

Fishery Data Series No. 05-09

Hooper Bay Subsistence Salmon Monitoring Project, 2004

by

Paul Salomone

March 2005

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mideye-to-fork	MEF
gram	g			mideye-to-tail-fork	METF
hectare	ha			standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.		
liter	L		@		
meter	m	at			
milliliter	mL	compass directions:			
millimeter	mm	east	E		
		north	N		
		south	S		
		west	W		
		copyright	©		
		corporate suffixes:			
		Company	Co.	alternate hypothesis	H _A
		Corporation	Corp.	base of natural logarithm	e
		Incorporated	Inc.	catch per unit effort	CPUE
		Limited	Ltd.	coefficient of variation	CV
		District of Columbia	D.C.	common test statistics	(F, t, χ ² , etc.)
		et alii (and others)	et al.	confidence interval	CI
		et cetera (and so forth)		correlation coefficient (multiple)	R
		exempli gratia		correlation coefficient (simple)	r
		(for example)	e.g.	covariance	cov
		Federal Information Code	FIC	degree (angular)	°
		id est (that is)	i.e.	degrees of freedom	df
		latitude or longitude	lat. or long.	expected value	E
		monetary symbols		greater than	>
		(U.S.)	\$, ¢	greater than or equal to	≥
		months (tables and figures): first three letters	Jan,...,Dec	harvest per unit effort	HPUE
		(U.S.)	®	less than	<
		United States	™	less than or equal to	≤
		(adjective)	U.S.	logarithm (natural)	ln
		United States of America (noun)	USA	logarithm (base 10)	log
		U.S.C.	United States Code	logarithm (specify base)	log ₂ , etc.
		U.S. state	use two-letter abbreviations (e.g., AK, WA)	minute (angular)	'
				not significant	NS
				null hypothesis	H ₀
				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

FISHERY DATA SERIES NO. 05-09

HOOPER BAY SUBSISTENCE SALMON MONITORING PROJECT, 2004

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TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ii
LIST OF FIGURES	ii
LIST OF APPENDICES	ii
ABSTRACT.....	1
INTRODUCTION.....	1
Community of Hooper Bay	2
Alaska Department of Fish and Game Projects	2
OBJECTIVES.....	3
METHODS.....	3
Catch Effort Calculation.....	3
RESULTS.....	4
Chinook Salmon	4
Summer Chum Salmon.....	4
DISCUSSION.....	4
ACKNOWLEDGEMENTS.....	6
REFERENCES CITED	6
TABLES AND FIGURES	7
APPENDIX A	19

LIST OF TABLES

Table		Page
1.	Hooper Bay Chinook and summer chum salmon subsistence CPUE by day, 2004.....	8
2.	Hooper Bay Chinook salmon subsistence set gillnet daily and cumulative CPUE, and cumulative proportions, 2000–2004.....	10
3.	Big Eddy Chinook salmon set gillnet test fishery daily and cumulative CPUE, and cumulative proportions, 2000–2004.....	12
4.	Annual Hooper Bay subsistence harvest and Big Eddy test fishery timing statistics for Chinook and summer chum, 2000–2004.....	14

LIST OF FIGURES

Figure		Page
1.	Alaska portion of the Yukon River drainage.....	15
2.	Comparison of cumulative proportions of Chinook salmon catches at the Hooper Bay subsistence monitoring project and the Big Eddy test fishing project, 2000–2003.....	16
3.	Comparison of cumulative proportions of summer chum salmon catches at the Hooper Bay subsistence monitoring project and the Big Eddy test fishing project, 2000–2003.....	17

LIST OF APPENDICES

Appendix		Page
A1.	Hooper Bay subsistence salmon catch survey form.....	20
A2.	Hooper Bay subsistence salmon catch survey data, June 1 to June 30, 2004.....	21
A3.	Hooper Bay summer chum salmon set gillnet subsistence daily and cumulative CPUE, and cumulative proportions, 2000–2004.....	25
A4.	Big Eddy summer chum salmon drift gillnet test fishery daily and cumulative CPUE, and cumulative proportions, 2000–2003.....	27

ABSTRACT

The Yukon Management Area includes all waters of Alaska within the Yukon River drainage and all coastal waters of Alaska from Point Romanof southward to the Naskonat Peninsula. Because of its location south of the Yukon River, subsistence harvest information from Hooper Bay was considered as a potential indicator of run strength and timing before Chinook *Oncorhynchus tshawytscha* and summer chum *O. keta* salmon enter the Yukon River. During the 2004 monitoring season, 159 interviews were conducted. Catch, time fished, gillnet length, and mesh size information were collected. A total of 31 Chinook salmon and 406 summer chum salmon were harvested during the monitoring period. This is a very low catch of Chinook salmon, averaging less than one fish per day for fishers using large mesh gillnet gear. The catch rate for summer chum salmon was also low, averaging 13 chum salmon per day for fishers using chum gear. The midpoint of the Hooper Bay Chinook salmon subsistence fishery occurred on June 25, eight days after the Alaska Department of Fish and Game Big Eddy set gillnet test fishing project midpoint. The midpoint of the Hooper Bay summer chum salmon subsistence fishery was June 17. The Big Eddy drift gillnet summer chum test fishing project did not operate in 2004. The primary objective of this project is to investigate possible relationships between the Hooper Bay fishery and salmon run indexing projects located within the Yukon River. Four previous years of data from the Hooper Bay subsistence monitoring project shows no relationship between the timing and magnitude of the subsistence catch of Chinook and summer chum salmon at Hooper Bay and the Big Eddy test fishing project in the Lower Yukon River. In 2004, prevailing winds were offshore for most of the summer, which did not push fish into Hooper Bay, resulting in subsistence fishers not meeting their needs. In contrast, salmon runs in the Yukon River were of sufficient magnitude that a surplus of Chinook and summer chum salmon existed beyond escapement needs and a moderate commercial fishery for Chinook salmon was allowed. The subsistence catch in Hooper Bay did not reflect run strength to the Yukon River; therefore, this project continues to demonstrate it is not a useful tool for fishery managers trying to get an early indication of the timing and magnitude of salmon runs returning to the Yukon River.

Key words: Hooper Bay, Chinook salmon, summer chum salmon, subsistence fishery, Big Eddy, test fishing, gillnet, Yukon River, Point Romanof, Naskonat Peninsula

INTRODUCTION

From its headwaters in Marsh Lake, British Columbia (Thorsteinson et al. 1989), the Yukon River flows approximately 3,700 kilometers (km) to the Bering Sea coast in western Alaska. The Yukon Management Area includes all waters of Alaska within the Yukon River drainage and coastal waters from Point Romanof, located northeast of Kotlik, and south to Naskonat Peninsula (Borba and Hamner 1999; Vania et al. 2002). 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 and chum salmon are the primary species and provide most of subsistence, personal use, commercial, and sport harvests for Yukon River area communities.

The Yukon Management Area is divided into seven districts (Figure 1). Alaska's portion of the Yukon River drainage and the boundary of the management area terminate at the Canadian border.

This project was initiated in an attempt to help fishery managers assess Yukon River Chinook and summer chum salmon runs early in their migration through inseason monitoring of the subsistence salmon fishery at Hooper Bay. Managers hoped a relationship would exist between the timing and magnitude of salmon runs at Hooper Bay and Big Eddy test fishery. The Big Eddy test fishery consists of a series of set gillnets in the Lower Yukon River located near Emmonak and is used by the Alaska Department of Fish and Game (ADF&G) as an index of relative salmon abundance. If a relationship existed, it could possibly provide early information to aid management of fisheries in the Lower Yukon River.

The Coastal District includes coastal marine waters within the Yukon Area. Several rural communities are located within the Coastal Management Area and within the lower portion of the Yukon River drainage. Residents of these communities are primarily of Yup'ik Eskimo ancestry that historically fished for salmon in nearshore marine waters.

This report presents information gathered during the 2004 field season.

COMMUNITY OF HOOPER BAY

The village of Hooper Bay is a large community of approximately 1,100 situated on the northwest shore of Hooper Bay. Hooper Bay is located 20 miles south of Cape Romanzof, 25 miles south of Scammon Bay in the Yukon-Kuskokwim Delta, approximately 145 miles northwest of Bethel and 90 miles south of the southern most mouth of the Yukon River (Figure 1). The city is separated into two sections: a heavily built-up townsite located on gently rolling hills, and a newer section in the lowlands. The community lies at approximately 61.5311° North Latitude and -166.0966° West Longitude (Sec. 26, T017N, R093W, Seward Meridian.). Hooper Bay is located in the Bethel Recording District. The area encompasses 8.7 square miles of land and 0.1 square miles of water. The climate in Hooper Bay is maritime. The mean annual snowfall is 75 inches, with a total precipitation of 16 inches. Temperatures range between -25 and 79° F. Winter ice pack and winds often promote severe conditions (Alaska Community Database Summaries).

Hooper Bay has a subsistence based economy and functions as a hub for nearby smaller villages. Subsistence salmon fishing activities occur from late May through mid-July. Historically, residents annually harvest salmon stocks that originate from the Yukon River system and other areas. A Bering Sea Fishermen's Association tagging study conducted in 1986 demonstrated that residents of Hooper Bay primarily harvest Yukon area chum and pink salmon stocks, but also harvest Kotzebue and Norton Sound chum salmon stocks (Borba and Hamner 1999; Kerkvliet 1986).

ALASKA DEPARTMENT OF FISH AND GAME PROJECTS

Since 1992, the Alaska Department of Fish and Game has conducted annual subsistence surveys in the Hooper Bay area (Borba and Hamner 1999). Fishery managers have periodically collected inseason catch reports from Hooper Bay residents.

Currently, ADF&G employs a variety of methods to determine returning salmon run strength and timing in the Yukon River. These methods include drift and set gillnet test fishing projects, sonar assessment projects, tower/weir counting projects, and commercial and subsistence fishery catch rate information. However, these projects only provide information on salmon passage after the fish enter the mouth of the Yukon River. Because the potential for subsistence catch information to provide inseason indications of Yukon River Chinook and summer chum salmon returns prior to their entry into the river, ADF&G was interested in collecting catch and run timing information from Hooper Bay subsistence fishers.

OBJECTIVES

The objectives of this project were:

- 1) To determine if the Hooper Bay subsistence salmon fishery can be used to provide an indication of abundance and run timing that will serve fisheries managers as a predictor of Chinook and summer chum salmon entry patterns into the Yukon River.
- 2) To document the subsistence catch of Chinook and summer chum salmon for comparison with post season subsistence surveys.

METHODS

During the 2004 summer season, a Hooper Bay Traditional Council technician collected daily salmon catch and effort data from subsistence salmon fishers in the Hooper Bay area (Appendix A1). Data was collected from June 1 through June 30 during the Chinook and summer chum salmon migration. Subsistence fishers were interviewed about their daily catch by species, time fished, gillnet length and mesh size. In addition, a series of questions was asked of each fisher that was designed to qualitatively determine the stage of the fishers harvest, along with environmental observations for the day. Each technician contacted fishers at the small boat harbor or on the beach as they returned from fishing.

CATCH EFFORT CALCULATION

Catch per unit effort (CPUE) calculations were completed for each interview and compiled into an Excel spreadsheet. Daily catch rates were calculated and compared to the Big Eddy Chinook and summer chum salmon test fishing indices. Emphasis was on comparing trends between Hooper Bay and Big Eddy test fishing projects, not to compare calculated CPUE indices from each project.

CPUE used in ADF&G test fishing projects use the following catch per unit effort equation for an individual net:

$$CPUE = \frac{6,000(c)}{(l)(t)}$$

Where, 6,000 is a constant produced by standardizing the catch of the gillnet fished to the equivalent number that would have been caught by a 100 fathom gillnet fished for 60 minutes, c denotes salmon catch, l is the length of the gillnet actually fished in fathoms, and t equals mean time fished in minutes (Lingnau 1997). The units are expressed in fathom-minutes. Translating, a CPUE of 1.2 would mean that 1.2 fish were caught per 100-fathoms of gillnet in 60 minutes or 1.2 fish per hour. CPUE for the entire fishery for a given day is then calculated by summing the calculated CPUE for individual fishers.

Chinook and summer chum salmon harvest information from Hooper Bay was separated by mesh size. Catch information from mesh sizes > 6.5 inches were used for calculating Chinook salmon catch rates. Mesh sizes \leq 6.5 inches provided data for calculating summer chum salmon catch rates. Assembled data were reported daily to ADF&G in Emmonak. Data collected from the Hooper Bay subsistence monitoring project was compared with existing lower Yukon River set gillnet test fishing daily and cumulative CPUE. Since there is variation between the relative fishing power at Hooper Bay and the Big Eddy test fishing project gillnets, direct comparison of CPUE data is not possible. Therefore, the comparison was more of a qualitative nature with

managers looking for trends in the Hooper Bay data that would then be followed at some later interval by similar trends in the Big Eddy test fishery data. Chinook salmon data from large mesh gillnets at Hooper Bay were compared to Chinook salmon data from 8.5 inch mesh set gillnets at the Big Eddy test fishery. In previous years, summer chum salmon data from small mesh gillnets at Hooper Bay were compared to the summer chum salmon data from 5.5 inch drift gillnets at the Big Eddy test fishery, however, in 2004 the Big Eddy drift gillnet test fishery did not operate during the summer chum salmon migration.

RESULTS

From June 1 to June 30, 159 subsistence salmon catch survey interviews were conducted in Hooper Bay (Appendix A2). Subsistence fishers primarily used set gillnets to harvest Chinook and summer chum salmon. Fishers used nets varying in length from 10 to 60-fathoms, and varying in mesh size from 4.0 to 8.0 inches. Total inseason reported harvest by Hooper Bay subsistence fisherman was 31 Chinook salmon and 406 summer chum salmon.

CHINOOK SALMON

During 2004, Hooper Bay subsistence fishers harvested Chinook salmon using gillnets that averaged 46-fathoms in length with a mean mesh size of 7.5 inches. Total time fished using Chinook salmon gear was 24,120 minutes or 402 hours (Table 1). Mean Chinook salmon catch per day fished was less than one fish. Cumulative CPUE was 0.88 fish per 100-fathoms per hour fished. The average number of fishers per day using Chinook salmon gear was one with an average of 12 hours of fishing time per fisher. The highest single day catch was four Chinook salmon on June 6.

A comparison of timing of the Chinook salmon run at Hooper Bay and the Big Eddy test fishing project indicated the run was about 8 days later at Hooper Bay. Cumulative CPUE for Chinook salmon at the Hooper Bay subsistence fishery was 0.88 and the Big Eddy test fishing project was 20.59 (Tables 2 and 3).

SUMMER CHUM SALMON

On June 20, Hooper Bay subsistence fishers using chum salmon gear harvested 96 chum salmon, the highest single day harvest during the monitoring period (Table 1). The highest daily CPUE of 3.10, occurred on June 19 with the midpoint of the subsistence catch occurring on June 17 (Table 4, Appendix A3). The season cumulative CPUE was 13.07. Hooper Bay subsistence summer chum salmon fishers used an average net size of 47-fathoms with mesh averaging 4.7 inch stretch measure. Total fishing time was 87,840 minutes or 1,464 hours (Table 1). Mean chum salmon catch was 11 fish per day. The average number of fishers using summer chum salmon gear per day was five with an average fishing time of 12 hours per fisher.

Chum salmon drift gillnets were not operated in the Big Eddy test fishing project in 2004, so no comparative catch information is available.

DISCUSSION

During the preparation of this report, an error in the CPUE calculation for previous years' reports (Crawford and Lingnau 2004; Lingnau 2002a, b; Raymond, et. al. 2001) was discovered and

corrected. The error was in how fishing time for individual fishers was calculated and then summed. Essentially, the original calculation summed all net lengths and all times before calculating the daily CUPE instead of calculating the weighted average of the sum of individual fisher's daily CPUE. Calculating the CPUE by summing all times and net lengths for fishers results in erroneously low CPUE values because of the relatively large denominator of the equation. This data has been updated in Chinook tables included in this report and contain the corrected data for the years from 2000 to 2003 and supersedes data in previous reports. Appendices A3 and A4 contain corrected information from the Hooper Bay set gillnets and Big Eddy drift gillnet project, which were the primary assessment and comparative tools for summer chum salmon. Although the drift gillnet project did not operate in 2004, the corrected information is included for completeness.

This was the fifth year of the Hooper Bay subsistence salmon catch monitoring project. Following reanalysis of the 2000–2003 data conclusions remain that during the previous 4 years the project demonstrated little or no relationship between timing and magnitude of the subsistence catch of Chinook and summer chum salmon at Hooper Bay and the Big Eddy test fishing project in the Lower Yukon River (Table 4, Figures 2 and 3).

Hooper Bay residents report that wind direction significantly affects salmon harvests, especially for Chinook salmon. Prevailing winds either push fish to shore where they can be captured in local subsistence nets, or push them offshore where they cannot be caught. During the 2004 season, prevailing winds were offshore or from the south, directions that generally do not push fish into the nearshore areas or into Hooper Bay proper. These mostly offshore winds resulted in very few fish being caught by Hooper Bay residents while the runs of Chinook and summer chum salmon to the Yukon River were strong enough to for higher escapements than 2000-2002, with a surplus to allow full subsistence, as well as commercial, personal use, and sport harvests. Once again, this project demonstrated that Hooper Bay subsistence salmon catch information is unreliable as an inseason management tool for Yukon River salmon fisheries managers.

A potential contribution of this project could be to evaluate results of the postseason subsistence salmon harvest survey, but at the time this report was published the results of the survey for 2004 were not available. Residents of Hooper Bay have demonstrated the ability to collect seasonal information regarding subsistence salmon harvests on their own. Doing so would allow them to continue to build on what has been developed over the last 5 years as well as continue to collect information about their own fishery. The project would still provide catch information from the village particularly postseason final catch information. However, the cost to run the project could inhibit the desire to obtain that information, which would still need to be coupled with subsistence catch information from the rest of the Yukon Area in order to obtain a true idea of the subsistence salmon harvest for the entire Yukon Management Area. A better use of the funding would be to develop a program to educate fishers as to why managers need catch information and encourage fishers to complete the annual subsistence catch calendars, which could eventually eliminate the need for postseason surveys and save money over time.

Since the ability to harvest salmon in the Hooper Bay subsistence fishery varies with wind direction and fishing effort, this project has not proven itself a useful tool for fishery managers trying to get early indications of timing and magnitude of salmon runs returning to the Lower Yukon River. For these reasons, as well as budget and manpower concerns, it is not likely that ADF&G will be able lend support to this project in the future.

ACKNOWLEDGEMENTS

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TABLES AND FIGURES

Table 1.—Hooper Bay Chinook and summer chum salmon subsistence CPUE by day, 2004.

Date	Chinook Salmon (mesh size >6.5")							Summer Chum Salmon (mesh size ≤6.5")						
	Time Fished (minutes)	No. of Fishers	No. of Fish	Total Fathoms	Total Fathom Minutes	Daily CPUE	Cum. CPUE	Time Fished (minutes)	No. of Fishers	No. of Fish	Total Fathoms	Total Fathom Minutes	Daily CPUE	Cum. CPUE
25-May														
26-May														
27-May														
28-May														
29-May														
30-May														
31-May														
1-Jun	2,160	3	0	145	104400	0.00	0.00	0	0	0	0	0	0.00	0.00
2-Jun	1,800	4	0	185	88200	0.00	0.00	1,080	2	3	100	54000	0.33	0.33
3-Jun	720	1	0	60	43200	0.00	0.00	4,320	6	5	255	183600	0.16	0.50
4-Jun	2,160	3	0	145	104400	0.00	0.00	5,040	7	4	245	176400	0.14	0.63
5-Jun	0	0	0	0	0	0.00	0.00	4,320	6	19	245	176400	0.65	1.28
6-Jun	2,880	4	0	205	147600	0.00	0.00	4,320	6	2	220	158400	0.08	1.35
7-Jun	0	0	0	0	0	0.00	0.00	6,480	9	9	220	158400	0.34	1.70
8-Jun	1,440	2	0	25	18000	0.00	0.00	2,880	5	5	100	72000	0.42	2.11
9-Jun	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0.00	2.11
10-Jun	0	0	0	0	0	0.00	0.00	0	0	0	0	0	0.00	2.11
11-Jun	720	1	0	0	0	0.00	0.00	6,480	10	11	290	208800	0.32	2.43
12-Jun	720	1	0	25	18000	0.00	0.00	3,600	6	15	205	147600	0.61	3.04
13-Jun	720	1	0	25	18000	0.00	0.00	6,480	10	33	435	313200	0.63	3.67
14-Jun	0	0	0	0	0	0.00	0.00	6,120	11	17	440	264600	0.39	4.06
15-Jun	720	1	0	60	43200	0.00	0.00	1,440	3	8	110	79200	0.61	4.66
16-Jun	720	1	0	60	43200	0.00	0.00	1,440	3	23	120	86400	1.60	6.26
17-Jun	0	0	0	0	0	0.00	0.00	720	2	3	60	43200	0.42	6.68
18-Jun	720	1	0	25	18000	0.00	0.00	1,440	3	7	120	86400	0.49	7.16
19-Jun	2,160	3	3	110	79200	0.23	0.23	2,880	5	78	210	151200	3.10	10.26
20-Jun	1,440	2	1	85	61200	0.10	0.33	9,360	14	96	655	471600	1.22	11.48
21-Jun	0	0	0	0	0	0.33	0.33	0	0	0	0	0	0.00	11.48
22-Jun	0	0	0	0	0	0.33	0.33	0	0	0	0	0	0.00	11.48

-continued-

Table 1.—Page 2 of 2.

Date	Chinook Salmon (mesh size >6.5")						Summer Chum Salmon (mesh size ≤6.5")							
	Time Fished (minutes)	No. of Fishers	No. of Fish	Total Fathoms	Total Fathom Minutes	Daily CPUE	Cum. CPUE	Time Fished (minutes)	No. of Fishers	No. of Fish	Total Fathoms	Total Fathom Minutes	Daily CPUE	Cum. CPUE
23-Jun	0	0	0	0	0	0.33	0.33	0	0	0	0	0	11.48	
24-Jun	720	1	0	60	43200	0.00	0.33	4320	7	27	255	183600	0.88	12.36
25-Jun	720	1	2	60	43200	0.28	0.60	5760	9	16	375	270000	0.36	12.72
26-Jun	720	1	2	60	43200	0.28	0.88	2160	4	4	180	129600	0.19	12.90
27-Jun	720	1	0	60	43200	0.00	0.88	3600	6	6	290	208800	0.17	13.07
28-Jun	1440	2	0	50	36000	0.00	0.88	2160	4	0	180	129600	0.00	13.07
29-Jun	0	0	0	0	0	0.88	0.88	720	2	0	60	43200	0.00	13.07
30-Jun	720	1	0	60	43200	0.00	0.88	720	2	0	60	43200	0.00	13.07
1-Jul														
2-Jul														
3-Jul														
4-Jul														
5-Jul														
6-Jul														
7-Jul														
8-Jul														
9-Jul														
10-Jul														
11-Jul														
12-Jul														
13-Jul														
14-Jul														
15-Jul														
Total	24,120		8	1,505		0.88		87,840		391	5,430		13.07	

Note: In previous years this project was operated from May 25 until July 15. Days with no data indicate days when the project was not operational.

Table 2.—Hooper Bay Chinook salmon subsistence set gillnet daily and cumulative CPUE, and cumulative proportions, 2000–2004.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
25-May															
26-May															
27-May															
28-May					0.00	0.00	0.00								
29-May					0.67	0.67	0.13								
30-May					1.00	1.67	0.32	0.74	0.74	0.09					
31-May					0.90	2.56	0.49	0.80	1.53	0.18	0.00	0.00	0.00		
1-Jun					0.48	3.05	0.58	1.75	3.28	0.39	0.00	0.00	0.00		
2-Jun				2.29	2.29	0.02	0.31	3.35	0.64	0.92	4.19	0.50	0.00	0.00	0.00
3-Jun				0.00	2.29	0.02	0.25	3.60	0.68	0.51	4.70	0.56	0.00	0.00	0.00
4-Jun				6.09	8.38	0.09	0.12	3.73	0.71	0.91	5.61	0.66	0.00	0.00	0.00
5-Jun				2.25	10.63	0.11	0.20	3.93	0.75	0.46	6.06	0.72	0.00	0.00	0.00
6-Jun				8.83	19.46	0.20	0.33	4.26	0.81	0.08	6.14	0.73	0.00	0.00	0.00
7-Jun				8.49	27.95	0.28	0.23	4.49	0.85	0.21	6.35	0.75	0.00	0.00	0.00
8-Jun	0.30	0.30	0.09	7.72	35.68	0.36	0.33	4.83	0.92	0.06	6.42	0.76	0.00	0.00	0.00
9-Jun	0.10	0.40	0.12	1.00	36.68	0.37	0.19	5.01	0.95	0.13	6.54	0.77	0.00	0.00	0.00
10-Jun	0.00	0.40	0.12	6.89	43.57	0.44	0.03	5.05	0.96	0.24	6.78	0.80	0.00	0.00	0.00
11-Jun	0.29	0.68	0.21	6.27	49.83	0.51	0.00	5.05	0.96	0.17	6.95	0.82	0.00	0.00	0.00
12-Jun	0.10	0.78	0.25	4.20	54.03	0.55	0.00	5.05	0.96	0.11	7.06	0.84	0.00	0.00	0.00
13-Jun	0.22	1.00	0.31	2.65	56.69	0.58	0.00	5.05	0.96	0.00	7.06	0.84	0.00	0.00	0.00
14-Jun	0.22	1.22	0.38	0.83	57.52	0.58	0.00	5.05	0.96	0.52	7.58	0.90	0.00	0.00	0.00
15-Jun	0.20	1.42	0.45	1.96	59.48	0.60	0.17	5.21	0.99	0.00	7.58	0.90	0.00	0.00	0.00
16-Jun	0.15	1.57	0.49	11.90	71.39	0.73	0.00	5.21	0.99	0.50	8.08	0.96	0.00	0.00	0.00

-continued-

Table 2.—Page 2 of 2.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
17-Jun	0.00	1.57	0.49	7.68	79.06	0.80	0.00	5.21	0.99	0.17	8.25	0.98	0.00	0.00	0.00
18-Jun	0.36	1.93	0.61	2.20	81.26	0.83	0.00	5.21	0.99	0.21	8.45	1.00	0.00	0.00	0.00
19-Jun	0.13	2.06	0.65	6.25	87.51	0.89	0.00	5.21	0.99	0.00	8.45	1.00	0.23	0.23	0.26
20-Jun	0.16	2.22	0.70	6.67	94.18	0.96	0.06	5.27	1.00	0.00	8.45	1.00	0.10	0.33	0.37
21-Jun	0.16	2.38	0.75	4.17	98.34	1.00				0.00	8.45	1.00	0.00	0.33	0.37
22-Jun	0.25	2.63	0.83							0.00	8.45	1.00	0.00	0.33	0.37
23-Jun	0.00	2.63	0.83										0.00	0.33	0.37
24-Jun	0.00	2.63	0.83										0.00	0.33	0.37
25-Jun	0.00	2.63	0.83										0.28	0.60	0.68
26-Jun	0.00	2.63	0.83										0.28	0.88	1.00
27-Jun	0.00	2.63	0.83										0.00	0.88	1.00
28-Jun	0.55	3.18	1.00										0.00	0.88	1.00
29-Jun	0.00	3.18	1.00										0.00	0.88	1.00
30-Jun	0.00	3.18	1.00										0.00	0.88	
1-Jul	0.00	3.18	1.00												
2-Jul	0.00	3.18	1.00												
3-Jul															
4-Jul															
5-Jul															
6-Jul															
7-Jul															
8-Jul															
9-Jul															
10-Jul															
11-Jul															
12-Jul															
13-Jul															
14-Jul															
15-Jul															

Note: In previous years this project was operated from May 25 until July 15. Days with no data indicate days when the project was not operational. The large boxes represent the middle 50% of the run and the small boxes represent the day that the midpoint of the run was exceeded.

Table 3.—Big Eddy Chinook salmon set gillnet test fishery daily and cumulative CPUE, and cumulative proportions, 2000–2004.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
25-May															
26-May															
27-May										0.56	0.56	0.02	0	0.00	0.00
28-May										0.17	0.73	0.03	0.04	0.04	0.00
29-May							0.00	0.00	0.00	0.04	0.77	0.03	0.04	0.08	0.00
30-May							0.00	0.00	0.00	0.04	0.81	0.03	0	0.08	0.00
31-May							0.00	0.00	0.00	0.47	1.28	0.05	0.13	0.21	0.01
1-Jun							0.13	0.13	0.01	0.63	1.91	0.07	0.10	0.31	0.02
2-Jun							0.13	0.25	0.01	0.59	2.50	0.09	0.14	0.45	0.02
3-Jun	0.00	0.00		0.00	0.00		0.33	0.58	0.02	0.52	3.02	0.11	0.38	0.83	0.04
4-Jun	0.06	0.06		0.00	0.00		0.33	0.92	0.04	0.52	3.54	0.13	0.03	0.86	0.04
5-Jun	0.08	0.14		0.00	0.00		0.33	1.25	0.05	0.66	4.20	0.16	0.25	1.11	0.05
6-Jun	0.17	0.31		0.00	0.00		0.63	1.88	0.08	0.64	4.84	0.18	0.19	1.30	0.06
7-Jun	0.13	0.44		0.00	0.00		0.54	2.42	0.10	0.38	5.22	0.19	0.07	1.37	0.07
8-Jun	0.04	0.48		0.19	0.19	0.02	0.25	2.67	0.11	0.76	5.98	0.22	0.33	1.70	0.08
9-Jun	0.10	0.58	0.04	0.35	0.54	0.05	0.46	3.13	0.13	0.52	6.50	0.24	1.19	2.89	0.14
10-Jun	0.33	0.91	0.06	0.21	0.75	0.06	0.50	3.63	0.15	0.89	7.39	0.27	1.00	3.89	0.19
11-Jun	0.10	1.01	0.06	0.33	1.08	0.09	0.54	4.17	0.17	0.86	8.25	0.30	0.61	4.50	0.22
12-Jun	0.08	1.09	0.07	0.56	1.64	0.14	1.00	5.17	0.21	2.48	10.73	0.40	0.83	5.33	0.26
13-Jun	0.15	1.24	0.08	0.67	2.31	0.20	1.58	6.75	0.27	1.66	12.39	0.46	1.52	6.85	0.33
14-Jun	0.15	1.39	0.08	0.83	3.14	0.27	1.46	8.21	0.33	0.86	13.25	0.49	1.33	8.18	0.40
15-Jun	0.08	1.47	0.09	0.31	3.45	0.30	1.17	9.38	0.38	1.07	14.32	0.53	0.70	8.88	0.43
16-Jun	0.19	1.66	0.10	0.21	3.66	0.32	0.92	10.29	0.41	0.76	15.08	0.56	0.69	9.57	0.46
17-Jun	0.21	1.87	0.11	0.17	3.83	0.33	1.75	12.04	0.48	0.57	15.65	0.58	0.71	10.28	0.50
18-Jun	1.54	3.41	0.21	0.04	3.87	0.34	1.04	13.08	0.53	0.18	15.83	0.59	0.31	10.59	0.51
19-Jun	1.23	4.64	0.28	0.13	4.00	0.35	0.46	13.54	0.54	0.56	16.39	0.61	0.95	11.54	0.56
20-Jun	0.63	5.27	0.32	0.10	4.10	0.36	1.42	14.96	0.60	0.64	17.03	0.63	1.25	12.79	0.62
21-Jun	0.25	5.52	0.34	1.04	5.14	0.45	1.17	16.13	0.65	1.06	18.09	0.67	0.63	13.42	0.65
22-Jun	0.40	5.92	0.36	0.50	5.64	0.49	0.79	16.92	0.68	0.57	18.66	0.69	0.60	14.02	0.68
23-Jun	0.35	6.27	0.38	1.19	6.83	0.59	1.00	17.92	0.72	0.25	18.91	0.70	0.89	14.91	0.72
24-Jun	0.21	6.48	0.40	1.13	7.96	0.69	1.00	18.92	0.76	1.50	20.41	0.75	1.21	16.12	0.78
25-Jun	1.17	7.65	0.47	0.77	8.73	0.76	1.04	19.96	0.80	0.25	20.66	0.76	0.53	16.65	0.81

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Table 3.–Page 2 of 2.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
26-Jun	2.19	9.84	0.60	0.46	9.19	0.80	0.75	20.71	0.83	0.34	21.00	0.78	0.56	17.21	0.84
27-Jun	0.67	10.51	0.64	0.71	9.90	0.86	0.29	21.00	0.84	0.43	21.43	0.79	0.34	17.55	0.85
28-Jun	0.69	11.20	0.68	0.21	10.11	0.88	0.08	21.08	0.85	0.33	21.76	0.80	0.38	17.93	0.87
29-Jun	0.56	11.76	0.72	0.06	10.17	0.88	0.29	21.38	0.86	1.13	22.89	0.85	0.19	18.12	0.88
30-Jun	0.23	11.99	0.73	0.08	10.25	0.89	0.46	21.83	0.88	0.86	23.75	0.88	0.5	18.62	0.90
1-Jul	0.33	12.32	0.75	0.25	10.50	0.91	0.25	22.08	0.89	0.33	24.08	0.89	0.19	18.81	0.91
2-Jul	0.33	12.65	0.77	0.15	10.65	0.92	0.54	22.63	0.91	0.22	24.30	0.90	0.27	19.08	0.93
3-Jul	0.35	13.00	0.79	0.17	10.82	0.94	0.42	23.04	0.93	0.19	24.49	0.91	0.09	19.17	0.93
4-Jul	0.83	13.83	0.84	0.13	10.95	0.95	0.38	23.42	0.94	0.39	24.88	0.92	0.16	19.33	0.94
5-Jul	0.27	14.10	0.86	0.13	11.08	0.96	0.29	23.71	0.95	0.28	25.16	0.93	0.32	19.65	0.95
6-Jul	0.19	14.29	0.87	0.06	11.14	0.97	0.17	23.88	0.96	0.31	25.47	0.94	0.17	19.82	0.96
7-Jul	0.10	14.39	0.88	0.06	11.20	0.97	0.29	24.17	0.97	0.16	25.63	0.95	0.21	20.03	0.97
8-Jul	0.23	14.62	0.89	0.04	11.24	0.97	0.25	24.42	0.98	0.10	25.73	0.95	0.15	20.18	0.98
9-Jul	0.44	15.06	0.92	0.02	11.26	0.98	0.21	24.63	0.99	0.15	25.88	0.96	0.15	20.33	0.99
10-Jul	0.38	15.44	0.94	0.10	11.36	0.98	0.08	24.71	0.99	0.42	26.30	0.97	0.04	20.37	0.99
11-Jul	0.19	15.63	0.95	0.06	11.42	0.99	0.08	24.79	1.00	0.18	26.48	0.98	0.05	20.42	0.99
12-Jul	0.08	15.71	0.96	0.02	11.44	0.99	0.00	24.79	1.00	0.13	26.61	0.98	0.04	20.46	0.99
13-Jul	0.02	15.73	0.96	0.06	11.50	1.00	0.08	24.88	1.00	0.16	26.77	0.99	0.03	20.49	1.00
14-Jul	0.02	15.75	0.96	0.02	11.52	1.00	0.00	24.88	1.00	0.19	26.96	1.00	0.06	20.55	1.00
15-Jul	0.63	16.38	1.00	0.02	11.54	1.00	0.00	24.88	1.00	0.09	27.05	1.00	0.04	20.59	1.00

Note: In previous years this project was operated from May 25 until July 15. Days with no data indicate days when the project was not operational. The large boxes represent the middle 50% of the run and the small boxes represent the day that the midpoint of the run was exceeded.

Table 4.—Annual Hooper Bay subsistence harvest and Big Eddy test fishery timing statistics for Chinook and summer chum, 2000-2004.

Year	Cumulative CPUE	First Quartile		Third Quartile		Days Between Quartiles		
		Day	Median Day	Day	Median Day	First & Median	Median & Third	First & Third
Hooper Bay Subsistence Harvest - Chinook salmon								
2000	3.18	12-Jun	18-Jun	21-Jun	6	3	9	
2001	98.34	7-Jun	11-Jun	17-Jun	4	6	10	
2002	5.27	30-May	1-Jun	5-Jun	2	4	6	
2003	8.45	1-Jun	2-Jun	7-Jun	1	5	6	
2004	0.88	19-Jun	25-Jun	26-Jun	0	1	7	
Big Eddy Test Fishery Set Gill Net Catch - Chinook salmon								
2000	16.38	19-Jun	26-Jun	1-Jul	7	5	12	
2001	11.54	14-Jun	23-Jun	25-Jun	9	2	11	
2002	24.88	13-Jun	18-Jun	24-Jun	5	6	11	
2003	27.05	10-Jun	15-Jun	24-Jun	5	9	14	
2004	20.59	12-Jun	17-Jun	24-Jun	5	7	12	
Hooper Bay Subsistence Harvest - summer chum salmon								
2000	211.92	16-Jun	19-Jun	21-Jun	3	2	5	
2001	483.66	10-Jun	17-Jun	21-Jun	7	4	11	
2002	193.39	29-May	3-Jun	8-Jun	5	5	10	
2003	46.99	2-Jun	9-Jun	17-Jun	7	8	15	
2004	13.07	13-Jun	17-Jun	19-Jun	4	2	6	
Big Eddy Test Fishery Drift Gill Net Catch - summer chum salmon								
2000	19.10	16-Jun	23-Jun	29-Jun	7	6	13	
2001	2,953.34	17-Jun	24-Jun	26-Jun	7	2	9	
2002	4,316.00	14-Jun	21-Jun	24-Jun	7	3	10	
2003	2,642.95	13-Jun	21-Jun	30-Jun	8	9	17	
2004	The Big Eddy drift project was not operated in 2004							

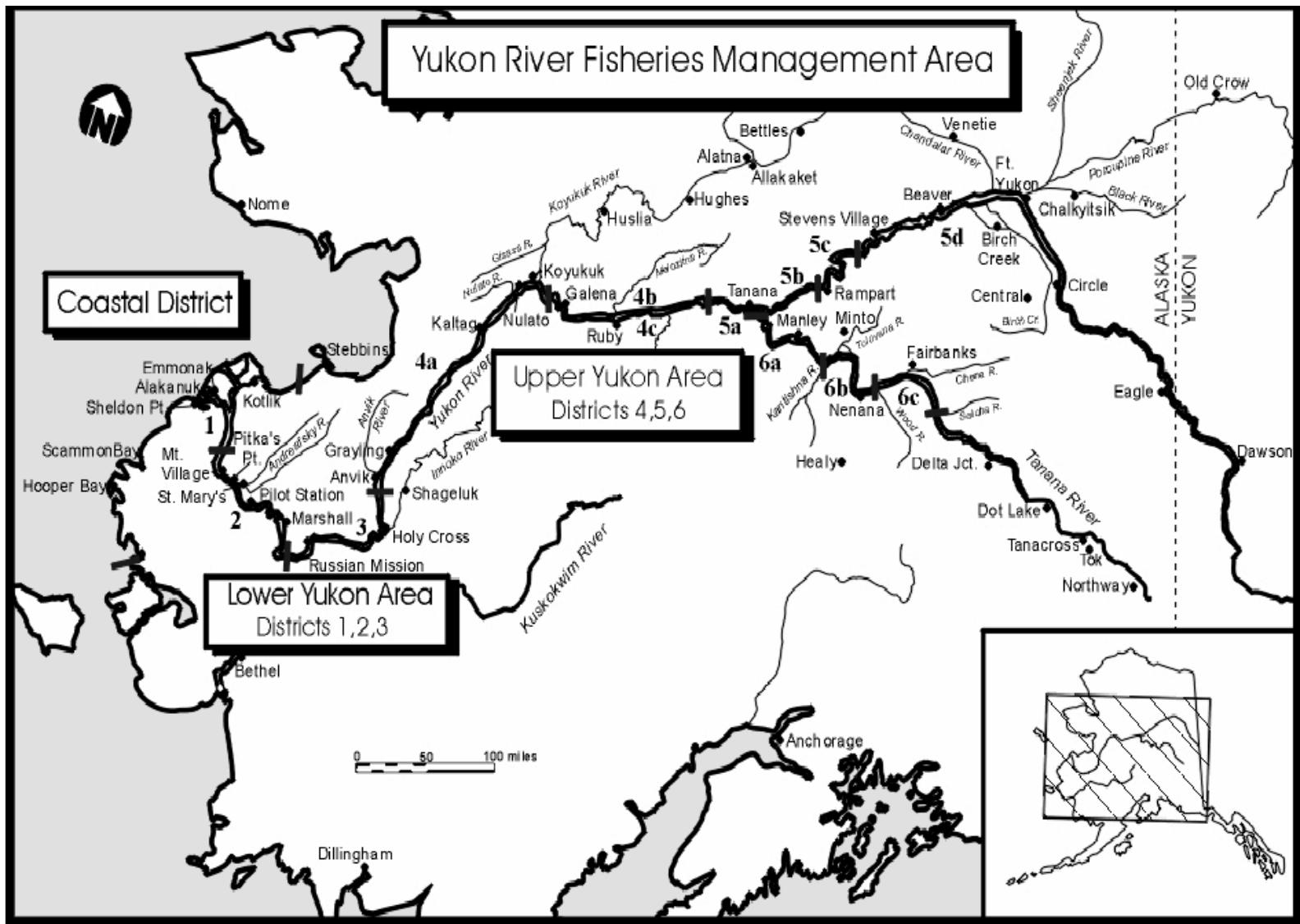


Figure 1.—Alaska portion of the Yukon River drainage.

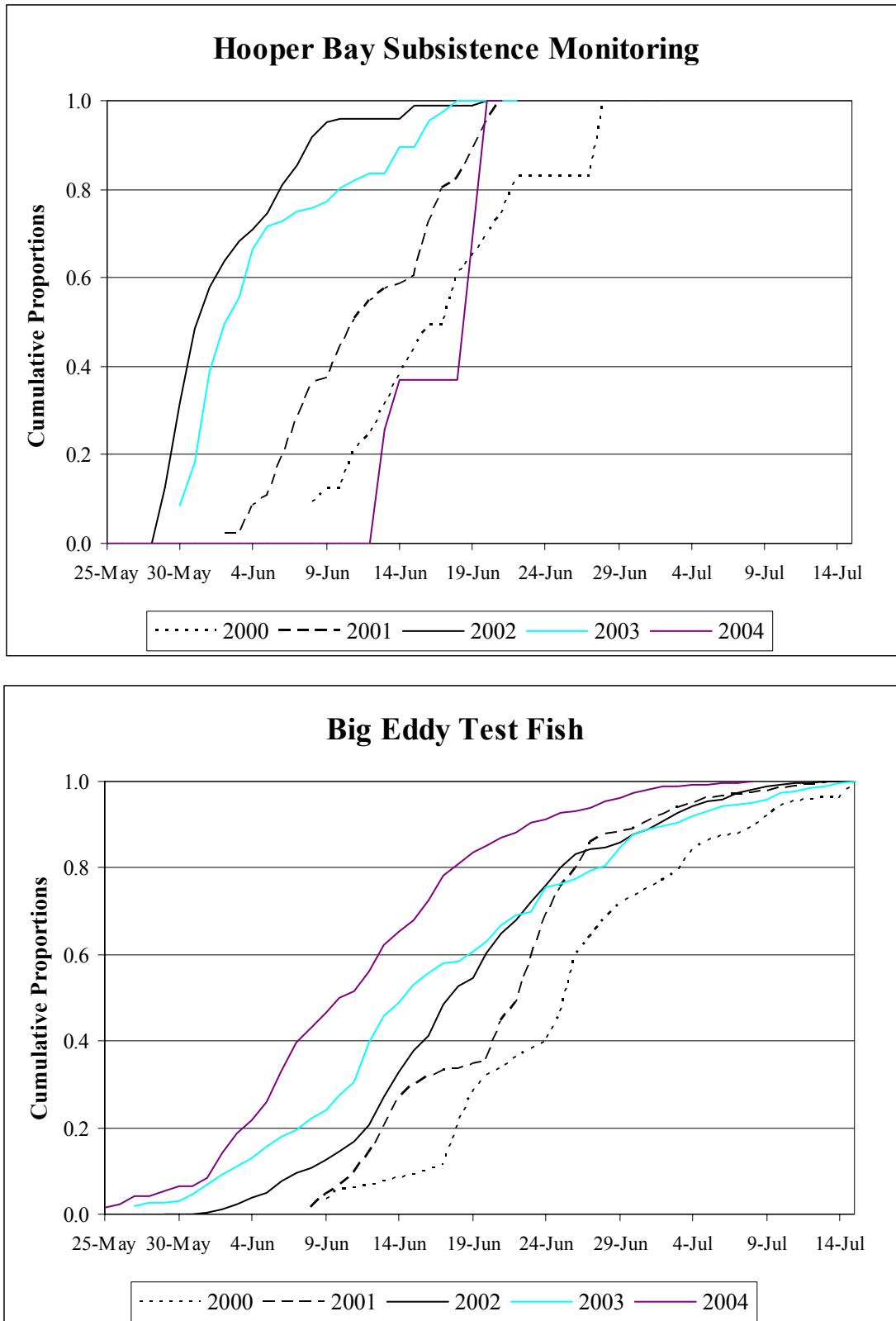


Figure 2.—Comparison of cumulative proportions of Chinook salmon catches at the Hooper Bay subsistence monitoring project and the Big Eddy test fishing project, 2000–2003.

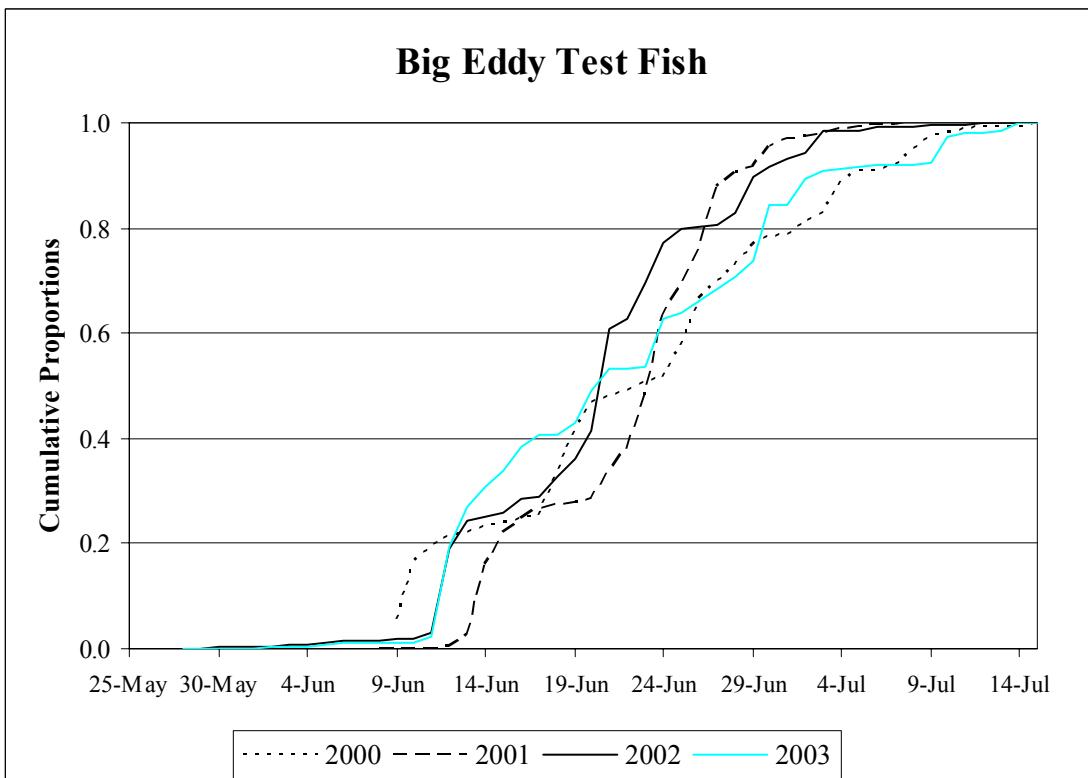
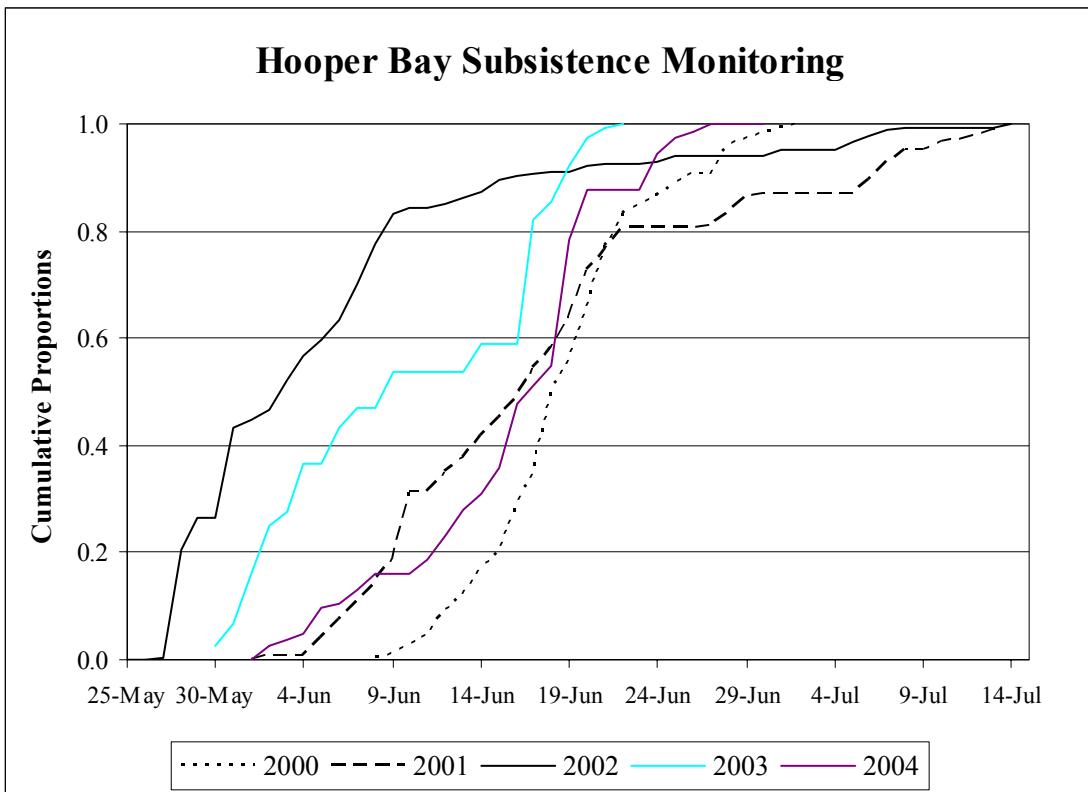


Figure 3.—Comparison of cumulative proportions of summer chum salmon catches at the Hooper Bay subsistence monitoring project and the Big Eddy test fishing project, 2000–2003.

APPENDIX A

Appendix A1.—Hooper Bay subsistence salmon catch survey form.

Hooper Bay Native Village Daily Subsistence Catch Form

Data collected

Date: _____ **by:** _____
Fished _____ (one day per form) (please print name)

Description of Subsistence Catch

Fishing for kings today was described as:	Poor	Fair	Average	Good	Very Good	
Fishing for chums today was described as:	Poor	Fair	Average	Good	Very Good	
Overall, fishermen have completed what percent of their subsistence harvest:	10%	25%	50%	75%	90%	100%
General Observations Describing Catch (ex, kings are increasing; good storm moving fish; poor tide)						

Catch Per Unit Effort: 6,000 (c) c = Catch t = Time
(l)(t) l = Length

FAX DAILY To : 949-1830
Voice phone 949-1039

Appendix A2.—Hooper Bay subsistence salmon catch survey data, June 1 to June 30, 2004.

Entry	Day	Time Fished (minutes)	Net Length (fathoms)	Mesh Size (inches)	Number Chinook	Number Chum	CPUE Chinook	CPUE Chum
1	1-Jun	720	60	7.25	0	0	0.00	0.00
2	1-Jun	720	60	7.25	0	0	0.00	0.00
3	1-Jun	720	25	7.25	0	0	0.00	0.00
4	2-Jun	720	60	7.25	0	0	0.00	0.00
5	2-Jun	720	50	5.50	0	2	0.00	0.33
6	2-Jun	360	25	7.25	0	0	0.00	0.00
7	2-Jun	360	50	7.25	0	0	0.00	0.00
8	2-Jun	360	50	5.25	0	1	0.00	0.33
9	2-Jun	360	50	7.25	0	0	0.00	0.00
10	3-Jun	720	60	6.00	1	0	0.14	0.00
11	3-Jun	720	60		0	0	0.00	0.00
12	3-Jun	720	60	4.00	0	2	0.00	0.28
13	3-Jun	720	25	4.00	0	1	0.00	0.33
14	3-Jun	720	60	5.00	0	7	0.00	0.97
15	3-Jun	720	25	4.00	0	1	0.00	0.33
16	3-Jun	720	25	5.00	0	1	0.00	0.33
17	4-Jun	720	60	7.25	0	0	0.00	0.00
18	4-Jun	720	60	5.25	0	0	0.00	0.00
19	4-Jun	720	60	7.25	0	0	0.00	0.00
20	4-Jun	720	25	7.25	0	0	0.00	0.00
21	4-Jun	720	25	5.00	0	1	0.00	0.33
22	4-Jun	720	25	5.00	0	1	0.00	0.33
23	4-Jun	720	25	5.25	0	1	0.00	0.33
24	4-Jun	720	60	4.00	0	0	0.00	0.00
25	4-Jun	720	25	4.00	0	0	0.00	0.00
26	4-Jun	720	25	5.00	0	1	0.00	0.33
27	5-Jun	720	25	4.00	0	3	0.00	1.00
28	5-Jun	720	25	5.00	0	1	0.00	0.33
29	5-Jun	720	50	5.50	0	3	0.00	0.50
30	5-Jun	720	25	5.00	0	2	0.00	0.67
31	5-Jun	720	60	4.00	0	8	0.00	1.11
32	5-Jun	720	60	4.00	0	2	0.00	0.28
33	6-Jun	720	25	4.00	0	2	0.00	0.67
34	6-Jun	720	25	5.00	1	0	0.33	0.00
35	6-Jun	720	60	8.00	0	0	0.00	0.00
36	6-Jun	720	60	4.00	0	0	0.00	0.00
37	6-Jun	720	25	5.00	0	0	0.00	0.00
38	6-Jun	720	60	7.25	0	0	0.00	0.00
39	6-Jun	720	25	7.25	0	0	0.00	0.00
40	6-Jun	720	60	7.25	0	0	0.00	0.00
41	6-Jun	720	60	5.25	0	0	0.00	0.00
42	6-Jun	720	25	4.00	0	0	0.00	0.00
43	7-Jun	720	60	6.00	0	0	0.00	0.00
44	7-Jun	720	25	4.00	0	4	0.00	1.33

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Appendix A2.—Page 2 of 4.

Entry	Day	Time Fished (minuets)	Net Length (fathoms)	Mesh Size (inches)	Number Chinook	Number Chum	CPUE Chinook	CPUE Chum
45	7-Jun	720	60	6.00	0	0	0.00	0.00
46	7-Jun	720	25		0	1	0.00	0.33
47	7-Jun	720		5.50	0	0	0.00	0.00
48	7-Jun	720	25	5.00	0	1	0.00	0.33
49	7-Jun	720	25	5.00	0	3	0.00	1.00
50	7-Jun	720		5.00	0	0	0.00	0.00
51	7-Jun	720		5.00	0	0	0.00	0.00
52	8-Jun	720	25	4.00	0	2	0.00	0.67
53	8-Jun	720	25	5.00	0	0	0.00	0.00
54	8-Jun	720	25		0	1	0.00	0.33
55	8-Jun	720	25	8.00	0	0	0.00	0.00
56	8-Jun	720		8.00	0	0	0.00	0.00
57	8-Jun	720	25	5.00	0	2	0.00	0.67
58	11-Jun	720	60	5.75	0	0	0.00	0.00
59	11-Jun	720	25		0	0	0.00	0.00
60	11-Jun	720		7.25	0	0	0.00	0.00
61	11-Jun	720	60	5.50	0	4	0.00	0.56
62	11-Jun	720	60	5.25	0	4	0.00	0.56
63	11-Jun	720	60	4.00	0	0	0.00	0.00
64	11-Jun	720	25	5.00	0	0	0.00	0.00
65	11-Jun	720			0	0	0.00	0.00
66	11-Jun	720			0	0	0.00	0.00
67	11-Jun	720		6.00	0	3	0.00	0.00
68	12-Jun	720	60	6.00	1	7	0.14	0.97
69	12-Jun	720		5.75	0	3	0.00	0.00
70	12-Jun	720	60	6.00	0	4	0.00	0.56
71	12-Jun	720	25	8.00	0	0	0.00	0.00
72	12-Jun	720	25	4.00	0	1	0.00	0.33
73	12-Jun	720	60	5.00	0	0	0.00	0.00
74	13-Jun	720	60	4.00	0	3	0.00	0.42
75	13-Jun	720	60	5.00	1	7	0.14	0.97
76	13-Jun	720	60	4.00	0	0	0.00	0.00
77	13-Jun	720	60	4.00	1	0	0.14	0.00
78	13-Jun	720	60	5.25	0	8	0.00	1.11
79	13-Jun	720	60	5.00	0	1	0.00	0.14
80	13-Jun	720	25	7.25	0	0	0.00	0.00
81	13-Jun	720		5.00	0	3	0.00	0.00
82	13-Jun	720	25	4.00	0	2	0.00	0.67
83	13-Jun	720	50		1	9	0.17	1.50
84	14-Jun	720	80	5.50	1	1	0.10	0.10
85	14-Jun	720	80	5.00	0	1	0.00	0.10
86	14-Jun	720		4.00	0	3	0.00	0.00
87	14-Jun	720	25	4.50	0	3	0.00	1.00
88	14-Jun	720	60	5.00	0	0	0.00	0.00
89	14-Jun	720	25	4.00	0	1	0.00	0.33

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Appendix A2.—Page 3 of 4.

Entry	Day	Time Fished (minuets)	Net Length (fathoms)	Mesh Size (inches)	Number Chinook	Number Chum	CPUE Chinook	CPUE Chum
90	14-Jun	720	25	4.00	0	2	0.00	0.67
91	14-Jun	360	25	4.00	0	2	0.00	1.33
92	14-Jun	360	60	5.25	0	1	0.00	0.28
93	14-Jun	360	60	5.00	0	3	0.00	0.83
94	15-Jun	720	60	8.00	0	1	0.00	0.14
95	15-Jun	720	60	5.00	0	1	0.00	0.14
96	15-Jun	720	50	5.50	7	7	1.17	1.17
97	16-Jun	720	60	5.00	0	23	0.00	3.19
98	16-Jun	720	60	8.00	0	0	0.00	0.00
99	16-Jun	720	60	4.00	0	0	0.00	0.00
100	17-Jun	720	60	5.00	0	3	0.00	0.42
101	18-Jun	720	60	5.25	0	2	0.00	0.28
102	18-Jun	720	25	7.25	0	0	0.00	0.00
103	18-Jun	720	60	4.50	0	5	0.00	0.69
104	19-Jun	720	50	5.50	0	2	0.00	0.33
105	19-Jun	720	60	8.00	0	2	0.00	0.28
106	19-Jun	720	60	6.25	1	38	0.14	5.28
107	19-Jun	720	25	7.25	0	0	0.00	0.00
108	19-Jun	720	60	4.50	0	14	0.00	1.94
109	19-Jun	720	25	7.25	3	0	1.00	0.00
110	19-Jun	720	40	5.00	2	24	0.42	5.00
111	20-Jun	720	60	5.50	1	17	0.14	2.36
112	20-Jun	720	25	4.00	1	2	0.33	0.67
113	20-Jun	720	40	5.00	0	17	0.00	3.54
114	20-Jun	720	60	4.00	2	17	0.28	2.36
115	20-Jun	720	60	8.00	1	0	0.14	0.00
116	20-Jun	720	60	4.00	0	0	0.00	0.00
117	20-Jun	720	60	4.00	0	0	0.00	0.00
118	20-Jun	720	60	5.00	2		0.28	
119	20-Jun	720	25	4.00	0	4	0.00	1.33
120	20-Jun	720	25	4.00	0	8	0.00	2.67
121	20-Jun	720	60	4.00	0	4	0.00	0.56
122	20-Jun	720	60	5.25	0	11	0.00	1.53
123	20-Jun	720	60		0	8	0.00	1.11
124	20-Jun	720	25	7.25	0	0	0.00	0.00
125	20-Jun	720	60		0	8	0.00	1.11
126	24-Jun	720	25	5.00	0	2	0.00	0.67
127	24-Jun	720	25	4.00	0	4	0.00	1.33
128	24-Jun	720	60	4.00	0	15	0.00	2.08
129	24-Jun	720	60	8.00	0	0	0.00	0.00
130	24-Jun	720	25	4.00	0	3	0.00	1.00
131	24-Jun	720	60	5.25	0	0	0.00	0.00
132	24-Jun	720	60	4.50	0	3	0.00	0.42
133	25-Jun	720	60	4.00	0	4	0.00	0.56
134	25-Jun	720	25	4.00	0	0	0.00	0.00

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Appendix A2.—Page 4 of 4.

Entry	Day	Time Fished (minuets)	Net Length (fathoms)	Mesh Size (inches)	Number Chinook	Number Chum	CPUE Chinook	CPUE Chum
135	25-Jun	720	25	4.00	0	0	0.00	0.00
136	25-Jun	720	60	4.00	0	1	0.00	0.14
137	25-Jun	720	60	4.00	0	0	0.00	0.00
138	25-Jun	720	25	4.00	0	4	0.00	1.33
139	25-Jun	720	60	4.00	0	0	0.00	0.00
140	25-Jun	720	60	8.00	2	0	0.28	0.00
141	25-Jun	720	60	4.00	0	7	0.00	0.97
142	26-Jun	720	60		0	2	0.00	0.28
143	26-Jun	720	60	8.00	2	4	0.28	0.56
144	26-Jun	720	60	4.00	0	2	0.00	0.28
145	26-Jun	720	60	5.00	0	0	0.00	0.00
146	27-Jun	720	60		0	1	0.00	0.14
147	27-Jun	720	50		0	1	0.00	0.17
148	27-Jun	720	60	8.00	0	1	0.00	0.14
149	27-Jun	720	60	4.00	0	1	0.00	0.14
150	27-Jun	720	60	4.00	0	0	0.00	0.00
151	27-Jun	720	60	4.00	0	3	0.00	0.42
152	28-Jun	720	25	8.00	0	0	0.00	0.00
153	28-Jun	720	60	4.00	0	0	0.00	0.00
154	28-Jun	720	60	4.00	0	0	0.00	0.00
155	28-Jun	720	60	4.00	0	0	0.00	0.00
156	28-Jun	720	25	8.00	0	0	0.00	0.00
157	29-Jun	720	60	4.00	0	0	0.00	0.00
158	30-Jun	720	60	8.00	0	0	0.00	0.00
159	30-Jun	720	60	4.00	0	0	0.00	0.00

Note: Blank spaces represent unknown information.

Appendix A3.—Hooper Bay summer chum salmon set gillnet subsistence daily and cumulative CPUE, and cumulative proportions, 2000-2004.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum Prop	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
25-May							0.31	0.31	0.00						
26-May							0.00	0.31	0.00						
27-May							0.36	0.67	0.00						
28-May							39.02	39.70	0.21						
29-May							11.55	51.25	0.26						
30-May							0.00	51.25	0.26	1.17	1.17	0.02			
31-May							32.52	83.77	0.43	2.00	3.17	0.07			
1-Jun				0.71	0.71	0.00	2.94	86.71	0.45	4.41	7.58	0.16			
2-Jun				3.33	4.05	0.01	3.83	90.54	0.47	4.15	11.72	0.25	0.33	0.33	0.03
3-Jun				0.00	4.05	0.01	10.77	101.32	0.52	1.17	12.89	0.27	0.16	0.50	0.04
4-Jun				0.00	4.05	0.01	8.21	109.53	0.57	4.25	17.15	0.36	0.14	0.63	0.05
5-Jun				15.00	19.05	0.04	5.95	115.48	0.60	0.00	17.15	0.36	0.65	1.28	0.10
6-Jun				16.62	35.67	0.07	7.17	122.64	0.63	3.14	20.29	0.43	0.08	1.35	0.10
7-Jun				16.30	51.96	0.11	13.06	135.71	0.70	1.86	22.15	0.47	0.34	1.70	0.13
8-Jun	0.55	0.55	0.00	19.14	71.10	0.15	14.67	150.37	0.78	0.00	22.15	0.47	0.42	2.11	0.16
9-Jun	1.53	2.08	0.01	21.20	92.30	0.19	10.63	161.00	0.83	3.19	25.33	0.54	0.00	2.11	0.16
10-Jun	3.46	5.54	0.03	58.74	151.04	0.31	2.27	163.27	0.84	0.00	25.33	0.54	0.00	2.11	0.16
11-Jun	4.37	9.91	0.05	0.00	151.04	0.31	0.10	163.37	0.84	0.00	25.33	0.54	0.32	2.43	0.19
12-Jun	9.96	19.87	0.09	18.57	169.61	0.35	0.95	164.32	0.85	0.00	25.33	0.54	0.61	3.04	0.23
13-Jun	6.29	26.16	0.12	12.22	181.83	0.38	2.25	166.57	0.86	0.00	25.33	0.54	0.63	3.67	0.28
14-Jun	10.26	36.41	0.17	19.42	201.25	0.42	2.54	169.12	0.87	2.44	27.78	0.59	0.39	4.06	0.31
15-Jun	5.93	42.34	0.20	16.59	217.84	0.45	4.35	173.47	0.90	0.00	27.78	0.59	0.61	4.66	0.36
16-Jun	19.30	61.64	0.29	19.17	237.01	0.49	1.09	174.56	0.90	0.00	27.78	0.59	1.60	6.26	0.48
17-Jun	13.06	74.71	0.35	26.91	263.92	0.55	0.55	175.12	0.91	10.76	38.54	0.82	0.42	6.68	0.51
18-Jun	30.17	104.87	0.49	16.80	280.72	0.58	0.70	175.82	0.91	1.56	40.09	0.85	0.49	7.16	0.55
19-Jun	14.18	119.05	0.56	29.14	309.86	0.64	0.51	176.33	0.91	3.22	43.31	0.92	3.10	10.26	0.78
20-Jun	20.68	139.73	0.66	42.90	352.76	0.73	1.69	178.02	0.92	2.45	45.76	0.97	1.22	11.48	0.88
21-Jun	24.32	164.05	0.77	17.74	370.50	0.77	0.63	178.65	0.92	0.89	46.65	0.99	0.00	11.48	0.88
22-Jun	12.60	176.64	0.83	19.31	389.81	0.81	0.00	178.65	0.92	0.33	46.99	1.00	0.00	11.48	0.88
23-Jun	2.99	179.63	0.85	0.00	389.81	0.81	0.21	178.86	0.92	0.00	11.48	0.88			

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Appendix A3.–Page 2 of 2.

Date	2000			2001			2002			2003			2004		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum Prop	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
25-Jun	4.58	188.22	0.89	0.00	389.81	0.81	1.58	181.56	0.94				0.36	12.72	0.97
26-Jun	3.79	192.00	0.91	0.67	390.48	0.81	0.00	181.56	0.94				0.19	12.90	0.99
27-Jun	0.00	192.00	0.91	0.94	391.42	0.81	0.61	182.17	0.94				0.17	13.07	1.00
28-Jun	11.81	203.81	0.96	12.83	404.25	0.84	0.00	182.17	0.94				0.00	13.07	1.00
29-Jun	2.66	206.48	0.97	13.94	418.19	0.86	0.00	182.17	0.94				0.00	13.07	1.00
30-Jun	1.78	208.26	0.98	2.33	420.53	0.87	0.00	182.17	0.94				0.00	13.07	1.00
1-Jul	1.78	210.03	0.99	0.00	420.53	0.87	1.67	183.83	0.95						
2-Jul	1.89	211.92	1.00	0.00	420.53	0.87	0.00	183.83	0.95						
3-Jul				0.00	420.53	0.87	0.00	183.83	0.95						
4-Jul				0.00	420.53	0.87	0.00	183.83	0.95						
5-Jul				0.00	420.53	0.87	3.08	186.92	0.97						
6-Jul				12.50	433.03	0.90	2.33	189.25	0.98						
7-Jul				16.47	449.50	0.93	2.17	191.42	0.99						
8-Jul				11.43	460.93	0.95	0.83	192.25	0.99						
9-Jul				0.00	460.93	0.95	0.00	192.25	0.99						
10-Jul				6.13	467.06	0.97	0.00	192.25	0.99						
11-Jul				2.82	469.89	0.97	0.00	192.25	0.99						
12-Jul				2.94	472.83	0.98	0.00	192.25	0.99						
13-Jul				5.00	477.83	0.99	0.00	192.25	0.99						
14-Jul				5.83	483.66	1.00	1.14	193.39	1.00						
15-Jul															

Note: In previous years this project was operated from May 25 until July 15. Days with no data indicate days when the project was not operational. The large boxes represent the middle 50% of the run and the small boxes represent the day that the midpoint of the run was exceeded.

Appendix A4.—Big Eddy summer chum salmon drift gillnet test fishery daily and cumulative CPUE, and cumulative proportions, 2000–2003.

Date	2000			2001			2002			2003		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
25-May										0.00	0.00	0.00
26-May										0.00	0.00	0.00
27-May												
28-May										0.00	0.00	0.00
29-May							0.00	0.00	0.00	0.00	0.00	0.00
30-May							15.14	15.14	0.00	2.93	2.93	0.00
31-May							4.51	19.65	0.00	0.00	2.93	0.00
1-Jun							2.97	22.62	0.01	0.00	2.93	0.00
2-Jun							1.50	24.12	0.01	3.38	6.31	0.00
3-Jun							7.78	31.90	0.01	1.62	7.93	0.00
4-Jun	0.00	0.00					0.00	31.90	0.01	0.00	7.93	0.00
5-Jun	0.04	0.04					10.72	42.62	0.01	8.53	16.46	0.01
6-Jun	0.08	0.12					19.92	62.54	0.01	9.05	25.51	0.01
7-Jun	0.04	0.16					6.01	68.55	0.02	1.54	27.05	0.01
8-Jun	0.08	0.24		0.00	0.00	0.00	3.00	71.55	0.02	6.26	33.31	0.01
9-Jun	0.83	1.07	0.06	1.67	1.67	0.00	4.54	76.09	0.02	0.00	33.31	0.01
10-Jun	2.08	3.15	0.16	0.00	1.67	0.00	0.55	76.64	0.02	0.00	33.31	0.01
11-Jun	0.54	3.69	0.19	0.00	1.67	0.00	51.14	127.78	0.03	25.17	58.48	0.02
12-Jun	0.38	4.07	0.21	4.62	6.29	0.00	690.07	817.85	0.19	455.89	514.37	0.19
13-Jun	0.17	4.24	0.22	67.39	73.68	0.02	224.56	1,042.41	0.24	199.49	713.86	0.27
14-Jun	0.17	4.41	0.23	399.89	473.57	0.16	45.53	1,087.94	0.25	99.08	812.94	0.31
15-Jun	0.13	4.54	0.24	173.74	647.31	0.22	30.09	1,118.03	0.26	83.51	896.45	0.34
16-Jun	0.21	4.75	0.25	81.84	729.15	0.25	108.19	1,226.22	0.28	120.00	1,016.45	0.38
17-Jun	0.13	4.88	0.26	53.76	782.91	0.27	17.40	1,243.62	0.29	57.56	1,074.01	0.41
18-Jun	1.50	6.38	0.33	24.99	807.90	0.27	175.79	1,419.41	0.33	0.00	1,074.01	0.41
19-Jun	1.63	8.01	0.42	16.88	824.78	0.28	145.90	1,565.31	0.36	66.27	1,140.28	0.43

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Appendix A4.–Page 2 of 2.

Date	2000			2001			2002			2003		
	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.	Daily CPUE	Cum. CPUE	Cum. Prop.
20-Jun	0.92	8.93	0.47	16.47	841.25	0.28	229.91	1,795.22	0.42	158.47	1,298.75	0.49
21-Jun	0.25	9.18	0.48	155.84	997.09	0.34	824.15	2,619.37	0.61	110.86	1,409.61	0.53
22-Jun	0.21	9.39	0.49	128.38	1,125.47	0.38	90.01	2,709.38	0.63	1.50	1,411.11	0.53
23-Jun	0.29	9.68	0.51	295.84	1,421.31	0.48	297.44	3,006.82	0.70	1.71	1,412.82	0.53
24-Jun	0.21	9.89	0.52	454.59	1,875.90	0.64	323.98	3,330.80	0.77	248.83	1,661.65	0.63
25-Jun	1.08	10.97	0.57	166.57	2,042.47	0.69	117.00	3,447.80	0.80	24.48	1,686.13	0.64
26-Jun	1.71	12.68	0.66	201.25	2,243.72	0.76	14.87	3,462.67	0.80	66.75	1,752.88	0.66
27-Jun	0.71	13.39	0.70	355.55	2,599.27	0.88	23.16	3,485.83	0.81	51.82	1,804.70	0.68
28-Jun	0.54	13.93	0.73	78.44	2,677.71	0.91	86.55	3,572.38	0.83	62.46	1,867.16	0.71
29-Jun	0.75	14.68	0.77	23.43	2,701.14	0.91	303.83	3,876.21	0.90	86.32	1,953.48	0.74
30-Jun	0.29	14.97	0.78	121.44	2,822.58	0.96	78.64	3,954.85	0.92	272.78	2,226.26	0.84
1-Jul	0.08	15.05	0.79	40.17	2,862.75	0.97	70.80	4,025.65	0.93	1.62	2,227.88	0.84
2-Jul	0.50	15.55	0.81	16.57	2,879.32	0.97	52.03	4,077.68	0.94	130.23	2,358.11	0.89
3-Jul	0.25	15.80	0.83	17.26	2,896.58	0.98	164.92	4,242.60	0.98	40.00	2,398.11	0.91
4-Jul	1.17	16.97	0.89	25.95	2,922.53	0.99	9.10	4,251.70	0.99	16.58	2,414.69	0.91
5-Jul	0.38	17.35	0.91	9.21	2,931.74	0.99	4.78	4,256.48	0.99	8.44	2,423.13	0.92
6-Jul	0.00	17.35	0.91	9.20	2,940.94	1.00	23.16	4,279.64	0.99	4.58	2,427.71	0.92
7-Jul	0.25	17.60	0.92	3.08	2,944.02	1.00	6.12	4,285.76	0.99	0.00	2,427.71	0.92
8-Jul	0.54	18.14	0.95	7.82	2,951.84	1.00	0.00	4,285.76	0.99	0.00	2,427.71	0.92
9-Jul	0.46	18.60	0.97	0.00	2,951.84	1.00	9.23	4,294.99	1.00	18.49	2,446.20	0.93
10-Jul	0.17	18.77	0.98	0.00	2,951.84	1.00	4.74	4,299.73	1.00	125.39	2,571.59	0.97
11-Jul	0.08	18.85	0.99	1.50	2,953.34	1.00	1.67	4,301.40	1.00	25.12	2,596.71	0.98
12-Jul	0.08	18.93	0.99	0.00	2,953.34	1.00	9.73	4,311.13	1.00	0.00	2,596.71	0.98
13-Jul	0.04	18.97	0.99	0.00	2,953.34	1.00	3.20	4,314.33	1.00	3.00	2,599.71	0.98
14-Jul	0.00	18.97	0.99	0.00	2,953.34	1.00	1.67	4,316.00	1.00	40.38	2,640.09	1.00
15-Jul	0.13	19.10	1.00				0.00	4,316.00	1.00	2.86	2,642.95	1.00

Note: The Big Eddy drift gillnet test fish project did not operate in 2004. In previous years this project was operated from May 25 until July 15. Days with no data indicate days when the project was not operational. The large boxes represent the middle 50% of the run and the small boxes represent the day that the midpoint of the run was exceeded