	0.16	2,049.14	
19 Jun	5	7.47	0.20	1,244.41	10	14.45	0.12	826.65	15	21.92	0.16	2,071.06	

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	Summer Chum Salmon in 5.5" Drift Gillnet												
	Big Eddy Drift				Middle Mouth Drift				Big Eddy and Middle Mouth Combined				
Date	Daily Catch	Daily Index	Percent	Cumulative Index	Daily Catch	Daily Index	Percent	Cumulative Index	Daily Catch	Daily Index	Percent	Cumulative Index	
20 Jun	403	1,368.31	0.42	2,612.73	152	465.56	0.19	1,292.21	555	1,833.87	0.31	3,904.94	[b]
21 Jun	124	335.89	0.48	2,948.62	204	522.24	0.27	1,814.46	328	858.14	0.37	4,763.07	
22 Jun	70	322.44	0.53	3,271.06	95	375.00	0.32	2,189.46	165	697.44	0.43	5,460.52	
23 Jun	47	68.26	0.54	3,339.31	139	297.52	0.37	2,486.98	186	365.78	0.46	5,826.29	
24 Jun	19	51.45	0.55	3,390.76	56	189.14	0.39	2,676.12	75	240.59	0.48	6,066.88	[a]
25 Jun	1	1.43	0.55	3,392.19	13	20.53	0.40	2,696.65	14	21.96	0.48	6,088.84	
26 Jun	73	119.34	0.57	3,511.53	53	71.93	0.41	2,768.58	126	191.27	0.49	6,280.11	
27 Jun	106	52.21	0.58	3,563.73	12	18.67	0.41	2,787.25	118	70.88	0.50	6,350.99	
28 Jun	50	155.61	0.60	3,719.34	149	397.86	0.47	3,185.11	199	553.47	0.54	6,904.45	
29 Jun	96	280.98	0.65	4,000.32	113	166.78	0.49	3,351.89	209	447.75	0.58	7,352.20	
30 Jun	103	509.62	0.73	4,509.93	168	347.84	0.55	3,699.73	271	857.46	0.64	8,209.66	
01 Jul	222	949.48	0.89	5,459.42	125	969.55	0.69	4,669.28	347	1,919.03	0.80	10,128.69	
02 Jul	30	119.35	0.91	5,578.76	103	698.08	0.79	5,367.36	133	817.43	0.86	10,946.12	
03 Jul	32	223.29	0.94	5,802.05	91	195.99	0.82	5,563.35	123	419.27	0.89	11,365.39	
04 Jul	27	195.43	0.98	5,997.48	51	499.83	0.89	6,063.18	78	499.83	0.93	11,865.23	
05 Jul	–	–	0.98	5,997.48	28	115.86	0.91	6,179.04	28	115.86	0.94	11,981.09	[b]
06 Jul	2	11.71	0.98	6,009.19	–	–	0.91	6,179.04	2	11.71	0.94	11,992.80	[c]
07 Jul	20	47.88	0.98	6,057.07	100	196.17	0.94	6,375.21	120	244.05	0.96	12,236.85	
08 Jul	6	11.43	0.99	6,068.50	24	43.32	0.95	6,418.53	30	54.75	0.97	12,291.60	
09 Jul	9	12.45	0.99	6,080.95	31	49.08	0.95	6,467.61	40	61.53	0.97	12,353.13	
10 Jul	6	0.00	0.99	6,080.95	13	40.32	0.96	6,507.93	19	40.32	0.97	12,393.46	
11 Jul	0	0.00	0.99	6,080.95	–	–	0.96	6,507.93	0	0.00	0.97	12,393.46	[a]
12 Jul	–	–	0.99	6,080.95	16	24.85	0.96	6,532.78	16	24.85	0.98	12,418.30	[a]
13 Jul	30	42.78	1.00	6,123.74	94	174.64	0.99	6,707.42	124	217.42	0.99	12,635.72	
14 Jul	17	24.88	1.00	6,148.61	–	–	0.99	6,707.42	17	24.88	0.99	12,660.60	[a]
15 Jul	1	1.50	1.00	6,150.11	23	72.92	1.00	6,780.34	24	74.42	1.00	12,735.02	[d]
Total	2,162			6,150.11	2,363			6,780.34	4,525			12,735.02	

Note: The box within the column indicates the first to third quartile of the cumulative index. The median date of the cumulative index is also highlighted.

[a] Drift schedule was altered, only 2 drifts were conducted.

[b] Drift schedule was altered, only 3 drifts were conducted.

[c] Drift schedule was altered, only1 drift was conducted.

[d] Last day of operation.

Appendix B9.–Fall chum and coho salmon, daily and cumulative catch per unit effort (CPUE), index, cooperative drift gillnet (6 inch) test fishery.

	Historical	Fall Chum Salmon							
	Median	2001 to 2010 Average				2011			
	Cumulative	Daily	Daily		Cumulative	Daily	Daily		Cumulative
Date	Percent [a]	Catch	Index	%	Index [a]	Catch	Index	%	Index [a]
16 Jul	0.01	23	15.72	0.01	15.72	23	17.06	0.01	17.06
17 Jul	0.04	33	25.44	0.03	41.16	86	107.12	0.06	124.18
18 Jul	0.06	43	46.93	0.06	88.09	30 [b]	43.68	0.08	167.86
19 Jul	0.09	22	23.00	0.08	111.08	26	20.06	0.09	187.92
20 Jul	0.11	6	5.66	0.09	116.75	6	4.74	0.09	192.66
21 Jul	0.13	11	7.86	0.09	124.61	1 [b]	1.58	0.09	194.24
22 Jul	0.15	10	6.55	0.10	131.16	0	0.00	0.09	194.24
23 Jul	0.17	8	11.16	0.11	142.32	0	0.00	0.09	194.24
24 Jul	0.19	13	10.74	0.12	153.06	8	6.00	0.09	200.24
25 Jul	0.23	15	11.93	0.13	165.00	0 [b]	0.00	0.09	200.24
26 Jul	0.25	5	3.53	0.13	168.52	38	29.25	0.10	229.49
27 Jul	0.30	29	23.25	0.15	191.78	18	13.13	0.11	242.62
28 Jul	0.32	20	22.42	0.18	214.20	92	69.01	0.14	311.63
29 Jul	0.34	34	28.83	0.20	243.03	114	79.12	0.18	390.75
30 Jul	0.35	23	20.39	0.22	263.42	224	238.29	0.29	629.05
31 Jul	0.37	65	70.47	0.26	333.89	112	136.76	0.35	765.80
1 Aug	0.38	50	32.98	0.30	366.87	70	62.72	0.38	828.52
2 Aug	0.39	40	26.21	0.33	393.08	15 [b]	23.57	0.39	852.09
3 Aug	0.41	56	38.98	0.36	432.07	12 [c]	12.56	0.39	864.66
4 Aug	0.45	36	22.58	0.38	454.64	0 [b,d]	0.00	0.39	864.66
5 Aug	0.49	18	17.30	0.39	471.95	86	86.67	0.43	951.33
6 Aug	0.53	42	63.74	0.43	535.69	72	70.72	0.46	1,022.05
7 Aug	0.55	70	46.14	0.47	581.82	37 [b]	59.83	0.49	1,081.88
8 Aug	0.58	39	26.10	0.50	607.92	10	8.63	0.49	1,090.51
9 Aug	0.62	40	31.70	0.54	639.62	25	18.15	0.50	1,108.66
10 Aug	0.66	24	28.65	0.57	668.27	9	7.48	0.51	1,116.14
11 Aug	0.69	8	7.60	0.58	675.86	1 [b]	1.50	0.51	1,117.64
12 Aug	0.70	50	41.82	0.62	717.69	28	19.80	0.52	1,137.44
13 Aug	0.72	57	45.07	0.67	762.75	92	75.01	0.55	1,212.46
14 Aug	0.74	26	20.90	0.69	783.65	50 [b]	72.36	0.58	1,284.81
15 Aug	0.77	29	41.42	0.72	820.92	147	125.80	0.64	1,410.61
16 Aug	0.82	43	58.64	0.78	879.57	6	4.66	0.64	1,415.27
17 Aug	0.83	15	20.85	0.80	900.42	7	5.04	0.64	1,420.31
18 Aug	0.85	15	17.57	0.81	917.98	2	2.93	0.65	1,423.24
19 Aug	0.87	32	28.38	0.84	946.37	63	38.61	0.66	1,461.85
20 Aug	0.89	29	23.90	0.87	970.27	143 [e]	197.89	0.75	1,659.74
21 Aug	0.91	14	10.63	0.88	980.90	97 [b]	277.97	0.88	1,937.70
22 Aug	0.93	21	16.05	0.90	996.95	38	28.02	0.89	1,965.73
23 Aug	0.94	17	24.49	0.91	1,021.44	11	7.95	0.90	1,973.68
24 Aug	0.96	26	22.40	0.93	1,043.84	10	7.37	0.90	1,981.05
25 Aug	0.97	17	17.36	0.95	1,061.19	10 [b]	14.29	0.91	1,995.34
26 Aug	0.98	16	13.52	0.96	1,074.71	11	10.41	0.91	2,005.75
27 Aug	0.99	19	13.37	0.98	1,088.09	9	6.60	0.91	2,012.35
28 Aug	1.00	17	11.29	0.99	1,098.25	5 [b]	7.25	0.92	2,019.60
29 Aug	1.00	30	33.59	1.00	1,089.52	17	12.75	0.92	2,032.35
Total		1,260				1,861			

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Appendix B9.–Page 2 of 2.

Date	Historical Median Cumulative Percent [a]	Coho Salmon 2001 to 2010 Average Daily Catch	Daily Index	%	Cumulative Index [a]	2011 Daily Catch		Daily Index	%	Cumulative Index [a]
16 Jul	0.00	0	0.00	0.00	0.00	0		0.00	0.00	0.00
17 Jul	0.00	0	0.07	0.00	0.07	0		0.00	0.00	0.00
18 Jul	0.00	0	0.00	0.00	0.07	0	[b]	0.00	0.00	0.00
19 Jul	0.00	0	0.00	0.00	0.07	0		0.00	0.00	0.00
20 Jul	0.00	0	0.00	0.00	0.07	0		0.00	0.00	0.00
21 Jul	0.00	0	0.00	0.00	0.07	0	[b]	0.00	0.00	0.00
22 Jul	0.00	0	0.08	0.00	0.15	0		0.00	0.00	0.00
23 Jul	0.00	0	0.23	0.00	0.38	0		0.00	0.00	0.00
24 Jul	0.00	0	0.00	0.00	0.38	0		0.00	0.00	0.00
25 Jul	0.00	0	0.00	0.00	0.38	0	[b]	0.00	0.00	0.00
26 Jul	0.00	0	0.23	0.00	0.61	0		0.00	0.00	0.00
27 Jul	0.00	1	1.46	0.00	2.07	0		0.00	0.00	0.00
28 Jul	0.00	1	0.93	0.01	3.00	4		3.25	0.01	3.25
29 Jul	0.00	2	1.73	0.01	4.72	2		1.29	0.01	4.54
30 Jul	0.01	2	1.95	0.02	6.68	11		10.73	0.02	15.27
31 Jul	0.01	2	1.82	0.03	8.50	2		2.35	0.03	17.63
1 Aug	0.01	2	1.80	0.03	10.30	2		2.01	0.03	19.63
2 Aug	0.01	4	2.43	0.04	12.73	2	[b]	3.04	0.03	22.68
3 Aug	0.02	14	8.09	0.06	20.83	1	[c]	0.70	0.04	23.37
4 Aug	0.02	11	7.16	0.07	27.99	2	[b,d]	2.86	0.04	26.23
5 Aug	0.04	5	3.32	0.08	31.31	13		9.60	0.06	35.84
6 Aug	0.04	7	5.57	0.09	36.88	10		8.89	0.07	44.73
7 Aug	0.06	21	9.90	0.12	46.78	4	[b]	6.33	0.08	51.06
8 Aug	0.08	12	7.96	0.15	54.74	6		5.31	0.09	56.37
9 Aug	0.11	14	10.46	0.18	65.21	9		6.40	0.10	62.78
10 Aug	0.13	22	13.25	0.22	78.45	3		2.57	0.10	65.35
11 Aug	0.15	14	11.60	0.25	90.05	0	[b]	0.00	0.10	65.35
12 Aug	0.20	22	15.39	0.29	105.44	13		8.95	0.11	74.30
13 Aug	0.23	26	19.81	0.34	125.25	29		24.44	0.15	98.74
14 Aug	0.34	21	15.00	0.38	140.25	16	[b]	21.47	0.19	120.22
15 Aug	0.39	25	37.66	0.44	174.14	47		45.71	0.26	165.92
16 Aug	0.45	22	34.92	0.53	209.06	8		6.13	0.26	172.06
17 Aug	0.51	21	19.81	0.58	228.88	5		3.68	0.27	175.74
18 Aug	0.58	15	14.50	0.62	243.38	1		1.50	0.27	177.24
19 Aug	0.62	25	18.32	0.68	261.70	33		25.47	0.31	202.71
20 Aug	0.68	17	13.56	0.73	275.26	106	[e]	142.71	0.53	345.42
21 Aug	0.70	12	12.16	0.77	287.42	69	[b]	150.51	0.76	495.93
22 Aug	0.75	20	15.11	0.81	302.54	36		26.76	0.80	522.69
23 Aug	0.80	11	9.79	0.83	312.32	23		16.25	0.83	538.94
24 Aug	0.87	9	8.39	0.86	320.71	18		13.03	0.85	551.97
25 Aug	0.89	9	8.80	0.89	329.51	0	[b]	0.00	0.85	551.97
26 Aug	0.91	8	7.68	0.91	337.19	5		3.71	0.86	555.68
27 Aug	0.97	14	10.19	0.95	347.38	10		7.29	0.87	562.97
28 Aug	1.00	7	6.24	0.96	353.00	5	[b]	7.85	0.88	570.83
29 Aug	1.00	30	26.24	0.97	367.20	13		9.75	0.89	580.58
Total		448				508				

Note: Big Eddy and Middle Mouth sites combined, Lower Yukon River, 2011 to 2010 compared to 2011.

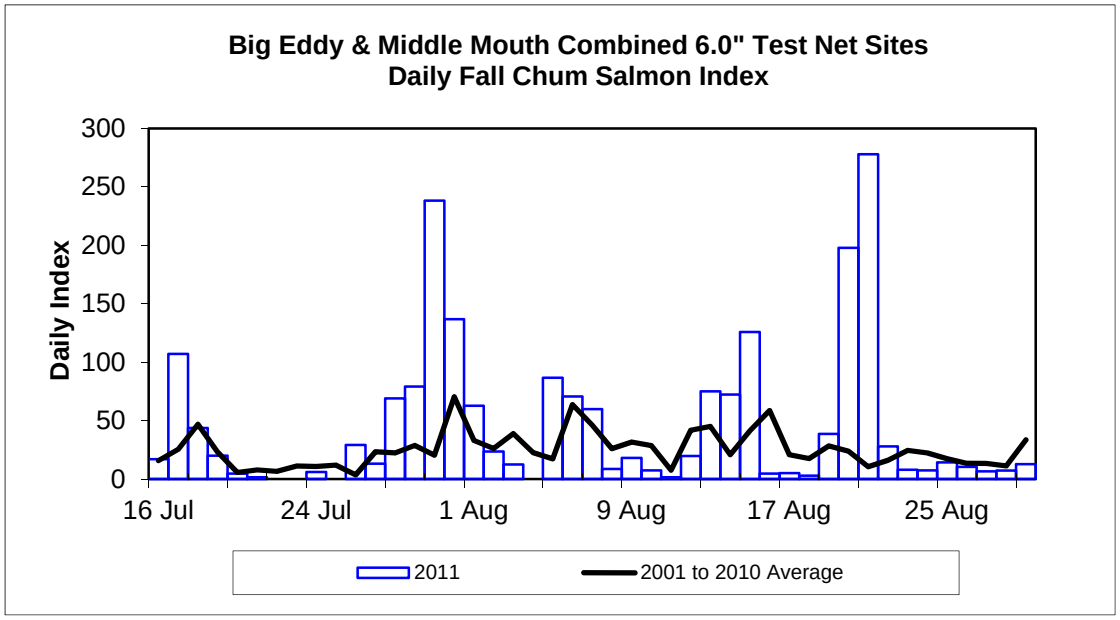
[a] Historical percent passage is based on the median from the set net test fishery 1980 to 1993 and 1995 to 2000. The box indicates the first to the third quartile of the cumulative catch per unit effort (CPUE). The median date of the cumulative CPUE is also highlighted.

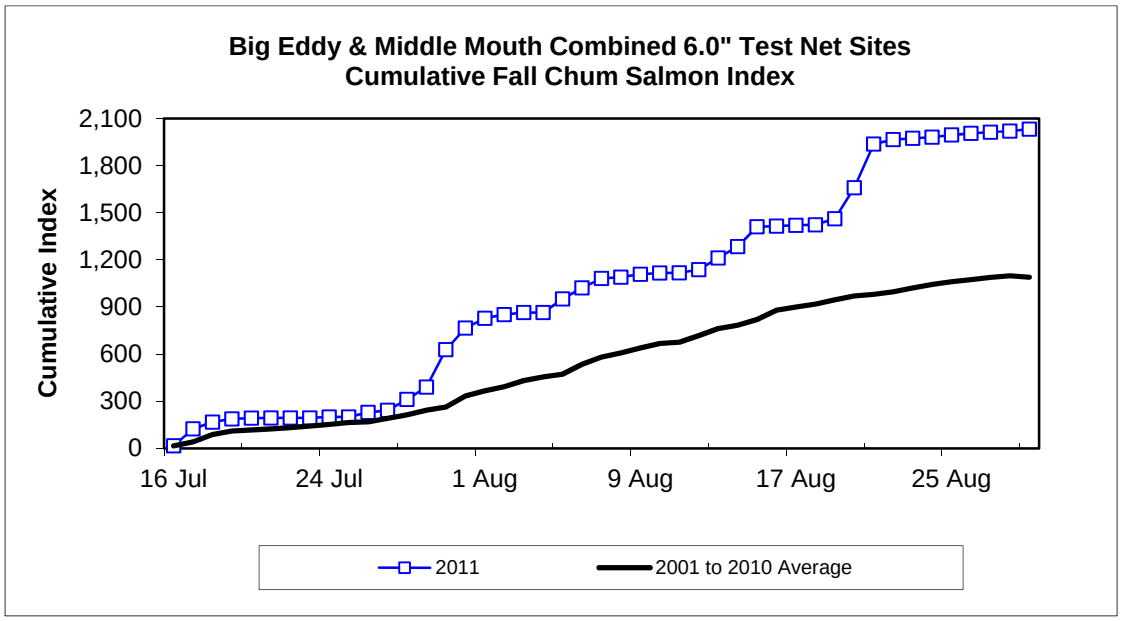
[b] Project did not operate due to inclement weather.

[c] Middle Mouth morning drifts cancelled due to hazardous weather.

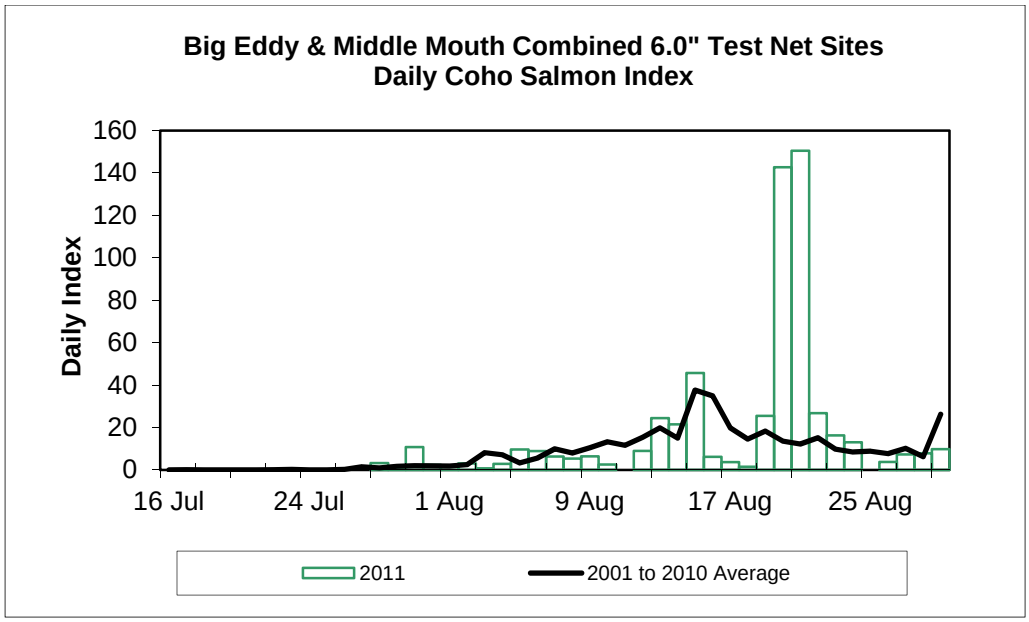
[d] Middle Mouth evening drifts cancelled due to hazardous weather.

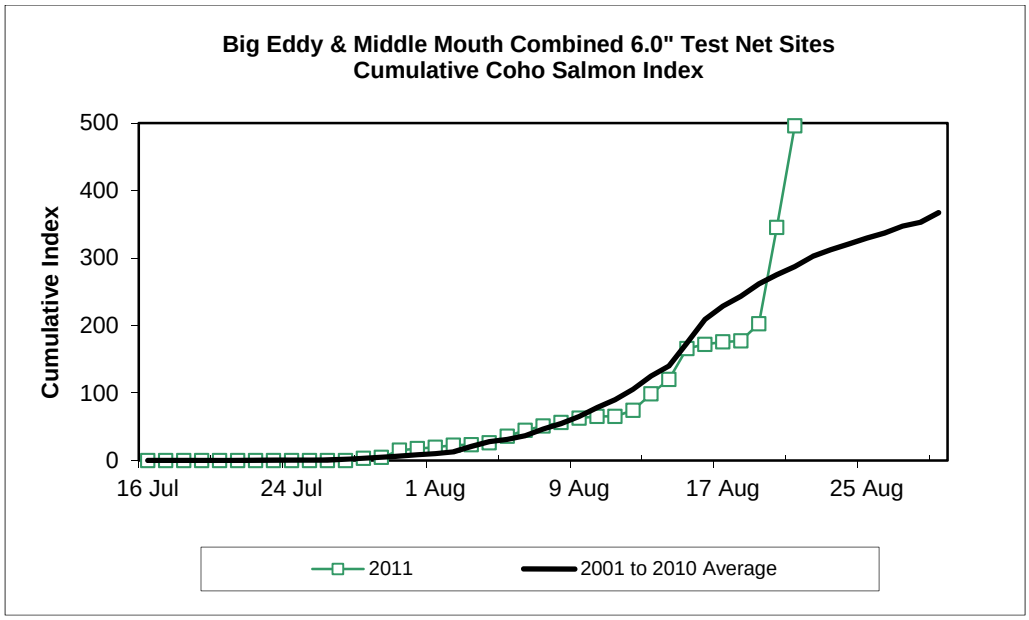
[e] Middle Mouth Site 2 evening drift cancelled by crew.





Appendix B10.–Fall chum salmon daily and cumulative catch per unit effort (CPUE) index, Big Eddy and Middle Mouth sites combined, cooperative drift net test fishery, Lower Yukon River, 2001 to 2010 compared to 2011.





Appendix B11.–Coho salmon daily and cumulative catch per unit effort (CPUE) index, Big Eddy and Middle Mouth sites combined, cooperative drift net test fishery, Lower Yukon River, 2001 to 2010 compared to 2011.

APPENDIX C: UPPER YUKON AREA SALMON

Appendix C1.–Commercial salmon sales and estimated harvest by statistical area, all gears combined, Upper Yukon Area, 2011.

BEACH SEINE, PURSE SEINE, SET GILLNET AND FISH WHEEL COMBINED[a]

Statistical Area	Number of Fishermen [b]	Chinook			Summer Chum			Fall Chum			Coho		
		Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest
334–42													
334–43													
334–44					NO COMMERCIAL FISHING								
334–45													
334–46							0						
334–47													
Subtotal District 4		0	0	0	0	0	0		0	0		0	0
334–51								–	–	–	–	–	–
334–52								1,246	–	1,246	0	–	–
334–53				NO COMMERCIAL FISHING				0	–	0		–	–
334–54								–	–	–	–	–	–
334–55								–	–	–	–	–	–
Subtotal District 5	2	0	0	0	0	0	0	1,246	0	1,246	0	0	0
334–61		0	0	0	0	0	0	0	0	0	0	0	0
334–62		0	0	0	4,964	0	4,964	9,267	0	9,267	6,784	0	6,784
334–63		0	0	0	3,687	0	3,687	0	0	0	0	0	0
Subtotal District 6	7	0	0	0	8,651	0	8,651	9,267	0	9,267	6,784	0	6,784
Total Upper Yukon Area	9	0	0	0	8,651	0	8,651	10,513	0	10,513	6,784	0	6,784

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] The estimated harvest is the number of fish sold in the round plus estimated number of females harvested to produce roe sold.

[b] The number of fishermen is the unique number of permits fished.

Appendix C2.–Commercial set gillnet salmon sales and estimated harvest by statistical area, Upper Yukon Area, 2011.

SET GILLNET[a]

Statistical Area	Number of Fishermen [b]	Chinook			Summer Chum			Fall Chum			Coho		
		Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest	Number	Roe	Estimated Harvest
334–42													
334–43													
334–44						NO COMMERCIAL FISHING							
334–45													
334–46													
334–47													
Subtotal District 4	0	0	0	0		0	0		0	0		0	0
334–51								–	–	–		–	–
334–52					0			0	–	0	0	–	–
334–53			NO COMMERCIAL FISHING				0	0	–	0		–	–
334–54								–	–	–		–	–
334–55								–	–	–		–	–
Subtotal District 5	0	0	0	0		0	0		0	0		0	0
334–61		0	0	0	0	0	0	0	0	0	0	0	0
334–62		0	0	0	0	0	0	0	0	0	0	0	0
334–63		0	0	0	0	0	0	0	0	0	0	0	0
Subtotal District 6	0	0	0	0		0	0		0	0		0	0
Total Upper Yukon Area	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] The estimated harvest is the number of fish sold in the round plus estimated number of females harvested to produce roe sold.

[b] The number of fishermen is the unique number of permits fished.

Appendix C3.–Commercial fish wheel salmon sales and estimated harvest by statistical area, Upper Yukon Area, 2011.

FISH WHEEL[a]

Statistical Area	Number of Fishermen[b]	Chinook Number	Chinook Roe	Chinook Estimated Harvest	Summer Chum Number	Summer Chum Roe	Summer Chum Estimated Harvest	Fall Chum Number	Fall Chum Roe	Fall Chum Estimated Harvest	Coho Number	Coho Roe	Coho Estimated Harvest
334–42													
334–43													
334–44						NO COMMERCIAL FISHING							
334–45													
334–46													
334–47													
Subtotal District 4	0	0	0	0		0	0		0	0		0	0
334–51								–	–	–	–	–	–
334–52					0			1,246	–	1,246	0 –	–	–
334–53				NO COMMERCIAL FISHING			0	0	–	0		–	–
334–54								–	–	–	–	–	–
334–55								–	–	–	–	–	–
Subtotal District 5	2	0	0	0		0	0	1,246	–	1,246		–	–
334–61		0	0	0	0	0	0	0	0	0	0	0	0
334–62		0	0	0	0 4,964	0	4,964	9,267	0	9,267	– 6,784	0	6,784
334–63			0	0	3,687	0	3,687	0	0	0	0	0	0
Subtotal District 6	7	0	0	0	8,651	0	8,651	9,267	0	9,267	6,784	0	6,784
Total Upper Yukon Area	9	0	0	0	8,651	0	8,651	10,513	0	10,513	6,784	0	6,784

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] The estimated harvest is the number of fish sold in the round plus estimated number of females harvested to produce roe sold.

[b] The number of fishermen is the unique number of permits fished.

Appendix C4.–Commercial Chinook salmon sales and estimated harvest by statistical area, Subdistrict 4-A, Upper Yukon Area, 1990 to 2011.

	334–44			334–45			334–46			Total		
Year [a]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]
1990	0	8	2	0	0	0	52	0	52	52	8	54
1991	0	67	35	0	7	4	69	88	114	69	162	153
1992	0	0	0	0	15	9	0	71	41	0	86	50
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	14	7	0	14	7
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	–	–	–	–	–	–	–	–	–	–	–	–
1998	–	–	–	–	–	–	–	–	–	–	–	–
1999	–	–	–	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	0	0	0	0	0	0
2003	–	–	–	–	–	–	–	–	–	–	–	–
2004	–	–	–	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–	–	–	–
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0
2011	–	–	–	–	–	–	–	–	–	–	–	–
2006–2010 Average	0	0	0	0	0	0	0	0	0	0	0	0
2001–2010 Average	0	0	0	0	0	0	0	0	0	0	0	0

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Prior to 1990, Subdistrict 4-A consisted of a single Statistical Area, 334-41. Beginning in 1990, Subdistrict 4-A was subdivided into Statistical Areas 334-44, 334-45 and 334-46.

[b] Harvest reported in numbers of fish sold in the round.

[c] Pounds of salmon roe sold. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[d] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Since 1990, the estimated number of females that produce the roe sold is based on a District 4 sampling program that estimated average roe weight per female by statistical area, by period and gear type.

Appendix C5.–Commercial Chinook salmon sales and estimated harvest by statistical area, Subdistricts 4-B and 4-C, Upper Yukon Area, 1990 to 2011.

	334–42			334–43			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	784	0	784	2,700	0	2,700	3,484	0	3,484
1991	916	386	1,113	1,461	1,674	2,316	2,377	2,060	3,429
1992	623	482	818	1,028	1,705	1,526	1,651	2,187	2,344
1993	190	279	269	1,159	422	1,308	1,349	701	1,577
1994	389	374	539	1,827	176	1,897	2,216	550	2,436
1995	262	30	262	0	596	237	262	626	499
1996	11	202	103	34	0	34	45	202	137
1997	326	14	333	1,124	0	1,124	1,450	14	1,457
1998	0	0	0	0	0	0	0	0	0
1999	233	0	233	1,204	0	1,204	1,437	0	1,437
2000	0	0	0	0	0	0	0	0	0
2001	–	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	0	0	0
2003	0	0	0	562	0	562	562	0	562
2004	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–
2008	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–
2006–2010 Average	–	–	–	–	–	–	–	–	–
2001–2010 Average	0	0	0	281	0	281	281	0	281

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Since 1990, the estimated number of females that produce the roe sold is based on a District 4 sampling program that estimated average roe weight per female by statistical area, by period and gear type.

Appendix C6.–Commercial Chinook salmon sales and estimated harvest by statistical area, Subdistricts 5-A, 5-B and 5-C, Upper Yukon Area, 1990 to 2011.

	334–51			334–52			334–53			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	0	0	0	1,630	47	1,642	1,180	0	1,180	2,810	47	2,822
1991	56	0	56	1,724	62	1,740	1,476	0	1,476	3,256	62	3,272
1992	0	0	0	1,276	7	1,279	2,119	0	2,119	3,395	7	3,398
1993	0	0	0	1,124	0	1,124	1,484	0	1,484	2,608	0	2,608
1994	0	0	0	1,648	10	1,653	1,641	0	1,641	3,289	10	3,294
1995	0	0	0	1,519	0	1,519	1,234	0	1,234	2,753	0	2,753
1996	0	0	0	898	455	1,216	1,151	63	1,183	2,049	518	2,399
1997	0	0	0	1,314	0	1,314	1,757	0	1,757	3,071	0	3,071
1998	0	0	0	279	0	279	196	0	196	475	0	475
1999	0	0	0	1,468	0	1,468	721	0	721	2,189	0	2,189
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	0	0	0	307	0	307	257	0	257	564	0	564
2003	0	0	0	711	0	711	197	0	197	908	0	908
2004	0	0	0	1,317	0	1,317	229	0	229	1,546	0	1,546
2005	0	0	0	1,297	0	1,297	172	0	172	1,469	0	1,469
2006	0	0	0	1,358	0	1,358	481	0	481	1,839	0	1,839
2007	0	0	0	1,064	0	1,064	177	0	177	1,241	0	1,241
2008	–	–	–	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–	–	–	–
2006–2010 Average	0	0	0	1,211	0	1,211	329	0	329	1,540	0	1,540
2001–2010 Average	0	0	0	1,009	0	1,009	252	0	252	1,261	0	1,261

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Since 1990, the estimated number of females that produce the roe sold is based on a District 4 sampling program that estimated average roe weight per female by statistical area, by period and gear type.

Appendix C7.–Commercial Chinook salmon sales and estimated harvest by statistical area, Subdistrict 5-D, Upper Yukon Area, 1990 to 2011.

	334–54			334–55			Total		
Year [a]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]
1990	194	0	194	349	0	349	543	0	543
1991	192	0	192	362	0	362	554	0	554
1992	0	0	0	457	0	457	457	0	457
1993	0	0	0	400	0	400	400	0	400
1994	0	0	0	450	0	450	450	0	450
1995	0	0	0	489	0	489	489	0	489
1996	58	0	58	390	0	390	448	0	448
1997	262	0	262	345	0	345	607	0	607
1998	11	0	11	31	0	31	42	0	42
1999	81	0	81	334	0	334	415	0	415
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	0	0	0	207	0	207	207	0	207
2003	0	0	0	226	0	226	226	0	226
2004	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–
2008	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–
2006–2010 Average	–	–	–	–	–	–	–	–	–
2001–2010 Average	0	0	0	217	0	217	217	0	217

Note: En dash indicates no commercial fishing activity occurred.

[a] Prior to 1990, Subdistrict 5-D consisted of a single Statistical Area, 334-54. Beginning in 1990, Subdistrict 5-D was subdivided into 2 Statistical Areas, 334-54 and 334-55.

[b] Harvest reported in numbers of fish sold in the round.

[c] Pounds of salmon roe sold. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[d] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Since 1990, the estimated number of females that produce the roe sold is based on a District 5 sampling program that estimated average roe weight per female by period.

Appendix C8.–Commercial Chinook salmon sales and estimated harvest by statistical area, District 6, Upper Yukon Area, 1990 to 2011.

	334-61			334-62			334-63			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	326	0	326	1,243	1,354	1,565	188	322	265	1,757	1,676	2,156
1991	117	0	117	450	1,365	791	119	180	164	686	1,545	1,072
1992	39	0	39	371	679	510	162	205	204	572	884	753
1993	57	0	57	810	1,213	1,116	246	100	272	1,113	1,313	1,445
1994	0	0	0	1,941	1,513	2,333	194	307	273	2,135	1,820	2,606
1995	0	110	26	1,418	3,783	2,287	242	838	434	1,660	4,731	2,747
1996	0	0	0	110	645	255	168	105	192	278	750	447
1997	38	0	38	1,662	2,816	2,334	266	395	356	1,966	3,211	2,728
1998	217	0	217	431	208	496	234	52	250	882	260	963
1999	0	0	0	269	734	462	133	362	228	402	1,096	690
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	0	0	0	732	896	962	104	0	104	836	896	1,066
2003	0	0	0	1,445	0	1,445	368	0	368	1,813	0	1,813
2004	0	0	0	1,542	0	1,542	515	0	515	2,057	0	2,057
2005	0	0	0	391	0	391	62	0	62	453	0	453
2006	0	0	0	0	0	0	84	0	84	84	0	84
2007	0	0	0	106	0	106	175	0	175	281	0	281
2008	–	–	–	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–	–	–	–
2006-2010 Average	0	0	0	53	0	53	130	0	130	183	0	183
2001-2010 Average	0	0	0	703	149	741	218	0	218	921	149	959

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Prior to 1990, Subdistrict 5-D consisted of a single Statistical Area, 334-54. Beginning in 1990, Subdistrict 5-D was subdivided into 2 Statistical Areas, 334-54 and 334-55.

[b] Pounds of salmon roe sold. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Since 1990, the estimated number of females that produce the roe sold is based on a District 6 sampling program that estimated average roe weight per female by period.

Appendix C9.–Commercial summer chum salmon sales and estimated harvest by statistical area, Subdistrict 4-A, Upper Yukon Area, 1990 to 2011.

		334-44					334-45				
			Roe Expansion					Roe Expansion			
Year [a]		Number [b]	Roe [c]	Males [d]	Females [e]	Estimated Harvest [f]	Number [b]	Roe [c]	Males [d]	Females [e]	Estimated Harvest [f]
1990	[i]	0	27,628	24,484	31,409	55,893	427	28,181	24,153	32,166	56,746
1991		88	39,281	37,164	47,574	84,826	79	43,087	42,445	53,401	95,925
1992		0	20,444	13,192	22,383	35,575	0	35,312	26,463	40,142	66,605
1993		0	6,234	4,308	7,334	11,642	0	6,081	4,246	7,230	11,476
1994	[f]	0	18,095	12,937	22,606	35,543	0	15,091	11,031	19,276	30,307
1995		0	37,595	37,575	46,084	83,659	0	49,577	49,149	56,667	105,816
1996		0	31,186	26,210	34,592	60,802	0	40,692	30,785	45,483	76,268
1997		0	14,188	10,905	15,118	26,023	0	526	342	570	912
1998		–	–	–	–	–	–	–	–	–	–
1999		–	–	–	–	–	–	–	–	–	–
2000		–	–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–	–
2006		–	–	–	–	–	–	–	–	–	–
2007	[g]	5,359	–	–	–	5,359	–	–	–	–	–
2008	[g]	–	–	–	–	–	–	–	–	–	–
2009	[g]	3,890	–	–	–	3,890	699	–	–	–	699
2010	[h]	–	–	–	–	–	–	–	–	–	–
2011		–	–	–	–	–	–	–	–	–	–
2006–2010 Average		4,625	–	–	–	4,625	699	–	–	–	699
2001–2010 Average		4,625	–	–	–	4,625	699	–	–	–	699

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Year [a]		334-46 Number [b]	334-46 Roe Expansion Roe [c]	334-46 Roe Expansion Males [d]	334-46 Roe Expansion Females [e]	334-46 Estimated Harvest [f]	Subtotal 334-44, 45 and 46 Number [b]	Subtotal 334-44, 45 and 46 Roe Expansion Roe [c]	Subtotal 334-44, 45 and 46 Roe Expansion Males [d]	Subtotal 334-44, 45 and 46 Roe Expansion Females [e]	Subtotal 334-44, 45 and 46 Estimated Harvest [f]
1990	[i]	10,750	39,732	29,490	44,742	84,982	11,177	95,541	78,127	108,317	197,621
1991		5,122	45,863	47,563	56,819	109,504	5,289	128,231	127,172	157,794	290,255
1992		0	43,945	32,502	49,489	81,991	0	99,701	72,158	112,013	184,171
1993		0	8,170	5,579	9,499	15,078	0	20,485	14,133	24,063	38,196
1994	[f]	0	29,615	28,825	37,119	65,944	0	62,801	52,794	79,000	131,794
1995		0	102,080	105,663	124,550	230,213	0	189,252	192,387	227,301	419,688
1996		0	109,172	98,926	120,942	219,868	0	181,050	155,921	201,017	356,938
1997		0	41,587	29,207	44,247	73,454	0	56,301	40,454	59,935	100,389
1998		–	–	–	–	–	–	–	–	–	–
1999		–	–	–	–	–	–	–	–	–	–
2000		–	–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–	–
2006		–	–	–	–	–	–	–	–	–	–
2007	[g]	1,945	–	–	–	1,945	7,304	–	–	–	7,304
2008	[g]	23,746	–	–	–	23,746	23,746	–	–	–	23,746
2009	[g]	–	–	–	–	–	4,589	–	–	–	4,589
2010	[h]	44,207	–	–	–	44,207	44,207	–	–	–	44,207
2011		–	–	–	–	–		–	–	–	–
2006–2010 Average											
2001–2010 Average		23,299		–	–	23,299	19,962	–	–	–	19,962

-continued-

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Year [a]		334-47 (Anvik River) Number [b]	Roe Expansion Roe [c]	Roe Expansion Females [e]	Estimated Harvest [f]	Total (Subdistrict 4-A and Anvik) Number [b]	Roe Expansion Roe [c]	Roe Expansion Males [d]	Roe Expansion Females [e]	Estimated Harvest [f]
1990	[i]	–	–	–	–	11,177	95,541	78,127	108,317	197,621
1991		–	–	–	–	5,289	128,231	127,172	157,794	290,255
1992		–	–	–	–	0	99,701	72,158	112,013	184,171
1993		–	–	–	–	0	20,485	14,133	24,063	38,196
1994	[f]	0	19,532	22,574	22,574	0	82,333	52,794	101,574	154,368
1995		0	48,477	54,744	54,744	0	237,729	192,387	282,045	474,432
1996		0	76,318	84,663	84,663	0	257,368	155,921	285,680	441,601
1997		0	13,067	13,548	13,548	0	69,368	40,454	73,483	113,937
1998		–	–	–	–	–	–	–	–	–
1999		–	–	–	–	–	–	–	–	–
2000		–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–
2006		–	–	–	–	–	–	–	–	–
2007	[g]	–	–	–	–	7,304	–	–	–	7,304
2008	[g]	–	–	–	–	23,746	–	–	–	23,746
2009	[g]	–	–	–	–	4,589	–	–	–	4,589
2010	[h]	–	–	–	–	44,207	–	–	–	44,207
2011		–	–	–	–	–	–	–	–	–
2006–2010 Average										
2001–2010 Average		–	–	–	–	19,962	–	–	–	19,962

-continued-

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Prior to 1990, Subdistrict 4-A consisted of a single Statistical Area, 334-41. Beginning in 1990, Subdistrict 4-A was subdivided into Statistical Areas 334-44, 334-45 and 334-46.

[b] Harvest reported in numbers of fish sold in the round.

[c] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[d] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Since 1990, the estimated number is based on a District 4 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

[e] The estimated number of females to produce the roe sold. Unless otherwise noted, prior to 1991, the roe expansion assumes 1.0 pound of roe per female. Since 1991, the estimated number of females that produce the roe sold is based on a District 4 sample roe weight per female by statistical area, by period and gear type.

[f] From 1990 to 2006 the estimated harvest is the number of fish sold in the round plus the estimated number of females and the estimated number of unsold males harvested to produce the roe sold. Beginning in 2007 the actual numbers of female fish from which roe were extracted are included in the total harvest. Males were recorded as caught but not sold, thus are accounted for in personal use totals.

[g] In 1994, Statistical Area 334-47 was included in Subdistrict 4-A and it represents the Anvik River management area.

[h] The number of female fish from which roe were extracted is the number harvested. Males were not purchased and accounted for as caught but not sold are included in personal use totals. Roe information is included in Zephyr as both numbers of fish and pounds of roe were recorded on fish tickets.

[i] Both males and females were purchased and are included in the number harvested.

Appendix C10.–Commercial summer chum salmon sales and estimated harvest by statistical area, Subdistricts 4-B and 4-C, Upper Yukon Area, 1990–2011.

	334-42				334-43				Total				
	Roe Expansion				Roe Expansion				Roe Expansion				
Year	Number [a]	Roe [b]	Females [c]	Harvest [d]	Number [a]	Roe [b]	Females [c]	Harvest [d]	Number [a]	Roe [b]	Females [c]	Males [d]	Harvest [e]
1990	1,091	6,600	7,799	8,890	96	3,582	4,434	4,530	1,187	10,182	12,233	11,509	24,929
1991	1,092	8,282	8,996	10,088	0	719	781	781	1,092	9,001	9,777	8,520	19,389
1992	1,363	9,010	9,616	10,979	1,296	2,098	2,902	4,198	2,659	11,108	12,518	12,048	27,225
1993	0	1,851	2,134	4,445	27	111	140	316	27	1,962	2,274	2,460	4,761
1994	2,844	6,455		14,803	767	929		2,436	3,611	7,384			17,239
1995	8,873	39,699		73,570	0	3,646		6,585	8,873	43,345			80,155
1996	0	36,927	39,156	67,012	0	895	939	1,627	0	37,822	40,095	28,544	68,639
1997	1,942	4,786	5,199	10,484	120	77	81	250	2,062	4,863	5,280	5,454	12,796
1998	–	–	–	–	–	–	–	–	–	–	–	–	–
1999	153	0	0	153	1,114	0	0	1,114	1,267	0	0	0	1,267
2000	–	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	62	0	0	62	62	0	0	0	62
2004	–	–	–	–	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–	–	–	–	–
2008	–	–	–	–	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–	–	–	–	–
2006–2010 Average	–	–	–	–	–	–	–	–	–	–	–	–	–
2001–2010 Average	0	0	0	0	31	0	0	31	31	0	0	0	31

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Since 1990, the estimated number is based on a District 4 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

[d] Estimated number of males caught but not sold. Total males caught but not sold calculated the same as for District 4-A (using sex ratio and sales in the round assumed to be male chum salmon).

[e] The total estimated harvest is the fish sold in the round plus estimated number of females harvested to produce roe sold plus the estimated number of males caught but not sold.

Appendix C11.–Commercial summer chum salmon sales and estimated harvest by statistical area, Subdistricts 5-A, 5-B and 5-C, Upper Yukon Area, 1990 to 2011.

	334-51			334-52			334-53			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	0	0	0	0	225	250	5	350	394	5	575	644
1991	0	0	0	0	28	31	4	0	4	4	28	35
1992	0	0	0	30	295	358	72	0	72	102	295	430
1993	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	133	212	368	96	0	96	229	212	464
1995	0	0	0	0	188	209	107	0	107	107	188	316
1996	0	0	0	0	0	0	0	188	209	0	188	209
1997	0	0	0	0	0	0	125	0	125	125	0	125
1998	0	0	0	37	13	51	59	0	59	96	13	110
1999	0	0	0	74	0	74	40	0	40	114	0	114
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	0	0	0	6	0	6	6	0	6
2003	–	–	–	0	0	0	0	0	0	0	0	0
2004	–	–	–	3	0	3	22	0	22	25	0	25
2005	–	–	–	0	0	0	0	0	0	0	0	0
2006	–	–	–	20	0	0	0	0	0	20	0	0
2007	–	–	–	0	0	0	0	0	0	0	0	0
2008	–	–	–	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–	–	–	–
2006–2010 Average	–	–	–	10	0	0	0	0	0	10	0	0
2001–2010 Average	–	–	–	4	0	1	5	0	5	9	0	5

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

Appendix C12.–Commercial summer chum salmon sales and estimated harvest by statistical area, Subdistrict 5-D, Upper Yukon Area, 1990 to 2011.

	334-54			334-55			Total		
Year [a]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]
1990	6	19	27	0	0	0	6	19	27
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	114	127	0	0	0	0	114	127
1997	12	0	12	0	0	0	12	0	12
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	1	0	1	1	0	1
2000	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0
2004	–	–	–	–	–	–	–	–	–
2005	–	–	–	–	–	–	–	–	–
2006	–	–	–	–	–	–	–	–	–
2007	–	–	–	–	–	–	–	–	–
2008	–	–	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–	–	–
2006–2010 Average	–	–	–	–	–	–	–	–	–
2001–2010 Average	0	0	0	0	0	0	0	0	0

Note: En dash indicates no commercial fishing activity occurred.

[a] Prior to 1990, Subdistrict 5-D consisted of a single Statistical Area, 334-54. Beginning in 1990, Subdistrict 5-D was subdivided into 2 Statistical Areas, 334-54 and 334-55.

[b] Harvest reported in numbers of fish sold in the round.

[c] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[d] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

Appendix C13.–Commercial summer chum salmon sales and estimated harvest by statistical area, District 6, Upper Yukon Area, 1990 to 2011.

	334-61			334-62			334-63			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	2,862	12	2,877	6,028	1,637	8,011	2,237 [d]	1,410	3,945	11,127 [d]	3,059	14,833
1991	4,742	0	4,742	10,100	2,653	13,304	3,355	2,063	5,846	18,197	4,716	23,892
1992	1,327	0	1,327	3,446	1,684	5,409	256	208	492	5,029	1,892	7,228
1993	1,156	0	1,156	1,603	315	2,009	282	200	540	3,041	515	3,705
1994	5,114	0	5,114	13,805	5,643	21,182	2,289	2,185	5,138	21,208	7,828	31,434
1995	5,894	0	5,894	16,020	6,731	25,112	2,797	2,744	6,422	24,711	9,475	37,428
1996	3,194	0	3,194	12,632	13,139	30,206	6,534	5,193	13,490	22,360	18,332	46,890
1997	3,162	0	3,162	9,168	6,525	16,709	2,556	2,511	5,416	14,886	9,036	25,287
1998	56	0	56	202	109	337	139	31	177	397	140	570
1999	0	0	0	102	0	102	22	24	46	124	24	148
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	2,711	16	2,731	487	0	487	3,198	16	3,218
2003	–	–	–	3,953	0	3,953	508	0	508	4,461	0	4,461
2004	–	–	–	2,447	0	2,447	4,163	0	4,163	6,610	0	6,610
2005	–	–	–	5,404	0	5,404	3,582	0	3,582	8,986	0	8,986
2006	–	–	–	37,758	0	37,758	6,863	0	6,863	44,621	0	44,621
2007	–	–	–	10,627	0	10,627	4,047	0	4,047	14,674	0	14,674
2008	–	–	–	1,194	0	1,194	648	4	652	1,842	4	1,846
2009	590	0	590	4,979	0	4,979	2,208	0	2,208	7,777	0	7,777
2010	–	–	–	5,466	0	5,466	0	0	0	5,466	0	5,466
2011	–	–	–	4,964	0	4,964	3,687	0	3,687	8,651	0	8,651
2006–2010 Average	590	0	590	12,005	0	12,005	2,753	1	2,754	14,876	1	14,877
2001–2010 Average	590	0	590	8,282	2	8,284	2,501	0	2,501	10,848	2	10,851

Note: Endash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

[d] Does not include 1,233 female summer chum salmon sold with roe extracted and roe sold separately. Females are accounted for in the roe expansion.

Appendix C14.–Commercial fall chum salmon sales and estimated harvest by statistical area, District 4, Upper Yukon Area, 1990 to 2011.

	334-41 [a]			334-42			334-43			Total		
Year	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]	Number [b]	Roe [c]	Harvest [d]
1990				3,406	1,680	5,676	1,583	671	2,490	4,989	2,351	8,166
1991				2,998	490	3,718	739	1,126	2,373	3,737	1,616	6,091
1992				–	–	–	–	_	–	–	–	–
1993				–	–	–	–	_	–	–	–	–
1994				–	–	–	–	_	–	–	–	–
1995				2,924	225	3,249	0	3,901	5,482	2,924	4,126	8,731
1996				2,918	0	2,918	0	0	0	2,918	0	2,918
1997				463	0	463	1,995	0	1,995	2,458	0	2,458
1998				–	–	–	–	_	–	–	–	–
1999				104	0	104	577	0	577	681	0	681
2000				–	–	–	–	_	–	–	–	–
2001	–	_	_	–	–	–	–	_	–	–	–	–
2002	–	_	_	–	–	–	–	_	–	–	–	–
2003	–	_	_	–	–	–	1,315	0	1,315	1,315	0	1,315
2004	–	_	_	–	–	–	–	_	–	–	–	–
2005	–	_	_	–	–	–	–	_	–	–	–	–
2006	–	_	_	–	–	–	–	_	–	–	–	–
2007	–	_	_	–	–	–	–	_	–	–	–	–
2008	–	_	_	–	–	–	–	_	–	–	–	–
2009	–	_	_	–	–	–	–	_	–	–	–	–
2010	–	_	_	–	–	–	–	_	–	–	–	–
2011	–	_	_	–	–	–	–	_	–	–	–	–
2006–2010 Average	_	_	_	–	–	–	–	_	–	–	–	–
2001–2010 Average	_	–	–	–	–	–	1,315	0	1,315	1,315	0	1,315

-continued-

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] In Subdistrict 4-A (Statistical Area 334-41), from 1977 to 2001, commercial fishing, by regulation, was not allowed during fall season. Additionally, in 1990, Subdistrict 4-A (Statistical Area 334-41) was subdivided into Statistical Areas 334-44, 334-45 and 334-46. Because this is the same area and because no harvest has occurred in Subdistrict 4-A, all data is recorded under 334-41.

[b] Harvest reported in numbers of fish sold in the round.

[c] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[d] The estimated harvest is the fish sold in the round plus the estimated number of females to produce the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number of females that produce the roe sold is based on a District 4 sampling program that estimated average roe weight per female by period, by statistical area and gear type.

Appendix C15.–Commercial fall chum salmon sales and estimated harvest by statistical area, Subdistricts 5-A, 5-B and 5-C, Upper Yukon Area, 1990 to 2011.

	334-51			334-52			334-53			Unapportioned		Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	0	0	0	5,169	945	6,243	0	0	0	0	0	5,169	945	6,243
1991	0	0	0	14,968	3,625	19,727	9,173	0	9,173	0	0	24,141	3,625	28,900
1992	–	_	_	_	–	–	–	–	–	_	0	0	0	–
1993	–	_	_	_	–	–	–	–	–	_	0	0	0	–
1994	–	_	_	_	–	–	–	–	–	_	1	0	0	–
1995	0	2,513	3,159	1,785	13,091	18,397	4,014	389	4,498	0	0	5,799	15,993	26,054
1996	0	181	208	5,898	8,317	15,670	1,583	0	1,583	0	0	7,481	8,498	17,461
1997	0	0	0	1,595	1,194	3,069	0	0	0	0	0	1,595	1,194	3,069
1998	–	_	_	_	–	–	–	–	–	_	–	–	–	–
1999	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2000	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2001	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2002	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2003	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2004	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2005	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2006	–	_	_	_	–	–	1,667	–	1,667	_	–	1,667	0	1,667
2007	–	_	_	385	–	385	42	–	42	_	–	427	0	427
2008	–	_	_	4,556	–	4,556	–	–	–	_	–	4,556	0	4,556
2009	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2010	–	_	_	_	–	–	–	–	–	_	–	–	–	–
2011	–	_	_	1,246	–	1,246	–	–	–	_	–	1,246	0	1,246
2006–2010 Average	_	_	_	2,471	–	2,471	855	–	855	_	–	2,217	0	2,217
2001–2010 Average	–	–	–	2,471	–	2,471	855	–	855	–	–	2,217	0	2,217

-continued-

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

Appendix C16.–Commercial fall chum salmon sales and estimated harvest by statistical area, Subdistrict 5-D, Upper Yukon Area, 1990 to 2011.

Year		334-54 Number [a]	334-54 Roe [b]	334-54 Harvest [c]	334-55 Number [a]	334-55 Roe [b]	334-55 Harvest [c]	Total Number [a]	Total Roe [b]	Total Harvest [c]
1990	[d]	1,758	113	1,882	851	0	851	2,609	113	2,733
1991		1,846	0	1,846	1,368	0	1,368	3,214	0	3,214
1992		–	–	–	–	–	–	–	–	–
1993		–	–	–	–	–	–	–	–	–
1994		–	–	–	3,630	0	3,630	3,630	0	3,630
1995	[e]		0	0	3,979	2,823	3,979	3,979	2,823	3,979
1996		890	0	890	3,507	0	3,507	4,397	0	4,397
1997		40	0	40	811	0	811	851	0	851
1998		–	–	–	–	–	–	–	–	–
1999		–	–	–	–	–	–	–	–	–
2000		–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–
2002	0	–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	–	–	–	–
2004		–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–
2006		–	–	–	–	–	–	–	–	–
2007		–	–	–	–	–	–	–	–	–
2008		–	–	–	–	–	–	–	–	–
2009		–	–	–	–	–	–	–	–	–
2010		–	–	–	–	–	–	–	–	–
2011		–	–	–	–	–	–	–	–	–
2006–2010 Average		–	–	–	–	–	–	–	–	–
2001–2010 Average		–	–	–	–	–	–	–	–	–

-continued-

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

[d] In 1981, Subdistrict 5-A (Statistical Area 334-51) and Subdistrict 5-B (Statistical Area 334-52) was subdivided to include 2 additional subdistricts. In 1990, Subdistrict 5-D (Statistical Area 334-54) was subdivided into 2 statistical areas (Statistical Areas 334-54 and 334-55).

[e] Estimated harvest equals fish sold in round. The roe came from fish sold in the round, therefore, not included in estimated harvest to avoid duplicate counting.

Appendix C17.–Commercial fall chum salmon sales and estimated harvest by statistical area, District 6, Upper Yukon Area, 1990 to 2011.

	334–61			334–62			334–63			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]	Number [a]	Roe [b]	Harvest [c]
1990	9,254	0	9,254	28,932	6,617	35,776	4,996	918	5,945	43,182	7,535	50,975
1991	3,278	0	3,278	21,834	12,253	35,904	3,083	1,901	5,266	28,195	14,154	44,448
1992	–	–	–	13,713	1,816	15,852	2,008	990	3,170	15,721	2,806	19,022
1993	–	–	–	–	–	–	–	–	–	–	–	–
1994	–	–	–	0	4,319	4,319	1	49	50	1	4,368	4,369
1995	6,170	–	6,170	60,466	8,164	65,051	1,219	1,396	2,896	67,855	9,560	74,117
1996	663	236	934	8,491	4,906	14,332	1,112	1,031	2,308	10,266	6,173	17,574
1997	–	–	–	–	–	–	–	–	–	–	–	–
1998	–	–	–	–	–	–	–	–	–	–	–	–
1999	–	–	–	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
2003	–	–	–	3,778	0	3,778	317	0	317	4,095	0	4,095
2004	–	–	–	3,450	0	3,450	–	–	–	3,450	0	3,450
2005	–	–	–	49,637	0	49,637	–	–	–	49,637	0	49,637
2006	–	–	–	23,353	0	23,353	–	–	–	23,353	0	23,353
2007	–	–	–	15,572	0	15,572	–	–	–	15,572	0	15,572
2008	4,029	0	4,029	1,706	0	1,706	232	0	232	5,967	0	5,967
2009	–	–	–	1,893	0	1,893	–	–	–	1,893	0	1,893
2010	–	–	–	1,735	0	1,735	–	–	–	1,735	0	1,735
2011	–	–	–	9,267	0	9,267	–	–	–	9,267	0	9,267
2006–2010 Average	4,029	0	4,029	8,852	0	8,852	232	0	232	9,704	0	9,704
2001–2010 Average	4,029	0	4,029	12,641	0	12,641	275	0	275	13,213	0	13,213

-continued-

Note: En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

Appendix C18.–Commercial coho salmon sales and estimated harvest by statistical area, District 4, Upper Yukon Area, 1990 to 2011.

Year	334–41			334–42			334–43			Total		
	Number [a]	Roe [b]	Harvest [c]	Number	Roe	Harvest	Number	Roe	Harvest	Number	Roe	Harvest
1990				–	–	–	–	–	–	–	–	–
1991				11	0	11	3	0	3	14	0	14
1992				–	–	–	–	–	–	–	–	–
1993				–	–	–	–	–	–	–	–	–
1994				–	–	–	–	–	–	–	–	–
1995				–	–	–	–	–	–	–	–	–
1996				161	0	161	0	0	0	161	0	161
1997				19	0	19	795	0	795	814	0	814
1998				–	–	–	–	–	–	–	–	–
1999				–	–	–	–	–	–	–	–	–
2000				–	–	–	–	–	–	–	–	–
2001		–	–	–	–	–	–	–	–	–	–	–
2002		–	–	–	–	–	–	–	–	–	–	–
2003		–	–	–	–	–	367	0	367	367	0	367
2004		–	–	–	–	–	–	–	–	–	–	–
2005		–	–	–	–	–	–	–	–	–	–	–
2006 [d]		0	0	0	–	–	–	–	–	–	–	–
2007		–	–	–	–	–	–	–	–	–	–	–
2008		–	–	–	–	–	–	–	–	–	–	–
2009		–	–	–	–	–	–	–	–	–	–	–
2010		–	–	–	–	–	–	–	–	–	–	–
2011		–	–	–	–	–	–	–	–	–	–	–
2006–2010 Average		–	–	–	–	–	–	–	–	–	–	–
2001–2010 Average		–	–	–	–	–	367	0	367	367	0	367

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

[d] Commercial periods were open, however no harvest took place.

Appendix C19.–Commercial coho salmon sales and estimated harvest by statistical area, District 6, Upper Yukon Area, 1990 to 2011.

	334–61			334–62			334–63			Total		
Year	Number [a]	Roe [b]	Harvest [c]	Number	Roe	Harvest	Number	Roe	Harvest	Number	Roe	Harvest
1990	3,173	0	3,173	7,096	3,559	9,951	1,280	483	1,680	11,549	4,042	14,804
1991	0	0	0	4,572	3,737	7,620	1,696	562	2,154	6,268	4,299	9,774
1992	–	_	_	5,731	1,267	6,800	825	413	1,179	6,556	1,680	7,979
1993	–	_	_	_	_	_	_	_	_	_	_	_
1994	–	_	_	0	5,398	4,184	120	190	267	120	5,588	4,451
1995	1,475	0	1,475	4,209	2,072	5,156	142	157	269	5,826	2,229	6,900
1996	182	0	182	3,403	4,571	6,557	218	258	403	3,803	4,829	7,142
1997	–	_	_	_	_	_	_	_	_	_	_	_
1998	–	_	_	_	_	_	_	_	_	_	_	_
1999	–	_	_	_	_	_	_	_	_	_	_	_
2000	–	_	_	_	_	_	_	_	_	_	_	_
2001	–	_	_	_	_	_	_	_	_	_	_	_
2002	–	_	_	_	_	_	_	_	_	_	_	_
2003	–	_	_	14,984	0	14,984	135	0	135	15,119	0	15,119
2004	–	_	_	18,649	0	18,649	0	0	0	18,649	0	18,649
2005	–	_	_	21,778	0	21,778	0	0	0	21,778	0	21,778
2006	–	_	_	11,137	0	11,137	_	_	_	11,137	0	11,137
2007	–	_	_	1,368	0	1,368	_	_	_	1,368	0	1,368
2008	2,160	0	2,160	248	0	248	0	0	0	2,408	0	2,408
2009	–	_	_	742	0	742	_	_	_	742	0	742
2010	–	_	_	1,700	0	1,700	_	_	_	1,700	0	1,700
2011	–	_	_	6,784	0	6,784	_	_	_	6,784	0	6,784
2006–2010 Average	2,160	0	2,160	3,039	0	3,039	0	0	0	3,471	0	3,471
2001–2010 Average	2,160	0	2,160	8,826	0	8,826	34	0	34	9,113	0	9,113

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Harvest reported in numbers of fish sold in the round.

[b] Pounds of salmon roe sold. Prior to 1990, roe production may include small amounts of Chinook salmon roe. Since 1990, efforts were made to separate Chinook salmon roe from the summer chum salmon roe sold.

[c] The estimated number of unsold males that were caught and not sold while harvesting the females that produced the roe sold. Prior to 1990, the roe expansion assumed 1.0 pound of roe per female. Since 1990, the estimated number is based on a District 5 sampling program that estimated average percent males in the harvest by statistical area, by period and gear type.

Appendix C20.–Summary of test fish wheel projects conducted in the Upper Yukon Area, 2011.

TEST FISH WHEEL PROJECTS	CONTRACTOR/ Operator	River Mile [b]	Operational Dates			Total Days of Operation	Estimated Total Salmon Captured [a]				Historical Data / Comments
							Chinook	Summer Chum	Fall Chum	Coho	
YUKON RIVER											
Tanana Village											
Left Bank	Pat Moore	690	8/11	to	9/30	50	5	-	17,390	5,945	Wheel uses 24 hour video counts.
Yukon River (Rapids)											
Left Bank [c]	Stan Zuray	731	6/14	to	9/22	100	2,872	2,808	21,801	-	Wheel uses 24 hour video counts.
TANANA RIVER											
Nenana	ADF&G										
Right Bank	Jack Duyck	859	7/3	to	8/5	33	465	2,093	–	–	Project started in 1988 for CPUE.
			8/16	to	9/28	43	–	–	4,793	2,993	Video counts since 2003.

[a] Unless otherwise noted, fish wheel catch are adjusted to estimate total catch per day (i.e., less than or greater than 24 hour catches adjusted to reflect a 24 hour catch).

[b] Estimated river miles from the mouth of the Yukon River.

[c] Estimated summer chum salmon totals include all chum salmon caught through July 30.

APPENDIX D: YUKON RIVER SALMON SUBSISTENCE AND PERSONAL USE

Appendix D1.–Chinook salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, Yukon Area, 2001–2011.

Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Hooper Bay	2,150	282	722	1,042	157	376	430	388	183	584	252	871	392
Scammon Bay	732	840	1,128	996	691	507	768	1,104	722	716	517	877	763
Coastal District Total	2,882	1,122	1,850	2,038	848	883	1,198	1,492	905	1,300	769	1,748	1,156
Nunam Iqua	550	393	925	647	338	371	907	163	200	404	250	571	409
Alakanuk	973	1,773	1,707	1,317	860	690	1,257	1,238	634	944	1,464	1,326	953
Emmonak	2,473	1,751	2,763	2,768	1,730	2,311	2,326	2,696	1,634	2,194	2,172	2,297	2,232
Kotlik	3,093	1,686	937	1,148	2,130	1,750	1,569	2,066	1,657	2,314	2,369	1,799	1,871
District 1 Subtotal	*7,089*	*5,603*	*6,332*	*5,880*	*5,058*	*5,122*	*6,059*	*6,163*	*4,125*	*5,856*	*6,255*	*5,992*	*5,465*
Mountain Village	1,864	1,523	2,174	2,362	2,383	1,659	2,077	1,645	1,482	1,601	2,063	2,061	1,693
Pitkas Point	651	566	633	609	618	274	320	544	265	580	246	615	397
St. Mary's	3,815	2,045	1,916	2,357	2,693	2,233	3,573	1,756	1,929	2,800	1,734	2,565	2,458
Pilot Station	2,614	2,530	2,886	2,406	1,658	1,976	2,028	1,597	1,258	1,585	1,340	2,419	1,689
Marshall	4,498	2,290	2,059	1,990	1,804	1,897	2,555	3,284	1,201	2,110	2,686	2,528	2,209
District 2 Subtotal	*13,442*	*8,954*	*9,668*	*9,724*	*9,156*	*8,039*	*10,553*	*8,826*	*6,135*	*8,676*	*8,069*	*10,189*	*8,446*
Russian Mission	3,428	1,887	2,057	2,337	1,894	1,851	1,301	2,949	978	924	1,550	2,321	1,601
Holy Cross	2,711	1,813	2,395	1,993	2,817	3,165	2,902	2,509	1,745	3,098	2,231	2,346	2,684
Shageluk	222	439	550	418	420	358	448	397	201	277	353	410	336
District 3 Subtotal	*6,361*	*4,139*	*5,002*	*4,748*	*5,131*	*5,374*	*4,651*	*5,855*	*2,924*	*4,299*	*4,134*	*5,076*	*4,621*
Lower Yukon River Total	26,892	18,696	21,002	20,352	19,345	18,535	21,263	20,844	13,184	18,831	18,458	21,257	18,531
Anvik	608	708	1,286	1,588	1,206	958	1,321	1,433	796	1,069	1,052	1,079	1,115
Grayling	1,077	2,249	1,613	1,869	1,878	1,702	1,500	1,761	1,133	2,122	1,374	1,737	1,644
Kaltag	1,506	1,435	1,838	1,656	3,367	2,833	1,456	2,403	1,970	3,191	2,488	1,960	2,371
Nulato	2,127	1,773	2,531	5,199	2,749	2,707	2,431	1,250	1,551	2,989	1,538	2,876	2,186
Koyukuk	449	323	860	400	396	835	811	513	982	867	1,349	486	802
Galena	1,755	1,522	3,112	3,296	2,864	2,380	2,511	2,232	1,370	1,357	1,434	2,510	1,970
Ruby/Kokrines	2,033	954	631	1,620	1,193	304	1,594	637	542	1,102	482	1,286	836
District 4 Subtotal	*9,555*	*8,964*	*11,871*	*15,628*	*13,653*	*11,719*	*11,624*	*10,229*	*8,344*	*12,697*	*9,717*	*11,934*	*10,923*
Huslia	377	222	469	285	207	258	146	255	969	65	121	312	339
Hughes	144	67	113	291	33	8	8	61	101	63	10	130	48
Allakaket	76	200	306	65	68	23	53	58	90	63	42	143	57
Alatna	0	3	12	0	0	14	0	16	10	0	3	3	8
Bettles	0	0	0	0	3	0	0	0	0	0	0	1	0
Koyukuk River Subtotal	*597*	*492*	*900*	*641*	*311*	*303*	*207*	*390*	*1,170*	*191*	*176*	*588*	*452*
District 4 Total (Incl. Koyukuk R.)	*10,152*	*9,456*	*12,771*	*16,269*	*13,964*	*12,022*	*11,831*	*10,619*	*9,514*	*12,888*	*9,893*	*12,522*	*11,375*

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Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Tanana	4,112	2,379	5,332	2,689	3,729	3,794	5,498	3,981	2,950	3,215	2,936	3,648	3,888
Rampart [a]	1,857	852	1,411	287	411	429	250	136	528	262	201	964	321
Fairbanks [b]	1,125	1,767	1,932	1,997	2,584	2,184	2,510	1,898	1,509	1,670	2,186	1,881	1,954
Stevens Village	1,111	1,334	1,121	2,394	1,570	1,245	610	753	405	469	415	1,506	696
Birch Creek	0	67	78	82	131	174	113	32	15	73	49	72	81
Beaver	1,368	702	1,156	858	957	830	1,244	546	516	198	356	1,008	667
Fort Yukon	2,361	2,348	4,004	4,430	3,591	3,144	4,076	1,991	846	1,683	2,472	3,347	2,348
Circle	447	1,533	895	565	1,283	694	1,057	519	372	324	297	945	593
Central	84	58	144	83	175	130	334	48	167	90	66	109	154
Eagle	1,033	1,910	2,081	1,512	2,566	2,303	1,999	1,068	446	867	728	1,820	1,337
Other [c]	40	348	862	357	315	330	472	362	541	779	777	384	497
District 5 Subtotal (Excluding Chandalar and Black Rivers)	*13,538*	*13,298*	*19,016*	*15,254*	*17,312*	*15,257*	*18,163*	*11,334*	*8,295*	*9,630*	*10,483*	*15,684*	*12,536*
Venetie	28	77	125	352	59	667	1,002	292	622	767	10	128	670
Chalkyitsik	0	26	50	60	53	0	0	0	0	0	0	38	0
Chandalar/Black River Subtotal	*28*	*103*	*175*	*412*	*112*	*667*	*1,002*	*292*	*622*	*767*	*10*	*166*	*670*
District 5 Total	*13,566*	*13,401*	*19,191*	*15,666*	*17,424*	*15,924*	*19,165*	*11,626*	*8,917*	*10,397*	*10,493*	*15,850*	*13,206*
Manley	534	336	213	239	289	361	333	106	345	337	287	322	296
Minto	197	19	317	35	35	31	82	12	0	43	61	121	34
Nenana	1,405	509	1,193	633	533	712	893	322	458	658	681	855	609
Fairbanks [d]	191	159	392	449	971	125	409	108	396	91	330	432	226
Other [e]	0	44	30	32	0	0	0	57	86	14	8	21	31
District 6 Tanana R. Total	*2,327*	*1,067*	*2,145*	*1,388*	*1,828*	*1,229*	*1,717*	*605*	*1,285*	*1,143*	*1,367*	1,751	1,196
Upper Yukon River Total	26,045	23,924	34,107	33,323	33,216	29,175	32,713	22,850	19,716	24,428	21,753	30,123	25,776
Alaska, Yukon River Total [f]	52,937	42,620	55,109	53,675	52,561	47,710	53,976	43,694	32,900	43,259	40,211	51,380	44,308
Alaska, Yukon Area Total	55,819	43,742	56,959	55,713	53,409	48,593	55,174	45,186	33,805	44,559	40,980	53,128	45,463

Note: Does not include harvest from personal use permits.

[a] Rampart area harvest as reported from subsistence fishing permits. Subsistence surveys were conducted 2001–2003 and permits were used 2004 to present.

[b] Harvests by Fairbanks subsistence permit holders who fished in District 5 near the Yukon River bridge crossing.

[c] Other permit holders who fished in District 5 but did not reside in the communities listed.

[d] Harvest by Fairbanks subsistence permit holders who fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Does not include the Coastal District for use in U.S./Canada negotiations.

Appendix D2.–Summer chum salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, Yukon Area, 2001–2011.

Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Hooper Bay	12,593	9,780	10,658	3,242	9,771	19,468	12,234	12,007	9,195	17,020	13,460	9,209	13,985
Scammon Bay	1,323	5,016	3,310	5,020	4,586	4,703	3,887	6,113	3,602	5,405	4,845	3,851	4,742
Coastal District Total	13,916	14,796	13,968	8,262	14,357	24,171	16,121	18,120	12,797	22,425	18,305	13,060	18,727
Nunam Iqua	1,942	1,897	2,561	2,698	2,794	2,903	2,325	1,949	2,280	2,267	2,077	2,378	2,345
Alakanuk	5,992	7,637	5,287	6,555	5,687	7,790	7,611	6,881	5,152	7,722	7,447	6,232	7,031
Emmonak	8,242	8,458	7,644	8,618	12,594	11,899	9,256	9,646	9,038	10,918	12,468	9,111	10,151
Kotlik	6,595	6,115	4,209	2,749	6,620	5,289	5,017	4,291	7,528	4,265	6,598	5,258	5,278
District 1 Subtotal	*22,771*	*24,107*	*19,701*	*20,620*	*27,695*	*27,881*	*24,209*	*22,767*	*23,998*	*25,172*	*28,590*	*22,979*	*24,805*
Mountain Village	8,484	6,657	6,497	10,676	8,861	13,119	8,104	7,559	7,204	7,071	9,355	8,235	8,611
Pitkas Point	862	639	800	717	1,023	680	515	1,246	994	633	585	808	814
St. Mary's	10,026	7,284	4,521	6,994	6,877	7,394	8,107	6,451	5,831	7,443	6,760	7,140	7,045
Pilot Station	5,329	6,490	4,163	5,779	4,333	6,070	3,711	6,012	4,888	6,196	4,182	5,219	5,375
Marshall	1,602	2,484	792	1,765	3,183	4,392	3,070	3,023	2,172	2,395	3,810	1,965	3,010
District 2 Subtotal	*26,303*	*23,554*	*16,773*	*25,931*	*24,277*	*31,655*	*23,507*	*24,291*	*21,089*	*23,738*	*24,692*	*23,368*	*24,856*
Russian Mission	165	395	171	884	925	1,328	759	2,400	849	528	1,225	508	1,173
Holy Cross	460	155	214	276	760	825	320	441	194	463	363	373	449
Shageluk	684	1,956	5,473	1,798	4,081	1,381	977	130	103	350	1,145	2,798	588
District 3 Subtotal	*1,309*	*2,506*	*5,858*	*2,958*	*5,766*	*3,534*	*2,056*	*2,971*	*1,146*	*1,341*	*2,733*	*3,679*	*2,210*
Lower Yukon River Total	50,383	50,167	42,332	49,509	57,738	63,070	49,772	50,029	46,233	50,251	56,015	50,026	51,871
Anvik	94	1,089	844	248	529	387	5,250	340	277	451	220	561	1,341
Grayling	92	1,311	1,072	1,129	783	644	641	660	1,429	1,612	838	877	997
Kaltag	10	234	1,028	213	680	159	109	916	50	102	163	433	267
Nulato	208	269	180	198	634	838	356	468	133	416	246	298	442
Koyukuk	118	426	1,339	329	537	394	995	1,104	1,378	352	890	550	845
Galena	53	712	289	782	1,013	1,205	571	758	1,718	1,702	3,414	570	1,191
Ruby/Kokrines	1,025	1,406	876	2,010	967	1,714	416	655	603	1,971	775	1,257	1,072
District 4 Subtotal	*1,600*	*5,447*	*5,628*	*4,909*	*5,143*	*5,341*	*8,338*	*4,901*	*5,588*	*6,606*	*6,546*	*4,545*	*6,155*
Huslia	833	3,178	6,187	3,844	2,433	1,122	3,243	4,377	2,554	1,349	3,166	3,295	2,529
Hughes	551	1,089	1,265	3,823	2,230	3,254	1,213	944	1,723	878	954	1,792	1,602
Allakaket	1,604	6,242	4,383	2,367	2,535	5,170	3,451	3,229	4,924	2,864	2,368	3,426	3,928
Alatna	0	15	50	16	5	110	11	66	163	23	132	17	75
Bettles	0	0	0	0	4	0	0	0	6	0	0	1	1
Koyukuk River Subtotal	*2,988*	*10,524*	*11,885*	*10,050*	*7,207*	*9,656*	*7,918*	*8,616*	*9,370*	*5,114*	*6,620*	*8,531*	*8,135*
District 4 Total(Incl. Koyukuk R)	*4,588*	*15,971*	*17,513*	*14,959*	*12,350*	*14,997*	*16,256*	*13,517*	*14,958*	*11,720*	*13,166*	*13,076*	*14,290*

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Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Tanana	1,407	3,321	3,075	1,490	4,832	5,474	5,229	2,877	4,665	1,856	4,381	2,825	4,020
Rampart [a]	0	14	9	103	315	135	25	27	112	161	67	88	92
Fairbanks [b]	165	295	89	280	780	1,341	564	119	44	427	688	322	499
Stevens Village	0	12	0	108	442	972	254	163	6	28	43	112	285
Beaver	328	77	7	2	68	117	41	27	22	22	393	96	46
Fort Yukon	289	1,832	2,176	1,187	67	2,165	2,365	230	275	722	1,297	1,110	1,151
Circle	6	5	85	52	3	58	200	5	0	37	48	30	60
Central	0	0	0	0	5	2	0	0	2	0	0	1	1
Eagle	555	24	104	171	235	974	15	14	0	25	2	218	206
Other [c]	0	17	0	3	53	117	81	25	29	144	790	15	79
District 5 Subtotal (Excluding Chandalar and Black Rivers)	*2,750*	*5,597*	*5,545*	*3,396*	*6,800*	*11,355*	*8,774*	*3,487*	*5,155*	*3,422*	*7,709*	*4,818*	*6,439*
Venetie	106	13	0	15	0	475	107	50	143	0	0	27	155
Chalkyitsik	0	0	0	0	0	0	0	0	0	133	0	0	27
Chandalar/Black River Subtotal	*106*	*13*	*0*	*15*	*0*	*475*	*107*	*50*	*143*	*133*	*0*	*27*	*182*
District 5 Total	*2,856*	*5,610*	*5,545*	*3,411*	*6,800*	*11,830*	*8,881*	*3,537*	*5,298*	*3,555*	*7,709*	*4,844*	*6,620*
Manley	338	93	65	296	163	89	140	144	367	102	142	191	168
Minto	19	10	625	7	21	460	82	9	1	8	27	136	112
Nenana	19	360	2,193	1,171	1,771	388	1,419	753	506	83	471	1,103	630
Fairbanks [d]		47	31	308	45	73	255	94	372	183	185	93	195
Other [e]	0	2	0	11	14	0	0	311	7	46	0	5	73
District 6 Tanana R. Total	*412*	*512*	*2,914*	*1,793*	*2,014*	*1,010*	*1,896*	*1,311*	*1,253*	*422*	*825*	*1,529*	*1,178*
Upper Yukon River Total	7,856	22,093	25,972	20,163	21,164	27,837	27,033	18,365	21,509	15,697	21,700	19,450	22,088
Alaska, Yukon River Total [f]	58,239	72,260	68,304	69,672	78,902	90,907	76,805	68,394	67,742	65,948	77,715	69,475	73,959
Alaska, Yukon Area Total	72,155	87,056	82,272	77,934	93,259	115,078	92,926	86,514	80,539	88,373	96,020	82,535	92,686

Note: Does not include harvest from personal use permits.

[a] Rampart area harvest as reported from subsistence fishing permits. Subsistence surveys were conducted 2001–2003 and permits were used 2004 to present.

[b] Harvests by Fairbanks subsistence permit holders who fished in District 5 near the Yukon River bridge crossing.

[c] Other permit holders who fished in District 5 but did not reside in the communities listed.

[d] Harvest by Fairbanks subsistence permit holders who fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Does not include the Coastal District for use in U.S./Canada negotiations.

Appendix D3.–Fall chum salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits, and test fishery projects, Yukon Area, 2001–2011.

Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Hooper Bay	364	44	40	264	1	146	64	329	41	116	267	143	139
Scammon Bay	195	240	106	56	69	41	170	57	117	70	48	133	91
Coastal District Total	559	284	146	320	70	187	234	386	158	186	315	276	230
Nunam Iqua	176	284	127	49	310	735	152	59	41	143	51	189	226
Alakanuk	1,032	222	348	953	627	624	1,348	423	116	860	881	636	674
Emmonak	1,272	1,261	1,257	785	1,436	2,056	2,360	1,670	1,589	1,718	1,540	1,202	1,879
Kotlik	957	114	407	280	516	487	530	671	171	481	962	455	468
District 1 Subtotal	*3,437*	*1,881*	*2,139*	*2,067*	*2,889*	*3,902*	*4,390*	*2,823*	*1,917*	*3,202*	*3,434*	*2,483*	*3,247*
Mountain Village	470	478	873	918	1,290	2,398	1,073	926	926	133	800	806	1,091
Pitkas Point	34	16	49	0	6	5	44	101	76	10	30	21	47
St. Mary's	227	103	762	104	490	417	825	830	106	387	611	337	513
Pilot Station	1,522	680	823	1,108	838	785	741	917	265	833	575	994	708
Marshall	1,003	341	394	291	633	410	789	748	190	56	562	532	439
District 2 Subtotal	*3,256*	*1,618*	*2,901*	*2,421*	*3,257*	*4,015*	*3,472*	*3,522*	*1,563*	*1,419*	*2,578*	*2,691*	*2,798*
Russian Mission	76	164	615	172	667	251	530	578	205	104	11	339	334
Holy Cross	624	0	9	76	582	224	248	920	627	21	94	258	408
Shageluk	0	0	114	50	55	5	147	323	105	1,200	249	44	356
District 3 Subtotal	*700*	*164*	*738*	*298*	*1,304*	*480*	*925*	*1,821*	*937*	*1,325*	*354*	*641*	*1,098*
Lower Yukon River Total	7,393	3,663	5,778	4,786	7,450	8,397	8,787	8,166	4,417	5,946	6,366	5,814	7,143
Anvik	29	401	179	398	497	118	429	317	176	169	202	301	242
Grayling	314	52	441	267	1,009	691	317	1,012	490	202	1,152	417	542
Kaltag	607	314	725	687	1,089	823	910	620	200	658	196	684	642
Nulato	151	0	1,341	1,246	421	751	1,345	729	552	1,049	652	632	885
Koyukuk	517	255	835	344	803	1,147	927	1,177	578	792	1,388	551	924
Galena	420	349	1,510	1,587	2,695	1,632	1,471	1,364	4,306	1,968	2,739	1,312	2,148
Ruby/Kokrines	581	78	2,331	1,064	559	227	1,959	657	134	1,026	592	923	801
District 4 Subtotal	*2,619*	*1,449*	*7,362*	*5,593*	*7,073*	*5,389*	*7,358*	*5,876*	*6,436*	*5,864*	*6,921*	*4,819*	*6,185*
Huslia	683	0	1,786	1,139	1,614	313	272	64	86	403	183	1,044	228
Hughes	0	0	497	97	111	240	0	127	288	0	64	141	131
Allakaket	50	100	105	968	557	393	939	1,345	572	521	92	356	754
Alatna	0	0	0	0	0	0	7	0	0	0	0	0	1
Bettles	0	0	0	0	50	0	0	0	0	0	0	10	0
Koyukuk River Subtotal	*733*	*100*	*2,388*	*2,204*	*2,332*	*946*	*1,218*	*1,536*	*946*	*924*	*339*	*1,551*	*1,114*
District 4 Total (Incl. Koyukuk R.)	*3,352*	*1,549*	*9,750*	*7,797*	*9,405*	*6,335*	*8,576*	*7,412*	*7,382*	*6,788*	*7,260*	*6,371*	*7,299*

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Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Tanana	9,779	6,255	14,308	23,118	20,545	23,167	21,596	17,478	19,595	14,984	21,728	14,801	19,364
Rampart [a]	183	0	365	0	358	250	250	1,000	1,000	735	340	181	647
Fairbanks [b]		0	105	43	1,682	5,269	2,126	659	229	822	1,696	366	1,821
Stevens Village	20	0	857	1,080	246	50	199	643	770	2,706	911	441	874
Beaver	21	1	192	48	179	0	354	13	120	37	122	88	105
Ft. Yukon	2,209	3,523	7,963	7,302	8,088	5,178	8,264	14,252	2,829	6,006	7,188	5,817	7,306
Circle	2,588	74	499	1,022	918	664	1,286	3,198	110	927	299	1,020	1,237
Central	0	0	0	0	36	0	0	0	0	0	0	7	0
Eagle	2,714	339	2,871	5,482	17,356	16,801	18,676	15,269	10,941	15,008	17,455	5,752	15,339
Other [c]	0	100	0	13	117	44	46	3,183	71	120	208	46	693
District 5 Subtotal (Excluding Chandalar and Black Rivers)	*17,514*	*10,292*	*27,160*	*38,108*	*49,525*	*51,423*	*52,797*	*55,695*	*35,665*	*41,345*	*49,947*	*28,520*	*47,385*
Venetie	3,286	680	770	2,083	1,801	520	721	1,563	2,373	2,989	1,938	1,724	1,633
Chalkyitsik[0]	73	4	340	479	337	215	213	0	45	0	0	247	95
Chandalar/Black River Subtotal	*3,359*	*684*	*1,110*	*2,562*	*2,138*	*735*	*934*	*1,563*	*2,418*	*2,989*	*1,938*	*1,971*	*1,728*
District 5 Total	*20,873*	*10,976*	*28,270*	*40,670*	*51,663*	*52,158*	*53,731*	*57,258*	*38,083*	*44,334*	*51,885*	*30,490*	*49,113*
Manley	1,230	947	1,303	1,504	2,985	3,374	3,419	2,490	4,126	2,696	2,333	1,594	3,221
Minto	251	100	675	0	600	242	155	28	0	70	1,500	325	99
Nenana	999	1,070	7,802	5,367	10,594	10,530	21,863	6,585	7,623	6,802	5,268	5,166	10,681
Fairbanks [d]	191	229	1,949	1,024	6,691	1,311	3,325	340	3,460	678	4,317	2,017	1,823
Other [e]	855	856	1,257	1,058	2,076	1,468	1,131	6,692	870	1,145	958	1,220	2,261
District 6 Tanana R. Total	*3,526*	*3,202*	*12,986*	*8,953*	*22,946*	*16,925*	*29,893*	*16,135*	*16,079*	*11,391*	*14,376*	*10,323*	*18,085*
Upper Yukon River Total	27,751	15,727	51,006	57,420	84,014	75,418	92,200	80,805	61,544	62,513	73,521	47,184	74,496
Alaska, Yukon River Total [f]	35,144	19,390	56,784	62,206	91,464	83,815	100,987	88,971	65,961	68,459	79,887	52,998	81,639
Alaska, Yukon Area Total	35,703	19,674	56,930	62,526	91,534	84,002	101,221	89,357	66,119	68,645	80,202	53,273	81,869

Note: Does not include harvest from personal use permits.

[a] Rampart area harvest as reported from subsistence fishing permits. Subsistence surveys were conducted 2001–2003 and permits were used 2004 to present.

[b] Harvests by Fairbanks subsistence permit holders who fished in District 5 near the Yukon River bridge crossing.

[c] Other permit holders who fished in District 5 but did not reside in the communities listed.

[d] Harvest by Fairbanks subsistence permit holders who fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Does not include the Coastal District for use in U.S./Canada negotiations.

Appendix D4.–Coho salmon subsistence harvest totals by fishing district and community of residence, as estimated from postseason survey, returned permits and test fishery projects, Yukon Area, 2001–2011.

Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Hooper Bay	439	125	244	9	0	175	26	66	24	45	0	163	67
Scammon Bay	63	123	48	54	279	160	84	50	222	79	55	113	119
Coastal District Total	502	248	292	63	279	335	110	116	246	124	55	277	186
Nunam Iqua	32	56	117	79	241	392	92	24	71	73	23	105	130
Alakanuk	414	183	193	207	322	101	857	157	194	449	431	264	352
Emmonak	342	514	547	296	191	450	1,032	717	401	362	472	378	592
Kotlik	486	542	403	593	222	234	284	313	181	238	201	449	250
District 1 Subtotal	*1,274*	*1,295*	*1,260*	*1,175*	*976*	*1,177*	*2,265*	*1,211*	*847*	*1,122*	*1,127*	*1,196*	*1,324*
Mountain Village	423	361	745	521	246	1,856	1,027	518	413	127	261	459	788
Pitkas Point	112	47	130	0	30	16	38	130	45	116	37	64	69
St. Mary's	610	209	276	258	252	171	97	591	151	92	230	321	220
Pilot Station	222	230	371	296	241	225	263	268	203	189	145	272	230
Marshall	73	386	64	425	341	191	922	490	245	33	150	258	376
District 2 Subtotal	*1,440*	*1,233*	*1,586*	*1,500*	*1,110*	*2,459*	*2,347*	*1,997*	*1,057*	*557*	*823*	*1,374*	*1,683*
Russian Mission	0	115	178	151	133	19	259	372	96	300	0	115	209
Holy Cross	0	0	498	27	84	16	213	38	120	0	0	122	77
Shageluk	0	0	35	106	0	48	267	0	105	53	36	28	95
District 3 Subtotal	*0*	*115*	*711*	*284*	*217*	*83*	*739*	*410*	*321*	*353*	*36*	*265*	*381*
Lower Yukon River Total	2,714	2,643	3,557	2,959	2,303	3,719	5,351	3,618	2,225	2,032	1,986	2,835	3,389
Anvik	13	0	12	288	406	0	807	40	137	28	19	144	202
Grayling	144	30	559	233	234	224	271	25	318	132	119	240	194
Kaltag	533	212	463	138	307	106	204	45	40	0	258	331	79
Nulato	258	78	928	203	60	214	130	195	171	242	118	305	190
Koyukuk	80	249	1,155	166	37	330	189	84	198	254	137	337	211
Galena	142	169	1,507	1,307	607	137	425	558	2,353	549	1,013	746	804
Ruby/Kokrines	871	69	648	1,540	361	11	168	291	314	148	312	698	186
District 4 Subtotal	*2,041*	*807*	*5,272*	*3,875*	*2,012*	*1,022*	*2,194*	*1,238*	*3,531*	*1,353*	*1,976*	*2,801*	*1,868*
Huslia	83	60	375	764	734	105	592	100	323	289	70	403	282
Hughes	117	100	20	110	20	150	100	0	89	0	13	73	68
Allakaket	25	56	99	17	205	25	66	152	43	88	13	80	75
Alatna	0	0	7	0	0	0	0	0	0	0	0	1	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0
Koyukuk River Subtotal	*225*	*216*	*501*	*891*	*959*	*280*	*758*	*252*	*455*	*377*	*96*	*558*	*424*
District 4 Total (Incl. Koyukuk R.)	2,266	1,023	5,773	4,766	2,971	1,302	2,952	1,490	3,986	*1,730*	*2,072*	3,360	2,292

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Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-2005 Average	2006-2010 Average
Tanana	6,675	2,032	3,480	1,049	1,616	3,619	2,369	1,511	2,373	2,314	312	2,970	2,437
Rampart [a]		0	0	0	10	0	50	0	0	24	0	2	15
Fairbanks [b]	11	0	120	91	10	79	26	7	13	2	2	46	25
Stevens Village	2	0	0	100	0	0	0	0	90	428	0	20	104
Beaver	0	17	0	0	0	0	354	6	0	1	0	3	72
Fort Yukon [c]	972	14	0	19	394	35	567	1,618	2	244	1,040	280	493
Circle	0	0	244	100	100	22	0	0	13	164	0	89	40
Central	0	0	0	0	1	0	0	0	0	0	0	0	0
Eagle	0	1	0	14	15	0	0	0	0	1	1	6	0
Other [c]	0	0	25	0	13	0	0	61	7	0	0	8	14
District 5 Subtotal (Excluding Chandalar and Black Rivers)	*7,660*	*2,064*	*3,869*	*1,373*	*2,159*	*3,755*	*3,366*	*3,203*	*2,498*	*3,178*	*1,355*	*3,425*	*3,200*
Venetie	10	12	11	5	0	24	0	0	0	159	34	8	37
Chalkyitsik	4	0	7	45	0	0	0	0	0	267	0	11	53
Chandalar/Black River Subtotal	*14*	*12*	*18*	*50*	*0*	*24*	*0*	*0*	*0*	*426*	*34*	*19*	*90*
District 5 Total	*7,674*	*2,076*	*3,887*	*1,423*	*2,159*	*3,779*	*3,366*	*3,203*	*2,498*	*3,604*	*1,389*	*3,444*	*3,290*
Manley	2,637	1,617	886	1,384	2,510	1,671	1,126	1,901	2,308	1,832	1,482	1,807	1,768
Minto	0	250	423	5	0	14	155	0	0	0	0	136	34
Nenana	4,443	3,574	5,431	6,494	12,395	7,032	4,487	2,775	3,475	2,313	3,304	6,467	4,016
Fairbanks [d]		1,024	1,049	1,435	3,032	745	609	230	577	212	1,109	1,322	475
Other [e]	1,818	3,034	2,574	2,266	1,601	1,109	1,468	3,522	691	1,198	947	2,259	1,598
District 6 Tanana River Total	*8,966*	*9,499*	*10,363*	*11,584*	*19,538*	*10,571*	*7,845*	*8,428*	*7,051*	*5,555*	*6,842*	*11,990*	*7,890*
Upper Yukon Area Total	18,906	12,598	20,023	17,773	24,668	15,652	14,163	13,121	13,535	10,889	10,303	18,794	13,472
Alaska, Yukon River Total [f]	21,620	15,241	23,580	20,732	26,971	19,371	19,514	16,739	15,760	12,921	12,289	21,629	16,861
Alaska, Yukon Area Total	22,122	15,489	23,872	20,795	27,250	19,706	19,624	16,855	16,006	13,045	12,344	21,906	17,047

Note: Does not include harvest from personal use permits.

[a] Rampart area harvest as reported from subsistence fishing permits. Subsistence surveys were conducted 2001–2003 and permits were used 2004 to present.

[b] Harvests by Fairbanks subsistence permit holders who fished in District 5 near the Yukon River bridge crossing.

[c] Other permit holders who fished in District 5 but did not reside in the communities listed.

[d] Harvest by Fairbanks subsistence permit holders who fished in the Tanana River.

[e] Other permit holders who fished in District 6 but did not reside in the communities listed.

[f] Does not include the Coastal District for use in U.S./Canada negotiations.

Appendix D5.–Estimated pink salmon subsistence harvest by residents of surveyed communities, with community and district totals, Yukon Area, 2001–2011.

Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Estimated Total Even Years Average	Estimated Total Odd Years Average	Estimated Total All Years Average
Hooper Bay	32	5,475	473	5,418	860	1,433	113	1,013	957	219	210	2,712	487	1,599
Scammon Bay	362	417	997	2,508	1,645	1,381	1,435	2,766	1,186	2,245	1,888	1,863	1,125	1,494
Coastal District	*394*	*5,892*	*1,470*	*7,926*	*2,505*	*2,814*	*1,548*	*3,779*	*2,143*	*2,464*	*2,098*	*4,575*	*1,612*	*3,094*
Nunam Iqua	0	10	5	32	132	555	170	757	61	306	8	332	74	203
Alakanuk	0	130	0	233	49	115	32	494	24	151	13	225	21	123
Emmonak	9	39	4	32	54	225	51	641	5	206	0	229	25	127
Kotlik	0	849	198	318	155	219	129	1,161	42	124	32	534	105	319
District 1	*9*	*1,028*	*207*	*615*	*390*	*1,114*	*382*	*3,053*	*132*	*787*	*53*	*1,319*	*224*	*772*
Mountain Village	0	745	117	891	78	616	87	500	6	217	24	594	58	326
Pitkas Point	0	35	0	0	2	44	66	15	0	143	0	47	14	30
St. Mary's	0	7	0	137	144	236	32	367	5	543	1	258	36	147
Pilot Station	0	22	0	5	0	1	0	34	3	22	0	17	1	9
Marshall	0	473	0	105	6	3	0	26	0	21	66	126	1	63
District 2	*0*	*1,282*	*117*	*1,138*	*230*	*900*	*185*	*942*	*14*	*946*	*91*	*1,042*	*109*	*575*
Russian Mission	0	0	0	6	0	8	3	436	0	2	0	90	1	46
Holy Cross	0	0	0	0	0	17	0	20	0	0	0	7	0	4
Shageluk	0	0	130	0	0	0	0	0	9	0	9	0	28	14
District 3	*0*	*0*	*130*	*6*	*0*	*25*	*3*	*456*	*9*	*2*	*9*	*98*	*28*	*63*
Anvik	0	0	240	0	0	0	0	23	2	0	0	5	48	27
Grayling	0	30	3	0	3	0	0	200	0	0	40	46	1	24
Kaltag	0	0	0	10	4	0	0	383	0	0	0	79	1	40
Nulato	0	50	0	0	0	1	0	35	0	0	0	17	0	9
Koyukuk	0	4	0	0	0	0	0	67	0	0	0	14	0	7
Galena	0	50	0	0	0	0	0	31	0	0	0	16	0	8
Ruby	0	87	0	2	0	0	0	184	0	0	0	55	0	27
Huslia	0	0	0	0	0	0	0	100	0	0	0	20	0	10
Hughes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allakaket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alatna	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bettles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 4	*0*	*221*	*243*	*12*	*7*	*1*	*0*	*1,023*	*2*	*0*	*40*	*251*	*50*	*151*

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Community	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Estimated Total Even Years Average	Estimated Total Odd Years Average	Estimated Total All Years Average
Tanana	0	0	0	0	0	0	0	80	0	0	0	16	0	8
Stevens Village	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beaver	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fort Yukon	0	0	0	0	0	0	0	196	0	0	0	39	0	20
Venetie	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chalkyitsik	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District 5	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*276*	*0*	*0*	*0*	*55*	*0*	*28*
Survey Totals	403	8,423	2,167	9,697	3,132	4,854	2,118	9,529	2,300	4,199	2,291	7,340	2,024	4,682
CI (95%)	416	4,091	964	2,829	1,521	990	739	1,818	1,184	1,209	918	–	–	–

Note: Averages do not include the current year. CI (95%) is the annual 95% confidence interval.

Appendix D6.–Reported subsistence and personal use fish harvested under the authority of a permit, listed by permit area, Yukon Area, 2011.

Permit Fishing Area	Permit [a] Type	Issued [b]	Returned	Number of Permits Returned	Number of Permits Returned that Fished [c]	Reported Harvest: Chinook [d]	Summer Chum [d]	Fall Chum [d]	Coho [d]	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
Subsistence Permit															
Koyukuk Middle & South Fork Rivers	SF	1	1	1	1	0	0	0	0	25	0	0	1	20	45
			Percent												
Yukon River Rampart Area	SR	29	29	1	24	1,586	429	768	1	76	1	0	11	0	0
Yukon River near Haul Road Bridge	SY	74	73	1	43	1,552	1,139	1,828	1	315	5	12	36	20	1
Yukon River near	SE	60	58	1	31	768	51	5,374	0	180	42	3	56	108	348
Circle and Eagle [e]		27	27	1	18	370	0	12,477	1	127	22	2	15	12	1
Tanana River Subdistrict 6A	SA	24	24	1	16	330	98	4,565	1,435	236	4	6	5	0	0
SEU															
Tanana River Subdistrict 6B	SB	86	82	1	43	684	678	7,463	4,584	641	27	13	4	12	1
Tanana River Upstream of Subdistrict 6C	SU	41	39	1	23	0	0	0	0	3,131	0	24	58	78	79
Kantishna River Subdistrict 6A	SK	6	5	1	3	1	49	698	105	28	1	9	33	28	0
Tolovana River Pike Subdistrict 6B	ST	70	69	1	27	0	0	0	0	36	0	70	100	0	0
Subsistence Permit Subtotals		*418*	*407*	*1*	*229*	*5,291*	*2,444*	*33,173*		*4,795*	*102*	*139*	*319*	*278*	*475*
									6,127						

-continued-

Permit Fishing Area	Permit [a] Type	Issued [b]	Returned	Percent Returned	Number of Permits Returned that Fished [c]	Reported Harvest: Chinook [d]	Summer Chum [d]	Fall Chum [d]	Coho [d]	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
Personal Use Permit															
Tanana River Salmon Subdistrict 6C	PC	67	64	1	33	89	439	347	232	20	1	1	0	0	0
Tanana River Whitefish Upstream of Subdistrict 6C	PW	7	7	1	5	0	0	0	0	36	0	0	0	136	0
Personal Use Permit Subtotals		*74*	*71*	*1*	*38*	*89*	*439*	*347*	*232*	*56*	*1*	*1*	*0*	*136*	*0*
Permit Totals		492	478	1	267	5,380	2,883	33,520	6,359	4,851	103	140	319	414	475

[a] Permits returned as of February 15, 2012.

[b] Includes 37 households that were issued permits for more than one area, including 8 permit holders issued an additional SE or SEU permit to track harvest above and below Eagle sonar.

[c] Includes 9 households that fished in 2 different permit areas and 4 households that fished in SE and SEU.

[d] Does not include District 6 commercial related harvest of 352 Chinook, 1,650 fall chum, and 718 coho salmon caught but not sold during commercial fishing and retained for subsistence use in 2011.

[e] Does not include 5 Chinook salmon and one fall chum salmon that could not be released live from the ADF&G Eagle sonar test fish project and were given to residents of Eagle. Harvest taking place between the Eagle sonar and the U.S./Canada border is reported on SEU permits.

Appendix D7.–Subsistence harvests taken under authority of a permit in the Bridge Area (SY) of District 5, Yukon Area, 1990–2011.

Yukon River Bridge Area Subsistence Fishery (SY) [a]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
1990	25	24	14	1,927	2,953	1,493	614	641	26	2	0	5	0
1991	52	46	34	2,528	696	3,953	20	4,061	24	0	3	0	0
1992	45	43	34	2,238	940	2,491	72	1,588	0	1	2	0	0
1993	49	48	36	3,767	492	2,915	16	1,009	13	23	26	0	0
1994	50	49	37	3,533	384	2,911	25	118	277	1	11	0	0
1995	59	59	38	3,251	954	2,244	59	402	28	11	24	0	0
1996	47	45	32	1,151	3,475	2,725	42	441	6	0	7	0	0
1997	44	41	27	1,588	692	491	26	92	6	4	11	0	0
1998	48	47	31	1,685	103	156	15	486	30	4	8	0	0
1999	66	64	47	1,653	356	701	2	92	14	10	33	0	16
2000	56	52	33	1,607	324	8	32	23	11	0	3	0	0
2001	65	62	38	1,819	176	0	13	9	3	10	1	0	0
2002	60	58	45	2,285	320	100	0	35	4	3	6	0	6
2003	86	80	62	2,670	89	104	145	557	62	32	47	7	0
2004	69	67	51	2,032	164	43	91	56	6	15	26	0	0
2005	76	72	57	1,847	643	17	9	52	31	11	33	4	0
2006	68	66	53	1,952	1,063	4,855	79	69	10	6	6	0	4
2007	85	80	51	1,707	177	626	26	61	26	25	43	0	0
2008	73	69	45	1,456	130	705	7	192	71	61	57	0	0
2009	68	66	38	1,248	28	996	106	60	9	37	60	0	0
2010	85	81	43	1,300	448	422	2	67	9	0	12	0	0
2011	74	73	43	1,552	1,139	1,828	1	315	5	12	36	20	1
2006-2010 Average	76	72	46	1,533	369	1,521	44	90	25	26	36	0	1
2001-2010 Average	74	70	48	1,832	324	787	48	116	23	20	29	1	1

[a] That portion of the Yukon River drainage from Hess Creek to Dall River.

Appendix D8.–Subsistence salmon harvests taken under authority of a permit in the Circle-Eagle Area (SE & SEU) of District 5, Yukon Area, 1990–2011.

Upper Yukon River "Circle-Eagle" Area Subsistence Salmon Fishery (SE & SEU) [a, b]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
1990	80	74	52	3,670	306	16,306	201	181	6	3	0	7	16
1991	70	69	48	3,176	656	14,898	300	135	14	4	0	6	0
1992	85	81	55	2,982	399	12,019	57	259	2	2	0	0	0
1993	78	78	51	2,127	119	2,701	95	671	3	1	39	354	145
1994	79	77	52	3,106	146	12,845	30	775	5	7	52	1,184	477
1995	87	87	54	3,628	129	19,674	1	183	4	26	58	49	9
1996	86	84	51	3,392	1,096	20,255	1	627	61	1	36	56	1
1997	97	94	62	3,233	401	19,116	212	1,363	49	28	41	575	293
1998	101	96	55	3,562	55	630	132	299	34	30	50	120	20
1999	119	117	72	3,404	364	14,079	0	332	98	36	84	666	398
2000	120	117	47	1,806	233	33	0	320	10	9	42	383	477
2001	98	93	33	1,688	561	5,322	0	111	22	7	65	11	21
2002	94	87	42	3,877	29	418	1	417	1	5	36	413	952
2003	95	85	58	3,442	192	3,374	0	584	29	2	13	107	1,197
2004	89	83	50	2,304	223	6,517	114	381	16	18	22	249	938
2005	89	81	55	4,004	241	18,427	130	245	56	17	46	101	741
2006	85	82	59	3,208	1,034	17,960	22	191	50	23	55	83	384
2007	78	71	51	3,548	218	20,005	0	582	32	0	21	189	478
2008	96	87	50	1,808	19	18,876	0	198	34	10	16	78	368
2009	73	71	35	1,142	2	11,051	13	308	37	9	4	63	239
2010	93	89	56	1,415	62	15,955	165	254	58	17	41	40	156
2011	87	85	49	1,138	51	17,851	1	307	64	5	71	120	349
2006-2010 Average	85	80	50	2,224	267	16,769	40	307	42	12	27	91	325
2001-2010 Average	89	83	49	2,644	258	11,791	45	327	34	11	32	133	547

[a] That portion of the Yukon River drainage from Twenty-Two Mile Slough, located downstream of the village of Circle, to the US/Canada Border.

[b] Beginning in 2008, permits were issued in a sub-area to document harvest above the Eagle sonar project. The number of permits includes duplicate permits issued to households that fished above and below the sonar.

Appendix D9.–Subsistence salmon harvests taken under authority of a permit in the Rampart Village Area (SR) of District 5, Yukon Area, 2004–2011.

Yukon River Rampart Village Area Subsistence Salmon Fishery (SR) [a, b]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
2004	14	11	9	832	249	0	0	0	0	0	0	0	0
2005	22	19	17	1,721	663	2,023	10	22	0	21	0	2	4
2006	19	19	16	1,083	647	318	0	177	0	6	11	10	30
2007	23	19	15	1,744	495	2,050	50	75	0	11	20	3	0
2008	18	18	15	1,049	43	1,000	0	20	0	0	0	0	0
2009	25	24	20	1,404	159	1,070	4	147	0	0	10	0	8
2010	28	27	22	1,344	304	1,235	24	162	1	5	20	0	1
2011	29	29	24	1,586	429	768	1	76	1	0	11	0	0
2006-2010 Average	23	21	18	1,325	330	1,135	16	116	0	4	12	3	8

[a] That portion of the Yukon River drainage from Garnett Island to Hess Creek.

[b] Permit requirement established in 2004.

Appendix D10.–Subsistence salmon harvests taken under authority of a permit in the Upper South and Middle Fork Koyukuk River (SF) of District 4, Yukon Area, 2004–2011.

Upper S. & Mid Forks Koyukuk River Area Subsistence Fishery Permit Area (SF) [a, b]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Suckers	Arctic Grayling
2004	1	1	1	0	0	0	0	4	0	0	0	0	4
2005	2	1	1	0	0	0	0	6	0	1	0	22	22
2006	1	1	1	0	0	0	0	0	0	0	0	0	1
2007	1	1	1	0	0	0	0	5	0	0	0	1	10
2008	1	1	1	0	0	0	0	10	0	0	0	15	27
2009	1	1	1	0	0	0	0	4	0	0	0	13	18
2010	1	1	1	0	0	0	0	8	0	0	0	0	0
2011	1	1	1	0	0	0	0	25	0	0	1	20	45
2006-2010 Average	1	1	1	0	0	0	0	5	0	0	0	6	11

[a] That portion of the South Fork of the Koyukuk River drainage upstream from the mouth of the Jim River and the Middle Fork of the Koyukuk River upstream from the mouth of the North Fork.

[b] Permit requirement established in 2004.

Appendix D11.–Subsistence salmon harvests taken under authority of a permit in the Subdistrict 6-A (SA) of the Tanana River, Yukon Area, 1990–2011.

Subdistrict 6-A Subsistence Salmon Fishery (SA)															
		Number	Number	Number	Reported Harvest										
Year		of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Suckers	Arctic Grayling
1990	[a, b]	42	36	26	1,369	2,250	27,957	8,408	150	1	9	14	0	0
1991	[a]	45	41	31	420	1,716	17,472	8,486	357	2	54	56	0	0
1992	[a]	38	35	26	508	450	5,999	5,028	144	0	12	0	0	0
1993	[a, b]	42	41	22	331	784	2,617	1,317	216	8	21	54	0	0
1994	[c]	33	33	28	571	3,793	17,286	11,879	1,432	0	34	52	2,479	0
1995		38	36	27	455	4,894	21,720	9,634	725	0	22	23	1	0
1996		26	24	19	183	1,325	17,265	4,823	459	2	45	149	394	0
1997		28	28	17	852	536	9,313	3,168	357	30	40	110	2	1
1998		25	25	15	510	519	3,648	1,288	141	25	52	74	88	0
1999		20	20	10	136	272	5,177	3,244	116	0	1	6	9	0
2000		20	20	10	80	240	0	2,180	27	5	6	38	0	0
2001		22	20	10	398	327	1,330	2,637	6	0	0	11	0	0
2002		18	17	15	373	99	1,076	1,883	130	2	29	48	7	0
2003		18	16	9	213	65	1,396	1,006	3	2	0	35	3	0
2004		18	18	8	239	306	1,529	1,419	17	3	0	26	14	0
2005		18	16	11	291	166	3,015	2,414	13	0	0	4	0	0
2006		19	19	15	362	85	3,355	1,546	12	1	1	0	0	0
2007		17	17	12	333	144	3,779	1,482	24	3	4	8	0	0
2008		34	32	17	115	146	2,583	1,987	96	1	1	71	0	0
2009		24	23	16	543	422	4,213	2,369	105	5	2	9	0	0
2010		22	22	11	360	106	3,094	1,963	69	6	0	3	0	0
2011		24	24	16	330	98	4,565	1,435	236	4	6	5	0	0
2006-2010 Average		23	23	14	343	181	3,405	1,869	61	3	2	18	0	0
2001-2010 Average		21	20	12	323	187	2,537	1,871	48	2	4	22	2	0

[a] Subdistrict 6-A harvest totals include harvests from the Kantishna River drainage.

[b] Includes salmon given away as part of the department's test fishing project in Manley.

[c] Beginning in 1994, a separate Kantishna River drainage permit was required.

Appendix D12.–Subsistence harvests taken under authority of a permit in the Subdistrict 6-B (SB) of the Tanana River, Yukon Area, 1990–2011.

Subdistrict 6-B Subsistence Salmon Fishery (SB)														
				Reported Harvest										
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Suckers	Arctic Grayling
1990 [a]	70	58	38	1,234	1,966	16,332	9,155	292	6	6	579	0	0
1991 [a]	87	78	51	1,796	2,373	21,629	11,971	343	3	10	199	0	0
1992 [a]	98	89	57	1,587	7,820	18,782	11,409	182	2	18	313	0	0
1993	98	93	39	1,343	5,978	7,166	2,987	407	8	13	211	8	0
1994	102	95	50	1,357	2,035	13,519	12,489	785	0	36	51	0	0
1995	98	98	60	1,322	6,712	22,303	7,558	1,090	46	28	158	8	0
1996	105	99	63	970	6,138	17,438	8,885	792	14	19	212	6	0
1997	103	97	57	1,848	3,479	9,973	9,141	1,584	38	38	389	2	0
1998	94	84	46	1,406	5,485	9,573	5,937	1,000	23	27	116	39	1
1999	83	80	47	1,472	2,114	9,756	5,930	1,146	23	27	191	49	0
2000	81	79	33	903	869	208	2,706	1,118	2	36	60	203	8
2001	87	81	44	1,511	74	1,983	5,646	651	24	29	24	48	0
2002	62	60	25	525	711	2,193	8,032	706	5	8	38	105	0
2003	77	72	40	1,839	2,855	10,537	7,849	875	45	37	162	44	5
2004	60	56	30	1,049	1,485	6,805	9,580	933	35	49	58	17	46
2005	70	67	29	1,403	1,846	15,367	9,659	1,652	7	19	82	64	5
2006	78	76	42	423	885	13,047	7,897	763	12	26	88	21	4
2007	79	75	39	1,127	1,750	12,477	4,521	656	17	32	108	26	2
2008	73	71	35	486	854	7,815	4,009	403	0	4	121	21	11
2009	70	69	37	730	830	9,112	4,064	1,073	10	33	25	21	0
2010	93	85	32	583	316	7,625	3,429	496	7	6	18	34	1
2011	86	82	43	684	678	7,463	4,584	641	27	13	4	12	1
2006-2010 Average	79	75	37	670	927	10,015	4,784	678	9	20	72	25	4
2001-2010 Average	75	71	35	968	1,161	8,696	6,469	821	16	24	72	40	7

[a] Includes salmon given away as part of the department's test fish project in Nenana.

Appendix D13.–Subsistence salmon harvests taken under authority of a permit in the Upper Tanana River (SU), Yukon Area, 1990–2011.

Upper Tanana River Drainage Subsistence Fishery (SU) [a]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Suckers	Arctic Grayling
1990	1	1	0	0	0	0	0	0	0	0	0	0	0
1991	8	7	6	0	0	288	14	579	0	3	0	0	1
1992	11	11	4	0	0	36	1	287	0	0	0	4	0
1993	10	8	7	0	0	5	0	363	0	1	51	0	0
1994	7	7	3	0	0	202	15	151	0	8	51	0	0
1995	50	47	12	0	0	88	0	556	0	54	36	0	0
1996	41	39	16	0	10	97	0	2,693	0	10	75	70	4
1997	61	53	26	0	0	200	0	1,458	0	46	81	68	91
1998	46	46	17	0	0	71	9	1,804	0	6	85	101	6
1999	29	29	13	0	0	2	0	1,702	0	7	70	109	0
2000	41	36	16	0	2	100	0	1,542	0	32	165	89	30
2001	57	50	22	0	0	2	1	1,013	10	21	110	43	18
2002	32	31	16	0	0	25	0	1,089	0	11	90	46	42
2003	38	32	17	30	0	4	0	1,482	0	14	10	33	5
2004	35	30	14	0	0	0	0	2,346	0	14	26	30	41
2005	29	24	13	0	0	15	0	1,235	0	2	47	61	25
2006	23	22	17	0	0	19	0	1,756	0	0	28	181	83
2007	34	33	17	0	0	41	5	1,786	0	15	19	24	35
2008	58	50	19	0	0	17	6	2,185	0	10	62	27	35
2009	42	40	17	0	0	84	0	2,035	0	0	44	35	98
2010	41	34	19	10	0	12	0	1,594	0	11	13	21	38
2011	41	39	23	0	0	0	0	3,131	0	24	58	78	79
2006-2010 Average	40	36	18	2	0	35	2	1,871	0	7	33	58	58
2001-2010 Average	39	35	17	4	0	22	1	1,652	1	10	45	50	42

[a] That portion of the Tanana River drainage from the mouth of the Volkmar River, including the Volkmar River drainage, on the north bank (right bank) of the Tanana River and the Johnson River, including the Johnson River drainage, on the south bank (left bank) of the Tanana River upstream to the Tanana River drainage headwaters.

Appendix D14.–Subsistence salmon harvests taken under authority of a permit in the Kantishna River drainage (SK) of the Tanana River, Yukon Area, 1994–2011.

Kantishna River Subsistence Fishery (SK) [a]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Suckers	Arctic Grayling
1994	3	3	2	6	0	790	570	15	0	0	1	0	0
1995	3	3	3	1	5	1,822	1,759	14	0	4	12	3	0
1996	5	5	4	26	33	1,694	1,137	57	1	6	17	27	0
1997	5	5	5	35	6	1,308	534	39	0	6	16	26	1
1998	6	6	4	2	0	1,078	238	53	1	4	29	15	7
1999	4	4	4	1	253	535	220	47	0	4	16	40	1
2000	4	4	2	0	0	0	261	12	0	0	27	3	0
2001	4	4	4	0	0	211	682	40	0	3	27	56	0
2002	6	6	5	169	2	265	363	22	0	3	58	10	1
2003	5	5	4	63	0	1,049	1,508	37	1	8	23	49	6
2004	5	5	4	100	2	619	585	0	1	1	55	0	1
2005	6	6	4	133	2	1,302	245	58	0	0	41	7	0
2006	5	5	3	141	29	339	737	27	0	34	30	282	0
2007	5	5	2	0	0	0	639	0	0	0	37	0	0
2008	4	3	2	0	0	95	15	0	0	0	10	0	0
2009	4	4	3	0	0	436	311	57	0	32	21	71	0
2010	4	4	3	1	0	82	23	3	0	3	28	0	0
2011	6	5	3	1	49	698	105	28	1	9	33	28	0
2006-2010 Average	4	4	3	28	6	190	345	17	0	14	25	71	0
2001-2010 Average	5	5	3	61	4	440	511	24	0	8	33	48	1

[a] Beginning in 1994, a separate Kantishna River drainage permit was required. Harvest prior to 1994 are included in the Subdistrict 6-A harvest totals.

Appendix D15.–Subsistence harvests taken under authority of a permit in the Tolovana River drainage (ST) of the Tanana River, Yukon Area, 1993–2011.

Tolovana River Drainage Subsistence Fishery (ST) [a]													
	Number	Number	Number	Reported Harvest									
Year	of Permits Issued	of Permits Returned	Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
1993	31	22	10	0	0	0	0	120	14	5	767	-	-
1994	48	48	25	0	0	0	0	472	76	97	1,193	68	3
1995	57	54	21	0	0	0	0	95	8	41	1,043	0	0
1996	74	68	29	0	0	0	0	539	116	44	1,916	186	4
1997	88	74	41	0	0	6	0	508	70	57	1,344	215	6
1998	70	66	32	1	0	0	0	235	24	14	431	96	18
1999	54	50	24	15	15	1	0	252	40	16	400	112	24
2000	34	29	13	0	0	2	3	163	57	12	352	61	6
2001	50	43	19	4	0	0	0	100	16	54	214	83	12
2002	32	31	13	0	0	0	0	263	54	6	521	53	0
2003	119	105	57	0	0	0	0	334	63	24	966	88	0
2004	99	91	42	0	0	0	0	110	35	30	393	30	1
2005	79	69	31	1	0	0	0	304	58	0	386	30	0
2006	101	97	56	0	11	6	2	117	2	27	788	9	0
2007	118	109	55	12	2	1	0	137	4	1	1,837	0	0
2008	146	136	79	0	0	0	0	258	3	3	1,339	0	47
2009	112	107	52	0	1	0	0	202	14	6	563	0	0
2010	96	90	42	0	0	0	0	181	39	0	115	9	0
2011	70	69	27	0	0	0	0	36	0	70	100	0	0
2006-2010 Average	115	108	57	2	3	1	0	179	12	7	928	4	9
2001-2010 Average	95	88	45	2	1	1	0	201	29	15	712	30	6

Note: Averages do not include the current year. CI (95%) is the annual 95% confidence interval.

[a] Includes the Tolovana River drainage outside of the Fairbanks nonsubsistence area.

Appendix D16.–Personal use harvests taken under authority of a permit in Subdistrict 6-C (PC) of the Tanana River, Yukon Area, 1990–2011.

Subdistrict 6–C Personal Use Salmon Fishery (PC) [a]														
				Reported Harvest										
Year	Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
1990	152	144	102	446	934	1,402	1,181	22	11	2	11	0	0
1991 [b]		–	–	–	–	–	–	–	–	–	–	–	–
1992 [b]	–	–	–	–	–	–	–	–	–	–	–	–	–
1993	133	132	80	426	677	163	0	33	3	2	1	3	0
1994 [b]	–	–	–	–	–	–	–	–	–	–	–	–	–
1995	139	138	91	399	780	863	418	18	1	1	1	1	0
1996	129	126	73	214	904	356	196	33	2	0	1	6	0
1997	112	108	62	320	392	284	352	13	2	5	2	1	0
1998	102	100	51	357	84	2	9	1	0	0	0	0	3
1999	103	103	67	331	382	261	147	12	1	0	0	1	0
2000	70	69	16	75	30	1	0	0	0	0	0	0	0
2001	585	51	24	122	146	10	34	20	0	0	1	0	0
2002	57	56	30	128	193	3	20	0	0	0	0	0	0
2003	67	67	32	204	148	394	549	2	1	0	0	0	0
2004	68	66	35	201	231	230	233	0	1	0	0	1	0
2005	63	59	27	138	152	133	107	3	3	3	1	0	0
2006	60	60	35	89	262	333	279	14	5	1	2	0	0
2007	65	63	32	136	184	173	135	4	1	0	1	0	0
2008	51	50	25	126	138	181	50	13	2	0	2	0	0
2009	57	57	22	127	308	71	65	2	1	0	0	1	0
2010	67	67	38	162	319	3,208	1,062	192	0	3	6	9	5
2011	67	64	33	89	439	347	232	20	1	1	0	0	0
2006–2010 Average	60	59	30	128	242	793	318	45	2	1	2	2	1
2001–2010 Average	114	60	30	143	208	474	253	25	1	1	1	1	1

Note: This permit is issued to harvest salmon. Other species shown were incidentally harvested.

[a] Includes that portion of the Tanana River drainage from the upstream edge of the mouth of the Wood River, not including the Wood River drainage, to the upstream edge of the mouth of the Salcha River, including the Salcha River drainage.

[b] From July 1, 1990 through 1992, and in 1994, the regulations did not provide for a personal use fishery in this area.

Appendix D17.–Personal use harvests taken under authority of a permit in the Fairbanks nonsubsistence area (PW) of the Tanana River, Yukon Area, 1991–2011.

Upper Tanana River Personal Use Fishery (PW) [a]														
					Reported Harvest									
Year		Number of Permits Issued	Number of Permits Returned	Number Reporting Harvest	Chinook	Summer Chum	Fall Chum	Coho	Whitefish	Sheefish	Burbot	Northern Pike	Longnose Sucker	Arctic Grayling
1991	[b]	15	12	10	0	0	0	1	1,309	2	34	0	0	0
1992	[b]		4	3	0	0	0	0	203	0	0	0	0	0
1993		4	4	2	0	0	0	0	191	0	0	1	0	0
1994	[b]	1	1	1	0	0	3	2	85	0	0	0	0	3
1995	6	3	3	2	0	0	0	0	68	0	0	0	0	0
1996		4	4	3	0	0	0	0	55	0	0	0	0	0
1997		5	5	1	0	0	0	0	3	0	0	0	201	0
1998		1	1	0	0	0	0	0	0	0	0	0	0	0
1999		4	4	2	0	0	1	6	35	0	0	12	0	0
2000		3	2	0	0	0	0	0	0	0	0	0	0	0
2001		4	3	0	0	0	0	0	0	0	0	0	0	0
2002		5	5	2	0	0	0	0	50	0	0	0	90	0
2003		7	5	3	0	0	0	0	20	0	5	0	135	7
2004		3	2	1	0	0	0	0	51	0	0	0	0	0
2005		10	10	5	0	0	0	0	81	0	4	1	403	3
2006		7	7	4	0	0	0	0	273	0	3	0	184	1
2007		3	3	0	0	0	0	0	0	0	0	0	0	0
2008		6	6	4	0	0	0	0	28	0	0	0	157	0
2009		11	11	6	0	0	7	5	46	0	0	0	314	0
2010		8	6	3	0	0	1	0	14	1	0	1	57	0
2011		7	7	5	0	0	0	0	36	0	0	0	136	0
2006-2010 Average		7	7	3	0	0	2	1	72	0	1	0	142	0
2001-2010 Average		6	6	3	0	0	1	1	56	0	1	0	134	1

Note: This permit is issued to harvest whitefish species and longnose suckers. Other species shown were incidentally harvested.

[a] Includes that portion of the Tanana River drainage from the upstream edge of the mouth of the Wood River, not including the Wood River drainage, to the mouth of the Volkmar River on the north bank (right bank) of the Tanana River and upstream to the Johnson River on the south bank (left bank) of the Tanana River.

[b] From July 1, 1990 through 1992, and in 1994, the regulations did not provide for a personal use fishery in this area. Harvest from these years are considered subsistence harvest.

Appendix D18.–Estimated and reported subsistence and personal use harvest of miscellaneous fish species, Yukon Area, 2001 to 2011.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	5 yr Avg 2001–2005	5 yr Avg 2006–2010
Survey Estimates [a]													
Whitefish [b]	86,200	78,489	68,416	64,039	48,862	60,923	64,338	54,729	51,778	50,232	44,890	69,201	56,400
Northern Pike	16,753	18,906	22,341	18,738	29,799	28,133	25,947	16,053	8,061	14,086	14,270	21,307	18,456
Sheefish	14,384	15,960	14,280	16,896	13,764	12,745	13,203	10,154	7,861	9,231	10,139	15,057	10,639
Survey Reported													
Burbot	2,836	5,809	3,000	2,628	3,138	5,069	3,500	3,273	2,027	2,743	2,477	3,482	3,322
Arctic Lamprey	4,520	623	29,886	33,919	38,115	2,092	12,584	803	1,699	10,863	6,037	21,413	5,608
Tomcod	7,278	4,497	4,608	5,649	4,988	13,652	7,121	6,391	2,709	3,978	6,797	5,404	6,770
Arctic Grayling	1,503	1,408	2,421	1,645	1,258	1,145	2,296	857	667	1,571	1,273	1,647	1,307
Longnose Suckers	277	546	234	178	1,452	105	225	25	59	273	286	537	137
Arctic Char	251	198	376	116	217	345	181	184	43	148	205	232	180
Alaska Blackfish	85,938	432,967	161,703	229,833	259,874	218,695	131,712	110,356	47,320	68,873	87,064	234,063	115,391
Sockeye Salmon	–	_	_	787	648	333	493	213	216	263	279	–	304
Permit Reported													
Whitefish [b]	2,430	2,856	5,508	4,402	3,671	3,399	3,328	3,402	4,039	3,040	4,851	3,773	3,442
Northern Pike	451	791	1,266	606	641	1,008	2,094	1,678	733	257	319	751	1,154
Sheefish	75	66	203	97	155	80	83	111	76	121	103	119	94
Burbot	124	65	129	127	78	127	99	89	119	45	140	105	96
Arctic Grayling	51	138	1,228	1,032	800	507	525	488	363	201	475	650	417
Longnose Suckers	236	344	978	341	694	770	243	298	518	170	414	519	400
Yukon Area Totals													
Whitefish [b]	88,630	81,345	73,924	68,441	52,533	64,322	67,666	58,131	55,817	53,272	49,741	72,975	59,842
Northern Pike	17,204	19,697	23,607	19,344	30,440	29,141	28,041	17,731	8,794	14,343	14,589	22,058	19,610
Sheefish	14,459	16,026	14,483	16,993	13,919	12,825	13,286	10,265	7,937	9,352	10,242	15,176	10,733
Burbot	2,960	5,874	3,129	2,755	3,216	5,196	3,599	3,362	2,146	2,788	2,617	3,587	3,418
Arctic Lamprey	4,520	623	29,886	33,919	38,115	2,092	12,584	803	1,699	10,863	6,037	21,413	5,608
Tomcod	7,278	4,497	4,608	5,649	4,988	13,652	7,121	6,391	2,709	3,978	6,797	5,404	6,770
Arctic Grayling	1,554	1,546	3,649	2,677	2,058	1,652	2,821	1,345	1,030	1,772	1,748	2,297	1,724
Longnose Suckers	513	890	1,212	519	2,146	875	468	323	577	443	700	1,056	537
Arctic Char	251	198	376	116	217	345	181	184	43	148	205	232	180
Alaska Blackfish	85,938	432,967	161,703	229,833	259,874	218,695	131,712	110,356	47,320	68,873	87,064	234,063	115,391
Sockeye Salmon	–	_	_	787	648	333	493	213	216	263	279	–	304

Note: Dashes indicate information was not collected.

[a] Subsistence whitefish, pike, and a sheefish estimates in surveyed communities is based on a stratified random sample of households as designated for the estimation of subsistence salmon harvests, and may not reflect harvest of those households targeting non-salmon species.

[b] Whitefish includes various Coregonus species and round whitefish (*Prosopium cylindraceum*).

APPENDIX E: YUKON RIVER SALMON ESCAPEMENT

Appendix E1.–Yukon River drainage salmon spawning escapement goals for selected species and streams, 2007 to 2011.

Chinook Salmon Stock	2007-2010 Goal Goal (Type) Year Established	2011 Goal Goal (Type) Year Established
E. Fork Andreafsky River	960-1700 (SEG) 2005	2,100-4,900 (SEG)[a] 2010
W. Fork Andreafsky River	640-1,600 (SEG) 2005	No Change
Anvik River	1,100–1,700 (SEG) 2005	No Change
Gisasa River	420–1,100 (SEG) 2005	Discontinued 2010
Nulato N. and S. combined	940–1,900 (SEG) 2005	No Change
North Fork Nulato River	Discontinued 2005	No Change
South Fork Nulato River	Discontinued 2005	No Change
Chena River	2,800–5,700 (BEG) 2001	No Change
Salcha River	3,300–6,500 (BEG) 2001	No Change
Mainstem Yukon River Canada	33,000-43,000 (2007); >45,000 (2008, 2009)[b]	42,500 – 55,000[b]
Summer Chum Salmon Stock		
E. Fork Andreafsky River	65,000– 130,000 (BEG) 2001	> 40,000 (SEG) 2010
E. Fork Andreafsky River	Discontinued (aerial)[c] 2005	No Change
W. Fork Andreafsky River	Discontinued (aerial)[c] 2005	No Change
W. Fork Andreafsky River	Discontinued (aerial)[c] 2005	No Change
Anvik River	350,00 –700,000 (BEG) 2005	No Change
Fall Chum Salmon Stock		
Yukon Drainage	300,000–600,000 (BEG) 2001	Change to SEG
Tanana River	61,000–136,000 (BEG) 2001	No Change
Delta River	6,000 –13,000 (BEG) 2001	No Change
Toklat River	15,000-33,000 (BEG) 2001	Discontinued
Upper Yukon tributaries	152,000–312,000 (BEG) 2001	No Change
Chandalar River	74,000–152,000 (BEG) 2001	No Change
Sheenjek River	50,000–104,000 (BEG) 2001	No Change
Fishing Branch River (YT, Canada)	50,000–120,000 (2001)[d]; 22,000-49,000 (2009)	22,000-49,000
Mainstem Yukon River (YT, Canada)	>80,000[e]	70,000-104,000
Coho Salmon Stock		
Delta Clearwater	5,200 – 17,000 (SEG) 2004	No Change

[a] Goal was originally aerial survey-based goal, but changed to weir-based goal in 2010.

[b] Escapement goals developed by the Joint Technical Committee (JTC) since 1985. Goals prior to 2008 were based on mark–recapture abundance estimates; goals since that time are based on Eagle sonar estimates of border passage. Interim management escapement goal (IMEG) established in years 2008–2010.

[c] Discontinued because of difficulty conducting aerial surveys of summer chum salmon.

[d] Escapement goals developed by JTC in October 1987. Interim goals of 15,000 fall chum salmon for 2003 and 13,000 fall chum salmon for 2004 were established.

[e] Escapement goals developed by JTC in November 1990. Interim goals of 60,000 fall chum salmon for 2002, and 65,000 fall chum salmon for 2003 and 2004 were established. Estimated total spawning escapement excluding the Porcupine River (estimated mainstem Yukon River border passage minus Canadian harvests).

Appendix E2.–Detailed preliminary salmon spawning escapement estimates for the Yukon River drainage, 2011.

Stream (drainage)	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Agency
Andreafsky River							
East Fork (weir count)	6/20 - 7/30	–	5,213	100,473	–	–	USFWS
East Fork	7/20	Good	(620)	(12,889)	–	–	ADF&G
West Fork	7/20	Good	1,173	10,020	–	–	ADF&G
Andreafsky Subtotal			6,386	110,493	–	–	
Pilot Station (Sonar estimate)	6/1 - 9/7	–	(107,027)	(1,778,870)	(698,762)	(118,453)	ADF&G
Atchuelinguk (Chulinak)	7/21	Fair	100	4,354	–	–	ADF&G
California Creek	7/23	Poor	1	334	–	–	ADF&G
Anvik River (Sonar estimate)	6/16 - 7/26	–	–	642,527	–	–	ADF&G
Goblet Creek to Yellow R. [a]	7/21	Fair	11	(4,459)	–	–	ADF&G
Yellow R. to McDonald Cr. (Chinook index area)	7/21	Fair	501	(14,205)	–	–	ADF&G
Swift River	7/21	Fair	17	(5,765)	–	–	ADF&G
Beaver Creek	7/21	Fair	33	(2,809)	–	–	ADF&G
Otter Creek	7/21	Fair	80	(5,705)	–	–	ADF&G
Upstream of McDonald Cr.	7/21	Fair	0	(1,816)	–	–	ADF&G
Anvik Subtotal			642	642,527	–	–	
Rodo River	7/23	Good	100	2,514	–	–	ADF&G
Nulato River							
North Fork[b]	7/22	Good	788	8,493	–	–	ADF&G
South Fork	7/22	Good	613	9,454	–	–	ADF&G
Total Lower Yukon River (downstream of Koyukuk River)			8,630	778,169	–	–	

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Stream (drainage)	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Agency
Koyukuk River Drainage							
Gisasa River (weir project)	6/18 - 7/30	–	2,692	95,796	–	–	USFWS
Gisasa River (aerial)	7/22	Good	(906)	(13,228)	–	–	ADF&G
Kateel River	7/27	Good	175	1,803	–	–	USFWS
Dulbi River	7/26	Poor	0	141	–	–	USFWS
Huslia River							
Billy Hawk Creek	7/27	Fair	0	22	–	–	USFWS
Dakli River							
Mainstem Dakli	7/24	Fair	0	5,975	–	–	ADF&G
Wheeler Creek	7/24	Fair	3	5,323	–	–	ADF&G
Indian River	7/26	Good	0	3,679	–	–	USFWS
Hogatza River drainage							
Clear Creek	7/24	Fair	0	1,690	–	–	ADF&G
Caribou Creek	7/24	Fair	0	1,975	–	–	ADF&G
Alatna River							
Malamute Fork	7/24	Good	168	144	–	–	ADF&G
Iniakuk River	7/24	Good	59	1,220	–	–	ADF&G
Klikhtentotzna	7/24	Fair	0	975	–	–	ADF&G
Henshaw Creek (weir project)	6/24 - 8/2	–	1,796	248,247	–	–	TCC
South Fork Koyukuk River							
Mainstem South Fork	7/24	Fair	288	1	–	–	ADF&G
Jim River	7/24	Fair	148	31	–	–	ADF&G
Total Koyukuk River			5,329	367,022	–	–	
Melozi Hot Springs Creek	7/23	Fair	0	5,474	–	–	ADF&G
Black Sand Creek	7/23	Fair	2	1,275	–	–	ADF&G
Little Melozitna River	7/23	Fair	18	2,194	–	–	ADF&G
Wolf Creek	7/23	Fair	0	698	–	–	ADF&G
Melozitna Subtotal			20	9,641	–	–	
Tozitna River	7/23	Good	339	11,351	–	–	ADF&G
Total Yukon River (downstream of Tanana River)			14,318	1,166,183	–	–	

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Stream (drainage)	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Agency
Tanana River Drainage							
Chatanika River	7/26	Fair	83	0	–	–	ADF&G
Nenana River Drainage							
Seventeen Mile Slough	7/29, 10/20	Fair, Good	20	–	3	912	ADF&G
Julius Creek	10/20	Fair	–	–	0	0	ADF&G
Wood Creek	10/20	Fair	–	–	0	0	ADF&G
Clear Creek	10/20	Fair	–	–	0	516	ADF&G
Glacier Creek	10/20	Fair	–	–	0	156	ADF&G
Lost Slough (western floodplain)	10/20	Good	–	–	3	912	ADF&G
Lignite Springs (foot survey)	–	Good	–	–	–	110	BSFA
Nenana Subtotal			20	–	6	2,606	
Chena River							
Chena River (outside index area)	8/6	Good	(76)	(0)	–	–	ADF&G
Chena River (aerial index area)	8/6	Good	(455)	(4,600)	–	–	ADF&G
Chena River (counting tower estimate) [c]		–	–	–	–	–	ADF&G
Salcha River							
Salcha River (outside index area)	7/25	Fair	(454)	(288)	–	–	ADF&G
TAPS to Caribou Cr (aerial index area)	7/25	Fair	(3,083)	(819)	–	–	ADF&G
Salcha River (counting tower estimate) [c]		–	–	–	–	–	BSFA
Richardson Clearwater River	11/11	Good	–	–	56	575	ADF&G
Mainstem Tanana sloughs (helicopter survey)							
Benchmark 735 slough	11/11	Good	–	–	428	467	ADF&G
Little Delta River mouth vicinity	11/11	Fair	–	–	207	5	ADF&G
Whitestone slough	11/11	Poor	–	–	2	0	ADF&G
Rika's Roadhouse vicinity	11/11	Fair	–	–	1,890	0	ADF&G
Bluff Cabin Island slough	11/11	Fair	–	–	20	0	ADF&G
Clearwater Lake Outlet slough	10/28	Fair	–	–	0	2,092	ADF&G
Pearse slough and vicinity	11/11	Poor	–	–	0	0	ADF&G
Goodpaster River (counting tower estimate) [c]	7/12, 8/4	–	1,325	–	–	–	TCC/BSFA

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Stream (drainage)	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Agency
Delta River							
Foot Survey (peak count)	11/9, 11/23	Good	–	–	(17,448)	11	ADF&G
Population Estimate [d]		–	–	–	23,639	–	ADF&G
Blue Creek	11/10	Fair	–	–	2	61	ADF&G
Bluff Cabin Slough	11/11	Good	–	–	2,655	0	ADF&G
Bluff Cabin Creek	11/11	Good	–	–	0	7	ADF&G
Bluff Cabin Island Slough	11/11	Fair	–	–	20	0	ADF&G
Delta Clearwater River Index Area (boat survey)	10/28	Fair	–	–	0	6,180	ADF&G
Tok Overflow #1 (foot survey)	11/7	Good	–	–	–	0	ADF&G
Total Tanana River			–	–	28,925	12,004	
Hodzana River	7/25	Good	98	965	–	–	ADF&G
Chandalar River (Sonar estimate) [e]	8/9-9/26, 10/9	–	–	–	295,335	–	USFWS
Porcupine River Drainage							
Sheenjek River (Sonar estimate) [e]	8/8-9/24, 10/9	–	–	–	97,976	–	ADF&G
Fishing Branch River (weir project) [e, f]	9/1-10/16, 10/25	–	–	–	13,085	–	DFO
Porcupine Sonar [g]	8/22-9/22	–	–	–	(12,438)	–	DFO[h]
Total Porcupine River			–	–	111,061	–	
Eagle (Sonar estimate) [e]	7/5 - 10/6, 10/18	–	(51,271)	–	(224,354)	–	ADF&G/DFO
Total Alaska Portion of Drainage Observed Escapements [i]			15,741	1,167,148	422,236	12,004	

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Stream (drainage)	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Agency
Yukon Territory Streams [j]							
Klondike River (sonar estimate)	7/5 - 10/14	–	1,181	–	–	–	DFO [h]
Blind Creek (weir)	7/15 - 10/18	–	360	–	–	–	DFO [h]
Little Salmon River (Index area)			–	–	–	–	DFO
Big Salmon River (index area)	8/22	Fair	405	–	–	–	DFO
Big Salmon River (sonar estimate)	7/17 - 8/23	–	5,156	–	–	–	DFO [h]
Teslin River Drainage							
Wolf River	08/22	Fair	81	–	–	–	DFO
Whitehorse Fishway	8/5 - 9/5	–	1,534	–	–	–	DFO [h]
Subtotal Individual Mainstem Sites			8,312	–	–	–	
Canadian Mainstem Yukon River							
Border Passage Estimate (Eagle sonar minus U.S. harvest)			(50,901)	–	(211,930)	–	ADF&G/DFO
Canadian Escapement Estimate (Border Passage minus Canada Harvest)			46,307	–	205,591	–	ADF&G/DFO
Total Yukon Territory [k]			46,307	–	218,676	–	DFO
Yukon River Drainage Total Observed Escapements			62,048	1,167,148	627,827	12,004	

Note: Data in parentheses are not included in subtotals or totals. Surveys rated as "poor" should not be used without reviewing the entire history of the system to determine relevance (http://sf.adfg.state.ak.us/CommFishR3/WebSite/AYKDBMSWebsite/Default.aspx).

[a] Anvik River chum salmon index area includes mainstem counts between Goblet Creek and McDonald Creek.

[b] Nulato River mainstem aerial survey counts below the forks are included with the North Fork.

[c] High water prevented counting for a portion of the season; therefore, no passage estimates are presented.

[d] Population estimate based upon replicate foot surveys and salmon streamlife data.

[e] Includes expansion for end of run for fall chum salmon.

[f] Includes expansion for period of high water (9/7-9/19).

[g] Includes expansion for when the sonar was down.

[h] Yukon Territory counts provided by DFO but are operated by various contractors mostly funded by Restoration and Enhancement Funds.

[i] Total for the Alaska portion of drainage does not include Fishing Branch River. Total for Yukon Territory includes Fishing Branch River.

[j] Canadian "border passage" estimate for Yukon Territory streams (excluding the Fishing Branch River). Canadian harvest has not been removed.

[k] Yukon Territory counts include Canadian mainstem Yukon River escapement estimate plus Fishing Branch River.

Appendix E3.–Pilot Station sonar project estimates, Yukon River drainage, 1995 and 1997 to 2011.

	Chinook			Chum						
Year [a]	Large [b]	Small	Total	Summer	Fall [c]	Total	Coho [c]	Pink	Other [d]	Total
1995	130,271	32,674	162,945	3,556,445	1,053,245	4,609,690	101,806	24,604	1,011,855	5,910,900
1997 [e]	118,121	77,526	195,647	1,415,641	506,621	1,922,262	104,343	2,379	621,857	2,846,488
1998	71,177	16,675	87,852	826,385	372,927	1,199,312	136,906	66,751	277,566	1,768,387
1999	127,809	16,914	144,723	973,708	379,493	1,353,201	62,521	1,801	465,515	2,027,761
2000	39,233	5,195	44,428	456,271	247,935	704,206	175,421	35,501	361,222	1,320,778
2001 [f]	85,511	13,892	99,403	441,450	376,182	817,632	137,769	665	353,431	1,408,900
2002	92,584	30,629	123,213	1,088,463	326,858	1,415,321	122,566	64,891	557,779	2,283,770
2003	245,037	23,500	268,537	1,168,518	889,778	2,058,296	269,081	4,656	502,878	3,103,448
2004	110,236	46,370	156,606	1,357,826	594,060	1,951,886	188,350	243,375	637,257	3,177,474
2005 [g]	142,007	17,434	159,441	2,439,616	1,813,589	4,253,205	184,718	37,932	593,248	5,228,544
2006	145,553	23,850	169,403	3,767,044	790,563	4,557,607	131,919	115,624	875,899	5,850,452
2007	90,184	35,369	125,553	1,726,885	684,011	2,410,896	173,289	71,699	1,085,316	3,866,753
2008	106,708	23,935	130,643	1,665,667	615,127	2,280,794	135,570	558,050	585,303	3,690,360
2009 [h]	108,361	35,688	144,049	1,421,646	233,307	1,654,953	206,620	23,679	765,140	2,794,441
2010	100,699	19,476	120,175	1,405,533	393,326	1,798,859	155,784	747,297	862,034	3,684,149
2011	100,217	23,152	123,369	1,977,808	764,194	2,742,002	124,931	6,526	694,700	3,691,528

[a] Estimates for all years were generated with the most current apportionment model and may differ from earlier estimates.

[b] Chinook salmon > 655 mm MEFL.

[c] This estimate may not include the entire run. From 2008 to present, operations were extended to September 7, instead of the usual end date of August 31.

[d] Includes sockeye salmon, cisco, whitefish, sheefish, burbot, suckers, Dolly Varden, and northern pike.

[e] The Yukon River sonar project did not operate at full capacity in 1996 and there are no passage estimates for this year.

[f] High water levels were experienced at Pilot Station in 2001, and therefore passage estimates are considered conservative.

[g] Estimates include extrapolations for the dates June 10 to June 18, 2005 to account for the time before the DIDSON was deployed.

[h] High water levels were experienced at Pilot Station in 2009, and therefore passage estimates are considered conservative.

Appendix E4.–Chinook salmon aerial survey indices for selected spawning areas in the Alaska portion of the Yukon River drainage, 1990–2011.

	Andreafsky River		Anvik River		Nulato River			Gisasa River
Year	East Fork	West Fork	Drainagewide Total	Index Area [a]	North Fork [b]	South Fork	Both Forks	
1990	2,503	1,545	2,347	1,595	568 [c]	430 [c]	998 [c]	884 [c]
1991	1,938	2,544	875 [c]	625 [c]	767	1,253	2,020	1,690
1992	1,030 [c]	2,002 [c]	1,536	931	348	231	579	910
1993	5,855	2,765	1,720	1,526	1,844	1,181	3,025	1,573
1994	300 [c]	213	[c]	913 [c]	843	952	1,795	2,775
1995	1,635	1,108	1,996	1,147	968	681	1,649	410
1996		624	839	709		100	100	
1997	1,140	1,510	3,979	2,690				144 [c]
1998	1,027	1,249 [c]	709 [c]	648 [c]	507	546	1,053	889 [c]
1999	[c]	870	[c]	[c] 950 [c]		[c]	[c]	[c]
2000	1,018	427	1,721	1,394		[c]	[c]	[c]
2001	1,059	565	1,420	1,177	1,116	768	1,884 [d]	1,298 [c]
2002	1,447	917	1,713	1,329	687	897	1,584	506
2003	1,116 [c]	1,578 [c]	1,100 [c]	973 [c]		[c]	[c]	
2004	2,879	1,317	3,679	3,304	856	465	1,321	731
2005	1,715	1,492	2,421	1,922	323	230	553	958
2006	591 [c]	824	1,876	1,776 [e]	1,292	–	1,292	843
2007	1,758	976	1,529	1,497	2,583	–	2,583	593
2008	278 [c]	262 [c]	992 [c]	827 [c]	922	–	922	487
2009	84 [c]	1,678	832	590	2,260	–	2,260	515
2010	537	858	974	721	356	355	711	264
2011	620	1,173	642	501	788	613	1,401	906
SEG [f]	960–1,900	640–1,600		1,100–1,700			940–1,900	420–1,100
Average								
1990–2010	1,469	1,206	1,698	1,297	1,015	622	1,431	910
2001–2010	1,146	1,047	1,654	1,412	1,155	543	1,457	688
2006–2010	650	920	1,241	1,082	1,483	355	1,554	540

Note: Aerial survey counts are peak counts only. Survey rating was fair or good unless otherwise noted.

[a] Anvik River Index Area includes mainstem counts between Yellow River and McDonald Creek.

[b] Nulato River mainstem aerial survey counts below the forks are included with the North Fork.

[c] Incomplete, poor timing and/or poor survey conditions resulting in minimal or inaccurate counts.

[d] In 2001, the Nulato River escapement goal was established for both forks combined.

[e] Index area includes counts from Beaver Creek to McDonald Creek.

[f] Sustainable escapement goal.

Appendix E5.–Chinook salmon escapement counts for selected spawning areas in the Alaska portion of the Yukon River drainage, 1990–2011.

Year	East Fork Andreafsky River		Nulato River Tower	Henshaw Creek Weir		Gisasa River Weir		Chena River		Salcha River	
	No. Fish	% Fem.	No. Fish	No. Fish	% Fem.	No. Fish	% Fem.	No. Fish	% Fem. [a]	No. Fish	% Fem. [a]
1990		41.6 [b]						5,603 [c]	36.3	10,728 [c]	36.2
1991		33.9 [b]						3,025 [c]	31.5	5,608 [c]	40.7
1992		21.2 [b]						5,230 [c]	21.6	7,862 [c]	36.0
1993		29.9 [b]						12,241 [d]	11.7	10,007 [d]	22.9
1994	7,801	35.5 [e,f]	1,795 [f]			2,888	[f]	11,877 [d]	32.4	18,399 [d]	40.4
1995	5,841	43.7 [e]	1,412			4,023	46.0	9,680 [c]	51.7	13,643 [d]	48.4
1996	2,955	41.9 [e]	756			1,991	19.5	7,153 [c]	26.8	7,570 [d]	26.2
1997	3,186	36.8 [e]	4,766			3,764	26.0	13,390 [c]	25.6	18,514 [d]	41.8
1998	4,034	29.0 [e]	1,536			2,414	16.2	4,745 [d]	28.4	5,027 [d]	26.1
1999	3,444	28.6 [e]	1,932			2,644	26.4	6,485 [d]	45.6	9,198 [d]	44.6
2000	1,609	54.3 [e]	908	244	29.7	2,089	34.4	4,694 [c]	21.7	4,595 [d]	34.3
2001		[f]	[f]	1,103	36.3	3,052	49.2 [f]	9,696 [d]	30.1	13,328 [d]	32.1
2002	4,123	21.1 [e]	2,696	649	30.8	2,025	20.7	6,967 [c]	27.3	9,000 [d,g]	29.8
2003	4,336	45.3 [e]	1,716 [e]	763	38.4	1,901	38.1	11,100 [d,h]	31.8	15,500 [d,g]	36.6
2004	8,045	37.3	[i]	1,248	21.3	1,774	30.1	9,645 [d]	43.9	15,761 [d]	54.2
2005	2,239	50.2	[i]	1,059	41.4	3,111	34.0	[d,e]	30.6	5,988 [d]	47.5
2006	6,463	42.6	[i]		[e]	3,030	28.2	2,936 [d]	32.1	10,679 [d]	38.1
2007	4,504	44.7	[i]	740	24.9	1,425	39.0	3,806 [d]	27.3	6,425 [d]	31.0
2008	4,242	34.8	[i]	766	27.7	1,735	16.2	3,208 [d]	29.0	5,415 [d,g]	33.7
2009	3,004	46.0	[i]	1,637	49.0	1,955	29.3	5,253 [d]	40.0	12,774 [d]	33.9
2010	2,413	48.6	[i]	857	49.6	1,516	29.0	2,382 [d]	20.6	6,135 [d]	26.6
2011	5,213	20.2	[i]	1,796	33.9	2,692	19.5	[j]	22.7	[k,l]	42.1
BEG [m]								2,800–5,700		3,300–6,500	
Average											
1990–2010	4,321	38.4	1,946	907	34.9	2,446	30.1	6,956	30.8	10,103	36.2
2001–2010	4,374	41.2	2,206	980	35.5	2,152	31.4	6,110	31.3	10,101	36.4
2006–2010	4,125	43.3	–	1,000	37.8	1,932	28.3	3,517	29.8	8,286	32.7

-continued-

[a] In years when only carcass surveys were conducted, proportions of males and females were adjusted based on the average of ratios of unbiased estimates from mark–recapture experiments to estimates from carcass samples over those years when mark–recapture studies were conducted. In years when mark–recapture experiments were conducted, proportions of males and females were estimated as the ratio of the abundance estimate of each gender to the abundance.

[b] Counting project terminated due to budget constraints.

[c] Mark–recapture population estimate.

[d] Tower counts.

[e] Weir counts.

[f] No estimate due to extreme high water conditions.

[g] Estimate includes an expansion for missed counting days based on average run timing. Minimum documented abundances from successful counting days were 4,644 in 2002, 11,758 in 2003, and 5,415 in 2008.

[h] Estimate includes an expansion for missed counting days based on average run timing. Minimum documented abundance during successful counting days was 8,739 (SE=653) fish.

[i] Project did not operate.

[j] No estimate due to high water conditions that prevented counting for much of the season.

[k] Adjusted percent female based upon 8 years of paired electrofishing and carcass survey data, which indicated percent female from carcass surveys were biased high.

[l] No estimate due to high water; however, an aerial survey flown 7/25 counted a total of 3,537 Chinook salmon.

[m] Biological escapement goals (BEG) established by the Alaska Board of Fisheries, January 2001.

Appendix E6.–Chinook salmon escapements for selected spawning areas in the Canadian portion of the Yukon River drainage, 1990–2011.

Year	Tincup Creek	Tatchun Creek	Little Salmon River	Big Salmon River	Nisutlin River	Ross River	Wolf River	Blind Creek	Chandindu River	Big Salmon Sonar	Klondike River Sonar
1990	83	643	665	1,806	652	457	188				
1991			326	1,040		250	201				
1992	73	106	494	617	241	423	110				
1993		183	184	572	339	400	168				
1994	101	477	726	1,764	389	506	393				
1995	121	397	781	1,314	274	253	229				
1996	150	423	1,150	2,565	719	102	705				
1997	193	1,198	1,025	1,345	277		322	957			
1998	53	405	361	523	145		66	373	132		
1999		252	495	353	330		131	892	239		
2000	19	276	46	113			32		4		
2001	39		1,035	1,020	481		154		129		
2002			526	1,149	280		84				
2003			1,658	3,075	687		292	1,115	185		
2004			1,140	762[20]	330		226	792			
2005			1,519	952	807	363	260	525		5,584	
2006			1,381	1,140	601		114	677		7,308	
2007			451	601	137		54	304		4,450	
2008			93	303			22	276		1,329	
2009			821	1,827	497		134	716		9,261	4,725
2010			63	656	288		94	270		3,817	803
2011			38	405			81	360		5,156	1,181
IMEG											
Averages											
1990-2010	92	436	711	1,119	394	344	189	627	138		
2001-2010	39		869	1,149	456	363	143	584	157	5,292	
2006-2010			562	905	381		84	449		5,233	2,764

-continued-

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Whitehorse Fishway		Canadian Mainstem		
Count	Percent Hatchery Contribution	Border Passage Estimate [o]	Harvest	Spawning Escapement Estimate [p]
1,407	24	78,192	18,980	59,212
1,266 [q]	51 [q]	63,172	20,444	42,728
758 [q]	84 [q]	56,958	17,803	39,155
668 [q]	73 [q]	52,713	16,469	36,244
1,577 [q]	54 [q]	77,219	20,770	56,449
2,103	57	70,761	20,088	50,673
2,958	35	93,606	19,546	74,060
2,084	24	69,538	15,717	53,821
777	95	41,335	5,838	35,497
1,118	74	49,538	12,354	37,184
677	69	30,699	4,829	25,870
988	36	62,333	9,769	52,564
605	39	51,428	9,069	42,359
1,443	70	90,037	9,443	80,594
1,989	76	59,415	10,946	48,469
2,632	57	78,962	10,977	67,985
1,720	47	71,388	8,758	62,630
427	56	39,698	4,794	34,904
399	54	37,282	3,399	33,883
828	47	69,575	4,297	65,278
672	49	34,465	2,455	32,010
1,534	48	50,901	4,594	46,307
				42,500-55,000 [r]
1,290	56	60,872	11,750	49,122
1,170	53	59,458	7,391	52,068
809	51	50,482	4,741	45,741

-continued-

[a] Data obtained by aerial survey unless otherwise noted. Only peak counts are listed. Survey rating is fair to good, unless otherwise noted.

[b] All foot surveys prior to 1997. The 1997–2000 data were from weir counts.

[c] Counts are from the mainstem Big Salmon River between Big Salmon Lake and the vicinity of Souch Creek.

[d] One Hundred Mile Creek to Sidney Creek.

[e] Big Timber Creek to Lewis Lake.

[f] Wolf Lake to Fish Lake outlet except where otherwise indicated.

[g] Counts for Big Timber Creek to Sheldon Lake.

[h] Resistance board weir tested for 3 weeks.

[i] Foot survey.

[j] High water delayed project installation, therefore, counts are incomplete.

[k] Conventional weir July 01-September 08, but was breached from July 31 to August 7.

[l] Combination resistance board weir and conduit weir tested and operational from July 10 to 30.

[m] Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.

[n] Data are preliminary.

[o] Estimated total border passage excluding Porcupine River based on Eagle sonar for 2005 to 2010, on radio tagging proportion study for 2002 to 2004, on 3 area index (Little Salmon, Big Salmon and Nisutlin aerial survey) plus Canadian harvest for 1982 to 2001.

[p] Estimated total spawning escapement excluding Porcupine River based on 3 area index for 1982 to 2001, and on border passage estimate minus Canadian harvest for 2002–2010.

[q] Counts and estimated percentages may be slightly exaggerated. In some or all of these years a number of adipose-clipped fish ascended the fishway, and were counted more than once. These fish would have been released into the fishway as fry between 1989 and 1994, inclusive.

[r] Interim management escapement goal (IMEG) range of 42,500–55,000 was established in 2010 and continued in 2011. This replaced the IMEG of 45,000 used in 2008 and 2009. These goals are based on Eagle sonar project estimates.

Appendix E7.–Summer chum salmon escapements for selected spawning areas in the Alaska portion of the Yukon River drainage, 1990–2011.

	Andreafsky River					Anvik River			Rodo River		Kaltag Creek		Nulato River				
	East Fork			West Fork									South Fork		North Fork [a]		Mainstem
Year	Aerial	[b]	Sonar, Tower, or Weir Counts	Aerial	[b]	Tower & Aerial [c]	Sonar		Aerial	[b]	Tower		Aerial	[b]	Aerial	[b]	
1990	14,519	[d]		20,426	[d]		403,627		1,941	[d]			3,196	[d,e]	1,419	[d]	Tower
1991	31,886		–	46,657		–	847,772		3,977				13,150		12,491		
1992	11,308	[d]		37,808	[d]		775,626		4,465				5,322		12,358		
1993	10,935	[d]		9,111	[d]	–	517,409		7,867				5,486		7,698		
1994	–		200,981		[f,g]		–	1,124,689	–		47,295		–		–		148,762 [g]
1995	–	–	172,148		[f]	–	–	1,339,418	12,849		77,193		10,875		29,949		236,890
1996	–		108,450		[f]	–	–	933,240	4,380		51,269		8,490	[d,f]			129,694
1997	–	–	51,139		[f]		–	605,752	2,775	[d]	48,018		–		–		157,975
1998	–	–	67,720		[f]		–	487,301	–		8,113		–		–		49,140
1999	–		32,587		[f]		–	437,356	–		5,339		–		–		30,076
2000	2,094	[d]	24,785	18,989	[d]			196,349	–		6,727		–		–		24,308
2001	–		2,134		[f,g]		–	224,058	–		–	[h]			–		– [i]
2002	–		44,194		[f]		–	459,058	–		13,583		–		–		72,232
2003	–		22,461		[f]	–	–	256,920	–		3,056		–		–		19,590 [g]
2004	–		64,883		[f]		–	365,353	–		5,247	–	–		–		– [h]
2005	–		20,127	–			–	525,391	–		22,093		–		–		– [h]
2006	3,100	[d]	102,260	617			–	605,485	–		–	[h]	7,772		11,658		– [h]
2007	–		69,642	–			–	460,121	–		–	[h]	21,825		15,277		– [h]
2008	9,300		57,259	25,850			–	374,928	–		–	[h]	12,070		10,715		– [h]
2009	736		8,770	3,877			–	193,099	621		–	[h]	2,120		567		– [h]
2010	1,982		72,839	24,380			–	396,173	–		–	[h]	1,891		1,038		– [h]
2011	12,889		100,473	10,020			–	642,528	6,011		–	[h]	9,454		8,493		– [h]
Escapement Objective	>40	[j]		>116	[k]			350–700	[j]							[l]	

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Year	Henshaw Creek	Gisasa River		Hogatza River			Tozitna River	Chena River			Salcha River		
				Clear & Caribou Cr.		Clear Creek							
1990	Weir	Aerial 450	[d]	2,177	[d]		Aerial	245	[d]		450	[d] Tower	
1991		7,003		9,947			93	115	[d]		154	[d]	
1992		9,300		2,986			794	848	[d]		3,222		
1993		1,581		–			970	168		5,400	212		5,809
1994		6,827		51,116	[g] 8,247	[m]		1,137		9,984	4,916		39,450
1995		6,458		136,886	–		116,735	4,985		185 [d]	3,519 [h]	934 [d]	30,784
1996		–		158,752	27,090	[m]	100,912	2,310		2,061	12,810 [h]	9,722	74,827
1997		686	[d]	31,800	1,821	[d]	76,454	428	[d]	594 [d]	9,439 [h]	3,968 [d]	35,741
1998		–		21,142	120	[d,36]	212	[l]	[d]	[d]	5,901	370 [d]	17,289
1999		–		10,155	–		11,283	–		520	9,165	150	23,221
2000	27,271	–		11,410	–		19,376	480	24	105	3,515	228	20,516
2001	35,031	–		17,946	–		3,674	7 12,527		2	4,773	–	14,900 [j]
2002	25,249	–		33,481	–	–	13,150	18,789		–	1,021 [g]	78	20,837 [j]
2003	22,556	–		25,999	–		6,159	8,487		–	573 [g]		–
2004	86,474	–		37,851	–		15,661	25,003		–	15,162 [g]		47,861
2005	237,481	–		172,259	–		26,420	39,700		219	2,928 [g]	4320	193,085
2006	–	1,000		261,305	–		29,166	22,629		469	35,109 [g]	– 152	111,869
2007	44,425	–		46,257	–		6,029	[o] 8,470		–	4,999	– 4	[d] 13,069
2008	97,281	20,470		36,938	–		–	[n] 9,133		37	1,300 [g]		[d] 2,212 [g]
2009	156,201	1,060		25,904	3,981		–	[n] 8,434		–	16,516	–	31,035 [p]
2010	105,398	1,096		47,669	840		–	[n]		–	7,560	–	22,185 [p]
2011	248,247	13,228		95,796	3,665		–	[n] 11,351		4,600	[q] 0	819	[q]
Escapement Objective					[r]		–					[k]	

-continued-

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>17

>3.5

Note: Unless otherwise noted blank cells indicate years prior to the project being operational. En dash indicates years in which no information was collected.

[a] Includes mainstem counts below the confluence of the North and South Forks, unless otherwise noted.

[b] Aerial survey counts are peak counts only, survey rating is fair or good unless otherwise noted.

[c] From 1972 to 1979 counting tower operated; escapement estimate listed is the tower counts plus expanded aerial survey counts below the tower (see Buklis 1982).

[d] Incomplete survey and/or poor survey timing or conditions resulted in minimal or inaccurate count.

[e] Mainstem counts below the confluence of the North and South Forks of the Nulato River included in the South Fork counts.

[f] Weir count.

[g] Incomplete count due to late installation and/or early removal of project or high water events.

[h] Project did not operate.

[i] No counts due to incomplete operations.

[j] Biological escapement goals (in thousands of fish) established by the Alaska Board of Fisheries, Jan. 2010.

[k] Interim escapement objective (in thousands of fish).

[l] Interim escapement objective (in thousands of fish) for North Fork Nulato River only.

[m] BLM helicopter survey.

[n] Consists of Clear Creek only.

[o] Project operated as a video monitoring system.

[p] Data are preliminary.

[q] No estimates due to high water conditions that prevented counting for much of the season.

[r] Consists of Clear and Caribou Creeks interim escapement objectives (in thousands of fish) of 9,000 and 8,000, respectively.

Appendix E8.–Fall chum salmon abundance estimates or escapement estimates for selected spawning areas in the Alaska portions of the Yukon River drainage, 1990–2011.

		Alaska							
		Tanana River Drainage						Upper Yukon River Drainage	
Year	Yukon River Mainstem Sonar Estimate	Toklat River [a]	Kantishna River Abundance Estimate [b]	Delta River [c]	Bluff Cabin Slough [d]	Upper Tanana River Abundance Estimate [e]	Tanana River Estimate [f]	Chandalar River [g]	Sheenjek River [g]
1990		34,739		8,992 [h]	1,632			78,631	77,750 [i]
1991		13,347		32,905 [h]	7,198				86,496 [j]
1992		14,070		8,893 [h]	3,615 [k]				78,808
1993		27,838		19,857	5,550 [k]				42,922
1994		76,057		23,777 [h]	2,277 [k]				150,565
1995	1,053,248	54,513 [l]		20,587	19,460	268,173	230,643	280,999	241,855
1996		18,264		19,758 [h]	7,074 [k]	134,563	132,922	208,170	246,889
1997	506,621	14,511		7,705 [h]	5,707 [k]	71,661	88,641	199,874	80,423 [m]
1998	372,927	15,605		7,804 [h]	3,549 [k]	62,384	82,475	75,811	33,058
1999	379,493	4,551	27,199	16,534 [h]	7,037 [k]	97,843	109,309	88,662	14,229
2000	247,935	8,911	21,450	3,001 [h]	1,595	34,844	55,983	65,894	30,084 [n]
2001	376,182	6,007 [o]	22,992	8,103 [h]	1,808 [k]	96,556 [p]	116,012	110,971	53,932
2002	326,858	28,519	56,719	11,992 [h]	3,116	109,970	163,421	89,850	31,642
2003	889,778	21,492	87,359	22,582 [h]	10,600 [k]	193,418	263,302	214,416	44,047 [q]
2004	594,060	35,480	76,163	25,073 [h]	10,270 [k]	123,879	187,409	136,706	37,878
2005	1,813,589	17,779 [l]	107,719	28,132 [h]	11,964 [k]	337,755	372,758	496,484	561,863 [r,s,t]
2006	790,563		71,135	14,055 [h]		202,669	233,193	245,090	160,178 [r,s]
2007	684,011		81,843	18,610 [h]		320,811	357,016	228,056	65,435 [r,s]
2008	615,127			23,055 [h]	1,198 [k]		264,200	178,278 [u]	50,353 [r,s,u]
2009	233,307 [v]			13,492 [h]	2,900 [k]		159,828		54,126 [r,s,u]
2010	393,326			17,933 [h]	1,610 [k]		212,660	157,998	22,053
2011	764,194 [w]			23,639 [h]	2,655 [k]		270,846	295,335 [w]	97,976 [r,s,u,w]
Escapement [x]	300,000	15,000 [y]		6,000		46,000 [z]	61,000	74,000	50,000
Objective	600,000	33,000		13,000		103,000	136,000	152,000	104,000
Average									
1990-2010	645,980 [aa]	24,480	61,398	16,802	5,693	158,040	189,361	178,493	103,076
2001-2010	720,388 [aa]	21,855	71,990	18,303	5,433	197,865	232,980	206,428	108,151
2006-2010	620,757 [aa]	-	76,489	17,429	1,903	287,078	245,380	202,356	70,429

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[a] Expanded total abundance estimates for upper Toklat River index area using stream life curve (SLC) developed with 1987–1993 data. Index area includes Geiger Creek, Sushana River, and mainstem floodplain sloughs from approximately 0.25 mile upstream of roadhouse.

[b] Fall chum salmon abundance estimate for the Kantishna and Toklat River drainages is based on a mark–recapture program. Tag deployment occurs at a fish wheel located near the mouth of the Kantishna River and recaptures are collected at 4 fish wheels; 2 located 8 miles upstream of the mouth of the Toklat River (1999–2005) and 1 fish wheel on the upper Kantishna River (2000–2002, 2006–2007) and 2 fish wheels in 2003–2005.

[c] Estimates are a total spawner abundance, using migratory time density curves and stream life data, unless otherwise indicated.

[d] Foot survey, unless otherwise indicated.

[e] Fall chum salmon abundance estimate for the upper Tanana River drainage is based on a mark–recapture program. Tag deployment occurs from a fish wheel (2 fish wheels in 1995) located just upstream of the Kantishna River and recaptures are collected from 1 fish wheel (2 fish wheels in 1995) located downstream from the village of Nenana.

[f] Tanana River abundance estimates prior to 1995 can be found in Eggers (2001) but are based on Upper Tanana plus Toklat River escapement. Estimates from 1995 to 1998 are based on the relationship of the Upper Tanana to the Kantishna river abundance estimates, and 2008–2011 are based on the relationship of the Tanana estimate (1995–2007) with the Delta River escapements. The harvests from the Tanana River fisheries are removed to estimate escapement.

[g] Single-beam sonar estimate beginning in 1981, split-beam sonar estimate 2002 to 2004, DIDSON since 2005.

[h] Population estimate generated from replicate foot surveys and stream life data (area under the curve method).

[i] Expanded estimates for period approximating second week August through fourth week September, using annual Chandalar River run timing data (1986–1990).

[j] Total abundance estimates are for the period approximating second week August through fourth week of September (1991 to present). Comparative escapement estimates before 1986 are considered more conservative; approximating the period end of August through September.

[k] Aerial survey count, unless otherwise indicated.

[l] Minimal estimate because of late timing of ground surveys with respect to peak of spawning.

[m] Data interpolated due to high water from 29 August until 3 September 1997, during buildup to peak passage.

[o] Minimal estimate because Sushana River was breached by the main channel and uncountable.

[p] Low numbers of tags deployed and recovered resulted in an estimate with an extremely large confidence interval (95% CI +/- 41,072).

[q] Project ended on peak daily passages due to late run timing, estimate was expanded based on run timing (87%) at Rampart.

[r] Sonar counts include both banks in 1985–1987, 2005–2009, and 2011.

[s] In addition to the historical right bank count, the left bank was enumerated with DIDSON (right bank count for 2005-2009 and 2011 was 266,963, 106,397, 39,548, 35,912, 28,480, and 49,080 respectively, not including expansions by bank).

[t] Project ended while still counting >10,000 fish per day, estimate was expanded based on run timing (73%) at Rampart.

[u] Run timing was late and counts were expanded to represent the remainder of the run after the project was terminated for the season.

[v] Pilot Station sonar project encountered record low water levels during the fall season causing difficulties with species apportionment and catchability. Fall chum salmon estimate is suspected of being conservative and should not be used in averages or run reconstructions.

[w] Data are preliminary

[x] Escapement goal (EG) includes individual tributary BEGs and drainagewide SEG from 2011.

[y] EG discontinued in 2010.

[z] The BEG for the Tanana River as a whole is 61,000 to 136,000. However it includes the Toklat plus and the Upper Tanana which was broke out for comparison to the upper Tanana River abundance estimates.

[aa] Does not include 2009.

Appendix E9.–Fall chum salmon abundance estimates or escapement estimates for selected spawning areas in Canadian portions of the Yukon River drainage, 1990–2011.

	Porcupine Drainage							Canadian Mainstem			
Year	Fishing Branch River		Mainstem Yukon River Index		Koidern River		Kluane River		Teslin River		Border Passage Estimate		Harvest	Spawning Escapement Estimate	
1990	35,000	g	3,651		1		4,683		739		82,947		31,212	51,735	
1991	37,870		2,426		53		11,675		468		112,303		33,842	78,461	
1992	22,539		4,438		4		3,339		450		67,962		18,880	49,082	
1993	28,707		2,620		0		4,610		555		42,165		12,422	29,743	
1994	65,247		1,429	a	20	a	10,734		209	a	133,712		35,354	98,358	
1995	51,971	h	4,701		0		16,456		633		198,203		40,111	158,092	
1996	77,302		4,977				14,431		315		143,758		21,329	122,429	
1997	27,031		2,189				3,350		207		94,725		9,306	85,419	
1998	13,687		7,292				7,337		235		48,047		1,795	46,252	
1999	12,958						5,136		19	a	72,188	i	13,636	58,552	
2000	5,057		933	a			1,442		204		57,978	i	4,246	53,732	
2001	21,737		2,453				4,884		5		38,769	i	5,278	33,491	
2002	13,600		973				7,147		64		104,853	i	6,174	98,679	
2003	29,713		7,982				39,347		390		153,656	i	10,523	143,133	
2004	20,417		3,440				18,982		167		163,625	i	9,545	154,080	
2005	119,058		16,425				34,600		585		451,477		13,979	437,733	
2006	30,954		6,553				18,208		620		218,611	j, k	6,617	211,994	
2007	32,150										263,979	j, k	9,330	254,649	
2008	19,086	h									180,379	j, k	6,130	174,267	l
2009	25,828	m									94,739	j	1,115	93,626	n
2010	15,773	m									121,580	k	3,709	117,871	
2011	13,085	o m									211,930		6,312	205,618	
EO	50,000-120,000	p												>80,000	
IMEG	22,000-49,000	q												70,000-104,000	r
Average															
2001-2010	32,832		6,304				20,528		305		179,167		7,240	171,952	
2006-2010	24,758		6,553				18,208		620		175,858		5,380	170,481	

-continued-

[a] Weir count, unless otherwise indicated.

[b] Aerial survey count, unless otherwise indicated.

[c] Index area includes Tatchun Creek to Fort Selkirk.

[d] Index area includes Duke River to end of spawning sloughs below Swede Johnston Creek.

[e] Index area includes Boswell Creek area (5 km below to 5 km above confluence).

[f] Excludes Fishing Branch River escapement (estimated border passage minus Canadian mainstem harvest).

[g] Weir not operated. Although only 7,541 chum salmon were counted on a single survey flown October 26, a population estimate of approximately 27,000 fish was made through date of survey, based upon historic average aerial-to-weir expansion of 28%. Actual population of spawners was reported by DFO as between 30,000–40,000 fish considering aerial survey timing.

[h] Incomplete count caused by late installation and/or early removal of project or high water events.

[i] 1999 to 2004 border passage estimates were revised using a stratified "SPAS" analysis.

[j] 2006 to present border passage estimate is based on sonar minus harvest from Eagle residents upstream of deployment.

[k] Mark–recapture border passage estimates include 217,810, 235,956, and 132,048 from 2006 to 2008 respectively, during transition to sonar.

[l] The 2008 estimate based on a mark-recapture estimate.

[m] Run timing was late and counts were expanded to represent the remainder of the run after the project was terminated for the season.

[n] The 2009 estimate based on the Eagle sonar estimate.

[o] Preliminary.

[p] Escapement objective (EO) based on US/Canada Treaty Obligations, some years stabilization or rebuilding goals are applied.

[q] Interim management escapement goal (IMEG) established for 2008–2010 based on percentile method.

[r] Interim management escapement goal (IMEG) established for 2010 based on brood table of Canadian origin mainstem stocks (1982 to 2003).

Appendix E10.–Yukon River fall chum salmon estimated brood year production and return per spawner estimates 1974–2011.

				Estimated Brood Year Return								(R)	(R/P)
	(P)	Estimated Annual Totals		Number of Salmon [a]				Percent				Total Brood	Return/
Year	Escapement [b]	Catch	Run	Age 3	Age 4	Age 5	Age 6	Age 3	Age 4	Age 5	Age 6	Year Return [a]	Spawner
1974	436,485	478,875	915,360	91,751	497,755	68,693	0	0.139	0.756	0.104	0.000	658,199	1.51
1975	1,465,213	473,062	1,938,275	150,451	1,225,440	61,401	123	0.105	0.853	0.043	0.000	1,437,415	0.98
1976	268,841	339,043	607,884	102,062	587,479	137,039	4,316	0.123	0.707	0.165	0.005	830,895	3.09
1977	514,843	447,918	962,761	102,660	1,075,198	175,688	4,189	0.076	0.792	0.129	0.003	1,357,735	2.64
1978	320,487	434,030	754,517	22,222	332,230	90,580	0	0.050	0.747	0.204	0.000	445,032	1.39
1979	780,818	615,377	1,396,195	41,114	769,496	274,311	3,894	0.038	0.707	0.252	0.004	1,088,814	1.39
1980	263,167	488,373	751,540	8,377	362,199	208,962	3,125	0.014	0.622	0.359	0.005	582,663	2.21
1981	551,192	683,391	1,234,583	45,855	955,725	278,386	8,888	0.036	0.742	0.216	0.007	1,288,853	2.34
1982	179,828	373,519	553,347	11,327	400,323	166,754	679	0.020	0.691	0.288	0.001	579,083	3.22
1983	347,157	525,485	872,642	12,569	875,355	223,468	2,313	0.011	0.786	0.201	0.002	1,113,704	3.21
1984	270,042	412,323	682,365	7,089	408,040	174,207	8,516	0.012	0.683	0.291	0.014	597,852	2.21
1985	664,426	515,481	1,179,907	46,635	874,819	270,984	3,194	0.039	0.732	0.227	0.003	1,195,632	1.80
1986	376,374	318,028	694,402	0	429,749	368,513	4,353	0.000	0.535	0.459	0.005	802,614	2.13
1987	651,943	406,143	1,058,086	12,413	617,519	290,767	7,720	0.013	0.665	0.313	0.008	928,418	1.42
1988	325,137	353,685	678,822	41,003	175,236	152,368	10,894	0.108	0.462	0.401	0.029	379,501	1.17
1989	506,173	545,166	1,051,339	2,744	282,905	345,136	19,661	0.004	0.435	0.531	0.030	650,446	1.29
1990	369,654	352,007	721,661	710	579,452	405,472	30,095	0.001	0.570	0.399	0.030	1,015,729	2.75
1991	591,132	439,096	1,030,228	3,663	993,021	364,812	11,921	0.003	0.723	0.266	0.009	1,373,416	2.32
1992	324,253	148,846	473,099	6,554	646,049	193,073	3,768	0.008	0.761	0.227	0.004	849,444	2.62
1993	352,688	91,015	443,703	7,655	442,167	98,767	3,195	0.014	0.801	0.179	0.006	551,784	1.56
1994	769,920	169,225	939,145	4,234	217,211	147,685	1,603	0.011	0.586	0.398	0.004	370,733	0.48
1995	963,560	461,147	1,424,707	2,286	263,666	68,918	381	0.007	0.786	0.206	0.001	335,252	0.35
1996	787,688	260,923	1,048,611	415	165,691	136,431	8,274	0.001	0.533	0.439	0.027	310,810	0.39

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Appendix E10.–Page 2 of 3.

				Estimated Brood Year Return								(R)	(R/P)
	(P)	Estimated Annual Totals		Number of Salmon [a]				Percent				Total Brood	Return/
Year	Escapement [b]	Catch	Run	Age 3	Age 4	Age 5	Age 6	Age 3	Age 4	Age 5	Age 6	Year Return [a]	Spawner
1997	481,336	170,059	651,395	3,087	243,950	118,044	3,326	0.008	0.662	0.320	0.009	368,407	0.77
1998	251,213	70,820	322,033	648	268,971	57,858	6,678	0.002	0.805	0.173	0.020	334,155	1.33
1999	283,786	131,175	414,961	29,023	703,881	173,990	13,683	0.032	0.765	0.189	0.015	920,577	3.24
2000	210,756	28,543	239,299	8,431	296,273	115,162	0	0.020	0.706	0.274	0.000	419,866	1.99
2001	336,435	44,976	381,411	135,700	2,151,589	679,544	33,497	0.045	0.717	0.226	0.011	3,000,330	8.92
2002	396,901	27,411	424,312	0	447,044	235,927	15,115	0.000	0.640	0.338	0.022	698,086	1.76
2003	693,967	79,529	773,496	24,401	847,126	502,783	16,581	0.018	0.609	0.361	0.012	1,390,892	2.00
2004	536,344	76,296	612,640	0	384,577	150,381	2,183	0.000	0.716	0.280	0.004	537,141	1.00
2005	1,990,251	290,183	2,280,434	2,625	383,552	99,322	5,308	0.005	0.781	0.202	0.011	490,807	0.25
2006	880,503	270,486	1,150,989	25,217	416,994	341,785	0	0.032	0.532	0.436		783,996 [c]	>0.89
2007	910,883	205,667	1,116,550	87,862	849,334	373,568						1,310,764 [d]	>1.44
2008	687,153	217,947	905,100	10,013									
2009	482,411	93,319	575,730										
2010	526,355	80,005	606,360										
2011	881,309	325,132	1,206,441										
Average-10	560,792	300,502	861,294										
Min-05	179,828	27,411	239,299	0	165,691	57,858	0	0.000	0.435	0.043	0.000	310,810	0.25
Max-05	1,990,251	683,391	2,280,434	150,451	2,151,589	679,544	33,497	0.139	0.853	0.531	0.030	3,000,330	8.92
	539,438	All Brood Years (1974-2005)		28,991	590,740	213,607	7,421	0.030	0.690	0.271	0.009	840,759	1.99
	380,443	Even Brood Years (1974-2005)		19,052	387,392	175,569	6,225	0.032	0.657	0.300	0.011	588,238	1.83
	698,432	Odd Brood Years (1974-2005)		38,930	794,088	251,645	8,617	0.028	0.722	0.241	0.008	1,093,280	2.16

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[a] The estimated number of salmon which returned are based upon annual age composition observed in lower Yukon test nets each year, weighted by test fish catch per unit of effort.

[b] Contrast in escapement data is 11.10.

[c] Brood year return for 3, 4, and 5 year fish, indicate that production (R/P) from brood year 2006 was at least 0.89. Recruits estimated for incomplete brood year age-6.

[d] Brood year return for 3 and 4 year fish, indicate that production (R/P) from brood year 2007 was at least 1.44. Recruits estimated for incomplete brood year age-5.

Appendix E11.–Coho salmon passage estimates or escapement estimates for selected spawning areas in the Alaska portion of the Yukon River drainage, 1990–2011.

		Yukon River Mainstem	Kantishna River Drainage					Upper Tanana River Drainage			
Year	East Fork Andreafsky River [a]	Sonar Estimate [b]	Geiger Creek [c]	Lost Slough	Nenana Mainstem [d]	Wood Creek	Seventeen Mile Slough	Delta Clearwater River [e]	Delta Clearwater River Tributaries [f]	Clearwater Lake and Outlet	Richardson Clearwater River [g]
1990			211	688	1,308		15 [g]	8,325		2,375 [h]	
1991			427	564	447		52	23,900		3,150 [h]	
1992			77	372			490	3,963		229 [h]	500
1993			138	484	419	666 [a, i]	581	10,875		3,525 [h]	
1994			410	944	1,648	1,317 [a, j]	2,909	62,675	17,565	3,425 [h]	5,800
1995	10,901	100,664	142	4,169	2,218	500 [a]	2,972 [g]	20,100	6,283	3,625 [h]	
1996	8,037		233	2,040	2,171	201 [g, k]	3,666 [h]	14,075	3,300	1,125 [k]	
1997	9,472	105,956	274	1,524 [l]	1,446	[m]	1,996	11,525	2,375	2,775 [h]	
1998	7,193	129,076	157	1,360 [k]	2,771 [k]	[m]	1,413 [n]	11,100	2,775	2,775 [h]	
1999	2,963	60,886	29	1,002 [k]	745 [k]	370	662 [k]	10,975	2,805		
2000	8,451	169,392	142	55 [g, k]	68 [g, k]	[m]	879 [g, k]	9,225	2,358	1,025 [h]	2,175
2001	15,896	132,283	578	242	859	699	3,753	46,875	11,982	4,425 [h]	1,531
2002	3,577	117,908	744	0	328	935	1,910	38,625	9,873	5,900	874
2003	8,231	265,119	973	85	658	3,055	4,535	105,850	27,057	8,800	6,232
2004	11,146	199,884	583	220	450	840	3,370	37,950	9,701	2,925	8,626
2005	5,303	184,071	625	430	325 [k]	1,030	3,890	34,293	8,766	2,100	2,024
2006		131,919		194	160 [k]	634	1,916	16,748	4,281	4,375	271
2007		173,289		63	520	605	1,733	14,650	3,961	2,075	553
2008		135,570	183	1,342	1,539	578	1,652	7,500	1,917	1,275	265
2009		206,620 [o]	137	410		470	680	16,850	4,307	5,450	155
2010		155,784 [p]		1,110	280	340	720	5,867		813	1,002
2011		124,931 [p]		369			912	6,180		2,092	575
SEG								5,200-17,000 [q]			
Average											
1990-2010	8,288 [r]	147,272 [o]	337	824	966	816	1,895	24,378	7,457	3,108	2,308
2001-2010	8,831	166,203 [o]	546	410	569	919	2,416	32,521	9,094	3,814	2,153
2006-2010		149,141 [o]	160	624	625	525	1,340	12,323	3,617	2,798	449

-continued-

[a] Weir count, unless otherwise indicated.

[b] Passage estimates for coho salmon are incomplete. The sonar project is terminated prior to the end of the coho salmon run.

[c] Foot survey, unless otherwise indicated.

[d] Index area includes mainstem Nenana River between confluence's of Lost Slough and Teklanika River.

[e] Boat survey counts of index area (lower 17.5 river miles), unless otherwise indicated.

[f] Helicopter surveys counted tributaries of the Delta Clearwater River, outside of the normal mainstem index area, from 1994 to 1998, after which an expansion factor was used to estimate the escapement to the areas.

[g] Aerial survey, fixed wing or helicopter.

[h] Boat Survey.

[i] Weir project terminated on October 4, 1993. Weir normally operated until mid to late October.

[j] Weir project terminated September 27, 1994. Weir normally operated until mid-October.

[k] Poor survey.

[l] Survey of western floodplain only.

[m] No survey of Wood Creek due to obstructions in creek.

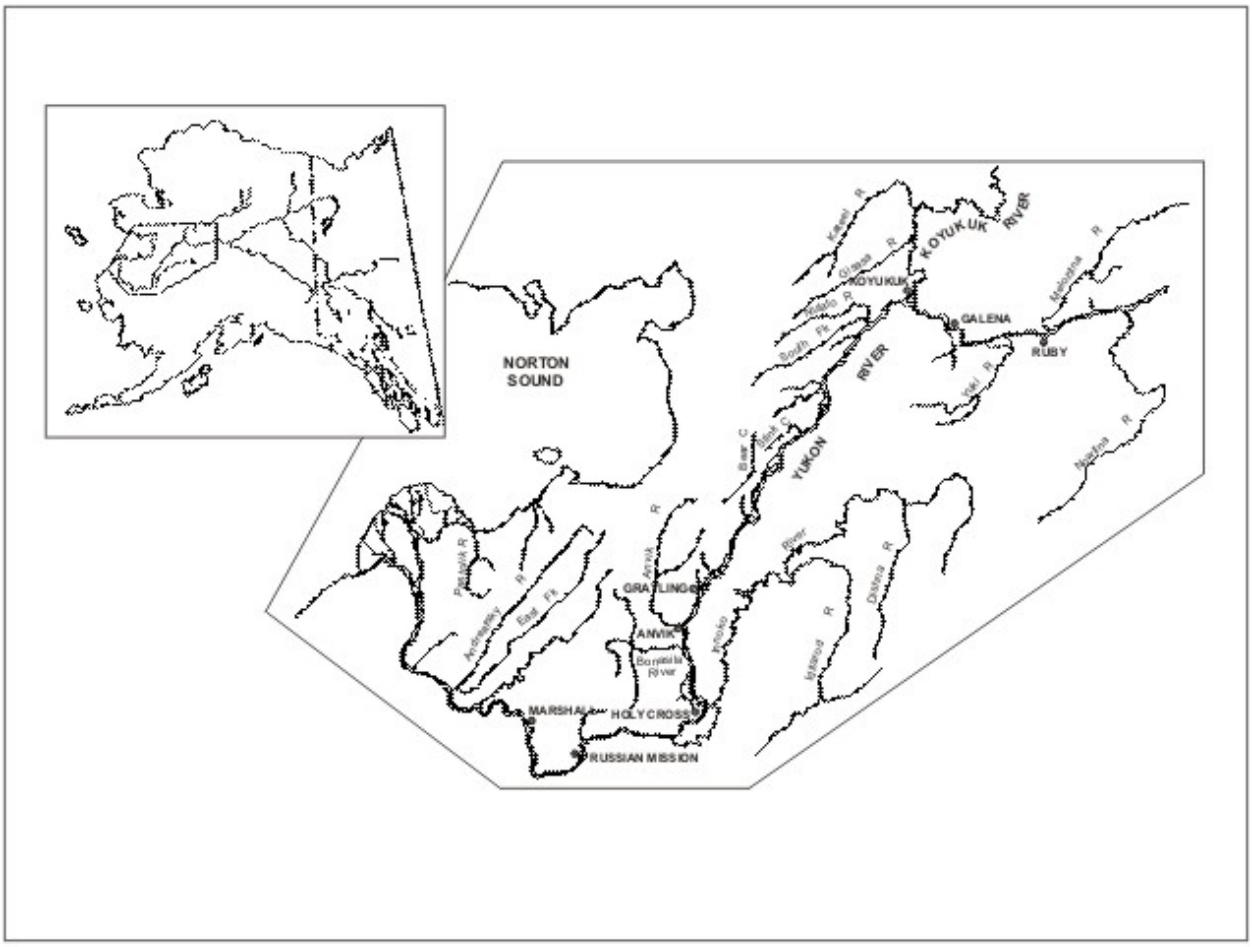
[n] Combination foot and boat survey.

[o] Pilot Station sonar project encountered record low water levels during the fall season causing difficulties with species apportionment and catchability. Coho salmon are suspected of being over estimated therefore this value should not be used in averages or run reconstructions.

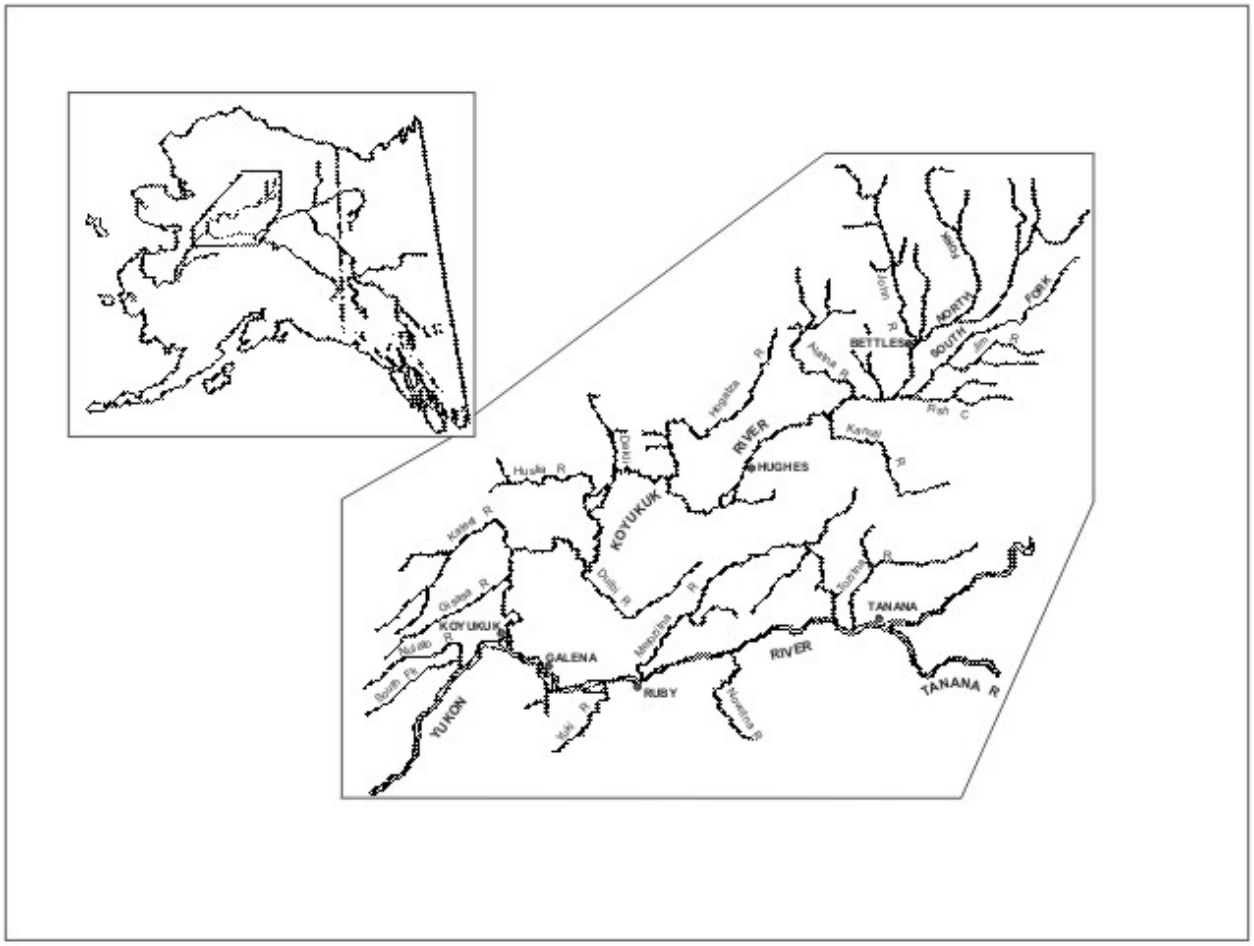
[p] Data preliminary.

[q] Sustainable escapement goal (SEG) established January 2004, (replaces BEG of greater than 9,000 fish established March, 1993) based on boat survey counts of coho salmon in the lower 17.5 river miles during the period October 21 through 27.

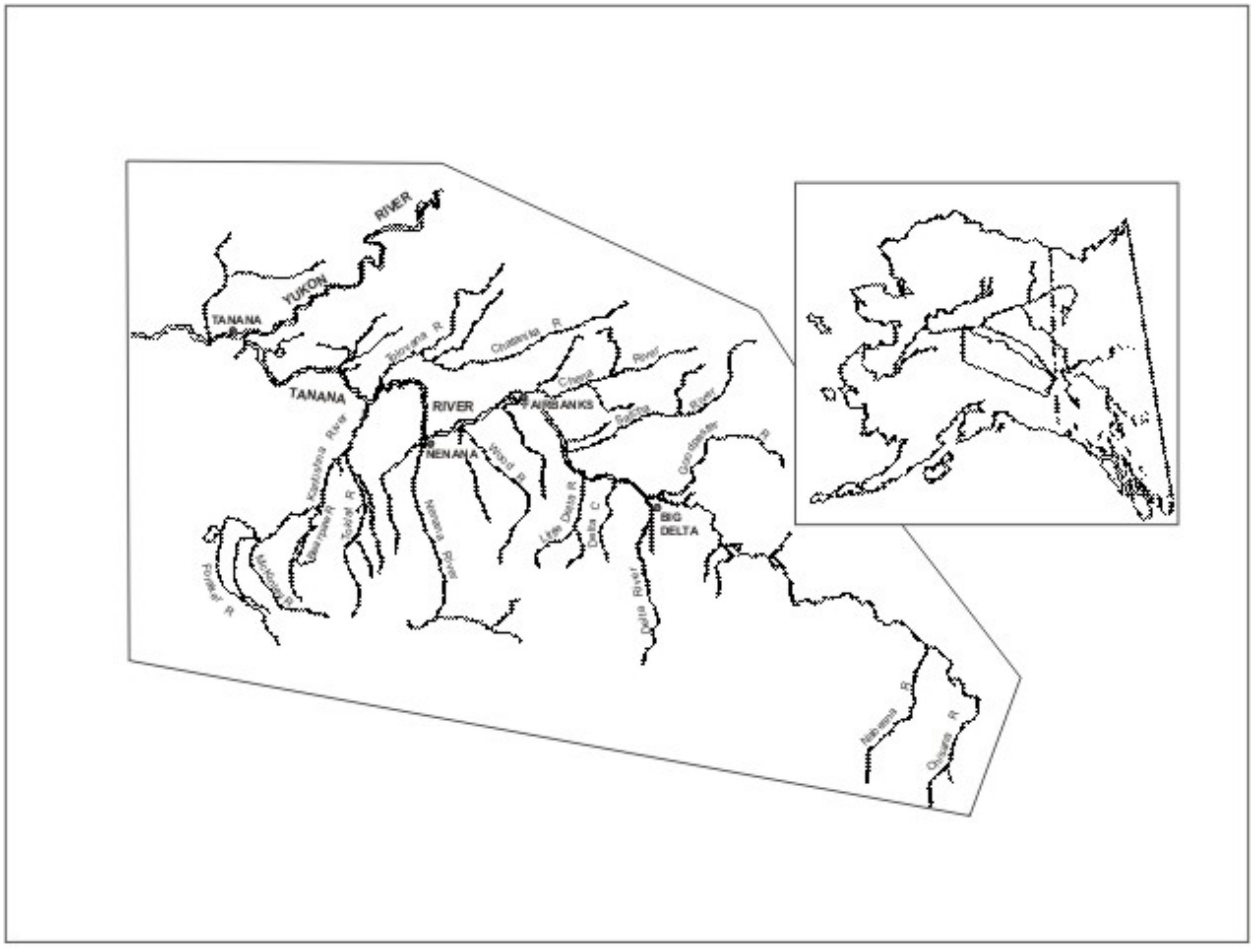
[r] Average only includes years of weir operations beginning in 1995.



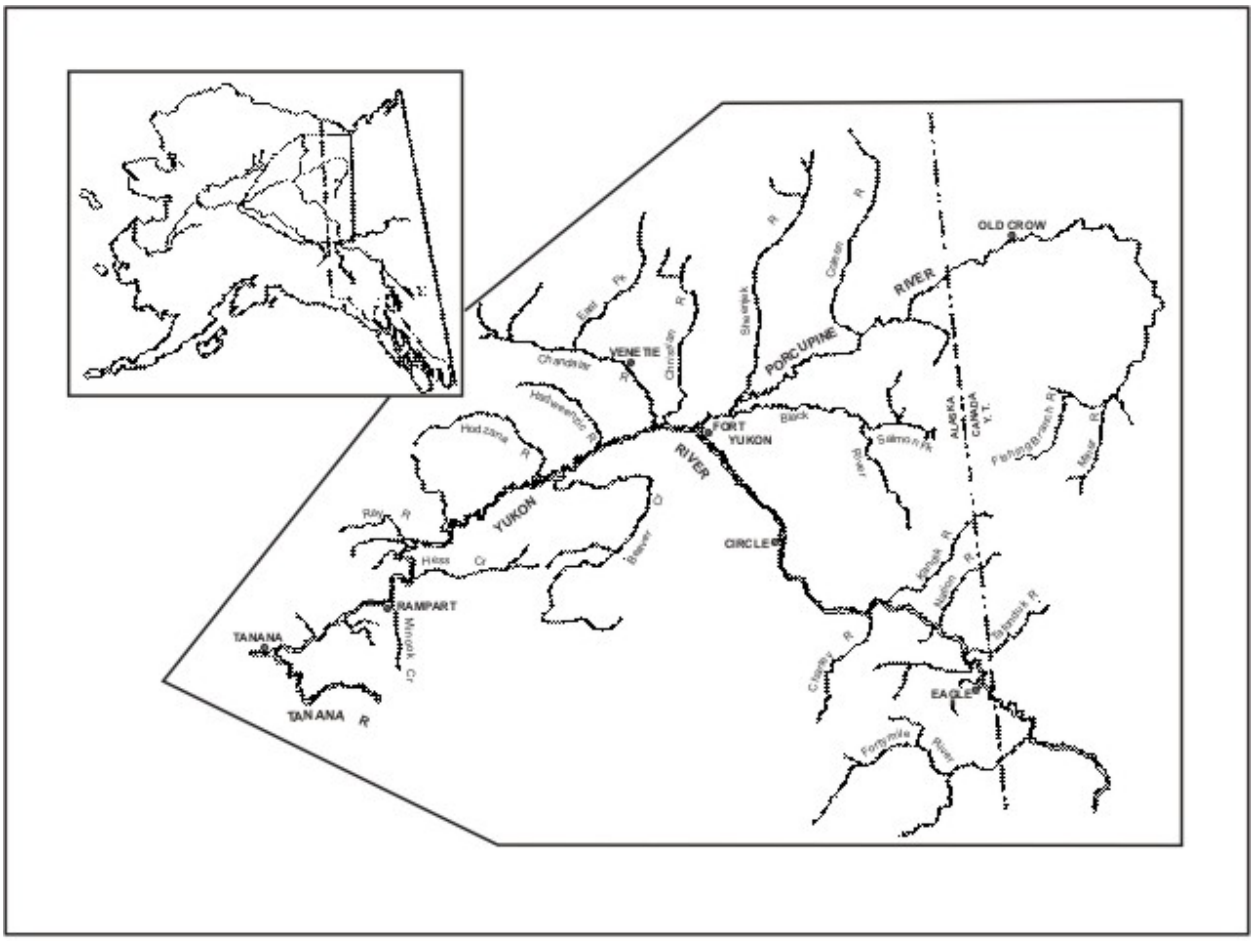
Appendix E12.–The Yukon River drainage.



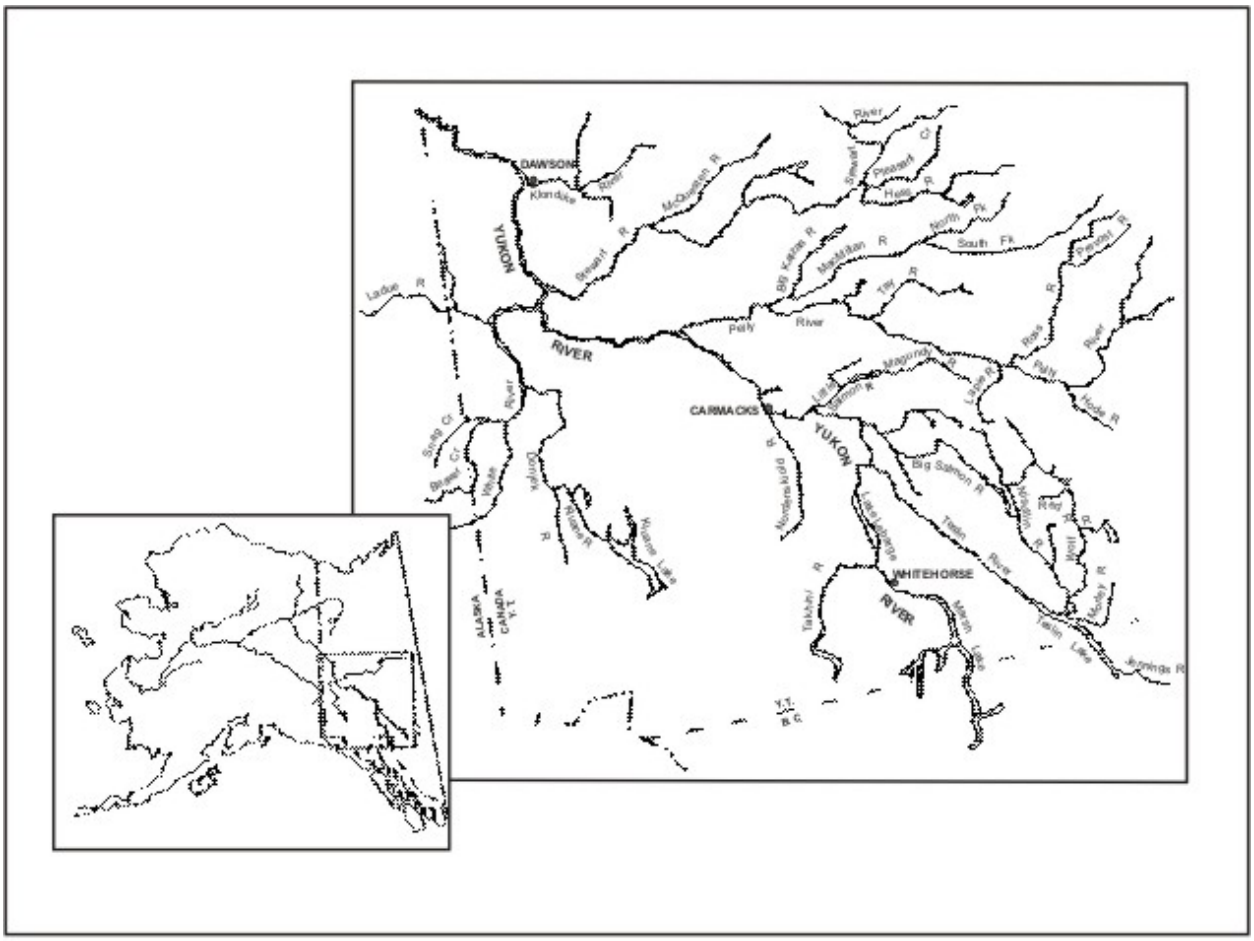
Appendix E13.–The Koyukuk River drainage.



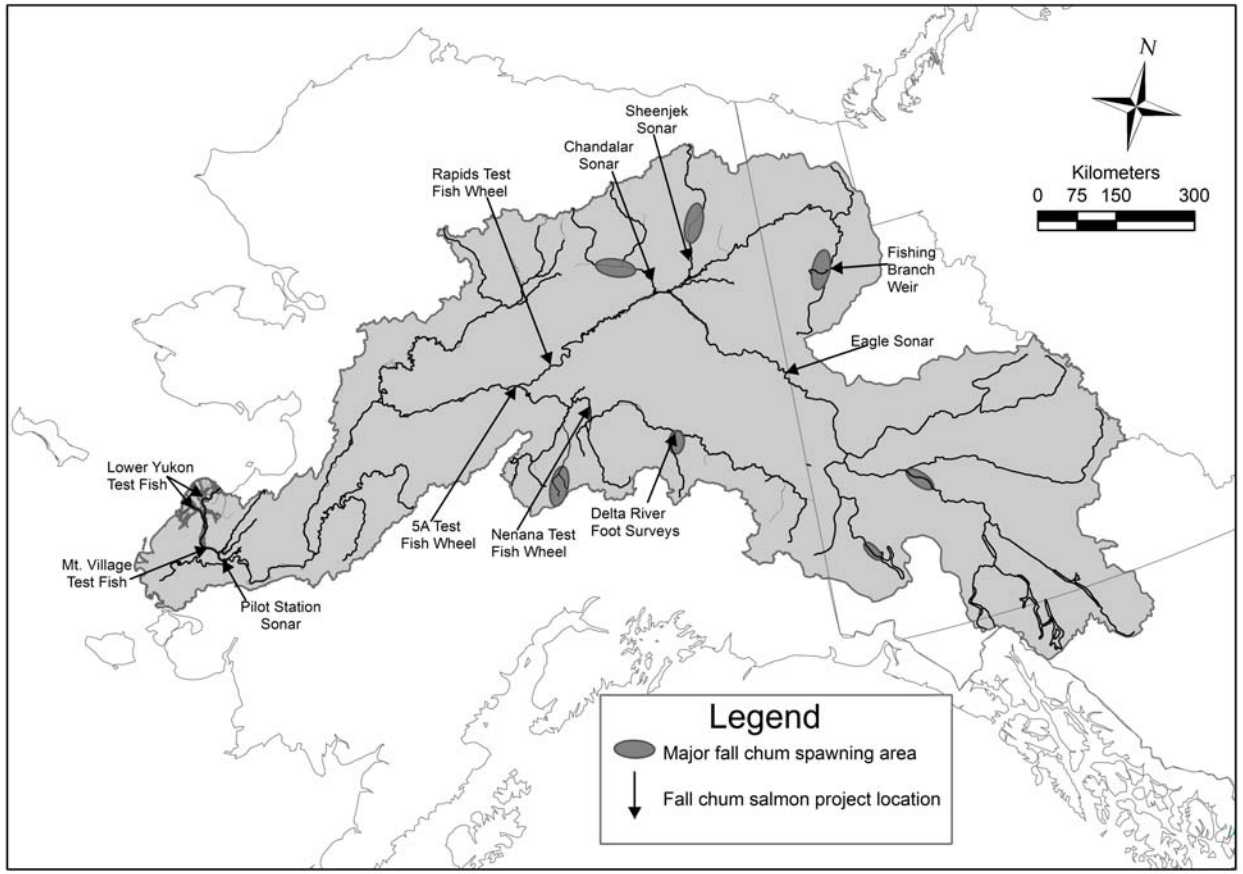
Appendix E14.–The Tanana River drainage.



Appendix E15.–The middle Yukon River and Porcupine River drainage.



Appendix E16.–The upper Yukon River drainage.



Appendix E17.–Select fall chum salmon monitoring projects, Yukon River drainage.

APPENDIX F: YUKON AREA FRESHWATER FISHERIES

Appendix F1.–Commercial freshwater finfish harvest, Lower Yukon Area, 1990–2011.

	Sheefish		Bering Cisco		Other Whitefish[a]		Burbot		Pike	Lamprey		Blackfish
Year	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Pounds	Number	Pounds	Pounds
1990	0	0			180	260	0	0	0	0	0	0
1991	0	0			0	0	0	0	0	0	0	0
1992	0	0			95	640	0	0	0	0	0	0
1993	–	–	–	–	–	–	–	–	–	–	–	–
1994	0	0			157	471	0	0	0	0	0	0
1995	–	–	–	–	–	–	–	–	–	–	–	–
1996	–	–	–	–	–	–	–	–	–	–	–	–
1997	–	–	–	–	–	–	–	–	–	–	–	–
1998	–	–	–	–	–	–	–	–	–	–	–	–
1999	–	–	–	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
2003	0	0			0	0	0	0	0	84,665 [b]	23,960	0
2004	–	–	–	–	–	–	–	–	–	–	–	–
2005	266	1,688	241	362 [c]	2,669	4,265	0	0	0	0	0	0
2006	472	2,912	4,497	5,519	1,932	2,832	0	0	0	3,149 [d]	715	0
2007	445	3,363 [e]	2,451	2,951	1,748	3,145	0	0	0	0	0	0
2008	0	0	8,642	9,380	695	692	0	0	0	0	0	0
2009	0	0	9,066	9,743	750	763	0	0	0	1,520 [f]	465	0
2010	0	0	13,922	14,784 [g]	418	437	0	0	0	0	0	0
2011	0	0	11,386	12,523	253	258	0	0	0	0	0	0
2006–2010 Average	183	1,255	7,716	8,475	1,109	1,574	0	0	0	934	236	0
2001–2010 Average	169	1,138	6,470	7,123	1,173	1,733	0	0	0	12,762	3,591	0

-continued-

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Based on ADF&G fish ticket system categorizations other whitefish species include: general whitefish, least cisco, broad whitefish, and humpback whitefish.

[b] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.283). Harvest took place in St. Mary's area.

[c] In response to market conditions commercial whitefish fishing began to target Bering Cisco, therefore harvest of this species are separated from other whitefish species.

[d] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.227). A few deliveries were made in Mountain Village and St. Mary's.

[e] Includes 416 sheefish (2,906 pounds) sold in the whitefish directed commercial fishery and 29 sheefish (457 pounds) sold in the salmon directed commercial fishery.

[f] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.306). A few deliveries were made in Marshall.

[g] Includes 160 lb Bering Cisco fish harvested in January 2010 under permit authorized in fall 2009.

Appendix F2.–Commercial freshwater finfish harvest, Upper Yukon Area, 1990–2011.

	Healy Lake		Lake Minchumina		Tanana River				Yukon River							
	Whitefish [a]		Whitefish [a]		Burbot [a]		Whitefish [a]		Burbot [a]		Bering Cisco [a]		Other Whitefish[b]		Lamprey	
Year	Number	lbs.	Number	lbs.	Number	lbs.	Number	lbs.	Number	lbs.	Number	lbs.	Number	lbs.	Number	lbs.
1990	0	0	0	0	1	0	809	0	0	0	0	0	985	2,078	0	0
1991	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1992	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1993	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1994	0	0	0	0	0	0	921	1,400	0	0	0	0	0	0	0	0
1995	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1997	0	0	0	0	0	0	908	1,160	0	0	0	0	0	0	0	0
1998	–	–	–	–	–	–	–	– [c]		–	–	–	–	–	–	–
1999	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2003	–	–	–	–	–	–	–	–	–	–	–	–	–	–	99,988 [d]	25,697
2004	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0	0
2005	–	–	–	–	–	–	–	–	–	–	–	–	–		0	0
2006	–	–	–	–	–	–	–	–	–	–	–	–	–	–	32,943 [e]	7,481
2007	–	–	–	–	–	–	–	–	–	–	–	–	–	–	163 [f]	42
2008	–	–	–	–	–	–	–	–	–	–	–	–	–	–	41,750 [g]	11,137
2009	–	–	–	–	–	–	–	–	–	–	–	–	–	–	48,117 [h]	14,745
2010	–	–	–	–	–	–	–	–	–	–	–	–	–	–	108,838 [i]	30,713
2011	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2,888 [j]	783
2006–2010 Average	–	–	–	–	–	–	–	–	–	–	–	–	–	–	46,362	12,824
2001–2010 Average	–	–	–	–	–	–	–	–	–	–	–	–	–	–	41,475	11,227

-continued-

Note: Unless otherwise indicated, blank cells indicate years in which no information was collected or harvest numbers were insufficient to generate summary information. En dash indicates no commercial fishing activity occurred.

[a] Numbers reflect fish harvested with the intent of commercial sale.

[b] Based on Zephyr categorizations other whitefish species include: general whitefish, least cisco, broad whitefish, and humpback whitefish.

[c] Requests for commercial whitefish fishing permits were denied because of the additional pressure placed on non-salmon species during poor salmon runs.

[d] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.257). Harvest took place in the Grayling area.

[e] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.227). The majority of the harvest took place in the Grayling area.

[f] Number of lamprey equals pounds of lamprey divided by an average lamprey weight (0.258). All of the harvest took place near Grayling and no samples were collected. An average weight was calculated from samples taken in Grayling in 2003, 2004, and 2006.

[g] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.267). Harvest took place in the Grayling area.

[h] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.306). Harvest took place in the Grayling area.

[i] Number of lamprey equals pounds of lamprey divided by the average lamprey weight (0.282). Harvest took place in the Grayling area.

[j] Number of lamprey equals pounds of lamprey divided by the historical average sample weight collected from harvests in Grayling. No lamprey were sampled in 2011.

Appendix F3.–Freshwater finfish sales during the commercial salmon fishing season by district, Upper Yukon Area, 1990–2011.

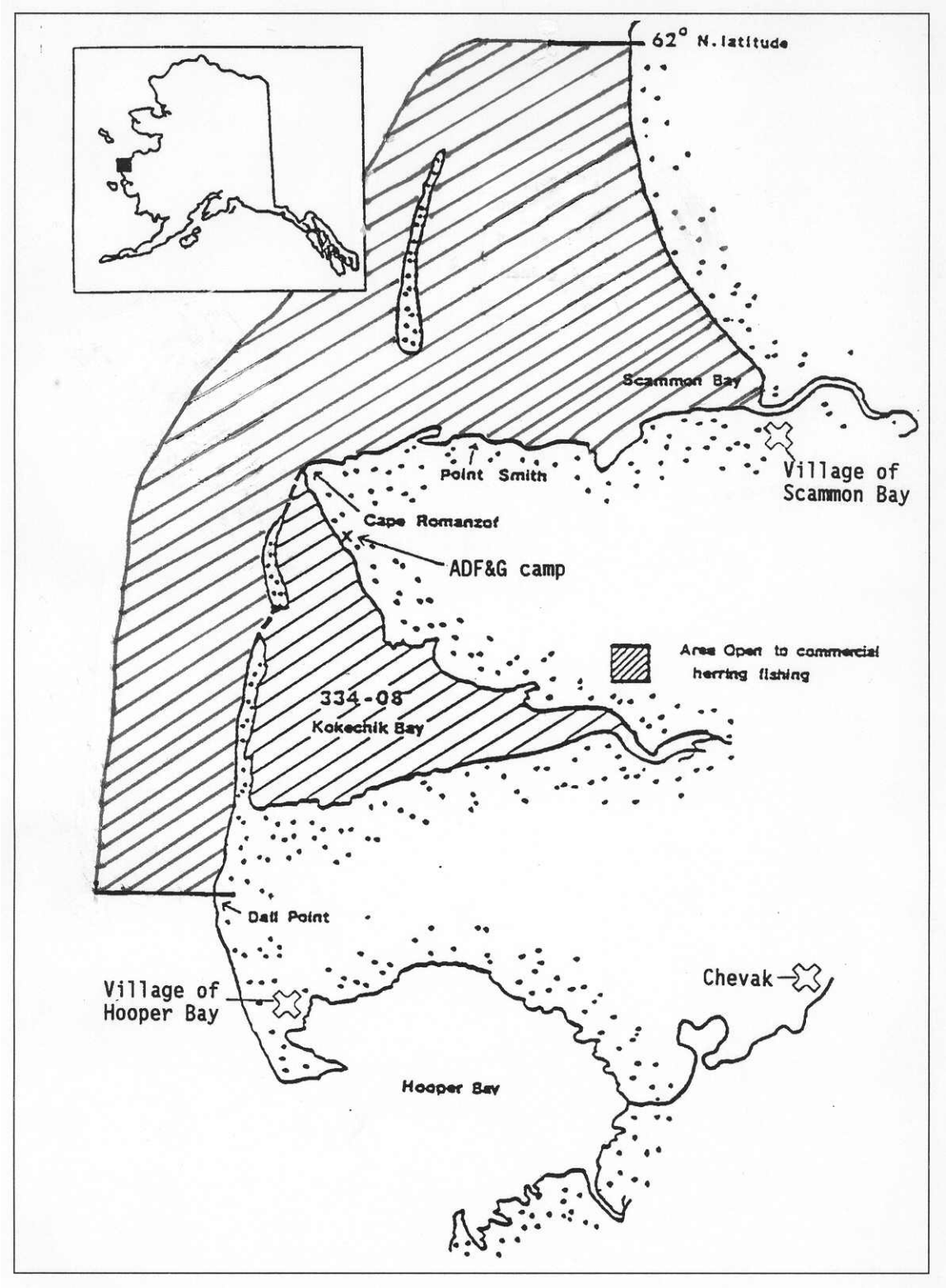
	District 4		District 5				District 6	
	Whitefish		Whitefish		Sheefish		Whitefish	
Year	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1990	0	0	266	266	25	170	2	15
1991	2,600	4,055	0	0	0	0	–	–
1992	2,635	2,455	1,864	1,379 [a]	0	0	199	499
1993	0	0	59	48	0	0	140	300
1994	1	4	108	215	0	0	209	433
1995	0	0	95	95	0	0	183	387
1996	0	0	22	66	0	0	103	292
1997	0	0	270	301	0	0	4	8
1998	0	0	116	88	0	0	0	0
1999	0	0	0	0	0	0	0	0
2000	–	–	–	–	–	–	–	–
2001	–	–	–	–	–	–	–	–
2002	0	0	0	0	0	0	60	120
2003	40	113	0	0	0	0	129	297
2004	–	–	4	15	0	0	53	112
2005	0	0	0	0	0	0	66	175
2006	–	–	0	0	0	0	99	397
2007	0	0	0	0	0	0	55	152
2008	0	0	276	289	38	338	165 [b]	507
2009	0	0	–	–	–	–	–	–
2010	0	0	–	–	–	–	18	72
2011	–	–	0	0	0	0	37	148
2006–2010 Average	0	0	92	96	13	113	84	282
2001–2010 Average	6	16	40	43	5	48	81	229

Note: En dash indicates no commercial fishing activity occurred.

[a] The sale of fish sold did not include number of fish; therefore, number of fish were estimated using average weight (0.74 lbs) from previous deliveries in 1992.

[b] The sale of fish sold did not include number of fish; therefore, number of fish were estimated using average weight (3.07 lbs) from 2007 and 2010 in District 6.

APPENDIX G: CAPE ROMANZOF HERRING DISTRICT HERRING FISHERY



Appendix G1.–Waters open to commercial herring fishing in the Cape Romanzof District.

Appendix G2.–Commercial Pacific herring fishery data, Cape Romanzof District, 1980–2011.

	1980	1981	1982	1983 [a]	1984	1985	1986	1987 [b]	1988 [c]	1989	1990	1991
Catch (short tons)	611	720	657	816	1,185	1,299	1,865	1,342	1,119	926	329	526
Hours Fished	326	120	180	144	90	60	42	8	11	13	3	5
Percent Roe Recovery	9.8	8.0	9.3	9.0	8.6	8.3	9.2	8.9	9.1	9.3	8.4	8.8
Average Weight of Fish (Grams) [d]	188	189	206	224	239	240	252	294	306	313	304	355
Estimated Value ($ millions)	0.13	0.21	0.22	0.37	0.31	0.55	1.14	1.00	1.02	0.49	0.15	0.21
Number of Buyers	2	4	2	3	3	2	5	9	6	6	4	2
Number of Fishermen	69	111	75	63	66	73	97	157	113	115	95	80
Number of Boats	54	82	50	57	59	69	90	152	108	110	90	79
Number of Boats with Shakers [e]	12	11	10	2	1	2	12	22	–	–	–	–
% Effort by Local Fishermen [f]	70	81	85	92	99	91	84	53	63	87	76	96
% Harvest by Local Fishermen [f]	40	60	84	88	100	94	70	33	60	82	77	97
Biomass Estimate [g]	3,000	4,850	4,850	5,512	6,063	7,000	7,500	7,216	6,600	4,400	4,500	4,500
Exploitation Rate	20.4	14.8	13.5	14.8	19.5	18.6	24.9	18.6	17.0	21.0	7.3	11.7

-continued-

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Catch (short tons)	530	371	456	541	752	879	727	533	500	137	102	81
Hours Fished	6.0	12.5	7.0	15.0	34.0	29.5	35.0	13.5	13.0	13.5	41.5	64.0
Percent Roe Recovery	8.0	9.6	9.2	10.1	10.6	10.2	9.6	9.2	8.1	7.6	9.8	10.9
Average Weight of Fish (Grams) [d]	358	373	372	367	356	360	369	364	376	378	412	428
Estimated Value ($ millions)	0.16	0.11	0.12	0.33	0.64	0.19	0.13	0.13	0.08	0.01	0.01	0.01
Number of Buyers	2	2	2	2	3	3	1	1	2	1	1	1
Number of Fishermen	73	41	55	49	63	65	41	57	46	23	21	11
Number of Boats	73	41	54	49	63	65	41	57	46	23	21	11
Number of Boats with Shakers [e]	–	–	–	–	–	–	–	–	–	–	–	–
% Effort by Local Fishermen [f]	97	95	95	98	95	95	98	98	98	100	100	100
% Harvest by Local Fishermen [f]	96	91	92	99	96	95	98	99	98	100	100	100
Biomass Estimate [g]	4,500	4,000	5,000	5,000	6,000	5,000	4,500	3,800	3,500	2,700	3,600	3,685
Exploitation Rate	11.8	9.3	9.1	10.8	12.5	17.6	16.2	14.0	14.3	5.1	2.8	2.2

-continued-

	2004	2005	2006	2007 [h]	2008 [h]	2009 [h]	2010 [h]	2011 [h]	2006–2010 Average	1980–2010 Average
Catch (short tons)	25	125	92	–	–	–	–	–	92	639
Hours Fished	148.0	158.0	89.0	–	–	–	–	–	89.0	62.3
Percent Roe Recovery	12.4	10.4	10.3	–	–	–	–	–	10.3	9.4
Average Weight of Fish (Grams) [d]	359	401	407	–	–	–	–	–	407	326
Estimated Value ($ millions)	0.01	0.04	0.02	–	–	–	–	–	0.02	0.29
Number of Buyers	1	1	1	–	–	–	–	–	1	3
Number of Fishermen	10	10	8	–	–	–	–	–	8	62
Number of Boats	10	10	8	–	–	–	–	–	8	58
Number of Boats with Shakers [e]	–							–	–	9
% Effort by Local Fishermen [f]	100	100	100	–	–	–	–	–	100	91
% Harvest by Local Fishermen [f]	100	100	100	–	–	–	–	–	100	87
Biomass Estimate [g]	3,500 [i]	3,388	4,813	4,500	5,000	4,800	5,500	4,794	4,923	4,799
Exploitation Rate	0.7	3.7	1.9	–	–	–	–	–	1.9	12.4

Note: En dash indicates information not available.

[a] Exclusive Use Regulation into effect.

[b] Last year hydraulic shakers were allowed.

[c] Numbers of boats using shakers were estimated.

[d] Local fishermen described as residents of Chevak, Scammon Bay, and Hooper Bay.

[e] Biomass estimate is a qualitative estimate of herring abundance in short ton (st), except for aerial survey biomass estimate in 1987.

[f] Estimated by department from commercial harvest samples.

[g] In 2004 the preseason biomass was estimated as a range of 3,000–4,000 st.

[h] No commercial fishing occurred.

[i] Effective in 1988 use of mechanical shakers disallowed.

Appendix G3.–Subsistence herring harvest (st) and effort data by community, Cape Romanzof, 1975–2011.

	Scammon Bay		Chevak		Hooper Bay		Total	
Year	Harvest	Number of Fishermen	Harvest	Number of Fishermen	Harvest	Number of Fishermen	Harvest	Number of Fishermen
1975	–	–	–	–	2.8	34	2.8	34
1976	0.7	4	0.7	9	3.0	28	4.4	41
1977	–	–	0.2	2	2.4	28	2.5	30
1978	0.7	1	–	–	3.9	29	4.5	30
1979	6.0	21	2.3	21	3.1	42	11.4	84
1980	3.1	18	3.6	20	3.7	23	10.4	61
1981	7.7	16	1.8	9	4.0	20	13.5	45
1982	3.9	15	1.9	10	4.7	18	10.5	43
1983	2.5	14	1.5	5	5.2	18	9.2	37
1984	4.3	16	2.6	7	4.2	24	11.1	47
1985	2.4	11	2.2	13	3.4	20	8.0	44
1986	2.8	17	0.7	4	2.5	19	6.0	40
1987	1.4	8	0.5	5	1.1	10	3.0	23
1988	2.0	7	1.5	6	3.6	19	7.2	32
1989	1.1	7	0.1	1	1.8	16	3.0	24
1990	1.7	5	0.6	3	5.6	24	7.9	32
1991	1.7	7	0.4	3	1.1	8	3.2	18
1992	1.2	10	0.4	4	2.5	16	4.1	30
1993	2.7	17	0.1	1	2.4	24	5.1	42
1994	1.4	9	2.0	16	3.1	23	6.5	48
1995	1.1	11	1.2	9	3.8	22	6.1	42
1996	1.0	10	0.5	4	1.7	15	3.1	29
1997	0.9	10	0.2	3	2.2	21	3.2	34
1998	0.7	7	0.1	2	0.9	7	1.7	16
1999	6.0	24	2.3	12	4.2	31	12.5	67
2000	3.9	26	1.0	10	1.3	14	6.2	50
2001	1.5	8	1.0	10	0.1	5	3.1	24
2002	0.6	7	0.2	3	1.1	10	1.9	20
2003	3.0	13	1.0	8	2.0	13	6.0	34
2004	3.5	14	1.2	8	1.3	12	6.0	34
2005	6.2	9	0.1	2	0.6	2	6.9	13
2006	1.7	9	0.3	3	0.5	2	2.5	14
2007	1.5	8	1.2	6	0.4	4	3.1	18
2008	1.0	7	1.0	2	0.3	3	2.3	12
2009	0.7	6	0.3	3	0.2	3	1.2	12
2010	0.6	6	0.7	3	0.8	5	2.1	14
2011[a]	–	–	–	–	–	–	–	–
2006–2010 Average	1.1	7.2	0.7	3.4	0.4	3.4	2.2	14.0

Note: En dash indicates information not available. Subsistence survey results are believed to reflect harvest trends, however, reported catches reflect minimum figures since all fishermen cannot be contacted. Data are updated annually as new information is obtained.

[a] Survey forms were not mailed out in 2011. No data is available.

Appendix G4.–Subsistence harvest of herring roe-on-kelp by community, Cape Romanzof District, 1993–2011.

	Scammon Bay		Chevak		Hooper Bay		Total	
Year	Number of Fishermen	Pounds Roe-on-Kelp	Number of Fishermen	Pounds Roe-on-Kelp	Number of Fishermen	Pounds Roe-on-Kelp	Number of Fishermen	Pounds Roe-on-Kelp
1993	9	300			10	213	19	513
1994	7	104	4	135	12	417	23	656
1995	12	298	1	25	13	383	26	706
1996	7	113	2	31	9	480	18	624
1997	6	130	1	25	13	400	20	555
1998	2	420	2	105	3	60	7	585
1999	15	416	5	160	22	549	42	1,125
2000	19	644	3	155	8	220	30	1,019
2001	2	25	3	113	2	50	7	188
2002	2	56	0	0	4	105	6	161
2003	8	185	2	130	7	185	17	500
2004	7	354	1	50	1	5	9	409
2005	5	1,125	0	0	0	0	5	1,125
2006	3	170	1	20	1	30	5	220
2007	2	50	1	10	0	0	3	60
2008	3	28	1	2	0	0	4	30
2009	0	0	1	5	0	0	1	5
2010	3	49	0	0	3	42	6	91
2011 [a]	–	–	–	–	–	–	–	–
2006-2010 Average	2	59	1	7	1	14	4	81

Note: En dash indicates information not available. Subsistence survey results are believed to reflect harvest trends, however, reported catches reflect minimum figures since all fishermen cannot be contacted. Data are updated annually as new information is obtained.

[a] Survey forms were not mailed out in 2011. No data is available.

APPENDIX H: NORTHERN AREA FRESHWATER FISHERIES

Appendix H1.–Commercial freshwater finfish harvest and sales, Colville River, Northern Area, 1990–2011.

Year	Number of Fish Harvested Intended for Commercial Sale [a]					Estimated Commercial Sales Based on Fish Tickets [b]	
	Broad Whitefish	Humpback Whitefish	Least Cisco ("herring")	Arctic Cisco ("kaktok")	Total Harvest	Arctic Cisco	Whitefish Species [c]
1990	0	5,694	21,003	19,374	46,071	12,571 [d]	14,249 [d]
1991	0	1,240	5,697	13,805	20,742	1,970 [e]	3,307 [e]
1992	126	5,209	6,962	20,939	33,236	–	10,200 [f]
1993	20	5,339	6,037	31,310	42,706	11,291 [e]	6,170 [e]
1994	–	6,056 [g]	10,176	8,958	25,190	7,434 [e]	4,121 [e]
1995	–	33,794 [h]	–	_	33,794	13,921	6,000
1996	–	6,425 [g]	7,796	21,817	36,038	9,076	4,127
1997	–	1,721 [g]	10,754	9,403	21,878	9,403	4,760
1998	–	4,881 [g]	9,936	7,019	21,836	5,648	7,105
1999	–	6,875 [g]	7,430	8,832	23,137	7,095	6,170
2000	–	3,706 [g]	5,758	2,619	12,083	2,809	6,569
2001	–	6,078 [g]	2,839	1,740	10,657	1,779	7,306
2002	–	4,183 [g]	5,503	3,935	13,621	899	4,093
2003	–	6,463 [g]	4,777	5,627	16,867	0	1,292
2004	–	1,145 [g]	3,061	3,061	7,267	2,412 [f]	476
2005	–	490 [g]	2,870	9,343	12,703	2,975 [f]	2,170
2006	–	1,188 [g]	4,995	3,293	9,476	1,482 [f]	3,655
2007	–	462 [g]	2,265	390	3,117	– [i]	– [i]
2008	–	–	–	–	–	–	–
2009	–	–	–	–	–	–	–
2010	–	–	–	–	–	–	–
2011	–	–	–	–	–	–	–
2006–2010 Average	–	330	1,452	737	2,519	296	731
2001–2010 Average	–	2,001	2,631	2,739	7,371	955	1,899

-continued-

[a] Reported on daily catch form returned to ADF&G. Catch reports were returned to the department following the fishing season. All fish reported on the catch report were harvested with the intent to sell. Dashes indicate information is not available.

[b] Fish tickets were often not generated at the time of sale. Since 1990, the commercial harvest is based on fish ticket information. Dashes indicate information is not available.

[c] Whitefish species include mostly humpback whitefish and least cisco, with occasional broad whitefish.

[d] Commercial harvest estimate based on one fish ticket average weights of 0.89 pounds (900 Arctic cisco at 800 pounds) and 0.61 pounds (1400 whitefish species at 850 pounds).

[e] Estimated commercial harvest sales based on 1995 to 2001 average weight of 0.92 pounds for Arctic cisco and 0.89 pounds for whitefish species (humpback and broad whitefish, and least cisco).

[f] Mixed commercial harvest of mostly Arctic cisco along with humpback and broad whitefish, and least cisco. Estimated commercial harvest sales based on 1995 to 2001 combined average of $1.07/lb. for whitefish species and Arctic cisco.

[g] Humpback whitefish harvest includes undetermined amounts of broad whitefish.

[h] Humpback whitefish harvest includes undetermined amounts of broad whitefish, least cisco, and Arctic cisco.

[i] No information is available from fish tickets indicating that harvested fish were sold commercially.