

Fishery Management Report No. 13-35

**Inseason Subsistence Salmon Harvest Monitoring,
Lower Kuskokwim River, 2012**

**Annual Report for Study 10-354
USFWS Office of Subsistence Management
Fisheries Resource Monitoring Program**

by

Roberta Chavez

and

Christopher A. Shelden

September 2013

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	base of natural logarithm	e
hectare	ha	at	@	catch per unit effort	CPUE
kilogram	kg	compass directions:		coefficient of variation	CV
kilometer	km	east	E	common test statistics	(F, t, χ^2 , etc.)
liter	L	north	N	confidence interval	CI
meter	m	south	S	correlation coefficient	
milliliter	mL	west	W	(multiple)	R
millimeter	mm	copyright	©	correlation coefficient (simple)	r
		corporate suffixes:		covariance	cov
Weights and measures (English)		Company	Co.	degree (angular)	$^\circ$
cubic feet per second	ft ³ /s	Corporation	Corp.	degrees of freedom	df
foot	ft	Incorporated	Inc.	expected value	E
gallon	gal	Limited	Ltd.	greater than	>
inch	in	District of Columbia	D.C.	greater than or equal to	\geq
mile	mi	et alii (and others)	et al.	harvest per unit effort	HPUE
nautical mile	nmi	et cetera (and so forth)	etc.	less than	<
ounce	oz	exempli gratia	e.g.	less than or equal to	\leq
pound	lb	(for example)		logarithm (natural)	ln
quart	qt	Federal Information Code	FIC	logarithm (base 10)	log
yard	yd	id est (that is)	i.e.	logarithm (specify base)	log ₂ , etc.
		latitude or longitude	lat or long	minute (angular)	'
Time and temperature		monetary symbols (U.S.)	\$, ¢	not significant	NS
day	d	months (tables and figures): first three letters	Jan, ..., Dec	null hypothesis	H_0
degrees Celsius	°C	registered trademark	®	percent	%
degrees Fahrenheit	°F	trademark	™	probability	P
degrees kelvin	K	United States (adjective)	U.S.	probability of a type I error (rejection of the null hypothesis when true)	α
hour	h	United States of America (noun)	USA	probability of a type II error (acceptance of the null hypothesis when false)	β
minute	min	U.S.C.	United States Code	second (angular)	"
second	s	U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard deviation	SD
Physics and chemistry				standard error	SE
all atomic symbols				variance	
alternating current	AC			population sample	Var
ampere	A			sample	var
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				

FISHERY MANAGEMENT REPORT NO. 13-35

**INSEASON SUBSISTENCE SALMON
HARVEST MONITORING, LOWER KUSKOKWIM RIVER, 2012**

by
Roberta Chavez
Orutsararmiut Native Council, Bethel
and
Christopher A. Shelden
Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage,

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

September 2013

Development and publication of this manuscript were partially financed by the U.S. Fish and Wildlife Service, Office of Subsistence Management (Project No. 10-354), Fisheries Resource Monitoring Program, under agreement #70181AJ033.

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*Roberta Chavez,
Orutsararmiut Native Council,
P.O. Box 927 Bethel, AK 99559, USA*

and

*Christopher A. Shelden
Alaska Department of Fish and Game, Division of Commercial Fisheries,
333 Raspberry Rd, Anchorage, AK 99518, USA*

This document should be cited as:

Chavez, R., and C. A. Shelden. 2013. Inseason subsistence salmon harvest monitoring, Lower Kuskokwim River, 2012. Alaska Department of Fish and Game, Fishery Management Report No. 13-35, Anchorage.

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TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
LIST OF APPENDICES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
Background: Subsistence Closures in 2012.....	3
STUDY AREA.....	3
OBJECTIVES.....	4
METHODS.....	4
RESULTS.....	5
Weekly Characterizations of Salmon Catch Rates.....	5
Chinook salmon.....	6
Chum Salmon.....	6
Sockeye Salmon.....	6
Weekly Characterization of Salmon Run Timing.....	6
Weekly Fishing Activity and Gear Use.....	7
Reports to the Kuskokwim Salmon Management Working Group.....	7
DISCUSSION.....	7
ACKNOWLEDGEMENTS.....	8
REFERENCES CITED.....	9
TABLES AND FIGURES.....	11
APPENDIX A. EXAMPLE OF SURVEY INSTRUMENT.....	17
APPENDIX B. LOWER KUSKOKWIM RIVER INSEASON SUBSISTENCE SALMON CATCH MONITORING WEEKLY REPORTS, 2012.....	20

LIST OF TABLES

Table	Page
1. Number of Lower Kuskokwim River area subsistence fishermen characterizing their weekly salmon catch rates as: “Very Good,” “Normal,” and “Poor” 2012.....	12
2. Number of Lower Kuskokwim River area subsistence fishermen characterizing the salmon run timing as “Early,” “Normal,” or “Late,” 2012.....	13
3. Number of Lower Kuskokwim River area subsistence fishermen, by week, who indicated which type of salmon fishing gear they were using 2012.....	14

LIST OF FIGURES

Figure	Page
1. Kuskokwim Management Area.....	15
2. Inseason subsistence harvest monitoring survey area, 2012.	16

LIST OF APPENDICES

Appendix	Page
A1. Example of Lower Kuskokwim River subsistence salmon fishing survey form.....	18
B1. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, June 4, 2012.....	21
B2. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, June 10, 2012.....	23
B3. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, June 18, 2012.....	25
B4. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, July 2, 2012.....	27
B5. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, July 9, 2012.....	29
B6. Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, July 15, 2012.....	32

ABSTRACT

The *Kuskokwim Inseason Subsistence Catch Monitoring* project has been a collaborative effort between Orutsararmiut Native Council (ONC) and the Alaska Department of Fish and Game (ADF&G) in the Kuskokwim River since 2001. The objective of the project is to provide local input on salmon management decision-making during the fishing season. ONC conducted weekly interviews of Bethel area subsistence fishermen at their fish camps from June 3 to July 14, 2012. The survey collected data on a family's weekly fishing methods; mesh sizes used; relative run timing; catch rates for Chinook (*Oncorhynchus tshawytscha*), chum (*O. keta*) and sockeye (*O. nerka*) salmon; salmon harvest goals; whether salmon subsistence needs were being met; and comments on other factors that play a role in salmon harvest and processing. Data collected were used to qualitatively assess salmon run timing, gear usage, fishing activity, and fishermen's success in achieving their subsistence harvest goals. Surveys were summarized weekly, and shared with fishery managers and the Kuskokwim River Salmon Management Working group. Fishery managers reviewed and compiled survey information with data from fisheries monitoring projects to provide an early indication of salmon run timing and subsistence harvest trends. The inseason survey also provided a venue for local users to have input into the evaluation of salmon abundance and corresponding management actions. In 2012 ONC fisheries technicians interviewed an average of 35 subsistence fishing families each week at fish camps in the Bethel area, with a total of 209 surveys conducted.

Key words: Bethel, Chinook, *Oncorhynchus tshawytscha*, sockeye, *O. nerka*, chum, *O. keta*, coho, *O. kisutch*, salmon, Kuskokwim River, Orutsararmiut Native Council, subsistence, Kuskokwim River Salmon Management Working Group

INTRODUCTION

This report describes the findings of a collaborative project conducted by Orutsararmiut Native Council (ONC) and the Alaska Department of Fish and Game (ADF&G). Researchers collected information from fishermen about their subsistence salmon catches during a 6 week period in June and July of 2012 and presented the information at meetings of the *Kuskokwim River Salmon Management Working Group* (Working Group). Members of the Working Group give input to fishery managers on management decisions for the salmon fisheries in the Kuskokwim River drainage (Figure 1; Bailey and Shelden 2013). Study activities were coordinated through the *Kuskokwim Inseason Subsistence Catch Monitoring Program* at ONC. Participants were families using fish camps in the Bethel area between the mouth of the Gweek River and the village of Napaskiak (Figure 2).

People residing in the Kuskokwim River drainage rely on salmon as the mainstay of their diet. Studies indicate that fish account for up to 85% of the wild resources harvested for subsistence, in pounds of usable weight, in Kuskokwim River drainage communities, with salmon specifically accounting for up to 53% of total wild resources consumed (Coffing 1991). The annual harvest of salmon for home use, or subsistence, is as much as 650 pounds per capita in some of these communities (Coffing 1991; Fall et al. 2009).

There are 3 types of salmon fisheries in the Kuskokwim River drainage: subsistence, commercial, and a much smaller sport fishery. Although some non-resident sport fishermen do visit the Kuskokwim each year, the majority of salmon resource users reside in the drainage. The focus of this project is the subsistence fishery. In 2011 moderate restriction of subsistence fishery probably affected subsistence harvest levels, so 2012 harvest will be compared with the previous 10-year average (2001–2010). Subsistence fishery harvest comprised 96% of the 10-year average total Chinook (*Oncorhynchus tshawytscha*) harvest in all fisheries, 68% of chum (*O. keta*) harvest, and 81% of sockeye salmon (*O. nerka*) harvest (Brazil et al. 2013). In 2010 an estimated 182,971 salmon were harvested for subsistence purposes in the Kuskokwim Area, of

which an estimated 152,010 fish (83% of total) were taken by the residents of the lower river area (Carroll and Hamazaki 2012).

This harvest monitoring program was initiated in 2001 in response to local public and fishery management staff concerns. Salmon returns to the Kuskokwim River were generally below average from 1997 to 2001, but later rebounded to near record abundance (Whitmore et al. 2008; Estensen et al. 2009; Brazil et al. 2013). This program has become an important subsistence salmon harvest monitoring assessment tool, and mechanism for outreach and communications with fishermen.

Since 2004 the project has been limited to the Bethel area subsistence fishery; focusing on the peak Chinook salmon migration. This reflects the priority of assessing the run abundance and timing of Chinook salmon over other salmon species. The project is managed and conducted by staff from ONC; the Bethel Indian Reorganization Act tribal council; in collaboration with the Bethel office of ADF&G, Division of Commercial Fisheries.

In 2012, the Kuskokwim River salmon fisheries were managed according to the *Kuskokwim River Salmon Management Rebuilding Plan* (hereafter referred to as Rebuilding Plan; 5 AAC 07.365) adopted by the Alaska Board of Fisheries in 2001. This plan provided guidelines to manage for sustained yield of salmon stocks, meet escapement goals, provide fishermen with an opportunity to harvest amounts reasonably necessary for subsistence, and in times of surplus, to provide for commercial and sport fisheries (Whitmore et al. 2008).

Much of the management direction in the Rebuilding Plan relies on inseason indicators of run strength. These indicators consist of the evaluation of the following:

1. Subsistence fishery information;
2. Sport fishery harvest information;
3. Bethel test fishery catch rates;
4. Commercial harvest catch rates;
5. Escapement measures including weir passage estimates and spawning ground aerial survey estimates.

Both the Alaska legislature and the U.S. Congress have passed laws to protect customary and traditional uses of fish and wildlife in Alaska. Therefore, inseason fisheries management in the Kuskokwim Management Area must ensure that “reasonable opportunity” to meet subsistence needs will be provided each year prior to providing opportunity for commercial and sport fishing interests.

Kuskokwim River commercial fisheries concentrate effort on coho, chum, and sockeye salmon with some catches of Chinook salmon early in the season. Due to Chinook salmon conservation concerns and resulting subsistence restriction on Chinook salmon harvest in 2012, processors agreed not to buy Chinook salmon. Those caught incidentally by commercial fishermen were retained for the fisherman’s personal use. The commercial fishery was postponed nearly 3 weeks to ensure ongoing Chinook salmon conservation, and incidentally began well after the peak of the chum and sockeye salmon runs. A total of 23 commercial fishery openings occurred on the Kuskokwim River in 2012 from July 13 through August 27 (only 1 occurring during the survey period). Subsistence fishing is closed by emergency order 6 hours prior, during, and 3 hours after each commercial salmon fishing opening.

BACKGROUND: SUBSISTENCE CLOSURES IN 2012

The 2012 preseason outlook for Chinook salmon abundance was slightly higher than in 2011, one of the lowest years on record for Chinook salmon abundance in the Kuskokwim River. Escapement goals on several tributary streams had not been achieved for several of the most recent years. The conservation concern surrounding Chinook salmon prompted both preseason and inseason subsistence restrictions that affected fishermen and ultimately affected survey results.

Preseason management actions were discussed and approved by the Working Group and state and federal managers (Bailey and Shelden 2013). Subsistence fishing closures were anticipated for Chinook salmon in several tributaries of the Kuskokwim River, including the Kwethluk, Tuluksak, Kisaralik, Kasigluk, Aniak and George rivers, and Kuskokuak slough and old Kuskokuak Slough. All gear types were expected to be restricted, including hook and line. Subsistence fishing was not allowed with gear designed to target salmon; therefore, gillnet sizes were restricted to 4 inch mesh, traditionally used for whitefish (*Coregonus* spp.), and could not exceed 60 feet in length.

Inseason management actions affected the entire Kuskokwim River drainage through a “rolling” management strategy in which actions were implemented in the lower river, then followed the Chinook migration upriver into 5 successive sections or reaches, in an attempt to protect a mass of Chinook salmon moving up the Kuskokwim River. Inseason management actions affecting the Bethel area included 3 closed periods (June 13–19, June 20–24, July 1–2) totaling 14 days of complete closure under ADF&G emergency order authority, followed by 20 days (June 25–30, July 3–18) of gear restrictions with gillnets restricted to 6 inch or less mesh size. Closures resulted from low Chinook salmon abundance as indicated by the Bethel test fishery. Gear restrictions were designed and timed to minimize catch of Chinook salmon while allowing harvesters to make use of more abundance chum and sockeye salmon. These actions were initiated in cooperation between ADF&G and the U.S. Fish and Wildlife Service (USFWS), and were discussed and deliberated by the Working Group. The Working Group supported some, but not all, of these restrictions (Bailey and Shelden 2013).

STUDY AREA

The Kuskokwim River drainage covers an extensive area in western Alaska originating in the Alaska Range in central Alaska, emptying into the Bering Sea. Hundreds of smaller tributary rivers and streams drain into the mainstem of the Kuskokwim River making up the entire drainage. There are 5 species of salmon migrate to the Kuskokwim River drainage in spring, summer, and fall to spawn: Chinook or “king” salmon, chum or “dog” salmon, sockeye or “red” salmon, coho or “silver” salmon *O. kisutch*, and pink or “humpy” salmon *O. gorbuscha*. There are about 38 communities located in the drainage ranging in size from small villages of less than 200 people, such as Oscarville, to large subregional hub communities, such as Aniak with 572 people. The largest community in the drainage, Bethel, had a population 5,471 in 2010 according the U.S. Census.¹ The study area was located on the lower river where the majority of the harvest of salmon for subsistence in the Kuskokwim River drainage occurs. The lower river area is the area in which the most people reside and includes the regional hub community of Bethel.

¹ Census 2010 Gateway. [Internet]. 2010. Washington D.C.: United States Census Bureau. Available from: <http://www.census.gov/2010census/> (Accessed: January 2013).

OBJECTIVES

The overall goals of this project were to contribute information for the management of Chinook, chum, and sockeye salmon fisheries in the Kuskokwim River drainage and to increase ONC's capacity to participate in fisheries research and management. The objectives for this project were to:

1. Describe salmon run timing as observed through subsistence fishing activity in the Bethel area;
2. Describe subsistence users' assessment of whether they are meeting their subsistence salmon needs;
3. Describe subsistence fishing activity and gear usage through weekly interviews with Bethel area subsistence salmon fishermen in May, June, and July.
4. Provide local input into the management process for the salmon subsistence fishery through the presentation of weekly summaries of interviews with Bethel Area subsistence salmon fishermen at Working Group meetings inseason.

METHODS

The primary method of data collection was a weekly census survey conducted in each occupied fish camp in an area from the village of Napaskiak to the mouth of the Gweek River, approximately 24 river miles (Figure 2). This study area represented the primary fishing area for Bethel residents and included the overlapping fishing areas for the nearby villages of Oscarville and Napaskiak.

A survey instrument, or questionnaire, was used to collect information during survey interviews (Appendix A1). The survey instrument was developed collaboratively with staff from ADF&G, USFWS, and ONC, and has undergone only minor changes since 2001. All information was compiled by ONC and presented in a summarized format to State and Federal fishery managers and Working Group participants, and via local radio news stations, to the general public. Interview questions included family name, community of residence, date the family began fishing this year, fish camp location, and fishing area. Participation in the survey was voluntary, and the results were kept confidential. Results were reported for the entire project area, and individuals were not identified in the findings.

Fishermen were specifically asked, "Compared with this time in a normal year, how were your catch rates for salmon this week?" Answers were categorized as "Very good," "Normal," or "Poor," and the summarized answers were viewed as an index of relative salmon abundance. In order to provide a general characterization of salmon run timing, fishermen were asked the question: "Does the salmon run appear to be running early, late, or normal?" Fishermen were also asked whether they were fishing with setnet, gillnet, or hook and line; and in the case of gillnets, were asked whether they were using mesh sizes greater or less than 6 inch. Responses to all questions were recorded by week. Additional interviewee comments on the health, condition and behavior of the fish, or weather patterns and other factors influencing fishing effort and success were also included in a weekly written report (Appendix B).

Nearly all participants were interviewed at seasonal fish camps in the areas of Gweek River, Church Slough, Steamboat Slough, Straight Slough, Old Bethel Airport, Oscarville Slough,

Napaskiak Slough, the main stem Kuskokwim River, and adjacent to Bethel (Figure 2). When the program began, subsistence fishing families were contacted at their camps, informed about the goals and objectives of the program, and asked if they were interested in participating. Subsequently, for each week of the survey period, technicians attempted to contact each family on the participant list. The contact list changed over time, when new families were contacted and decided to participate in the program or people on the list moved away, discontinued fishing at their fish camp, or declined to participate. Many families have been participating in the survey each year for the duration of the program. People that wished to participate in the program were included if their salmon processing sites were within the study area, and they self-identified as long-term subsistence fishermen.

Subsistence fishermen were sometimes interviewed at the Bethel boat ramp when they returned from fishing. Some Bethel fishermen who had long been a part of the survey program were contacted by phone at their homes if not encountered at their fish camp or the boat ramp. The number of interviews reported each week was variable, and included everyone who was interviewed whether at their fish camp, at the boat harbor, or in town. Most fishermen who were interviewed represented a larger extended family group participating in salmon harvesting, processing, and preserving. Others who processed the fish contributed information on fish health, drying conditions, or other important environmental details.

In 2012, field season preparations began on May 25 and subsistence catch monitoring interviews began on June 2. Two technicians conducted interviews Thursday through Sunday of every week from June 2 through July 14. Weekly written reports summarizing the responses of the subsistence fishermen were completed by ONC and sent to ADF&G staff the Monday following the interview week. In 2012 due to emergency subsistence fishing rolling closures for Chinook salmon conservation, surveys were not conducted during week ending June 24, and additional survey days were added to reach people at their fish camps during the open fishing periods. Midweek reports were summarized in some cases to provide prompt feedback to the Working Group and ADF&G staff.

RESULTS

On average, 35 families were interviewed weekly regarding their subsistence fishing activities, with a total of 209 interviews conducted in 2012. In all, 6 weekly interview summaries were compiled for Working Group packets and presented verbally by ONC staff at Working Group meetings during June and July 2012 (Appendices B1–B6). Reports to the Working Group for weeks ending June 17 and July 8 contained errors in numbers of families fishing, and consequently the percentages of fishermen answering each question were incorrectly reported. The results reported here and in Tables 1–3 are corrected; however the weekly reports in Appendices B3 and B5 have been preserved exactly as they were presented to the Working Group.

WEEKLY CHARACTERIZATIONS OF SALMON CATCH RATES

Weekly summaries of the catch rates are presented as the way in which respondents categorized their fishing success (Table 1). The chum and sockeye salmon runs typically begin to pass Bethel after the Chinook salmon run is well underway and fishermen tend to decline to comment on these later species until they have information to assess the run. However, it is rare for

fishermen to target these species within the first week of the survey, so lack of comment does not necessarily indicate that chum and sockeye salmon are not present in late May/early June.

Chinook salmon

For the first survey week ending June 3 few families were fishing for salmon and none had been caught; participants refrained from commenting on catch rate or run timing. In the second survey week ending June 10, the majority (57%) of respondents indicated their catch rates were “Poor.” During the third week of the survey period ending June 17, one family indicated catch rates as “Very Good,” one as “Normal” and the majority (62%) as “Poor.” Surveyors did not survey the week ending June 24; due to fishermen’s frustration with fishing closures, an effective survey was unlikely that week. In survey week 4, ending July 1, the majority of respondents indicated that their catches were “Poor” (96%). However, by the fifth week of surveys ending July 8, a few fishermen were reporting “Very Good” (16%) and “Normal” (16%) catches, with the majority (53%) reporting “Poor” catches. In the final survey week, ending July 14, the majority of fishing families (74%) indicated that Chinook salmon fishing was “Poor” with the remainder (26%) indicating that catch rates were “Normal” (Table 1).

Chum Salmon

For the first survey week ending June 3, all fishing respondents declined to comment on their chum salmon catch rates as they felt it was too early in the run to assess. In the second and third survey weeks, ending June 10 and June 17, very few families reported fishing for chum salmon and reports on fishing success ran the range of possible answers. In the fourth survey week ending July 2, a small majority considered catches to be normal (54%), and similar numbers (42%) were reporting chum salmon catches as “Very Good.” In the fifth survey week, ending July 8, similar numbers reported catches as “Very Good” and “Normal” (37% and 32% respectively), with the remainder (21%) reporting poor catches of chum salmon. In the final survey week, the majority of fishing respondents (58%) characterized their catch rates as “Very Good.” The next greatest number (26%) reported catches as “Normal” (Table 1).

Sockeye Salmon

For the first 2 survey weeks ending June 3 and June 10, few respondents provided commentary on catches of sockeye salmon. In the third week, 31% of respondents reported sockeye salmon catches as “Normal” with the remainder declining to comment. In the fourth survey week, the majority of fishing respondents (63%) reported catches as “Normal.” In the fifth and sixth survey weeks, the majority of fishermen were split between an assessment of “Very Good” and “Normal” (Table 1).

WEEKLY CHARACTERIZATION OF SALMON RUN TIMING

In responding to the question concerning run timing compared to “normal” years, fishermen tended to decline comment during the early weeks of the survey. Reasons most often given include an unwillingness to assess the runs with little information available. Throughout the survey, the majority of respondents reported that the Chinook salmon run timing was “Late” (Table 3 and 4). Overall, the majority of the respondents indicated that the chum and sockeye salmon runs timing was “Normal;” however, in the fifth survey week, the majority of respondents reported the run timing as late (Table 2).

WEEKLY FISHING ACTIVITY AND GEAR USE

This objective quantifies how many weekly respondents were actively fishing and what type of gear they were using. Gear categories included the most common methods of capturing salmon for subsistence use in the Bethel area including driftnet, setnet, use of *both* drift and setnet (during the survey week), and rod and reel. For those using gillnets, respondents were asked whether they were using “greater than 6 inch mesh,” “equal to or less than 6 inches,” or using both size categories within the survey week (Table 3). In the first survey week of the survey, of the 29 families contacted at fish camp only 2 families were fishing. One fisherman reported using a set net, 1 fisherman reported using a drift gillnet, and 0 reported using both types of nets in the same week. One fisherman reported using a gill net greater than 6 inch mesh and the other reporting using 6 inch or less. For the second survey week, 50% of fishermen reported using driftnets, 36% were using set nets, and the remainder was using both drift and set nets. For this survey period, the majority of fishermen were using only gill nets 6 inch or less mesh. For the third survey week, the greater proportion of fishermen were split between using only drift gillnet, or both setnet and driftnet with only a small proportion using only setnet. During the fourth week, mesh size for subsistence salmon fishing was restricted to 6 inch and restrictions remained in place through the fifth week and into the final survey week. The majority of fishermen (58%) reported using driftnets, and all fishermen indicated they were using 6 inch or less mesh gear. The final week of surveys, most fishermen reported using drift gill nets. The majority reported using 6 inch or less mesh nets. One fisherman reported using rod and reel during this week to catch a few salmon for freezing.

REPORTS TO THE KUSKOKWIM SALMON MANAGEMENT WORKING GROUP

ONC subsistence fisheries biologist and technicians composed and presented 6 summary reports of the survey results during the project operational period (Appendices B1 to B6). These reports were presented via email and orally over teleconference to state and federal fisheries managers and to all other Working Group participants, including both members and other interested parties. Oral reports were delivered during inseason meetings of the Working Group. Oral reports provided an opportunity to present the data publically, allow question and answer discussion, and encourage additional discussion and feedback from subsistence fishermen.

DISCUSSION

This project relies on voluntary participation by Bethel-area subsistence fishermen, and most respondents have participated since 2001. The majority of participants are lifelong residents of the Kuskokwim Area, representing some of the most experienced and knowledgeable fishermen. Most of these families are of Alaska Native descent, and harvest and process salmon at seasonal fish camps that have been maintained across generations. Interviewees typically have between 10 and 50 years of adult experience fishing in the region. Both ONC technicians who participated in this project have themselves many years of local subsistence fishing experience. Their family relations and community connections on the Kuskokwim River foster trust and familiarity that is essential to the success of the program. Information used to manage the Kuskokwim River fisheries early in the season consisted of Bethel test fishery indices of salmon abundance (e.g., Bue and Brazil 2012) and subsistence harvest reports like those provided through this project. Later in the season, data from fisheries monitoring projects augmented this information. The inseason catch monitoring interviews provided an early indication of salmon run timing, harvest

effort and relative success of catch rates in the subsistence fishery and an indication of whether families' subsistence salmon harvest goals are being met for the season.

Fewer fishermen were interviewed in 2012 than in previous years, with many former participants refusing to be interviewed because frustration over restrictions and closures. Other families reported not fishing for several reasons, including increased fuel prices and bad weather.

Assessment of run timing was fairly consistent. Beginning in the second survey week, the majority felt the Chinook salmon run was late (Table 2). Most respondents felt the sockeye and chum salmon run timing were normal, though in the fifth survey week, most respondents thought these species were late.

Assessment of catch performance was also consistent (Table 1). The vast majority of fishermen considered the Chinook salmon catch to be poor in 2012. Assessment of chum and sockeye salmon catches were mostly considered "Very Good" to "Normal." Some families expressed confusion and hardship associated with subsistence closures, and the majority reported not meeting their family's salmon harvest needs. Those that indicated they had not yet met their family's harvest goals by the end of the survey season either planned to harvest more coho salmon in the fall or said they were satisfied with what they did have and would "make do" with less this year (Appendix B6).

Many fishermen and their families commented on the importance of putting up salmon to dry early in the season to avoid the flies and wet weather that typically arrives later in the summer. Some survey respondents shared strong feelings about the emergency conservation closures, stating that they were prevented from fishing during periods of good weather, critical to drying and preserving fish properly (Appendix B5 and B6). These fishermen felt it was counterproductive to push subsistence fishing later into the summer because fish lost to spoilage might have to be replaced, countering some of the conservation efforts.

ACKNOWLEDGEMENTS

We wish to thank the many subsistence fishermen and families who generously volunteered time from their busy fishing schedule to provide the detailed local information that is critical to making inseason management decisions for the Kuskokwim River fisheries. We extend great appreciation and regard for the Working Group members, many of whom have volunteered years of dedicated service to facilitating this local cooperative management process.

We wish to thank ONC fishery technician, Alissa Joseph, for her third year on this project and role as the project crew leader. We also wish to thank ONC inseason fisheries technician Iyana Dull for his successful second year on the project and especially his contribution sharing his weir and Bethel test fish work experiences with subsistence fishermen interested in the management data. The ONC interns' knowledge of families and fish camps in the Bethel area and excellent interviewing skills have greatly facilitated the involvement of subsistence fishermen in the fisheries management process. Thanks to Jan M. Conitz (ADF&G); Greg Roczicka (ONC); and Pippa Kenner (Office of Subsistence Management) who reviewed this document.

ADF&G and ONC wish to thank the USFWS, Office of Subsistence Management for providing \$30,078 (ADFG = \$19,598; ONC = \$10,480) in funding support for this project (10-354) through the Fisheries Resource Monitoring Program, under agreement #70181AJ033. ADF&G and ONC provided matching funds for this project.

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TABLES AND FIGURES

Table 1.-Number of Lower Kuskokwim River area subsistence fishermen characterizing their weekly salmon catch rates as: “Very Good”, “Normal” and “Poor” 2012.

Week ending	Number of families			Number of Fishing Respondents								
	Interviewed	Fishing	Not fishing	Chinook catch rates			Chum catch rates			Sockeye catch rates		
				Very good	Normal	Poor	Very good	Normal	Poor	Very good	Normal	Poor
Jun 03	29	2	27	a	a	a	a	a	a	a	a	a
Jun 10	36	14	22	1	0	8	1	0	0	0	1	0
Jun 17 ^b	27	13	14	1	1	8	0	2	2	0	4	0
July 02	25	24	1	0	1	23	10	13	1	7	15	2
July 08 ^c	25	19	6	3	3	10	7	6	4	8	8	1
July 14	67	31	36	0	8	23	18	8	5	11	11	9
Total ^d	209	103	106									
Average	35	17	18									

Note: Represents responses (from those fishing) to the question "Compared with this time in a 'Normal' year how were catch rates for salmon this week?"

^a Indicates interviewees declined to comment, often because it is too early in the run to assess

^b Number of families fishing was underestimated in the weekly report for this week.

^c Number of families fishing was underestimated in the weekly report for this week.

^d Represents the total number of interviews conducted during the survey year, most families were interviewed more than once.

Table 2.–Number of Lower Kuskokwim River area subsistence fishermen characterizing the salmon run timing (by species) as “Early,” “Normal,” or “Late,” 2012.

Week ending	Number of families			Number of fishing respondents								
	Interviewed	Fishing	Not fishing	Chinook			Chum			Sockeye		
				Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
Jun 03	29	2	27	a	a	a	a	a	a	a	a	a
Jun 10	36	14	22	1	0	8	1	0	0	0	1	0
Jun 17 ^b	27	13	14	0	1	9	0	4	0	0	4	0
July 02	25	24	1	0	2	22	1	22	1	5	11	8
July 08 ^c	25	19	6	0	3	13	0	6	11	1	4	12
July 14	67	31	36	0	9	20	0	22	8	0	16	15
Total ^d	209	103	106									
Average	35	17	18									

Note: Represents responses (from those fishing) to the question "Compared with this time in a 'Normal' year how was salmon run timing this week?"

^a Indicates interviewees declined to comment, often because it is too early in the run to assess

^b Number of families fishing was underestimated in the weekly report for this week.

^c Number of families fishing was underestimated in the weekly report for this week.

^d Represents the total number of interviews conducted during the survey year, most families were interviewed more than once.

Table 3.–Number of Lower Kuskokwim River area subsistence fishermen, by week, who indicated which type of salmon fishing gear they were using 2012.

Week ending	Number of families		Gear type fishing with:				Mesh size		
	Interviewed	Fishing	Only driftnet	Only setnet	Both set and drift	Rod and reel	Only > 6” mesh	Only ≤ 6” mesh	Both >6” and ≤6”
Jun 03	29	2	0	2	0	0	1	1	0
Jun 10	36	14	7	5	2	0	4	8	2
Jun 17 ^a	27	13	5	1	4	0	3	7	1
July 02	25	24	14	3	7	1	0	24	0
July 08 ^b	25	19	9	2	2	0	1	11	1
July 14	67	31	20	3	8	1	25	2	3
Total ^c	209	103							
Average	35	17							

Note: Represents responses (from those fishing) to the question "Compared with this time in a 'Normal' year how was salmon run timing this week?"

^a Number of families fishing was underestimated in the weekly report for this week.

^b Number of families fishing was underestimated in the weekly report for this week.

^c Represents the total number of interviews conducted during the survey year, most families were interviewed more than once.

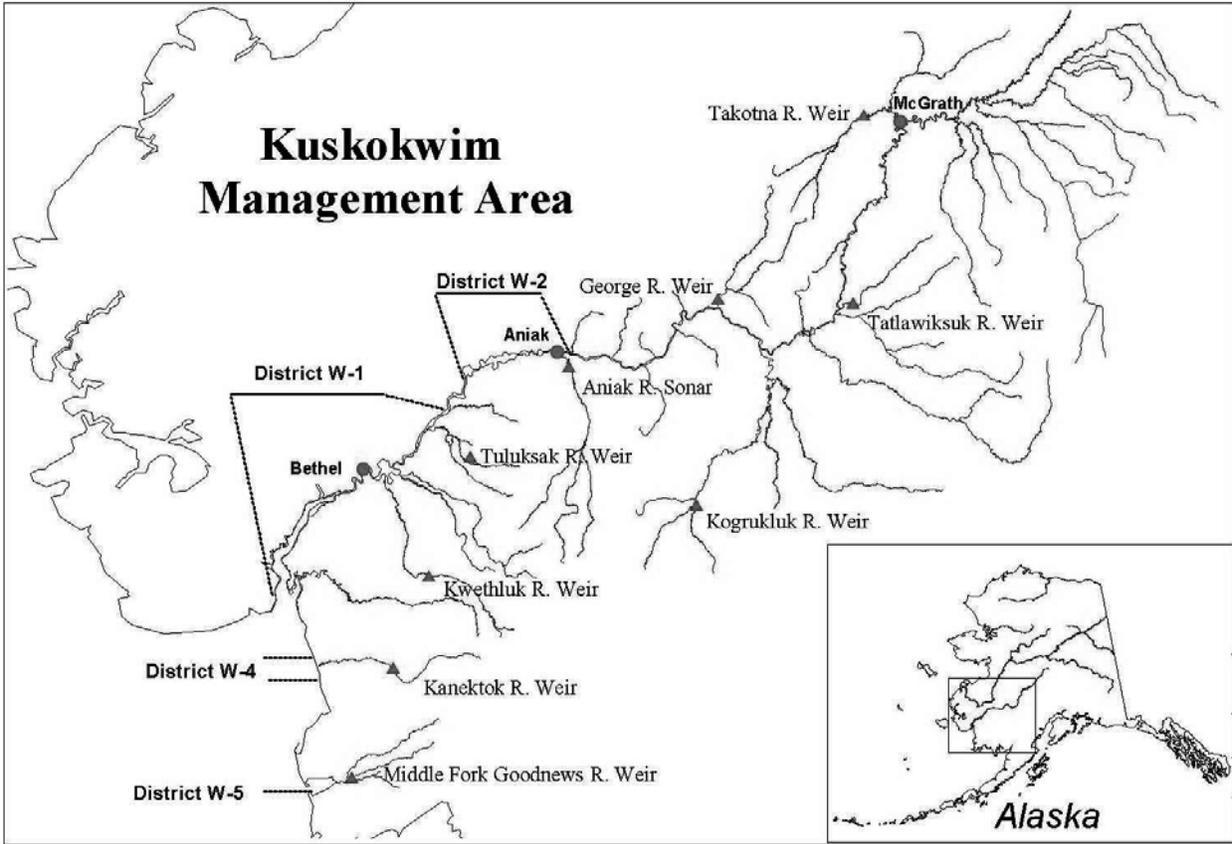
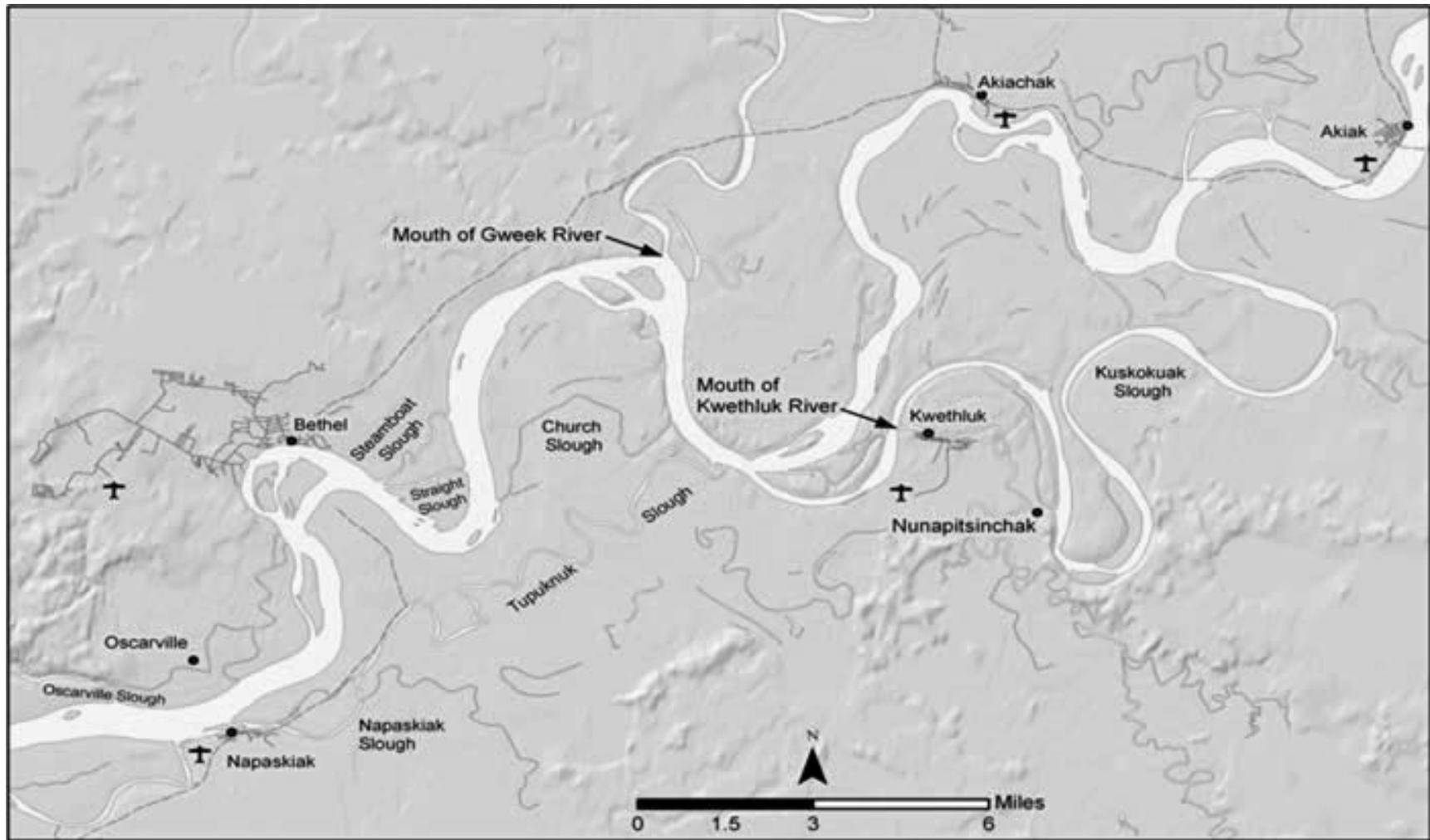


Figure 1.—Kuskokwim Management Area.



Note: Survey Fish camps are located along the main channel of the Kuskokwim River and numerous sloughs located between the mouth of the Gweek River and the village of Napaskiak.

Figure 2.—Inseason subsistence harvest monitoring survey area, 2012.

APPENDIX A. EXAMPLE OF SURVEY INSTRUMENT

Appendix A1.-Example of Lower Kuskokwim River subsistence salmon fishing survey form.

Family Name: Lastname Firstname Community Fishcamp Location

Date family started salmon fishing this year (month, day) Primary Subsistence Salmon Fishing Areas

What are your family's salmon harvest goals this year ? (number of salmon) King _____, Chum _____, Sockeye _____,
Chinook "Red"

		Salmon Fishing Gear Used This Week				Compared with this time in a "NORMAL" year, how were catch rates for salmon this week?									Does the salmon run appear to be running early, late, or normal?											
		Net Type		Mesh ?		King Salmon			Chum Salmon			Sockeye Salmon			King Salmon			Chum Salmon			Sockeye Salmon					
Staff initials	Week Ending	Drift Net	Set Net	6" or Less	More than 6"	Rod Reel	Fish Wheel	Very Good	OK Normal	Poor	Very Good	OK Normal	Poor	Very Good	OK Normal	Poor	Early	Normal	Late	Early	Normal	Late	Early	Normal	Late	
	28-May																									
	4-Jun																									
	11-Jun																									
	18-Jun																									
	25-Jun																									
	2-Jul																									
	9-Jul																									
	16-Jul																									
	31-Jul																									

Comments

Staff initials	Week Ending	Few fish ? Size of Fish ? Drying conditions?	Lot of fish ? Fish look healthy ?	Weather affecting fishing? Fishing harder this year ? Fishing in more places/areas than usual	Water levels?
	28-May				
	4-Jun				
	11-Jun				
	18-Jun				
	25-Jun				
	2-Jul				
	9-Jul				
	16-Jul				
	31-Jul				

Were your family's salmon harvest goals achieved ? Kings _____, Chum _____, Sockeye _____.

When did your family stop subsistence fishing for: King Salmon _____, Chum Salmon _____, Sockeye Salmon _____,
(month, day) (month, day) (month, day)

**APPENDIX B. LOWER KUSKOKWIM RIVER INSEASON
SUBSISTENCE SALMON CATCH MONITORING WEEKLY
REPORTS, 2012**

LOWER KUSKOKWIM RIVER INSEASON REPORTS:

**Orutsararmiut Native Council (ONC)
Kuskokwim River Inseason Subsistence Catch Monitoring Report**

Date June 04, 2012

Fishing reports from Jun 2 – Jun 3, 2012.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both	Gillnets More than 6” mesh	Gillnets 6” mesh or less	Both	Rod & Reel
29	2	0	2	0	1	1	0	0

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
0	0	0	0	0	0	0	0	0

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
0	0	0	0	0	0	0	0	0

Comments:

Subsistence Chinook ASL sampling program: For the week ending June 3rd, the ONC inseason subsistence survey crew prepared the boat, field gear, and survey forms. ONC technicians distributed 3 Chinook ASL sampling kits to families that had sampled for the program in previous years. This year technicians also began outreach to new samplers and additional fish camps, and are currently preparing more ASL kits for distribution. Some families still had kits from last year and planned to sample again this year. A couple of fishers said that they had decided not to participate in ASL sampling this year because last year’s subsistence closures made sampling too challenging.

ONC Technicians Net Observation: For June 2nd, 2012, from Bethel to the mouth of Gweek, ONC technicians observed 11 set nets, 2 drifters, and 1 whitefish net. On the 3rd of June from the top of the Bethel Test fish site down to Napaskiak slough, we observed 22 set nets and 13 drift fishing boats.

-continued-

ONC Inseason Survey:

29 families were interviewed this week for the inseason subsistence monitoring program in the usual survey areas on the Kuskokwim from the mouth of the Gweek River down through Napaskiak slough. Of the families surveyed this week only 2 (7%) had started subsistence fishing specifically for salmon. Many families were drying smelts or indicated that they were fishing for sheefish and whitefish prior to the arrival of salmon. Of the two families targeting salmon, one used a mesh size of 4 3/8" (a whitefish net) and reported that this mesh size it caught good numbers of sockeye salmon last year.

27 (93%) of families surveyed had not started fishing this week. Many of the families were mending and preparing nets, cleaning camp, fixing drying racks and smoke houses, gardening, or tending to other fish camp maintenance. A few families were in the process of moving their fish camp structures back from the river's edge due to encroaching erosion. Many fishers expressed that they were waiting for the salmon runs to increase in abundance in order to fish efficiently and save on boat gas costs.

FOR ALL SALMON SPECIES:

First report of salmon caught on the Kuskokwim: Of the 29 families interviewed this week, 2 (7%) of the families started fishing specifically for salmon, but none reported catching any salmon themselves yet. During our discussions with fishers there was a report of someone in the Oscarville-Napaskiak area that caught a small male Chinook on Sunday.

On the June 1st, a few families reported hearing that 2 Chinook were caught at the mouth of Kwethluk, 1 Chinook at the Oscarville-Napaskiak area, and 1 Chinook in Quinhagak. On June 3rd, there were additional reports of Chinook being caught downriver of Bethel during the evening and early hours of the morning tide.

Run timing and Catch rate: None of the 29 families surveyed on June 2nd and 3rd had caught any salmon yet. They all felt that it was still too early to evaluate run timing or catch rates for the all salmon species.

Harvest Goals: A few families commented that they were not able to put up enough fish in 2011 and they did not meet their harvest goals to sustain their families throughout the winter. Some families chose to put up fewer fish because of conservation efforts. Families that did not meet their accustomed harvest goals ran out of salmon 2 to 5 months before they normally would. Some families interviewed reported sharing salmon with other families, neighbors, or elders to help others get through their shortage this winter. Some people expressed that they were hoping to have more chances to fish this season in order to gather enough salmon for next winter. Others expressed they recognized that Bethel was growing and the larger population meant less of the accustomed fish for everyone. Several fishermen interviewed expressed an interest in participating in the Kuskokwim Salmon Management Working Group meetings.

-continued-

LOWER KUSKOKWIM RIVER INSEASON REPORTS:

**Kuskokwim River Inseason Subsistence Catch Monitoring Report
Orutsararmiut Native Council**

June 10, 2012

Fishing reports from June 7 – June 10, 2012.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both nets	Gillnets More than 6" mesh	Gillnets 6" mesh or less	Both sizes	Rod & Reel
36	14	7	5	2	4	8	2	0

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
1	0	8	1	0	0	0	1	0

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
1	0	8	1	0	0	0	1	0

Comments: For the week ending June 10th, 2012.

Subsistence Chinook ASL Sampling Program: ONC inseason subsistence survey crew members prepared survey kits and distributed nine ASL Chinook sampling kits to families who had previously sampled for the program. This year ONC technicians focused on recruiting experienced samplers who have provided quality scales and data, whereas last year we handed out sampling kits to any willing fish camps sites. Some families still had kits from last year and plan to use them again this year. A couple of fishers said they were not participating in the program because sampling is too challenging and time consuming between subsistence closures.

Ichthyophonous Fungal Disease Sampling Program: ONC inseason subsistence survey crew members sampled a total of 9 females from subsistence caught Chinooks.

-continued-

Net Observation: From Bethel to the mouth of Gweek ONC technicians observed 6 set nets, 2 drift nets, and 1 whitefish set net. From Bethel to the Napaskiak/ Oscar “Hot Spot of the Week” ONC technicians observed 32 set nets and 36 drift nets.

ONC Inseason Survey:

36 families were interviewed this week for the inseason subsistence monitoring program. The Kuskokwim River survey zone reaches from the mouth of Gweek River and concludes at Napaskiak slough.

Of the 36 families, 14 (39%) families had started subsistence fishing. Prior to the recent increase of salmon catches many families were finishing drying and smoking smelts (*Osmeridae*), sheefish (*Inconnu*), and Cisco (*whitefish* or *Akakeek*). Some of the families that were starting to fish this week reported to pulling out nets because they are catching too many sheefish.

22 (61%) of families have not started fishing. Many of the families are mending and preparing nets, cleaning camp, fixing drying racks and smoke houses, or tending to other fish camp maintenance. Many fishers said that they were waiting for the salmon runs to increase in abundance in order to fish efficiently and save on boat gas costs.

To make up for the expected low Chinook run this year, families are voluntarily changing to a smaller mesh size in order to target more sockeye and chum. Also, we had a number of families hoping that the restrictions on mesh size would not fluctuate too drastically this year because it is becoming too expensive to purchase different mesh size nets when gas prices are on the rise.

Salmon Species Survey:

Chinook:

Catch rate: Of the 14 families fishing this week, 1 (7%) family reported the Chinook catch as very good, 0 families reported the catch as normal, 8 (57%) families reported it as poor. 5 (36%) families were not able to comment. All families agreed that a possible explanation for the poor run the high water and cold water temperatures. Many families observed mixed sizes of Chinook and larger males than last year.

Run timing: 1 (7%) family reported the run as early, 0 families reported the run timing as normal, and 8 (57%) families reported the run to be late this year, due to high water and cold temperatures. Some families were concerned that increased barge traffic that could be one cause of a late Chinook return.

Chum:

Catch Rate/Run timing: Of the 14 families fishing this week, only 1 (7%) family reported catching a chum and reported a very good catch rate and early run timing.

Sockeye:

Catch Rate/ Run timing: Of the 14 families fishing this week, only 1 (7%) family reported catching a sockeye and reported catch rate and run timing as normal.

**Please see the 2011 ONC historic catch rates on page 5 of this document.*

MIDDLE AND UPPER KUSKOKWIM RIVER INSEASON REPORTS:

Kuskokwim Native Association (KNA)

- **KNA will give an oral report at the June 15 meeting.**

LOWER KUSKOKWIM RIVER INSEASON REPORTS:

**Orutsararmiut Native Council (ONC)
Kuskokwim River Inseason Subsistence Catch Monitoring Report**

Date June 18, 2012

Fishing reports from Jun 11 – Jun 17, 2012.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both	Gillnets More than 6” mesh	Gillnets 6” mesh or less	Both	Rod & Reel
27	10	5	1	4	3	7	1	0

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
1	1	8	0	2	2	0	4	0

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
0	1	9	0	4	0	0	4	0

Comments: For the week ending June 17th, 2012.

Subsistence Chinook ASL Sampling Program: ONC inseason subsistence survey crew has not distributed any ASL Chinook sampling kits to families this week. We are expecting for ASL distribution to really start when the Chinook salmon start running in stronger numbers.

Ichthyophonous Fungal Disease Sampling Program: There was no sampling this week.

ONC Technicians Net Observation: From Gweek down to Napaskiak slough, ONC inseason subsistence crew observed a total of 9 white fish nets for this week’s net count.

-continued-

ONC Inseason Survey:

The Kuskokwim River survey ranges from the mouth of Gweek and concludes at Napaskiak slough. ONC Inseason subsistence crew interviewed 27 families this week for the inseason subsistence monitoring program. Of the 27 families surveyed this week, only 10 (37%) of the families were fishing before the closure took place.

17(63%) of the families interviewed had reported not fishing this week. Of the 17 families not fishing this week 8 (47%) of the families interviewed still had not even started fishing this year. Many fishers expressed the price of gas is too expensive to go out fishing when the run of salmon run is weak and poor.

Salmon Species Survey:

Chinook:

Catch rate: Of the 10 families fishing this week, 1(10%) family reported the Chinook catch as very good, 1 (10%) family reported the catch as normal, 8 (80%) families reported it as poor, and 3 families refused to comment.

Run timing: 0 (0%) families reported the run as early, 1 (10%) family reported the run timing as normal, and 9 (90%) families reported the run to be late this year, due to high levels of mountain water and extreme cold temperatures.

Chum:

Catch rate: Of the 10 families fishing this week, 0 (0%) families reported the Chum catch as very good, 2 (20%) family reported the catch as normal, 2 (20%) families reported it as poor.

Run timing: 0 (0%) families reported the run as early, 1 (10%) family reported the run timing as normal, and 9 (90%) families reported the run to be late this year.

Sockeye:

Catch rate: Of the 10 families fishing this week, 0 (0%) families reported the Sockeye catch as very good, 4 (40%) family reported the catch as normal, and 0 (0%) families reported it as poor.

Run timing: 0 (0%) families reported the run as early, 4 (40%) families reported the run timing as normal, and 0 (0%) families reported the run to be late this year.

Appendix B4.–Lower Kuskokwim River inseason subsistence catch monitoring weekly report, Orutsararmiut Native Council, July 2, 2012.

LOWER KUSKOKWIM RIVER INSEASON REPORTS:
Kuskokwim River Inseason Subsistence Catch Monitoring Report
Orutsararmiut Native Council (ONC)

Date July 2, 2012

Fishing reports from June 28 – July 2, 2012.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both	Gillnets More than 6" mesh	Gillnets 6" mesh or less	Both	Rod & Reel
25	24	14	3	7	0	24	0	1

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
0	1	23	10	13	1	7	15	2

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
0	2	22	1	22	1	5	11	8

Comments: During the 4-inch mesh restriction in Rolling Closure Section 2 (the Bethel area) some people reported catching a surprisingly high number of small Chinook in both 4-inch set nets and 4-inch drift nets. Many families also reported good catches of whitefish in 4-inch set nets.

Salmon fishing for this survey period was restricted to 6-inch mesh beginning June 19.

25 families were surveyed this week for the inseason subsistence monitoring program. 24(96%) of the families were fishing. One (4%) of the families said they did not fish this week because other members of their family had given them fish. 14 (58%) families reported using drift nets. 3 (13%) family reported using set nets. 7 (29%) families reported using both. One (4%) family used rod and reel. None of the families fishing used gill nets greater than 6-inch mesh. 24 (100%) of the families reported using 6-inch mesh or less.

-continued-

ONC Fishing Reports from June 28 – July 2, 2012 (continued)

Most families interviewed indicated that they had met their subsistence salmon needs for the year or were satisfied with what they had. Many families noted that they had harvested less Chinook than in normal years, but reached their total harvest goals by harvesting more sockeye and chum. Many of the families also reported that they will be targeting more Coho salmon (“silvers”) to make up for their much smaller harvest of Chinook salmon this year. Some of these families said that they usually fish for some Coho and freeze it. Others stated that they don’t normally fish for Coho but would this year to augment lower Chinook catches.

Some families who started fishing later in the season (and did not harvest any salmon before the Chinook conservation closures) were frustrated and discouraged that the closures were extended.

Chinook:

Catch rate: Of the 25 families interviewed, 24 were actively fishing this week. No families reported the Chinook catch as very good, 1 (4%) family reported the catch as normal, 23 (96%) families reported it as poor. On June 19th, 6-inch mesh restrictions were put in place. Some families observed that Chinook seemed to be smaller, but maybe it was because they were fishing with the required smaller gear.

Run timing: Of the 24 families fishing this week, no families reported the run as early, 2 (8%) families reported the run timing as normal, and 22 (92%) families reported the run to be late this year.

Harvest Goals: Many families did not reach their harvest goals for Chinook salmon and mentioned that they are putting up more Chum and Sockeye salmon to meet their family’s subsistence needs for the year.

Chum:

Catch Rate: Of the 25 families interviewed, 24 were actively fishing this week. 10 (42%) families reported their chum catch rates as good. 13 (54%) family reported their chum catches as normal. 1 (4%) family reported their chum catches as poor.

Run timing: 1 (4%) family reported the chum run return as early. 22 (92%) families reported the chum run timing as normal. 1(4%) family reported the chum run to be late.

Harvest Goals: Of the 24 fishing families interviewed all (100%) reported meeting their harvest goals for chum this year. Many fishermen noted they were done fishing for chums and would wait until the Coho started running to fish again.

Sockeye:

Catch Rate: Of the 25 families interviewed, 24 were actively fishing this week. 7 (29%) families reported their sockeye catch rates as good. 15 (63%) families reported their sockeye catches as normal. 2 (8%) families reported their sockeye catches as poor.

Run timing: No families reported the sockeye run return as early. 5 (21%) families reported the sockeye run timing as normal. 11 (46%) families reported the sockeye run to be late compared to previous years. 8 (33%) families were not able to comment on the sockeye run timing this week.

Harvest Goals: 15 families reported meeting harvest goals for sockeye this year. 1 family reported not meeting their sockeye goal yet, and others did not comment on whether they would still fish more for sockeye.

**Kuskokwim River Inseason Subsistence Catch Monitoring Report
Orutsararmiut Native Council**

Date July 9, 2012

Fishing reports from July 5-8, 2012.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both	Gillnets More than 6" mesh	Gillnets 6" mesh or less	Both	Rod & Reel
25	13	9	2	2	1	11	1	0

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
3	3	10	7	6	4	8	8	1

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
0	3	13	0	6	11	1	4	12

Comments: This week was a bit difficult contacting people at fish camp due to weather, timing, and fishing restrictions. Some families that normally would be out fishing are not fishing this year because they don't own a smaller size net. In previous years of the ONC inseason survey program most fishers completed their salmon harvest for the year by the first week of July. This year at that time many fishers were only partially done meeting their families harvest goals, and others have harvested less but are satisfied with what they have.

25 families were surveyed this week for the inseason subsistence monitoring program. 13 (52%) of the families were fishing this week. 10 (40%) of the families said they did not fish this week. 2 (8%) of the families are done fishing for the year. None of the families interviewed met their usual Chinook salmon harvest goals, but most people reported that they are satisfied with what they have between chum and sockeye for dry fish. 8 (32%) of the families interviewed are waiting for Coho salmon to make up for fewer Chinook harvested this year. 2 (8%) of the families reported their fish spoiling from the weather. 3 (12%) of the families have not started this year and are waiting for the mixed stock run to improve before

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going fishing. 1 (4%) of the families declined to comment on salmon fishing gear or Chinook catch rate and run timing for this week.

9 (69%) families reported using drift nets. 2 (15%) family reported using set net. 2 (15%) family reported using both. No families reported rod and reel fishing for freezer fish. 1 (7%) of the families fishing used gill nets greater than 6-inch mesh. 9 (69%) of the families reported using 6-inch mesh or less. 1 (7%) families reported using both.

The majority of families that were surveyed this week indicated they had finished fishing for chum and sockeye this year. One observation to note: Many families who were done fishing for chum and sockeye plan to double their harvest on Coho to make up for less harvest of Chinook in order to meet their subsistence needs for the year. Coho salmon is a desired substitute for Kings because they are very similar when processing certain subsistence foods such as strips, stink heads, salt fish, dried heads, dried stomachs and many other uses specifically for Chinook salmon.

Most had previously indicated they had met their subsistence salmon needs for the year or were satisfied with what they had. A few of our families had indicated that they were specifically fishing for chum and sockeye, to let the Chinook salmon pass through. Families who had started fishing later in the season expressed frustration and discouragement about the gear size restrictions, bad drying weather and increase in gas prices. Some families also expressed the hardship of not meeting needs last year and were concerned about harvesting enough salmon this year to feed their families. Some families said they would target more whitefish to meet their total subsistence needs this year because 4-inch mesh was still allowed during the subsistence closures for Chinook conservation.

Chinook:

Catch rate: Of the 13 families fishing this week, 3 (23%) families reported the Chinook catch as very good, 3 (23%) families reported the catch as normal, and 10 (77%) families reported it as poor. 1 (7%) family was not willing to comment. Mesh restrictions allowing only 4-inch and smaller nets were lifted as of Monday July 9th. Many families still made observations that the Chinook caught with 4-inch or 6-inch mesh were smaller in size, and that there was greater abundance of smaller kings overall than last year's run. A few fishers said that Chinook catch rates are improving in abundance, the overall size of the Chinook caught is increasing, and the genders are approximately a male to female ratio of 50/50.

Run timing: Many fishers are hesitant to comment on run timing, because this year has been a very unusual fishing year with the changes in water temperature and clarity.

Harvest Goals: All families interviewed did not catch their usual harvest goals of Chinook for the year.

Chum:

Catch Rate: Of the 13 families fishing this week, 7 (54%) families reported their catch rates as good. 6 (46%) family reported their catches as normal. 4 (31%) families reported their chum catches as poor.

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Run timing: No families reported the run return as early. 6 (46%) families reported the salmon run timing as normal. 4 (31%) families reported the run to be late.

Harvest Goals: 15 of the families interviewed reported meeting their harvest goals for chum this year.

Sockeye:

Catch Rate: Of the 13 families fishing this week, 8 (62%) families reported their catch rates as good. 8 (62%) families reported their catches as normal. 1 (8%) families reported their sockeye catches as poor. Many fishers reported the sockeye catch rate as fewer than last year, but bigger and healthier looking than previous years. Families are also reported experimenting using Sockeye prepared in different ways to conserve Chinook and meet their family's subsistence salmon needs for the year.

Run timing: 1 (8%) families reported the run return as early. 4 (31%) families reported the salmon run timing as normal. 12 (92%) families reported the run to be late compared to previous years.

Harvest Goals: 15 of the families interviewed reported meeting their harvest goals for sockeye this year.

LOWER KUSKOKWIM RIVER INSEASON REPORTS:
Orutsararmiut Native Council (ONC)
Kuskokwim River Inseason Subsistence Catch Monitoring Report

Date July 15, 2011

Fishing reports from July 10 – July 14, 2011.

Families Surveyed	Families Fishing	Using Driftnets	Using Setnets	Both	Gillnets More than 6” mesh	Gillnets 6” mesh or less	Both	Rod & Reel
67	31	20	3	8	25	2	3	1

Compared with this time in a normal year, how are catch rates for salmon this week?

Chinook			Chum			Sockeye		
Very Good	Normal	Poor	Very Good	Normal	Poor	Very Good	Normal	Poor
0	8	23	18	8	5	11	11	9

Does the salmon run appear to be running early, late, or normal?

Chinook			Chum			Sockeye		
Early	Normal	Late	Early	Normal	Late	Early	Normal	Late
0	9	20	0	22	8	0	16	15

Comments: For the week of July 15th the ONC Subsistence crew worked hard to obtain final subsistence reports from all families interviewed this year, and had much success. There was a concern for low Sockeye catch rates on Steamboat Slough, where in previous years the run strength would be at its strongest peak this week. Families who mainly rely on sockeye to obtain harvest goals though Steamboat Slough gave a suggestion to ask ADF&G to investigate the possibility of a leakage in the barges that would prevent sockeye from running through the slough. As for our families, many of them had reported successfully reaching subsistence needs by utilizing chum and sockeye, but there were no reports of Chinook harvest goals being met.

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67 families were surveyed this week for the inseason subsistence monitoring program. 31(46%) of the families were fishing this week. 2 out of the 31 families this week reported having to borrow nets from friends or family members. 6 (8%) families said they did not fish this week or will not be subsistence fishing this year. 30 (44%) of the families reported that they were done fishing. Three families lost salmon due to spoilage from the wet weather and 9 families were smoking the last of their drying racks while waiting for the Coho run. We also had reports of 2 families that had mainly used Bethel Test Fish to obtain their harvest goals this year.

Out of the 31 families fishing, 20 (64%) families reported using drift nets. 3 (9%) family reported using set nets. 8 (25%) family reported using both. 1 (3%) family reported starting to go rod and reel fishing for freezer fish. 2 (40%) families fishing used gill nets greater than 6-inch mesh. 25 (80%) families reported using 6-inch mesh or less. 3 (9%) families reported using both. 1 (3%) family reported using rod and reel with no success.

Chinook:

Catch rate: Of the 31 families fishing this week, 0 families reported the Chinook catch as very good, 8 (25%) families reported the catch as normal, 23 (74%) families reported it as poor. Chinook catches slowed down to completely zero at the end of this week's survey.

Run timing: 0 families reported the run as early, 9 (29%) families reported the run timing as normal for this time of year, and 20 (64%) families reported the run to be late overall this year. 2 (6%) families did not comment on run timing for this week.

Harvest Goals: 0 families interviewed this week reported meeting harvest goals. All of our families interviewed reported being done fishing for Chinook and did not meet their harvest goals for Chinook this year. Half of our current fishing families are still trying to make up for the Chinook harvests by targeting Coho, because they are more similar to Chinook than chum or sockeye.

Chum:

Catch Rate: Of the 31 families fishing this week, 18 (58%) families reported their catch rates as good. 8 (25%) of the families reported their catches as normal. 5 (16%) families reported their chum catches as poor. It should be noted that at the beginning of this week's survey reports of the families who practice one-minute drifts were only catching average of 2 or were skunked completely. Compared to last year's one-minute drifts by this time of the week, people's nets were overwhelming with Chum. Then toward the end of this weeks' survey those same families reported an unusual high spike in spawning colored chum.

Run timing: 0 families reported the run return as early. 22 (70%) families reported the salmon run timing as normal. 8 (25%) families reported the run to be late. 1 (3%) family was not able to comment.

Harvest Goals: All families interviewed this year met their needs subsistence needs for chum, except the few families that lost their fish to spoilage due to wet weather conditions.

Sockeye:

Catch Rate: Of the 31 families fishing this week, 11 (35%) families reported good catch rates. 11 (35 %) families reported their catches as normal. 9 (29%) families reported their sockeye catches as poor. Many fishers reported that sockeye catch rated decreased about the same time as chum catch rates, and neither improved for the rest of the week.

Run timing: 0 families reported the run return as early. 16 (51%) families reported run timing as normal. 15 (49%) families reported the run to be late compared to previous years.

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Harvest Goals: All of our families reported being happy with the amount of sockeye that they had caught this year, but hoped for a little bit more sockeye to make up for less Chinook harvests. Overall, this year's sockeye run has been reported to be looking healthier and larger in size than previous years. A few of our families also reported that the eggs appeared to be larger in size like Chinook eggs, possibility because they were headed to nearby tributaries to spawn.

Coho: For this week's survey reports, there has been some Coho that have been caught, but not as much as last year. Our families reported that they usually start arriving around this time of the year. They hoped to see a higher catch rate later in the week, but believe the run timing to be late. Some of our families who subsistence rod and reel usually catch a few Coho by now, but they have reported zero success and zero sign of coho activity in usual fishing grounds. Many of our families will be utilizing Coho to make up for the loss in Chinook harvest this year, and other families are going to stick with their usual harvest amounts for freezing and jarring.