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Fall Season Cooperative Salmon Drift Gillnet Test Fishing in the Lower Yukon River, 2006

Annual Report for Project 04-229
USFWS Office of Subsistence Management
Fisheries Information Services Division

by

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and

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

Symbols and Abbreviations

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Measures (fisheries)

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

Mathematics, statistics

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

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ABSTRACT

The lower Yukon River drift gillnet test fishery program was used to estimate the run timing and to a lesser extent relative abundance of fall chum *Oncorhynchus keta,* and coho salmon *O. kisutch* salmon entering the drainage. The project was operated from 16 July through 28 August, 2006, on the lower Yukon River near the village of Emmonak, Alaska. Catch per unit effort (CPUE), age, sex, and size composition were derived from drift gillnet catches from the Big Eddy test fishery operated on the Kwiluak Pass (South Mouth) and the Middle Mouth test fishery operated on the Kawanak Pass (Middle Mouth). The test fishery recorded a cumulative CPUE (1,150.25) for fall chum salmon with the midpoint occurring on 6 August. Fall chum salmon were predominantly age-0.4 fish, comprising 60.4 % of the unweighted ASL sample. The cumulative CPUE for coho salmon was 188.66 with the corresponding midpoint occurring on 18 August. Age-2.1 coho salmon were the most abundant, making up 79.1% of the unweighted ASL sample. The Pilot Station sonar project recorded the passage of 790,563 fall chum salmon with the midpoint occurring on 1 August and 131,919 coho salmon with the midpoint observed 20 August. The drift gillnet test fishery provided supplemental information that was used to evaluate data provided by other assessment projects in the Lower Yukon. Comparing trends observed from Lower Yukon drift gillnet test fishery to Pilot Station sonar passage estimates provided critical information to fishery management staff regarding run timing.

KEY WORDS: Yukon River, Chinook, chum and coho salmon, gillnet test fishery, run assessment, catch per unit effort (CPUE).

INTRODUCTION

The Lower Yukon drift gillnet test fish program is designed to estimate the run timing and relative abundance of fall chum *Oncorhynchus keta* and coho *O. kisutch* salmon returning to the Yukon River drainage. Test fishery data is used in conjunction with data provided by other projects, including the daily run strength estimates issued by Pilot Station sonar, to ensure sufficient numbers of salmon pass through the Lower Yukon River to provide for escapement, treaty commitments, and subsistence uses.

PROJECT HISTORY

The return of fall chum salmon to the Yukon River has been depressed in the recent past. In 2000, Pilot Station Sonar estimated passage of approximately 248,000 fall chum salmon (McIntosh *In prep.*). In both 2000 and 2001, no harvestable surplus was available and no commercial fishing was conducted on the Yukon River during the fall season (Bue et al. *In prep*). The below average return in 2000 combined with a dramatic increase in the efficiency of some set net sites prompted the Alaska Department of Fish and Game (ADF&G) to reevaluate the use of 6.0-inch mesh fall chum set gillnet gear. It was uncertain whether the set gillnets were adequately reflecting the relative abundance of the runs. Additionally, the large catches harvested in the set net test fishery saturated the local subsistence users' needs, making it difficult to distribute the surplus. Selling the surplus was not feasible during years of fishery restrictions. Employing drift gillnets to assess the runs was considered as an alternative to the chum set net project to reduce the overall fishing time and the incidence of salmon mortality.

With cooperative assistance and funding from the U.S. Fish and Wildlife Service, Office of Subsistence Management (OSM), the Lower Yukon drift gillnet test fishery project began operating in 2001. Drift gillnet fishing stations were established for both the Big Eddy and the Middle Mouth test fishery locations. The 6.0-inch mesh set gillnets were replaced by 6.0-inch mesh drift gillnets to target fall chum and coho salmon. Assessment was possible for fall chum and coho salmon transiting the North, Middle, and South mouths of the Yukon River delta, downstream from major subsistence and commercial fisheries. Moreover, the test fishery provided indications as to when and where salmon were entering the river. This was particularly important due to sporadic entry patterns of fall chum.

The project originally operated with a summer season component assessing summer chum and Chinook. The project was operated for both the summer and fall seasons through 2003 with continued support from OSM. In 2004, funding was only available from OSM for the fall season component.

In 2006, the fall season Lower Yukon drift gillnet test fishing project completed its sixth year of operation with funding from OSM.

OBJECTIVES

Project objectives in 2006 were to:

1.) Monitor daily relative abundance and run timing information regarding fall chum and coho salmon entering the Yukon River.

2.) Calculate catch per unit of effort (CPUE) index by species.

3.) Compare CPUE index with other assessment projects upriver.

4.) Sample age, sex, and size data of fall chum and coho salmon.

METHODS

STUDY SITE

As in previous years, 2 separate test fishery locations were used including Big Eddy and Middle Mouth. The locations were chosen for logistical reasons including their close proximity to ADF&G Lower Yukon Area field office in the village of Emmonak, which is situated approximately 24 river miles upstream of the South Mouth at the head of Kwiguk Pass, and approximately 90 river miles downstream from the Pilot Station Sonar project (Figures 1 and 2).

The Big Eddy test fishery was located in the main channel of the South Mouth of the Yukon River Delta upstream and southeast from the village of Emmonak (Figure 1). Station 1 at Big Eddy was located directly south of the confluence of the Kwiguk Mouth and South Mouth near the southern shore. Station 2 was located directly east of Station 1 on the opposite shore approximately 0.25 mile (200 m) downstream and southeast from the starting point of Station 1. The Big Eddy drift gillnet fishing locations were primarily chosen to assess salmon transiting via the South Mouth of the Yukon River delta.

The Middle Mouth test fishery was located upstream and south from the confluence of the Kawanak and Kwikpak passes to assess numbers of salmon entering the North and Middle Mouths of the Yukon River Delta (Figure 1). Two drift gillnet stations were utilized in Kwikpak Pass near Hamilton Slough, one on either side of the outlet at approximately river mile 24 (39 km). Station 1 drift gillnet starting point was at a place named “Hootch’s Camp” on the west side of the river approximately 3 miles from the Middle Mouth camp by skiff. Station 2 was located on the East bank approximately 0.25 to 0.50 mile (400–800 m) downstream and north from Hootch’s Camp. An additional site, Station 3, was also utilized in Kwikpak Pass located on the east bank approximately 1 mile downstream of Station 2 beginning on July 27. The use of this site was initiated when the ability to effectively drift at Station 2 was hindered by the presence of debris snags. As water levels dropped this site became less feasible and on August 10 drifts were discontinued at Station 2, and Station 3 replaced it as the sole east bank drift site.

PROJECT DATE

In 2006, drift gillnet fishing at both test fishery locations began 16 July and continued through 28 August. Project operation dates have varied little over the years. From 2001–2006, operation dates extended from 16 July to late August each season.

DRIFT TEST FISHING

The test fishery employed gillnets to specifically target fall chum and coho salmon. Gillnets were constructed of 6.0-inch (15.2 cm) mesh, 45 meshes in depth and 50 fathoms (91.4 m) in length with a cork marking at 25 fathoms (45.7 m).

The Big Eddy and Middle Mouth locations were fished using similar methods. All gillnets were fished by drifting from open aluminum skiffs with one end of the net attached to the skiff and the other attached to a buoy. The drift gillnets were fished once per station and twice daily, except during periods of hazardous weather and during commercial periods. The first drift was conducted at Station 1, followed by Station 2. At Middle Mouth, the additional site, Station 3, was drifted after Station 2 when all 3 sites were being used.

During normal operations, the net was retrieved after 20 minutes of fishing time or an estimated 30 fish had been captured. In times of high salmon abundance, inclement weather, or excessive debris, the net was shortened to the 25 fathom midpoint to make it more manageable and avoid saturation. The calculation of CPUE compensates for times when only 25 fathoms of gillnet was fished. The species, number caught, number retained, number released, mesh size, station, fishing times, and weather observations were recorded. The fish captured were counted and released unharmed, unless injured by the netting activity. Fish injured by gillnets were retained and sampled for ASL information. All sampled and remaining fish were distributed locally for subsistence purposes. The retained fish that were sold commercially were not sampled.

Depth measurements at each of the drift stations were made at various times during the season. Depth readings were obtained using a Hawkeye Handheld Sonar[1] device. Depth readings were taken and recorded for the near shore and offshore buoy while setting the net and additional readings were recorded for the near shore and offshore buoys when the net was being retrieved.

Drift Schedule

In 2006, during normal operations drifts were conducted at 0800 hrs and 2000 hrs regardless of tide stage. This drift schedule was occasionally altered. Drifts were adjusted or cancelled to avoid test fishing during the commercial periods or when periods of inclement weather prohibited drifting effectively and safely.

CPUE Calculations

The deployment, fishing, and retrieval of the drift gillnets were recorded for each sampling event. CPUE was calculated using fish per 100 fathom-hours:

$$CPUE = [((100 \text{ fathom} * 60 \text{ minutes}) * (n))/(L*T)]$$

where:

n= number of fish caught,

[1] Product names used in this report are included for scientific completeness, but do not constitute a product endorsement.

L= length of net in fathoms, and

T= the time the net fished.

The time the net fished was calculated using:

$$T = ([(\text{set time} + \text{retrieval time})/2] + \text{soak time})$$

The amount of time the gillnet was fished varied. An independent CPUE calculation was made for each drift. This value was summed with CPUE calculations from the same day and gear type and then averaged to obtain a CPUE for the day and gear type:

$$\text{Daily CPUE} = ((\sum \text{CPUE})/n)$$

where:

n=number of sets for the given day and gear type.

(Molyneaux 1999)

Age, Sex, and Length Sampling

Age, sex, and length (ASL) data were collected from retained fall chum and coho salmon. A maximum of 30 fall chum and 30 coho salmon were sampled each day at each of the test fishery locations. All salmon lengths were measured as mideye to tail fork length and rounded off to the nearest 5 millimeters. Age was determined by examining scales (Mosher 1968). Scales were collected from the left side of the fish approximately 2 rows above the lateral line in an area crossed by a diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (INPFC 1963). Because of the high rate of scale regeneration among coho salmon, 3 scales were collected from each fish. Only 1 scale per fish was collected from chum salmon. Scales were mounted on gummed cards and impressions were made in cellulose acetate (Clutter and Whitesel 1956). European notation (Koo 1962) was used to record ages; numerals preceding the decimal refer to the number of freshwater annuli and numerals following the decimal refer to the number of marine annuli. Total age from time of egg deposition, or brood year, is the sum of these 2 numbers plus 1 to account for incubation time. The sex of each salmon was verified by visual examination of the gonads through a small ventral incision.

RESULTS

FALL CHUM SALMON

In 2006, a total of 1,311 fall chum salmon were caught at the Big Eddy and Middle Mouth drift gillnet test fishery locations, with a corresponding cumulative CPUE of 1,150.25. The combined midpoint of the fall chum salmon run at the Big Eddy and Middle Mouth locations occurred on 6 August (Tables 1 and 2). Fall chum salmon age -0.4 was the predominant age class observed in the test fishery, comprising 60.4 % while ages -0.3 and -0.2 represented 36.9% and 2.7%, respectively, of the unweighted ASL sample. In 2006, 66.7% of the total fall chum salmon sampled were females (Tables 3 and 4).

At the Big Eddy drift location 625 fall chum salmon were captured with a corresponding cumulative CPUE of 943.22. The midpoint of the fall chum salmon run at the Big Eddy location was 12 August (Table 1). The mean drift time at Big Eddy was 19.4 minutes per set per day

(Appendix A1). Females comprised 64.6% of the 350 fall chum salmon sampled for ASL data. Age-0.4 fall chum predominated, comprising 51.1% with age-0.3 and -0.2 comprising 44.6%, and 4.3% of the unweighted sample, respectively. Mean lengths for males were 527 mm for age-0.2 (*n*=6), 575 mm for age-0.3 (*n*=53), and 600 mm for age-0.4 (*n*=65). Females had mean lengths of 541 mm for age-0.2 (*n*=9), 567 mm for age-0.3 (*n*=103), and 576 mm for age-0.4 (*n*=114) (Tables 3 and 4).

At the Middle Mouth drift location 686 fall chum were captured with a corresponding cumulative CPUE of 1,357.28. The midpoint of the run at Middle Mouth was 1 August (Table 1). The mean drift time at Middle Mouth was 17.8 minutes per set per day (Appendix A1). Females comprised 70.0% of the 233 fall chum sampled for ASL data. Age-0.4 fall chum salmon predominated comprising 74.2% while ages -0.3 and -0.2 made up 25.3% and 0.4% of the unweighted sample respectively. Mean lengths for male fall chum salmon were 591 mm for age-0.3 (*n*=19) and 611 mm for age-0.4 (*n*=51). Females had mean lengths of 560 mm for age-0.2 (*n*=1), 591 mm for age -0.3 (n=40), and 599 mm for age -0.4 (n=122) (Tables 3 and 4).

An estimated 790,563 fall chum were reported to have passed the Pilot Station sonar project in 2006 during the same time period when adjusted for travel from the test fishery project to the sonar site (Tables 3 and 4).

COHO SALMON

Coho salmon were captured during the same drift times as the fall chum salmon as the 2 species often enter and migrate together with greater overlaps in abundance later in the season. A combined total of 220 coho were caught at the Big Eddy and Middle Mouth locations with a corresponding cumulative CPUE of 188.66. The midpoint occurred on 18 August (Tables 7–9). Age-2.1 fish predominated, making up 79.1% with age-1.1 and -3.1 representing 15.5% and 5.4% of the unweighted ASL sample, respectively. In 2006, 46.5% of sampled coho were females (Table 8 and 9).

There were 106 coho salmon captured at the Big Eddy location with a corresponding cumulative CPUE of 183.63. The midpoint of the run at the Big Eddy drift gillnet location was 17 August (Table 6). The mean drift time at the Big Eddy location was 19.4 minutes per set per day (Appendix A1). Females comprised approximately 49.5% of the 93 fish sampled for ASL data. Age-2.1 comprised 77.4%, age-1.1 represented 17.2%, followed by age-3.1 with 5.4%, of the sample, respectively. Mean lengths for males were 537 mm for age-1.1 (*n*=11), 541 mm for age-2.1 (*n*=31), and 522 mm for age-3.1 (*n*=5). Females had mean lengths of 555 mm for age-1.1 (*n*=5) and 550 mm for age-2.1 (*n*=41) (Tables 8 and 9).

There were 114 coho salmon captured at the Middle Mouth location with a corresponding cumulative CPUE of 271.21. The midpoint of the run at the Middle Mouth site was 22 August (Table 6). The mean drift time at Middle Mouth was 17.8 minutes per set per day (Appendix A1). Females made up 38.9% of the 36 coho salmon sampled for ASL data. Age-2.1 comprised 83.3% while ages-1.1 and -3.1 represented 11.1%, and 5.6% of the unweighted sample, respectively. Males had mean length measurements of 587 mm for age-1.1 (*n*=3), 555 mm for age-2.1 (*n*=18), and 520 mm for age-3.1 (*n*=1). Females had mean length

measurements of 550 mm for age-1.1 (n=1), 568 mm for age-2.1 (n=12), and 575 mm for age-3.1 (n=1) (Tables 8 and 9).

The coho salmon passage estimate provided by Pilot Station sonar for 2006 was 131,919 with the midpoint occurring on 20 August (Table 5).

DISCUSSION

FALL CHUM SALMON

Based on the 6 August midpoint of the Big Eddy and Middle Mouth sites combined (Table 1), timing of fall chum salmon caught in the 2006 was on average of August 6 based on 2001–2005 operations (Table 2; Figure 3). Additionally, the long term average (1980–2000) midpoint based on the set gillnet project was August 6 (Stack *Unpublished*).) The midpoint of the fall chum salmon run occurred on August 1 at the Pilot Station sonar site (Table 5).

Rigorous analysis of test fishery CPUE data to assess abundance directly has not been conducted. However, the test fishery did provide information that was useful in evaluating abundance estimates provided by the Pilot Station sonar project. Pulses of fall chum are tracked as they migrate upstream from the Lower River test fishery project near Emmonak, past the Mountain Village test fishery project, and on through to the Pilot Station sonar project. On average, pulses of fall chum take approximately 2.8 days to travel between the Lower Yukon River test fisheries and the Pilot Station sonar project, equating to an average speed of 35 miles per day. In 2006, fall chum salmon detected at Emmonak were reflected in increases in fish passage estimates at Pilot Station for each corresponding pulse when using a lag time of 3 days (Figures 4–6). The relative magnitude of the pulses measured with CPUE at Emmonak did appear to track the passage rate at Pilot Station (Figure 4). However, the Pilot Station sonar passage estimate is believed to be a better index of abundance because it is operated 24 hours a day whereas the test fishery collects samples from a much shorter timeframe each day and may be influenced by clumped distribution and fishing conditions.

Variations in entrance patterns between the different mouths of the river were observed. Pulses of fall chum detected entering the South Mouth occurred later than the pulses entering the North and Middle mouths. The midpoint for the fall chum salmon run occurred on 12 August at the Big Eddy drift gillnet test location and on 1 August at the Middle Mouth location (Table 1; Figures 7 and 8).

ADF&G worked in cooperation with the U. S. Fish and Wildlife Service (USFWS) to distribute the fall chum salmon retained by the drift gillnet test fisheries to the residents in the local communities of Emmonak, Alakanuk, and Kotlik for subsistence use. Of the 1,338 fall chum salmon captured in the test fishery 458 were released unharmed, 880 were given away for subsistence uses, and none were sold or discarded (Appendix A2). The Big Eddy test fishery crew released a lower proportion of their catch. When a large school was encountered, the net was retrieved as quickly as possible to reduce harvest, and very few fish were picked from the net and released unharmed.

COHO SALMON

Based on the August 18 midpoint of the Big Eddy and Middle Mouth sites combined, timing of coho salmon caught in the 2006 Lower Yukon River drift gillnet test fishery was 2 days later than the average of August 16 based on 2001 to 2004 operations (Table 7; Figure 9). However, the long term average (1980–2000) midpoint based on the set gillnet project was 18 August (Stack *Unpublished*). The pulses of coho salmon caught in the Middle Mouth and Big Eddy drift gillnet test fisheries followed the trends observed in the Pilot Station sonar estimates (Figures 10–12). The midpoint for the coho run occurred on 17 August at the Big Eddy drift gillnet location and on 22 August, at the Middle Mouth location. The midpoint of the coho salmon run as estimated by passage at Pilot Station sonar occurred the near the expected date, August 20 based on travel time of 30 miles per day (Table 5).

Of the 220 coho salmon captured in the test fishery, 75 coho salmon were released unharmed, none were sold or discarded, and 145 were distributed to local residents for subsistence uses with the assistance of the USFWS (Appendix A2).

RECOMMENDATIONS

The lower Yukon drift gillnet test fishing project in 2006 provided useful information concerning the entry of each pulse of salmon into the river. Moreover, the timing information is utilized to track the pulses as they pass through the various fisheries and other assessment projects. The Lower Yukon Drift test fishery project should continue operating for the purposes of fall run assessment in the lowest portion of the river, 3 days prior to the assessment by the Pilot Station Sonar project which is upstream of significant fishing activity. The fall test fishery aids in the management of both the largest commercial fishery in the Lower Yukon and provides run strength information to subsistence users to maximize their fishing effort when fish are most abundant.

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TABLES AND FIGURES

Table 1.–Catch and CPUE data for fall chum salmon in the Lower Yukon drift gillnet test fishery, 2006.

	Big Eddy			Middle Mouth			Combined		
Date	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE
16-Jul	61	74.31	74.31	42	64.93	64.93	103	69.62	69.62
17-Jul	6	9.23	83.54	6	10.06	74.99	12	9.65	79.27
18-Jul	4	6.00	89.54	1	1.62	76.61	5	3.81	83.08
19-Jul	0	0.00	89.54	1	1.71	78.32	1	0.86	83.93
20-Jul	0	0.00	89.54	0	0.00	78.32	0	0.00	83.93
21-Jul	14	20.19	109.73	2	3.38	81.70	16	11.79	95.72
22-Jul	3	4.50	114.23	0	0.00	81.70	3	2.25	97.97
23-Jul	1	1.50	115.73	0	0.00	81.70	1	0.75	98.72
24-Jul	3	4.66	120.39	0	0.00	81.70	3	2.33	101.05
25-Jul	0	0.00	120.39	7	14.48	96.18	7	7.24	108.29
26-Jul	0	0.00	120.39	0	0.00	96.18	0	0.00	108.29
27-Jul	27	37.27	157.66	79	117.41	213.59 [a]	106	77.34	185.63
28-Jul	0	0.00	157.66	27	178.62	392.21 [a]	27	89.31	274.94
29-Jul	67	97.63	255.29	46	66.18	458.39 [a]	113	81.91	356.84
30-Jul	18	30.81	286.10	53	143.31	601.70 [a]	71	87.06	443.90
31-Jul	3	4.66	290.76	52	61.73	663.43 [a]	55	33.20	477.10
1-Aug	3	4.74	295.50	74	90.51	753.94 [a]	77	47.63	524.72
2-Aug	4	6.00	301.50	23	30.95	784.89 [a]	27	18.48	543.20
3-Aug	1	1.67	303.17	3	3.10	787.99 [a]	4	2.39	545.58
4-Aug	0	0.00	303.17	5	5.47	793.46 [a]	5	2.74	548.32
5-Aug	3	4.66	307.83	19	19.32	812.78 [a]	22	11.99	560.31
6-Aug	0	0.00	307.83	54	56.71	869.49 [a]	54	28.36	588.66
7-Aug	8	12.31	320.14	13	13.24	882.73 [a]	21	12.78	601.44
8-Aug	5	7.69	327.83	10	10.45	893.18 [a]	15	9.07	610.51
9-Aug	5	7.58	335.41	0	0.00	893.18 [a]	5	3.79	614.30
10-Aug	0	0.00	335.41	0	0.00	893.18 [b]	0	0.00	614.30
11-Aug	2	3.00	338.41	0	0.00	893.18	2	1.50	615.80
12-Aug	113	183.75	522.16	45	186.52	1,079.70	158	185.14	800.93
13-Aug	0	0.00	522.16	11	63.03	1,142.73	11	31.52	832.45
14-Aug	0	0.00	522.16	5	15.79	1,158.52	5	7.90	840.34
15-Aug	23	61.33	583.49	4	12.63	1,171.15	27	36.98	877.32
16-Aug	12	20.43	603.92	1	1.62	1,172.77	13	11.03	888.35
17-Aug	17	47.44	651.36	5	16.67	1,189.44	22	32.06	920.40
18-Aug	12	18.19	669.55	8	12.08	1,201.52	20	15.14	935.54
19-Aug	92	114.22	783.77	42	69.98	1,271.50	134	92.10	1,027.64
20-Aug	41	49.20	832.97	6	18.83	1,290.33	47	34.02	1,061.65
21-Aug	6	9.00	841.97	4	6.53	1,296.86	10	7.77	1,069.42
22-Aug	0	0.00	841.97	1	1.67	1,298.53	1	0.84	1,070.25
23-Aug	24	33.77	875.74	5	8.12	1,306.65	29	20.95	1,091.20
24-Aug	14	20.00	895.74	7	10.96	1,317.61	21	15.48	1,106.68
25-Aug	0	0.00	895.74	3	5.00	1,322.61	3	2.50	1,109.18
26-Aug	5	6.92	902.66	2	3.08	1,325.69	7	5.00	1,114.18
27-Aug	21	30.06	932.72	16	24.87	1,350.56	37	27.47	1,141.64
28-Aug	7	10.50	943.22	4	6.72	1,357.28	11	8.61	1,150.25
Total	625		943.22	686		1,357.28	1,311		1,150.25

Note: The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

[a] Site 3 was fished in addition to site 1 and 2 and incorporated in CPUE calculations.

[b] Drift fishing was discontinued at site 2 site 3 replaced it for the remainder of the season.

Table 2.–Historical CPUE data for fall chum salmon in Lower Yukon drift gillnet test fishery, 2001–2006.

	2001		2002		2003		2004		2005		2006		2001-2005 Average	
Date	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE
16-Jul	21.28	21.28	0.79	0.79	25.78	25.78	0.00	0.00	11.22	11.22	69.62	69.62	11.81	11.81
17-Jul	149.66	170.94	11.03	11.82	20.68	46.46	0.00	0.00	14.11	25.33	9.65	79.27	45.34	50.91
18-Jul	139.21	310.14	0.00	11.82	1.50	47.96	0.72	0.72	231.72	257.04	3.81	83.08	35.36	125.53
19-Jul	27.38	337.52	3.01	14.82	1.84	49.79	48.07	48.79	99.31	356.35	0.86	83.93	20.07	161.45
20-Jul	1.50	339.02	0.00	14.82	1.58	51.37	15.96	64.74	22.54	378.89	0.00	83.93	4.76	169.77
21-Jul	3.00	342.02	0.73	15.55	24.23	75.60	19.89	84.63	2.24	381.12	11.79	95.72	11.96	179.78
22-Jul	6.31	348.32	0.00	15.55	41.50	117.10	5.28	89.90	0.86	381.98	2.25	97.97	13.27	190.57
23-Jul	50.64	398.96	0.00	15.55	15.10	132.19	1.60	91.50	0.72	382.69	0.75	98.72	16.83	204.18
24-Jul	64.87	463.83	0.00	15.55	9.75	141.94	0.77	92.27	1.40	384.09	2.33	101.05	18.85	219.53
25-Jul	31.44	495.27	54.30	69.85	2.29	144.23	0.75	93.02	0.77	384.86	7.24	108.29	22.19	237.44
26-Jul	4.25	499.52	3.27	73.12	6.61	150.84	5.11	98.13	3.79	388.65	0.00	108.29	4.81	242.05
27-Jul	11.33	510.85	9.29	82.41	84.82	235.66	1.55	99.68	2.22	390.86	77.34	185.63	26.75	263.89
28-Jul	4.62	515.46	35.28	117.69	25.61	261.27	0.00	99.68	5.39	396.25	89.31	274.94	16.38	278.07
29-Jul	0.77	516.23	32.18	149.86	17.68	278.94	0.73	100.41	123.99	520.24	81.91	356.84	12.84	313.13
30-Jul	7.54	523.77	1.54	151.40	1.59	280.53	0.00	100.41	42.22	562.46	87.06	443.90	2.67	323.71
31-Jul	95.32	619.09	0.00	151.40	0.84	281.36	6.89	107.29	473.54	1,036.00	33.20	477.10	25.76	439.03
1-Aug	43.12	662.20	15.57	166.97	4.83	286.19	146.73	254.02	34.74	1,070.73	47.63	524.72	52.56	488.02
2-Aug	114.07	776.27	1.54	168.51	0.75	286.94	74.50	328.52	0.75	1,071.48	18.48	543.20	47.72	526.34
3-Aug	101.86	878.13	5.84	174.35	203.48	490.42	18.10	346.62	2.95	1,074.43	2.39	545.58	82.32	592.79
4-Aug	22.58	900.71	0.77	175.12	179.98	670.40	12.06	358.68	0.75	1,075.18	2.74	548.32	53.85	636.01
5-Aug	7.00	907.70	0.79	175.91	15.99	686.38	2.22	360.89	124.68	1,199.85	11.99	560.31	6.50	666.15
6-Aug	100.73	1,008.43	0.00	175.91	1.54	687.92	3.79	364.68	256.76	1,456.61	28.36	588.66	26.51	738.71
7-Aug	136.78	1,145.20	18.10	194.01	0.00	687.92	2.27	366.95	105.32	1,561.92	12.78	601.44	39.29	791.20
8-Aug	32.57	1,177.77	16.55	210.55	0.00	687.92	59.62	426.57	52.04	1,613.96	9.07	610.51	27.18	823.35
9-Aug	19.44	1,197.21	95.72	306.27	2.85	690.77	51.31	477.88	19.47	1,633.43	3.79	614.30	42.33	861.11
10-Aug	16.23	1,213.43	49.88	356.15	25.26	716.03	16.64	494.52	12.46	1,645.89	0.00	614.30	27.00	885.20
11-Aug	2.91	1,216.34	19.38	375.52	3.09	719.11	1.54	496.06	20.90	1,666.79	1.50	615.80	6.73	894.76
12-Aug	26.21	1,242.55	23.14	398.66	65.33	784.44	0.00	496.06	7.97	1,674.76	185.14	800.93	28.67	919.29
13-Aug	27.06	1,269.61	20.94	419.60	0.00	784.44	2.52	498.58	3.03	1,677.78	31.52	832.45	12.63	930.00
14-Aug	17.26	1,286.87	7.08	426.67	55.12	839.56	24.61	523.19	30.03	1,707.81	7.90	840.34	26.02	956.82
15-Aug	11.23	1,298.10	18.65	445.32	259.41	1,098.97	10.44	533.63	17.94	1,725.75	36.98	877.32	74.93	1,020.35
16-Aug	3.76	1,301.86	284.72	730.03	48.76	1,147.73	0.00	533.63	6.63	1,732.37	11.03	888.35	84.31	1,089.12
17-Aug	1.56	1,303.42	38.44	768.47	12.61	1,160.34	2.12	535.75	13.04	1,745.41	32.06	920.40	13.68	1,102.67
18-Aug	2.29	1,305.71	12.06	780.53	4.72	1,165.06	1.47	537.21	71.54	1,816.94	15.14	935.54	5.13	1,121.09
19-Aug	0.00	1,305.71	6.68	787.20	0.00	1,165.06	0.00	537.21	69.99	1,886.93	92.10	1,027.64	1.67	1,136.42
20-Aug	2.33	1,308.04	2.85	790.05	2.33	1,167.39	119.04	656.25	50.03	1,936.95	34.02	1,061.65	31.64	1,171.73
21-Aug	13.83	1,321.87	5.66	795.71	3.92	1,171.31	20.35	676.60	43.27	1,980.22	7.77	1,069.42	10.94	1,189.14
22-Aug	3.75	1,325.62	13.04	808.75	21.23	1,192.53	0.77	677.37	64.93	2,045.15	0.84	1,070.25	9.70	1,209.88
23-Aug	0.00	1,325.62	3.95	812.70	34.13	1,226.66	0.00	677.37	128.61	2,173.75	20.95	1,091.20	9.52	1,243.22
24-Aug	0.77	1,326.39	0.00	812.70	17.16	1,243.82	5.81	683.18	58.17	2,231.92	15.48	1,106.68	5.93	1,259.60

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Table 2.–Page 2 of 2.

Date	2001 Daily CPUE	2001 Cum. CPUE	2002 Daily CPUE	2002 Cum. CPUE	2003 Daily CPUE	2003 Cum. CPUE	2004 Daily CPUE	2004 Cum. CPUE	2005 Daily CPUE	2005 Cum. CPUE	2006 Daily CPUE	2006 Cum. CPUE	2001-2005 Average Daily CPUE	2001-2005 Average Cum. CPUE
25-Aug	0.00	1,326.39	0.00	812.70	3.00	1,246.82	10.32	693.50	30.22	2,262.14	2.50	1,109.18	3.33	1,268.31
26-Aug	0.00	1,326.39	0.00	812.70	2.33	1,249.15	17.81	711.31	18.25	2,280.39	5.00	1,114.18	5.04	1,275.98
27-Aug	0.00	1,326.39	0.79	813.49	0.00	1,249.15	44.26	755.56	11.45	2,291.84	27.47	1,141.64	11.26	1,287.28
28-Aug	0.00	1,326.39	3.08	816.57	0.00	1,249.15			11.78	2,303.62	8.61	1,150.25	1.03	1,423.93
29-Aug									33.59	2,337.21				
Totals	1,326.39		816.57		1,249.15		755.56		2,337.21		1,150.25		1,423.93	

Note: The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

Table 3.–Summary of fall chum salmon age and sex data for the Lower Yukon drift gillnet test fishery, 2006.

			Brood Year and Age Class		
			2003	2002	2001
			Age 0.2	Age 0.3	Age 0.4
Big Eddy	Mean Length	Males	527	575	600
	Std. Error		11	4	4
	Mean Length	Females	541	567	576
	Std. Error		8	3	2
Middle Mouth	Mean Length	Males	-	591	611
	Std. Error		-	7	4
	Mean Length	Females	560	591	599
	Std. Error		-	8	2
Total	Mean Length	Males	527	579	605
	Std. Error		11	3	3
	Mean Length	Females	543	574	588
	Std. Error		7	3	2

Table 4.–Summary of fall chum salmon length (mm) by age and sex for the Lower Yukon drift gillnet test fishery, 2006.

			Brood Year and Age Class		
			2003	2002	2001
			Age 0.2	Age 0.3	Age 0.4
Big Eddy	Mean Length	Males	527	575	600
	Std. Error		11	4	4
	Mean Length	Females	541	567	576
	Std. Error		8	3	2
Middle Mouth	Mean Length	Males	-	591	611
	Std. Error		-	7	4
	Mean Length	Females	560	591	599
	Std. Error		-	8	2
Total	Mean Length	Males	527	579	605
	Std. Error		11	3	3
	Mean Length	Females	543	574	588
	Std. Error		7	3	2

Table 5.–Pilot Station fall season sonar passage estimates attributed to fall chum and coho salmon, 2006.

	Fall Chum		Coho	
Date	**Daily**	**Cum.**	**Daily**	**Cum.**
19-Jul	54,044	54,044	0	0
20-Jul	33,374	87,418	283	283
21-Jul	13,912	101,330	0	283
22-Jul	9,772	111,102	207	490
23-Jul	15,119	126,221	368	858
24-Jul	14,423	140,644	0	858
25-Jul	14,848	155,492	492	1,350
26-Jul	11,406	166,898	116	1,466
27-Jul	7,559	174,457	307	1,773
28-Jul	8,601	183,058	171	1,944
29-Jul	34,808	217,866	933	2,877
30-Jul	81,784	299,650	1721	4,598
31-Jul	52,994	352,644	2643	7,241
1-Aug	41,542	394,186	1222	8,463
2-Aug	34,668	428,854	1,019	9,482
3-Aug	22,534	451,388	4,937	14,419
4-Aug	16,438	467,826	1487	15,906
5-Aug	5,083	472,909	1,011	16,917
6-Aug	4,936	477,845	2,302	19,219
7-Aug	8,841	486,686	2,177	21,396
8-Aug	8,537	495,223	2,956	24,352
9-Aug	8,270	503,493	3,387	27,739
10-Aug	5,895	509,388	2,168	29,907
11-Aug	8,039	517,427	1,767	31,674
12-Aug	5,020	522,447	2,533	34,207
13-Aug	3,058	525,505	3,646	37,853
14-Aug	39,880	565,385	1,719	39,572
15-Aug	72,723	638,108	2,479	42,051
16-Aug	18,576	656,684	1,243	43,294
17-Aug	8,550	665,234	3,836	47,130
18-Aug	10,715	675,949	5,024	52,154
19-Aug	13,420	689,369	10,037	62,191
20-Aug	17,370	706,739	5,417	67,608
21-Aug	7,674	714,413	4,231	71,839
22-Aug	24,403	738,816	6,191	78,030
23-Aug	4,899	743,715	13,118	91,148
24-Aug	3,904	747,619	9,331	100,479
25-Aug	9,223	756,842	4,283	104,762
26-Aug	7,145	763,987	3,335	108,097
27-Aug	3,287	767,274	7,890	115,987
28-Aug	3,255	770,529	5,152	121,139
29-Aug	6,214	776,743	2,380	123,519
30-Aug	7,789	784,532	3,892	127,411
31-Aug	6,031	790,563	4,508	131,919
Total	790,563		131,919	

Note: The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

Table 6.–Catch and CPUE data for coho salmon in the Lower Yukon drift gillnet test fishery, 2006.

	Big Eddy			Middle Mouth				Total		
Date	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE		Daily Catch	Daily CPUE	Cum. CPUE
16-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
17-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
18-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
19-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
20-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
21-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
22-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
23-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
24-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
25-Jul	0	0.00	0.00	0	0.00	0.00		0	0.00	0.00
26-Jul	0	0.00	0.00	1	1.67	0.00		1	0.84	0.84
27-Jul	1	1.36	1.36	3	3.94	0.00	[a]	4	2.65	3.49
28-Jul	1	3.00	4.36	0	0.00	0.00	[a]	1	1.50	4.99
29-Jul	8	11.36	15.72	1	0.98	0.00	[a]	9	6.17	11.16
30-Jul	2	3.43	19.15	4	13.17	4.43	[a]	6	8.30	19.46
31-Jul	0	0.00	19.15	4	7.95	4.43	[a]	4	3.98	23.43
1-Aug	0	0.00	19.15	6	7.37	4.43	[a]	6	3.69	27.12
2-Aug	1	1.50	20.65	0	0.00	4.43	[a]	1	0.75	27.87
3-Aug	0	0.00	20.65	2	2.05	5.89	[a]	2	1.03	28.89
4-Aug	0	0.00	20.65	0	0.00	5.89	[a]	0	0.00	28.89
5-Aug	4	6.36	27.01	0	0.00	5.89	[a]	4	3.18	32.07
6-Aug	0	0.00	27.01	0	0.00	5.89	[a]	0	0.00	32.07
7-Aug	1	1.54	28.55	1	1.00	44.82	[a]	2	1.27	33.34
8-Aug	0	0.00	28.55	2	2.22	54.54	[a]	2	1.11	34.45
9-Aug	0	0.00	28.55	1	1.33	57.79	[a]	1	0.67	35.12
10-Aug	1	3.16	31.71	0	0.00	59.29	[b]	1	1.58	36.70
11-Aug	0	0.00	31.71	2	3.21	59.29		2	1.61	38.30
12-Aug	11	18.65	50.36	1	1.76	67.07		12	10.21	48.51
13-Aug	1	3.16	53.52	1	4.44	74.76		2	3.80	52.31
14-Aug	1	1.62	55.14	3	6.40	81.41		4	4.01	56.32
15-Aug	9	25.15	80.29	1	3.16	83.03		10	14.16	70.47
16-Aug	1	1.76	82.05	3	4.86	86.19		4	3.31	73.78
17-Aug	9	25.57	107.62	3	9.73	90.99		12	17.65	91.43
18-Aug	4	5.85	113.47	4	6.09	92.45		8	5.97	97.40
19-Aug	14	18.21	131.68	40	53.46	95.45		54	35.84	133.24
20-Aug	10	13.18	144.86	12	28.30	108.66		22	20.74	153.98
21-Aug	3	4.50	149.36	2	3.33	123.53		5	3.92	157.89
22-Aug	0	0.00	149.36	0	0.00	146.03		0	0.00	157.89
23-Aug	4	5.58	154.94	0	0.00	191.03		4	2.79	160.68
24-Aug	2	2.79	157.73	6	9.26	239.03		8	6.03	166.71
25-Aug	0	0.00	157.73	2	3.38	248.34		2	1.69	168.40
26-Aug	12	16.86	174.59	4	6.33	266.75		16	11.60	179.99
27-Aug	0	0.00	174.59	1	1.58	268.25		1	0.79	180.78
28-Aug	6	9.04	183.63	4	6.72	271.21		10	7.88	188.66
Total	106		183.63	114		271.21		220		188.66

Note: The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

[a] Site 3 was fished in addition to site 1 and 2 and incorporated in CPUE calculations.

[b] Drift fishing was discontinued at site 2 site 3 replaced it for the remainder of the season.

Table 7.–Historical CPUE data for coho salmon in Lower Yukon drift gillnet test fishery, 2001–2006.

	2001		2002		2003		2004		2005		2006		2001-2005 Average	
Date	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE	Daily CPUE	Cum. CPUE
16-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21-Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22-Jul	0.00	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.16
23-Jul	1.50	1.50	0.00	0.00	0.84	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.63
24-Jul	0.88	2.38	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.80
25-Jul	0.00	2.38	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80
26-Jul	0.00	2.38	0.00	0.00	0.00	1.63	0.72	0.72	0.00	0.00	0.84	0.84	0.14	0.94
27-Jul	0.75	3.13	0.00	0.00	11.95	13.57	0.00	0.72	0.00	0.00	2.65	3.49	2.54	3.48
28-Jul	0.00	3.13	0.00	0.00	3.08	16.65	0.00	0.72	0.00	0.00	1.50	4.99	0.62	4.10
29-Jul	0.00	3.13	0.00	0.00	5.27	21.91	0.00	0.72	3.64	3.64	6.17	11.16	1.78	5.88
30-Jul	0.75	3.88	0.00	0.00	0.00	21.91	0.00	0.72	3.13	6.76	8.30	19.46	0.78	6.65
31-Jul	3.05	6.93	0.00	0.00	0.79	22.70	0.00	0.72	6.68	13.44	3.98	23.43	2.10	8.76
1-Aug	0.00	6.93	2.04	2.04	2.39	25.09	1.35	2.06	3.11	16.55	3.69	27.12	1.78	10.53
2-Aug	4.86	11.79	0.00	2.04	0.00	25.09	8.00	10.06	0.73	17.28	0.75	27.87	2.72	13.25
3-Aug	13.29	25.07	2.20	4.24	55.61	80.70	6.67	16.73	1.45	18.73	1.03	28.89	15.84	29.09
4-Aug	9.85	34.92	0.00	4.24	67.84	148.54	0.00	16.73	0.00	18.73	0.00	28.89	15.54	44.63
5-Aug	5.70	40.62	0.72	4.95	10.94	159.47	0.77	17.50	2.65	21.38	3.18	32.07	4.15	48.78
6-Aug	18.03	58.65	0.00	4.95	0.00	159.47	0.00	17.50	19.87	41.25	0.00	32.07	7.58	56.36
7-Aug	50.38	109.02	5.53	10.48	0.77	160.24	0.00	17.50	36.04	77.29	1.27	33.34	18.54	74.90
8-Aug	21.82	130.84	5.18	15.66	0.00	160.24	4.68	22.17	16.83	94.11	1.11	34.45	9.70	84.60
9-Aug	14.08	144.92	16.70	32.35	5.15	165.39	19.97	42.14	5.63	99.74	0.67	35.12	12.30	96.91
10-Aug	27.75	172.67	9.56	41.91	12.64	178.03	14.38	56.52	4.41	104.15	1.58	36.70	13.75	110.65
11-Aug	15.41	188.07	26.15	68.06	7.62	185.65	5.39	61.90	4.18	108.33	1.61	38.30	11.75	122.40
12-Aug	28.61	216.68	15.58	83.63	33.53	219.17	1.39	63.29	7.96	116.28	10.21	48.51	17.41	139.81
13-Aug	31.52	248.20	21.92	105.55	3.08	222.25	4.02	67.31	3.85	120.13	3.80	52.31	12.88	152.69
14-Aug	28.23	276.42	5.34	110.89	53.68	275.93	25.69	93.00	10.42	130.55	4.01	56.32	24.67	177.35
15-Aug	34.28	310.70	20.02	130.90	261.64	537.56	5.26	98.25	5.49	136.03	14.16	70.47	65.33	242.69
16-Aug	13.58	324.28	102.86	233.76	41.42	578.98	2.40	100.65	2.99	139.02	3.31	73.78	32.65	275.34
17-Aug	11.14	335.41	45.98	279.74	10.91	589.89	6.61	107.25	8.57	147.59	17.65	91.43	16.64	291.98
18-Aug	9.23	344.64	34.05	313.79	13.87	603.76	9.01	116.26	10.89	158.48	5.97	97.40	15.41	307.39
19-Aug	15.60	360.24	22.75	336.54	2.37	606.13	2.36	118.62	15.29	173.77	35.84	133.24	11.67	319.06
20-Aug	2.35	362.59	10.59	347.12	2.37	608.50	18.72	137.34	8.79	182.56	20.74	153.98	8.56	327.62
21-Aug	11.27	373.86	3.81	350.93	10.14	618.63	58.75	196.09	8.14	190.69	3.92	157.89	18.42	346.04
22-Aug	14.50	388.36	17.87	368.80	44.84	663.47	1.52	197.61	12.00	202.69	0.00	157.89	18.15	364.18
23-Aug	1.54	389.90	3.04	371.84	24.76	688.23	1.48	199.09	24.81	227.50	2.79	160.68	11.13	375.31
24-Aug	2.29	392.19	3.12	374.96	13.18	701.41	1.50	200.59	27.81	255.31	6.03	166.71	9.58	384.89
25-Aug	0.00	392.19	0.77	375.73	3.79	705.20	11.75	212.33	8.05	263.36	1.69	168.40	4.87	389.76
26-Aug	1.47	393.65	1.03	376.76	3.17	708.36	11.29	223.62	13.02	276.38	11.60	179.99	5.99	395.75
27-Aug	0.00	393.65	0.79	377.55	0.00	708.36	73.83	297.45	4.28	280.66	0.79	180.78	15.78	411.53
28-Aug	0.81	394.46	4.62	382.16	3.16	711.52			2.21	282.87	7.88	188.66	2.70	442.75
29-Aug									17.87	300.73				
Totals	394.46		382.16		711.52		297.45		300.73		188.66		442.75	

Note: The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

Table 8.–Summary of fall coho salmon age and sex data for the Lower Yukon drift gillnet test fishery, 2006.

			Brood Year and Age Class							
			2002		2001		2000			
			Age 1.1		Age 2.1		Age 3.1		Total	
Big Eddy			**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Season Total	93	Males	11	11.8	31	33.3	5	5.4	47	50.5
Sample Size		Females	5	5.4	41	44.1	0	0.0	46	49.5
		Total	16	17.2	72	77.4	5	5.4	93	100.0
Middle Mouth			**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Season Total	36	Males	3	8.3	18	50.0	1	2.8	22	61.1
Sample Size		Females	1	2.8	12	33.3	1	2.8	14	38.9
		Total	4	11.1	30	83.3	2	5.6	36	100.0
Total			**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Season Total	129	Males	14	10.9	49	38.0	6	4.7	69	53.5
Sample Size		Females	6	4.7	53	41.1	1	0.8	60	46.5
		Total	20	15.5	102	79.1	7	5.4	129	100.0

Table 9.–Summary of fall coho salmon length (mm) by age and sex for the Lower Yukon drift gillnet test fishery, 2006.

			Brood Year and Age Class		
			2002	2001	2000
			Age 1.1	Age 2.1	Age 3.1
Big Eddy	Mean Length	Males	537	541	522
	Std. Error		12	6	6
	Mean Length	Females	555	550	-
	Std. Error		13	5	-
Middle Mouth	Mean Length	Males	587	555	520
	Std. Error		12	6	-
	Mean Length	Females	550	568	575
	Std. Error		-	7	-
Total	Mean Length	Males	548	546	522
	Std. Error		11	4	5
	Mean Length	Females	554	554	575
	Std. Error		11	4	-

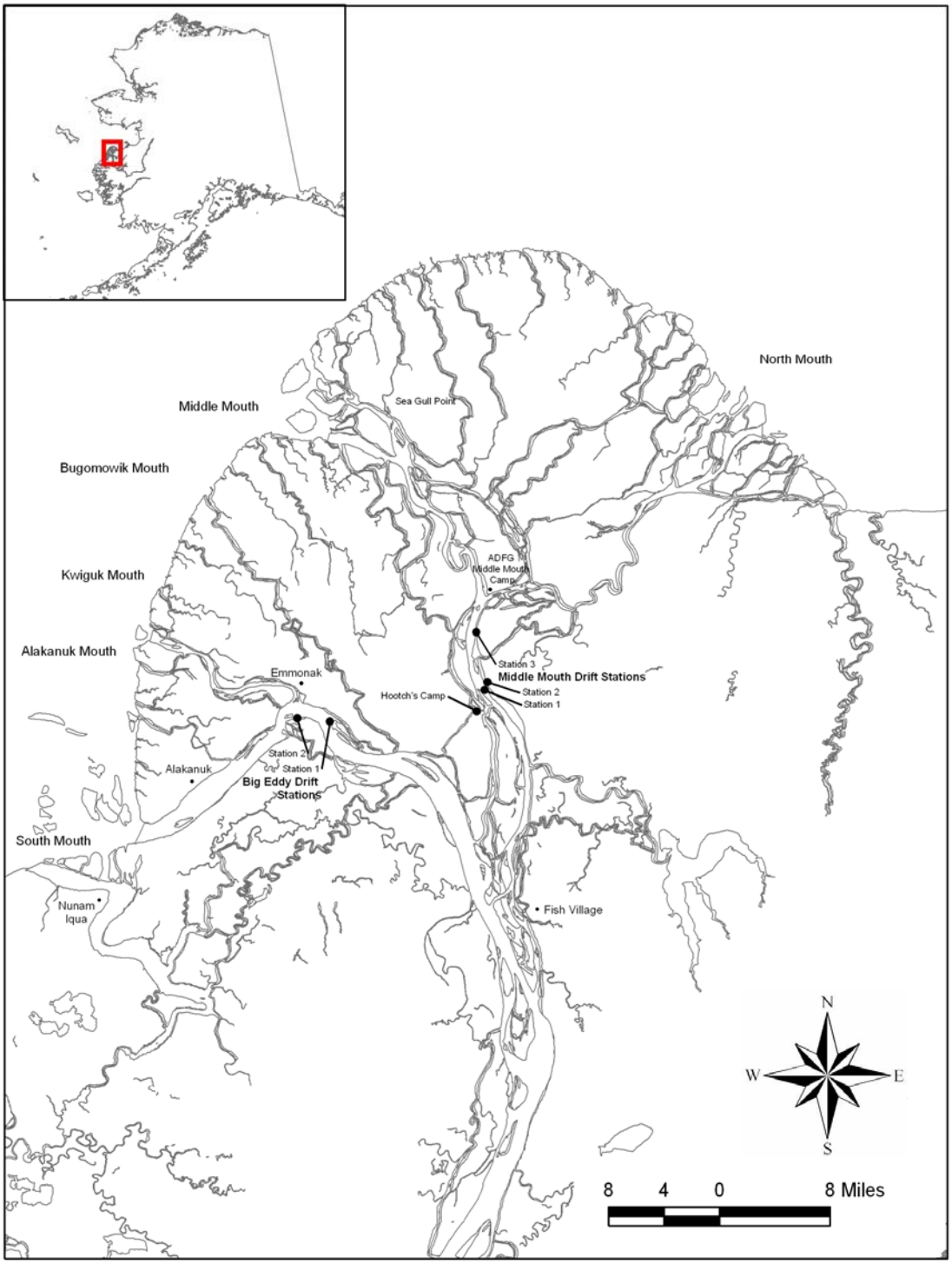

Figure 1.–Drift stations for the cooperative Lower Yukon drift gillnet test fishery, 2006.

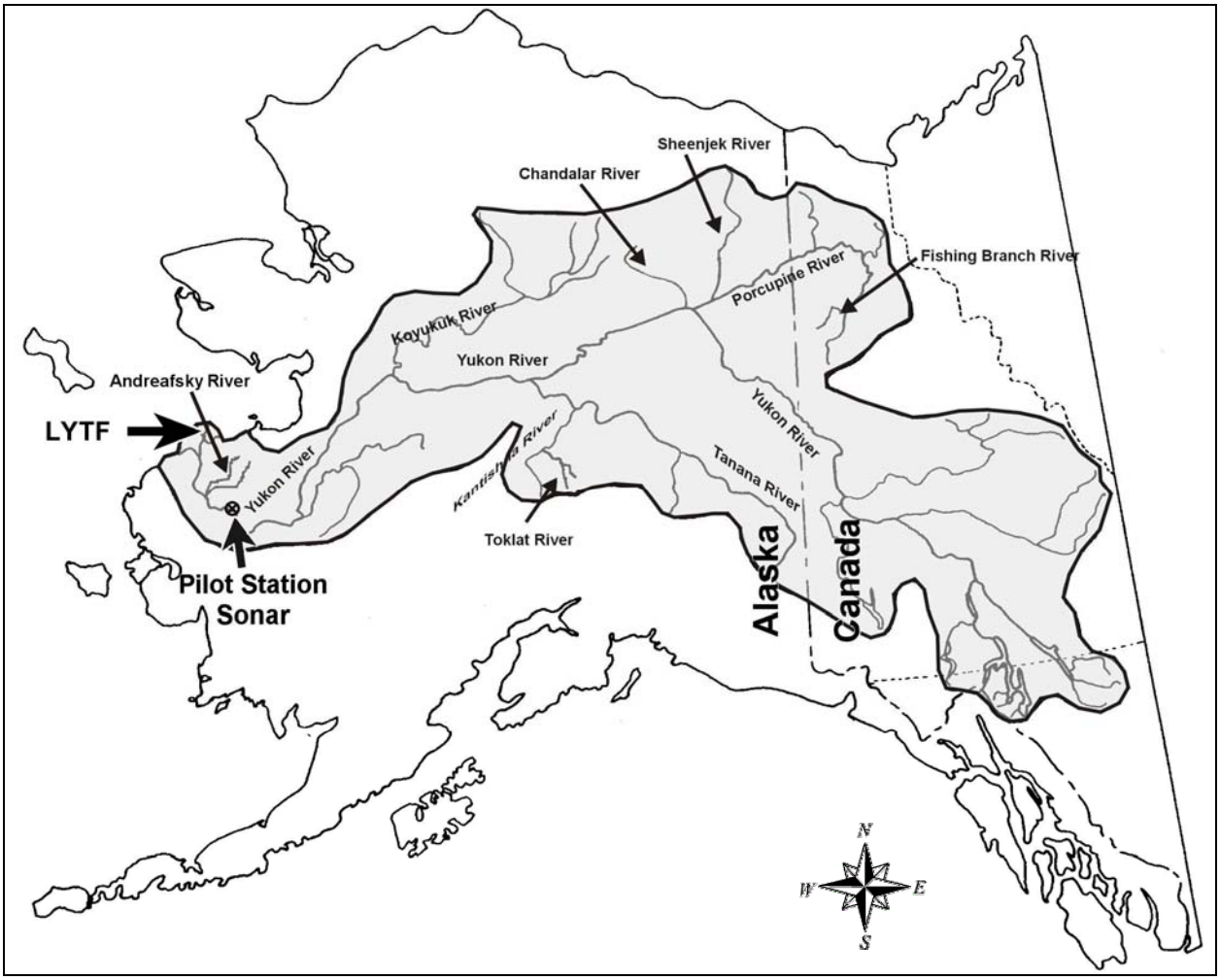

Figure 2.–Project site locations for the Yukon, highlighting the Lower Yukon drift gillnet test fishery and Pilot Station Sonar, 2006.

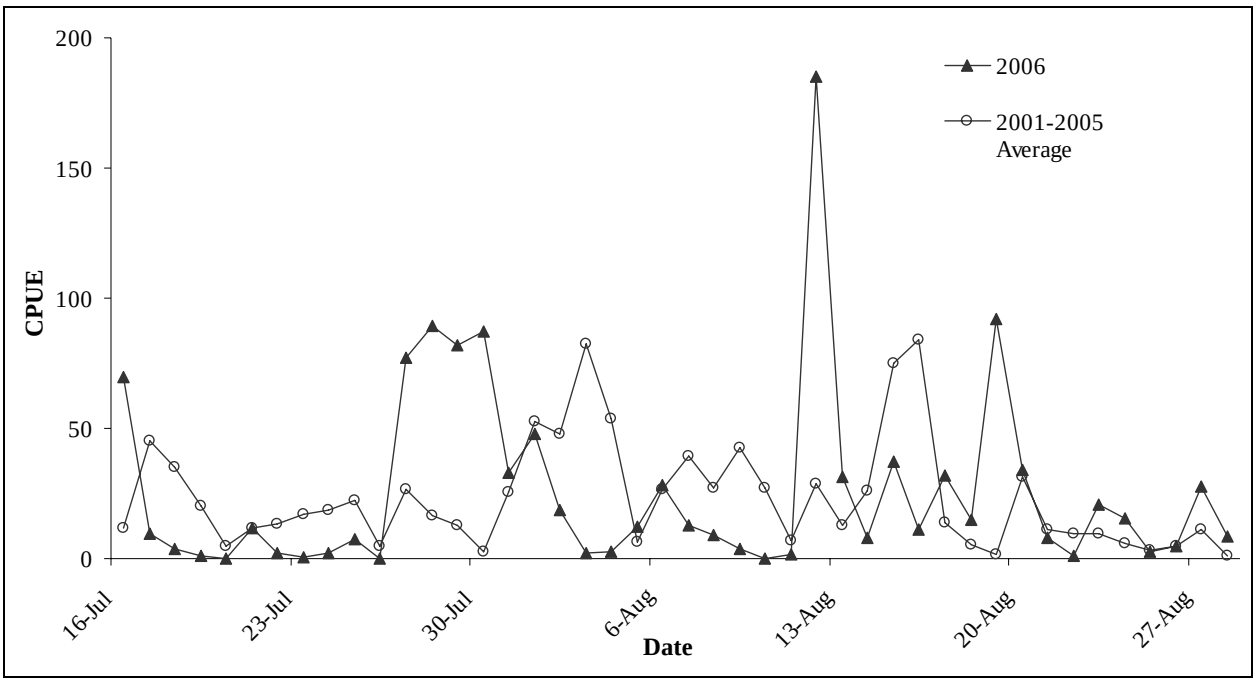

Figure 3.–Daily CPUE for fall chum salmon in the Lower Yukon drift gillnet test fishery, 2006 compared to the 2001–2005 average.

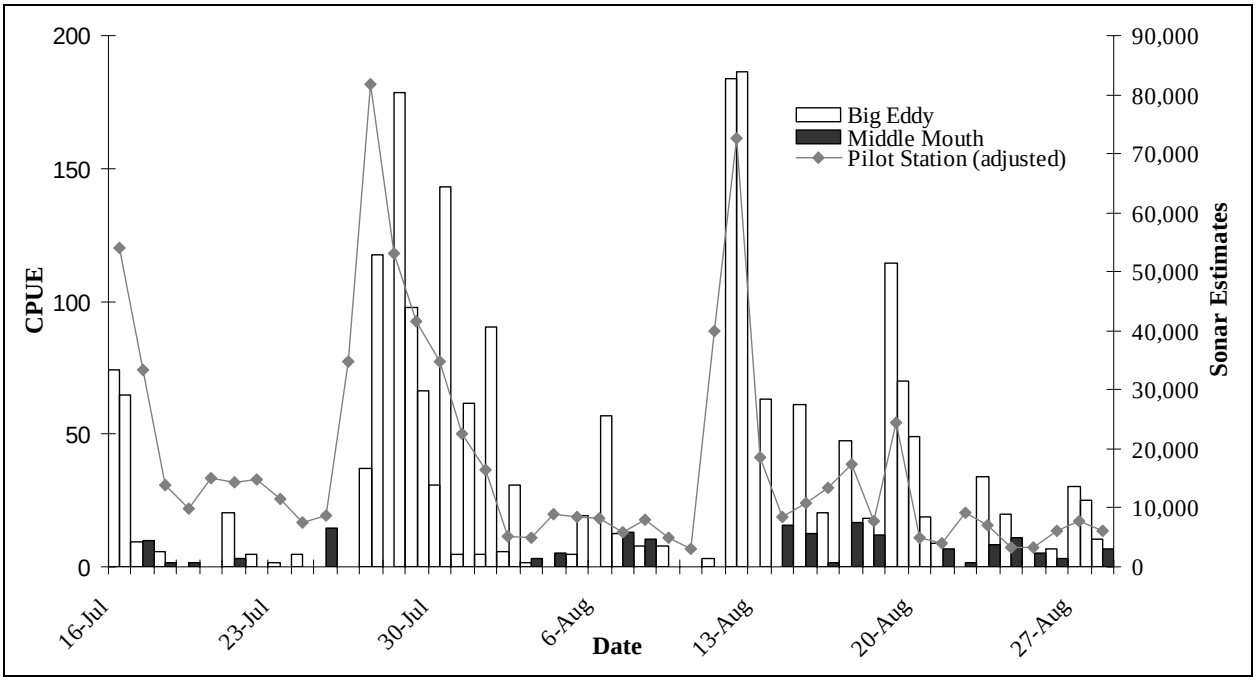

Figure 4.–Daily CPUE for fall chum salmon in the Big Eddy and Middle Mouth drift gillnet test fishery, compared to Pilot Station sonar passage estimates, 2006.

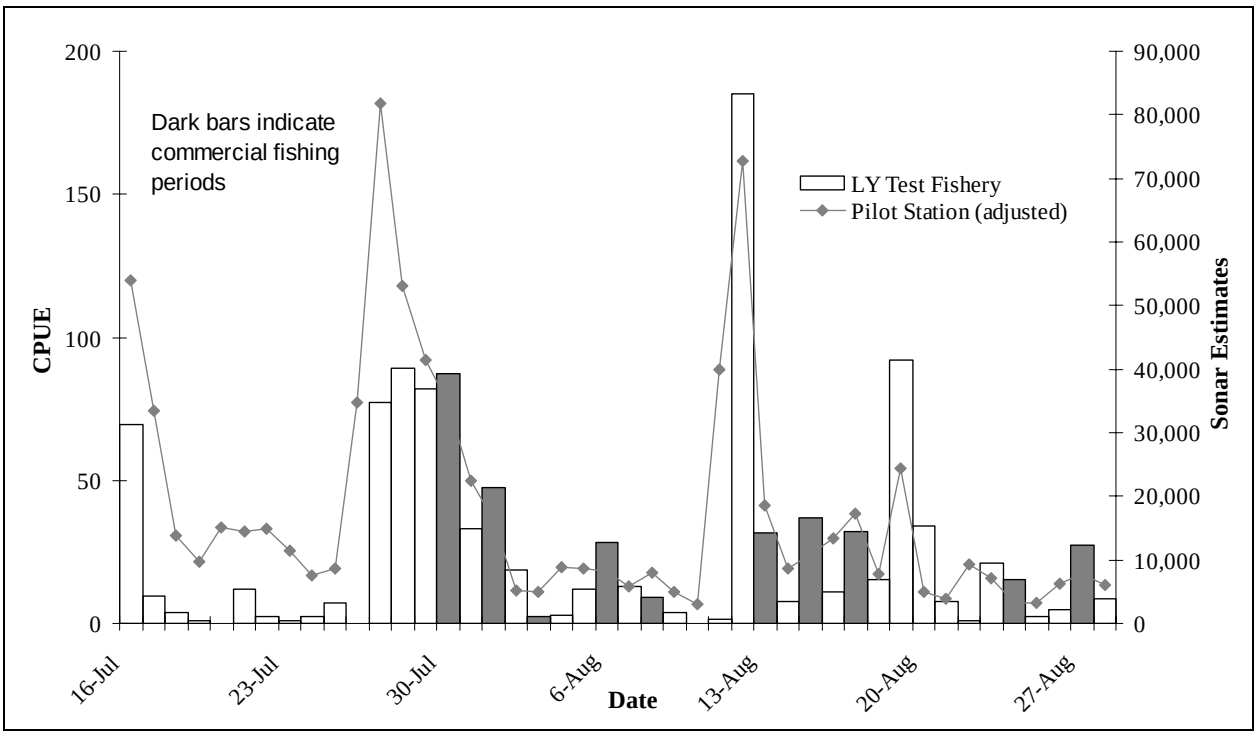

Figure 5.–Daily CPUE for fall chum salmon in the Lower Yukon drift gillnet test fishery compared to Pilot Station sonar passage estimates adjusted for transit time, 2006.

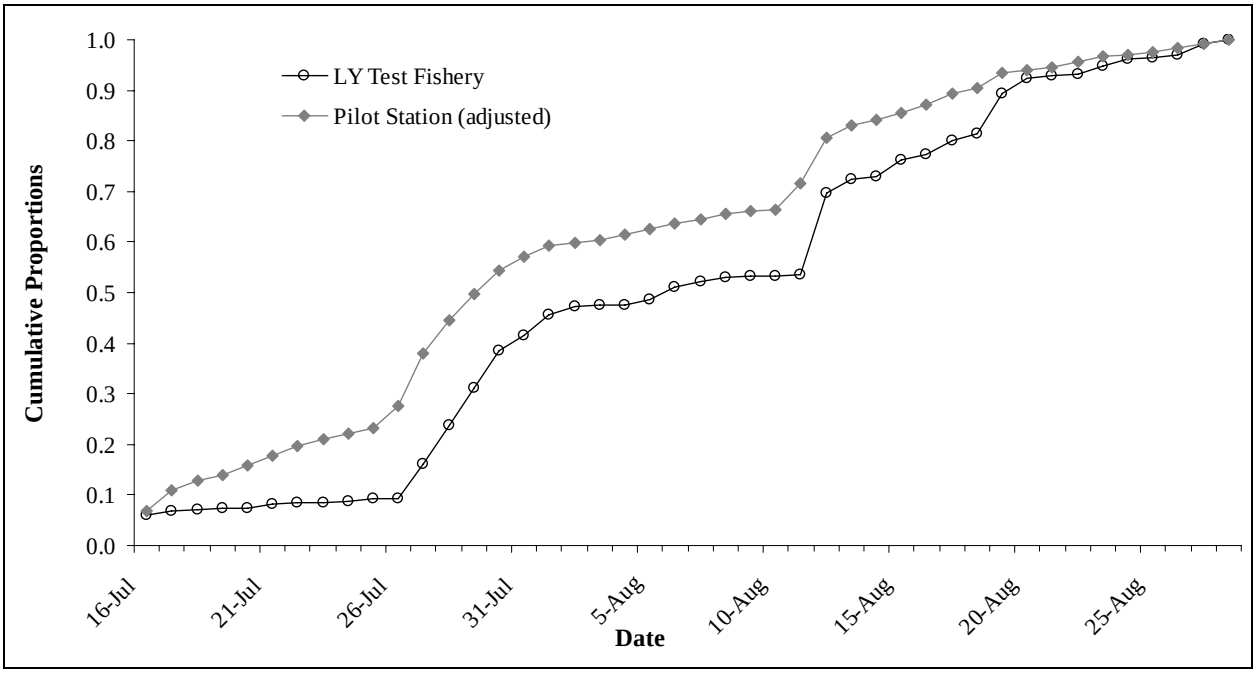

Figure 6.–Cumulative proportions for fall chum salmon from the Lower Yukon drift gillnet test fishery compared to Pilot Station, adjusted for transit time, 2006.

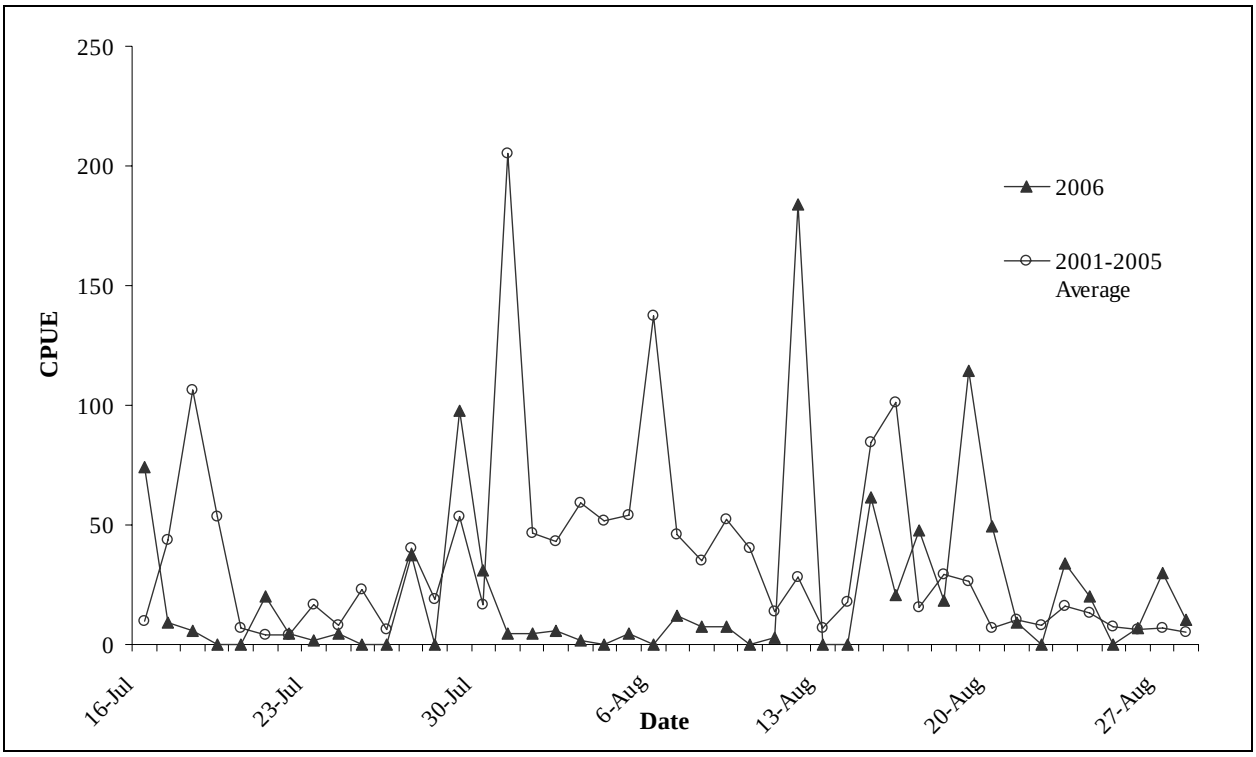

Figure 7.–Daily CPUE for fall chum salmon at Big Eddy, 2006, compared to 2001–2005 average.

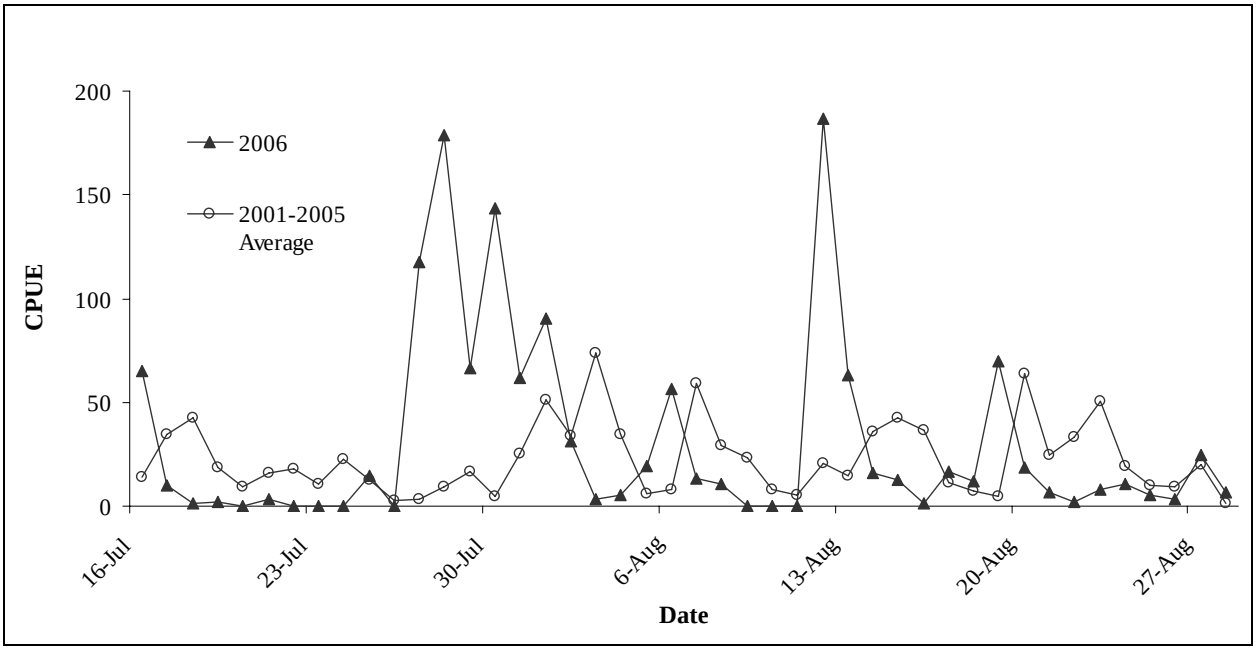

Figure 8.–Daily CPUE for fall chum salmon at Middle Mouth, 2006, compared to the 2001–2005 average.

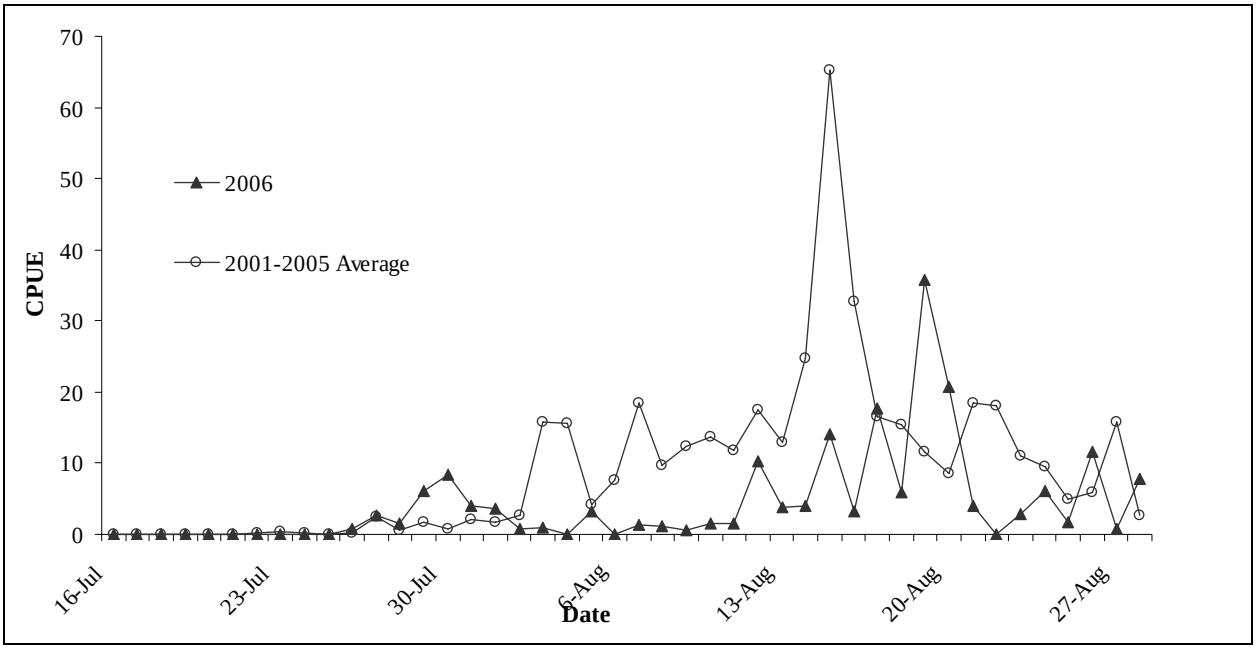

Figure 9.–Daily CPUE for coho salmon in the Lower Yukon drift gillnet test fishery, 2006, compared to the 2001–2005 average.

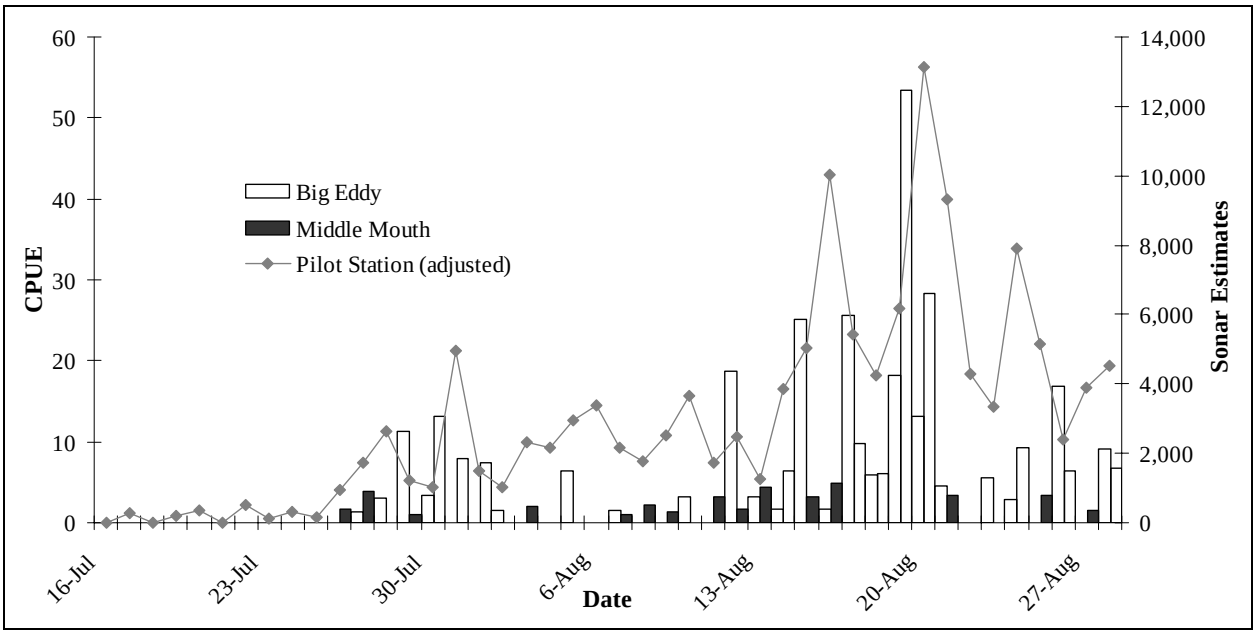

Figure 10.–Daily CPUE for coho salmon from Big Eddy and Middle Mouth drift gillnet test fishery, compared to Pilot Station sonar passage estimates adjusted for transit time, 2006.

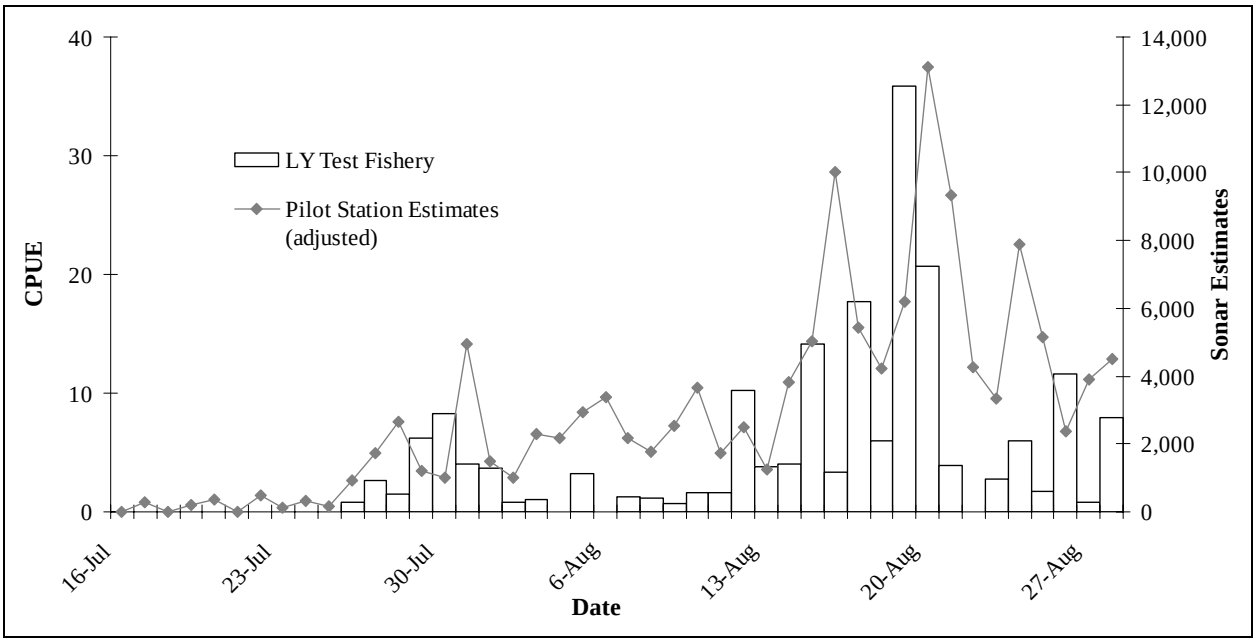

Figure 11.–Daily CPUE for coho salmon from the Lower Yukon drift gillnet test fishery compared to sonar passage estimates from Pilot Station adjusted for transit time, 2006.

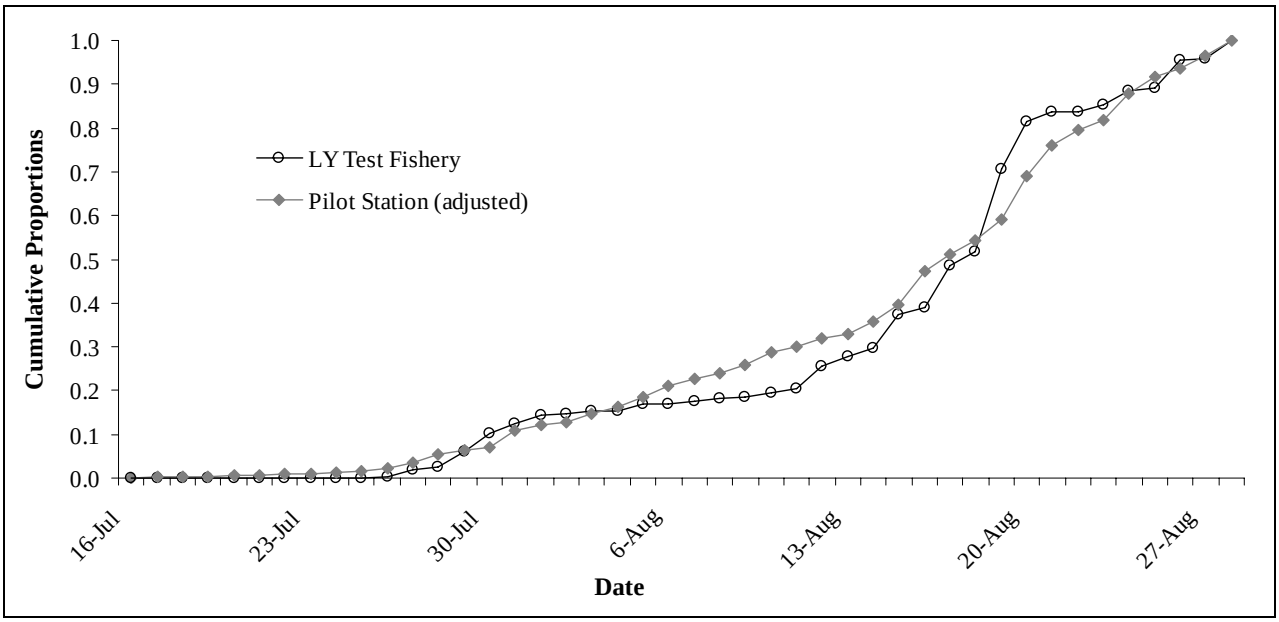

Figure 12.–Cumulative proportions for coho salmon from the Lower Yukon drift gillnet test fishery compared to Pilot Station adjusted for transit time, 2006.

APPENDIX A

Appendix A1.–Mean fishing times for the Lower Yukon drift gillnet test fishery, 2006.

	Drift Gillnet Test Fishery Mean Fishing Times (min)																	
	Big Eddy								Middle Mouth									
						Catch										Catch		
						Fall										Fall		
Date	1	2	3	4	Total	Chum	Coho		1	2	3	4	5	6	Total	Chum	Coho	
16-Jul	19.5	26.0	19.0	19.5	84.0	61	0		23.5	18.0	13.5	18.5			73.5	42	0	
17-Jul	20.5	19.5	19.0	18.5	77.5	6	0		19.0	18.0	17.5	17.0			71.5	6	0	
18-Jul	19.5	20.0	19.0	19.0	77.5	4	0		18.5	18.0	16.5	17.0			70.0	1	0	
19-Jul	19.0	19.5	17.0	17.5	73.0	0	0		17.5	17.0	18.0	18.0			70.5	1	0	
20-Jul	17.0	17.0	18.5	17.5	70.0	0	0		17.5	18.5	18.0	17.5			71.5	0	0	
21-Jul	19.0	18.5	19.0	21.0	77.5	14	0		18.5	17.5	17.0	18.0			71.0	2	0	
22-Jul	20.0	20.0	19.5	19.5	79.0	3	0		18.0	18.0	19.0	18.0			73.0	0	0	
23-Jul	19.5	19.0	20.0	20.5	79.0	1	0		19.0	18.0	18.0	17.5			72.5	0	0	
24-Jul	20.0	19.0	19.5	19.5	78.0	3	0		18.0	18.5	18.0	17.5			72.0	0	0	
25-Jul	20.5	19.5	19.5	24.0	83.5	0	0		17.0	14.5	18.0	17.5			67.0	7	0	
26-Jul	19.0	19.0	21.0	19.0	78.0	0	0		17.5	18.5	18.0	17.5			71.5	0	1	
27-Jul	19.5	19.0	21.0	22.0	81.5	27	1	[a]	19.0	12.0	20.5	16.5	15.0		83.0	79	3	
28-Jul[b]		20.5		20.0	40.5	0	1	[a,b]	18.0	12.5	11.5				42.0	27	0	
29-Jul	20.0	26.0	21.5	19.0	86.5	67	8	[a]	20.5	15.0	17.5	16.5	11.0	26.5	107.0	46	1	
30-Jul	14.5	17.5	18.5	19.0	69.5	18	2	[a]	11.5	13.0	11.0	17.5	14.5	13.0	80.5	53	4	
31-Jul	19.0	19.0	18.5	20.0	76.5	3	0	[a]	17.0	18.0	19.5	23.0	17.0	13.5	108.0	52	4	
1-Aug	19.5	19.0	18.5	19.0	76.0	3	0	[a]	22.0	15.0	18.0	16.5	17.5	18.0	107.0	74	6	
2-Aug	18.5	20.0	17.5	16.5	72.5	4	1	[a]	17.5	19.5	17.0	17.5	18.0	18.5	108.0	23	0	
3-Aug	18.0	18.0	18.5	18.5	73.0	1	0	[a]	18.5	17.5	19.5	18.0	19.0	18.0	110.5	3	2	
4-Aug	19.5	20.5	19.0	19.0	78.0	0	0	[a]	19.0	18.5	17.5	18.5	18.0	17.5	109.0	5	0	
5-Aug	18.5	19.5	18.5	19.0	75.5	3	4	[a]	18.0	18.0	21.0	18.0	17.5	19.5	112.0	19	0	
6-Aug	18.5	19.0	19.0	16.5	73.0	0	0	[a]	20.0	20.0	22.0	17.0	19.0	28.0	126.0	54	0	
7-Aug	18.5	19.5	19.5	19.5	77.0	8	1	[a]	18.0	20.0	20.0	18.5	17.5	18.0	112.0	13	1	
8-Aug	18.5	19.5	18.5	19.0	75.5	5	0	[a]	18.5	17.5	19.5	18.0	18.0	17.0	108.5	10	2	
9-Aug	19.0	20.0	19.0	19.0	77.0	5	0	[a,c]	17.5	17.5	18.0	18.0	17.5		88.5	0	1	
10-Aug[d]			18.5	19.0	37.5	0	1	[d]			17.0	18.5			35.5	0	0	
11-Aug	18.5	19.5	19.0	20.5	77.5	2	0		18.0	19.5	19.0	18.0			74.5	0	2	
12-Aug	19.0	24.0	19.5	23.5	86.0	113	11		17.0	11.0	8.5	18.0			54.5	45	1	
13-Aug[d]			19.0	19.0	38.0	0	1	[d]			13.5	16.5			30.0	11	1	
14-Aug	18.5	18.5	18.5	19.0	74.5	0	1		19.0	17.0	18.5	18.5			73.0	5	3	
15-Aug			18.5	22.5	41.0	23	9	[d]			17.5	19.0			36.5	4	1	
16-Aug	19.0	19.0	18.0	17.0	73.0	12	1		18.5	18.5	18.5	19.5			75.0	1	3	
17-Aug[d]			18.5	21.5	40.0	17	9	[b]			18.0	18.5			36.5	5	3	
18-Aug	18.5	18.5	19.5	20.5	77.0	12	4		20.5	19.5	18.5	18.0			76.5	8	4	
19-Aug	19.0	23.5	18.5	24.5	85.5	92	14		15.0	17.0	25.0	17.5			74.5	42	40	
20-Aug	18.5	25.0	19.0	18.5	81.0	41	10		9.5	19.5	19.0	19.0			67.0	6	12	
21-Aug	18.5	20.0	18.5	15.5	72.5	6	3		18.0	18.5	18.0	17.5			72.0	4	2	
22-Aug	19.5	19.0	18.5	17.5	74.5	0	0		18.0	18.0	18.0	18.0			72.0	1	0	
23-Aug	19.0	21.5	19.5	19.0	79.0	24	4	[b]	18.0	19.0	17.5	17.5			72.0	5	0	
24-Aug	19.5	21.5	18.5	19.0	78.5	14	2	[b]	20.5	19.0	17.5	19.0			76.0	7	6	
25-Aug	18.5	18.5	19.0	19.5	75.5	0	0		18.0	17.5	18.0	18.0			71.5	3	2	
26-Aug	19.5	20.5	19.5	22.0	81.5	5	12		18.0	17.5	17.5	19.5			72.5	2	4	
27-Aug	19.0	21.5	19.5	19.5	79.5	21	0		19.0	20.0	17.5	17.0			73.5	16	1	
28-Aug	17.0	20.0	19.5	19.5	76.0	7	6		17.5	17.0	18.5	18.0			71.0	4	4	
Daily Average					73.1										77.3			
Drift Average					19.4										17.8			
Total Catch						625	106									686	114	

[a] Site 3, an additional site was fished beginning with a single drift on 27 July. Two drifts a day were conducted under normal operations.

[b] Individual drifts were not conducted due to poor weather, high water, or high debris load.

[c] Fishing at site 2 was discontinued after the morning drifts. Site3 replaced two for the remainder of the season.

[d] Individual drifts were cancelled and not conducted in conjunction with open commercial fishing periods.

Appendix A2.–Catch distribution by species for the Lower Yukon drift gillnet test fishery, 2006.

	Big Eddy		Middle Mouth		Total	
Species	**F. Chum**	**Coho**	**F.Chum**	**Coho**	**F. Chum**	**Coho**
Fish released unharmed	84	3	374	72	458	75
Test fish sales	0	0	0	0	0	0
Fish discarded	0	0	0	0	0	0
Test fish donated locally	568	103	312	42	880	145
Total catch [a]	652	106	686	114	1,338	220

[a] Total catch includes fish caught in experimental drifts and donated locally but not included into the CPUE calculations.