

**Fishery Data Series No. 08-39**

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

by

**Eric J. Newland**

and

**Steve J. Hayes**

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August 2008

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries





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**SUMMER SEASON COOPERATIVE SALMON DRIFT GILLNET TEST  
FISHING IN THE LOWER YUKON RIVER, 2006**

by  
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# TABLE OF CONTENTS

	<b>Page</b>
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
LIST OF APPENDICES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
Project History.....	1
OBJECTIVES.....	2
METHODS.....	2
Study Site.....	2
Project Date.....	3
Drift Test Fishing.....	3
Drift Schedule.....	4
CPUE Calculations.....	4
Age, Sex, and Length Sampling.....	4
RESULTS.....	5
Chinook Salmon.....	5
Summer Chum Salmon.....	5
DISCUSSION.....	6
Chinook Salmon.....	6
Summer Chum Salmon.....	7
RECOMMENDATIONS.....	8
ACKNOWLEDGEMENTS.....	8
REFERENCES CITED.....	9
TABLES AND FIGURES.....	11
APPENDIX A.....	27

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1. Catch and CPUE data for the Lower Yukon River Chinook salmon drift gillnet test fisheries, 2006. ....	12
2. Catch and CPUE data for the 2001–2003 and 2005 Lower Yukon River Chinook salmon drift gillnet test fisheries, Big Eddy and Middle Mouth combined. ....	13
3. Season summary of Chinook salmon age, sex, and length data for the Lower Yukon drift gillnet test fishery, 2006. ....	14
4. Catch and CPUE data for the Lower Yukon River Chinook salmon 8.5" set gillnet test fisheries, 2006. ....	15
5. Pilot Station summer season sonar passage estimates, 2006. ....	16
6. Catch and CPUE data for the Lower Yukon River summer chum salmon drift gillnet test fisheries, 2006. ....	17
7. Catch and CPUE data for the 2001–2003 and 2005 Lower Yukon summer chum salmon drift gillnet test fisheries, Big Eddy and Middle Mouth combined. ....	18
8. Season summary of summer chum salmon age, sex, and length data for the Lower Yukon drift gillnet test fishery, 2006. ....	19

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1. Drift stations for the cooperative Lower Yukon drift gillnet test fishery, 2006. ....	20
2. Project site locations for the Yukon, highlighting the Lower Yukon test fisheries and Pilot Station sonar, 2006. ....	21
3. Daily CPUE for Lower Yukon 8.25" drift gillnet Chinook salmon test fishery, comparing 2006 to the 2001–2003, 2005 average. ....	22
4. Chinook salmon CPUE from the Lower Yukon 8.25" drift gillnet test fisheries compared to Pilot Station sonar Chinook passage estimates corrected for transit time, 2006. ....	22
5. Daily CPUE for the Middle Mouth and Big Eddy 8.25" Chinook salmon drift gillnet test fisheries compared to Pilot Station Chinook Salmon passage estimates corrected for transit time, 2006. ....	23
6. Daily CPUE by the Lower Yukon 8.5" Chinook salmon set gillnet test fisheries compared to Pilot Station sonar passage estimates corrected for transit time, 2006. ....	23
7. Cumulative proportions of the Chinook salmon catches in the Lower Yukon 8.5" set and 8.25" drift gillnet test fisheries compared to Pilot Station Chinook proportions, corrected for transit time, 2006. ....	24
8. Daily CPUE for Big Eddy Daily 5.5" drift gillnet summer chum salmon test fishery, comparing 2006 to the 2001–2003, 2005 average. ....	24
9. Lower Yukon 5.5" summer chum drift gillnet test fisheries combined daily CPUE, compared to Pilot Station sonar passage estimates adjusted for transit time, 2006. ....	25
10. Daily CPUE for the Middle Mouth and Big Eddy 5.5" summer chum salmon drift gillnet test fisheries compared to Pilot Station summer chum sonar passage estimates, 2006. ....	25
11. Cumulative proportions for summer chum salmon in the Lower Yukon drift gillnet test fisheries compared to Pilot Station summer chum proportions adjusted for transit time, 2006. ....	26

## LIST OF APPENDICES

<b>Appendix</b>	<b>Page</b>
A1. Mean fishing times for the Chinook Lower Yukon drift gillnet test fishery, 2006. ....	28
A2. Mean fishing times for the summer chum Lower Yukon drift gillnet test fishery, 2006. ....	29
A3. Catch distribution by species for the Lower Yukon drift gillnet test fishery summer season, 2006. ....	30

## ABSTRACT

The Lower Yukon River drift gillnet test fishery program was used to estimate the run timing of Chinook *Oncorhynchus tshawytscha* and summer chum *O. keta* salmon entering the drainage. The project was operated from June 4 through 15 July, 2006, on the Lower Yukon River near the village of Emmonak, Alaska. Estimates of run timing, relative species abundance based on catch per unit effort (CPUE), and 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 (188.95) for Chinook salmon with the midpoint occurring on 23 June. Chinook salmon ages-1.4 and -1.3 were the predominant age classes observed in the test fishery, comprising 59.2% and 36.9% of the ASL sample. The cumulative CPUE (3,363.76) was recorded for summer chum with the corresponding midpoint occurring on 22 June. Age-0.4 summer chum salmon predominated, making up 72.2% of the ASL sample. The Pilot Station sonar project recorded the passage of 166,951 Chinook salmon with the midpoint occurring on 27 June and 3,767,044 summer chum salmon with the midpoint observed 26 July. The drift gillnet test fishery provided supplemental information that was used to evaluate data provided by other assessment projects in the Lower Yukon. Moreover, comparing trends observed from Lower Yukon drift gillnet test fishery to the Lower Yukon set gillnet project and Pilot Station sonar passage estimates provided critical information to fishery management staff regarding run timing and relative abundance.

Key words: Yukon River, Chinook salmon, *Oncorhynchus tshawytscha*, chum salmon, *O. keta*, coho salmon, *O. kisutch*, gillnet test fishery, run assessment, catch per unit effort (CPUE).

## INTRODUCTION

The Lower Yukon drift gillnet test fish program is designed to estimate the entry pattern, run timing, and to a lesser extent relative abundance of Chinook *Oncorhynchus tshawytscha* and chum *O. keta* salmon returning to the Yukon River drainage. The test fishery data this project provides is used in conjunction with data provided by other projects including the Lower Yukon setnet test fishery and Pilot Station sonar provides daily run strength estimates based on drift gillnet catch per unit effort (CPUE) to ensure sufficient numbers of Chinook and summer chum salmon pass through the Lower Yukon River to provide for adequate escapement, treaty commitments, and subsistence uses.

## PROJECT HISTORY

The Chinook and summer chum salmon runs returning to the Yukon River have been depressed in the recent past. In 2000, Pilot Station sonar estimated approximately 44,000 Chinook and 456,000 summer chum salmon. Again in 2001, below average runs were recorded at Pilot Station sonar with approximately 99,000 Chinook and 441,000 summer chum salmon being estimated to have passed upriver (McIntosh *In prep*). In 2000 and 2001, there was no harvestable surplus available and no commercial fishing was conducted in 2001 on the Yukon (Hayes et al. 2008). The below average return seen in the 2000 season and a concomitant dramatic increase in the efficiency of some of the setnet sites, prompted the Alaska Department of Fish and Game (ADF&G) to reevaluate the use of 5.5" mesh summer chum set gillnet gear. It was uncertain whether the set gillnets were adequately reflecting the relative abundance of the runs. Additionally, the large catches experienced in the setnet test fishery would saturate the local subsistence users needs, making it increasingly 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 summer chum setnet 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) through the Federal Subsistence Fishery Resource Monitoring Program, the Lower Yukon drift gillnet test fishery project began operations in 2001. The project originally operated with a summer season component assessing summer chum and Chinook salmon, and a fall season component assessing fall chum and coho *O. kisutch* salmon transiting the Yukon delta. In the 2001 summer season, the 5.5” mesh set gillnets were replaced by 5.5” mesh drift gillnets to target summer chum and 8.25” mesh drift gillnets were employed to target Chinook salmon. The project was operated for both the summer and fall seasons through 2003 with continued support from OSM. In 2004, funding was not available from OSM for the summer season component and the project did not operate.

In 2006, the summer season Lower Yukon drift gillnet test fishing project completed its fifth year of operation with cooperative assistance and funding from the Yukon Delta Fisheries Development Association (YDFDA) and Yukon River Drainage Fisheries Association (YRDFA).

## **OBJECTIVES**

Project objectives in 2006 were to:

- 1.) Estimate daily relative abundance and run timing information regarding Chinook and summer chum salmon entering the Yukon River.
- 2.) Record and calculate CPUE index by species.
- 3.) Sample and record age, sex, and size data of Chinook and summer chum salmon.
- 4.) Mentor locally hired technical staff to develop skills for advancement within the program.

## **METHODS**

### **STUDY SITE**

As in the previous years of operations, the 2 separate test fishery locations that were used were Big Eddy and Middle Mouth. The drift stations for each test fishery were logistically located to coordinate operations with the established Lower Yukon setnet test fishery project. Additionally, the locations were chosen for their close proximity to ADF&G Lower Yukon Area field office in village of Emmonak, which is located 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 by skiff from the Middle Mouth camp. 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.

## **PROJECT DATE**

In 2006, drift gillnet fishing at the Big Eddy location started 4 June and continued through 15 July. Operations at the Middle Mouth location began 6 June and continued through 15 July. In response to ice break up timing and river conditions, the project operation start dates have varied over the years. From 2001 to 2006, with the exception of 2004, the project began in late May to early to June and extended to 15 July each season.

## **DRIFT TEST FISHING**

The test fishery employed 2 distinct types of gillnets. One set of gillnet gear was used to specifically target Chinook salmon while the other was used to target summer chum salmon. Gillnets designed to capture Chinook salmon were constructed of 8.25” (21.0 cm) mesh and were 35 meshes in depth. The summer chum salmon gillnets were composed of 5.5” (14 cm) mesh and measured 45 meshes in depth. The 2 different types of gillnets were of similar construction, 50 fathoms (91.4 m) in length with a cork marking the midpoint at 25 fathoms (45.7 m).

Both Big Eddy and Middle Mouth locations were fished using the 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 Chinook salmon gillnet was employed during the first drift conducted at Station 1 followed by the summer chum salmon gillnet. Then Station 2 was drifted using the Chinook gillnet followed by the summer chum salmon gillnet. The Big Eddy test fishery used both sets of gear from the onset of the project, 4 June. The Middle Mouth test fishery began operations on 6 June, employing both sets of gear.

During normal operations the objective was for the net to be retrieved after 20 minutes of fishing time or when an estimated 30 fish had been captured. In times of high salmon abundance, inclement weather, or excessive debris, the net would be shortened to the 25 fathom midpoint to avoid saturating the net and to make it more manageable. 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 age, sex, and length (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 device<sup>1</sup>. Depth readings were taken and recorded for the nearshore and offshore buoy while setting the net and additional readings were recorded for the nearshore and offshore buoys when the net was being retrieved.

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<sup>1</sup> Product names used in this report are included for scientific completeness but do not constitute a product endorsement.

## Drift Schedule

In 2006, during normal operations drifts were conducted at 08:00 hrs and 20:00 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:

$$\text{CPUE} = [((100 \text{ fathom} * 60 \text{ minutes}) * (n))/(L*T)] \quad (1)$$

where:

$n$  = number of fish caught,

$L$  = length of net in fathoms, and

$T$  = the time the net fished

The time the net fished was calculated using:

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

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:

$$\text{Daily CPUE} = ((\sum \text{CPUE})/n) \quad (3)$$

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 Chinook and summer chum salmon. A maximum of 30 Chinook and 30 summer chum 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 Chinook 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.

Weights (lbs) and girths (mm) were collected from Chinook salmon sampled. Weight was measured using a hanging warehouse scale suspended from a tripod. Girth was measured while the fish was hanging from the scale, with a “QM2000 Measure Mate – Girth and Linear Measure Tape,” perpendicular to the longitudinal axis of the fish at the anterior insertion of the dorsal fin and recorded to the nearest 5-mm increment (Bales 2008).

The sex of each salmon was verified by visual examination of the gonads through a small ventral incision.

## RESULTS

### CHINOOK SALMON

In 2006, a total of 264 Chinook salmon were caught in 8.25" drift gillnet gear at the Big Eddy and Middle Mouth test fishery locations, with a corresponding cumulative CPUE (188.95) (Tables 1 and 2). The combined midpoint of the Chinook salmon run at the Big Eddy and Middle Mouth locations occurred on 23 June (Table 1). Chinook salmon ages -1.4 and -1.3 were the predominant age classes observed in the test fishery, comprising 59.2% and 36.9% of the ASL sample, respectively. In 2006, of the total Chinook salmon sampled, 56.9% were females (Table 3).

The mean drift time at the Big Eddy location was 19.9 minutes per drift for a total drift time of 78.8 minutes per day using 8.25" mesh (Appendix A1). A total of 138 Chinook salmon were captured by the 8.25" gillnet at Big Eddy with a corresponding cumulative CPUE of 186.94. The midpoint of the Chinook salmon run at Big Eddy occurred 23 June (Table 1). Of the 93 Chinook salmon sampled for ASL data, approximately 54.8% were female. Chinook salmon ages -1.4 and -1.3 dominated the sample, comprising 55.9% and 38.7% of the sample, respectively. Chinook salmon ages -1.2 and -1.5 each comprised 2.2% of the sample. Chinook salmon age -2.4 made up 1.1% of the total sample. Mean length for male Chinook was 573 mm for age -1.2 ( $n=2$ ), 758 mm for age -1.3 ( $n=25$ ), and 842 mm for age -1.4 ( $n=15$ ). Female Chinook salmon had mean lengths of 783 mm for age -1.3 ( $n=11$ ), 846 mm for age -1.4 ( $n=37$ ), 893 mm for age -1.5 ( $n=2$ ), and 805 mm for age -2.4 ( $n=1$ ) respectively (Table 3).

The mean drift time at Middle Mouth was 19.0 minutes per drift for a total of 74.7 minutes per day using 8.25" mesh (Appendix A1). A total of 126 Chinook salmon were captured at the Middle Mouth location with a corresponding cumulative CPUE of 190.95. The midpoint of the Chinook salmon run at the Middle Mouth test fishery location was 23 June (Table 1). Of the 37 Chinook salmon sampled for ASL data, approximately 62.2% were female. Ages -1.4 and -1.3 dominated the Chinook salmon sample, comprising 67.6% and 32.4% of the sample, respectively. Mean lengths for male Chinook were 772 mm for age -1.3 ( $n=10$ ) and 799 mm for age -1.4 ( $n=4$ ). Female Chinook salmon mean lengths were 795 mm for age -1.3 ( $n=2$ ) and 855 mm for age -1.4 ( $n=21$ ) respectively (Table 3).

The Lower Yukon set gillnet test fishery recorded a cumulative catch of 2,092 Chinook salmon with a corresponding cumulative CPUE of 21.81. The midpoint observed in the set gillnet test fishery occurred on 24 June (Table 4).

An estimated 166,951 Chinook salmon were estimated at Pilot Station sonar project in 2006 (Table 5). This estimate is higher than both the 2004 and 2005 estimates of 152,465 and 157,420 Chinook salmon, respectively (McIntosh *In prep*). The midpoint observed by the Pilot Station sonar project occurred on 27 June (Table 5).

### SUMMER CHUM SALMON

A combined total of 2,731 summer chum salmon were caught in 5.5" drift gillnet gear at the Big Eddy and Middle Mouth test fishery locations, with a corresponding cumulative CPUE of 3,363.76. The midpoint occurred on 22 June (Tables 6 and 7). Age -0.4 summer chum salmon

predominated, making up 72.2% of the ASL sample. In 2006, of the total summer chum salmon sampled, 59.0% were females (Table 8).

The mean drift time in the Big Eddy location was 19.2 minutes per drift for a total of 75.6 minutes per day using 5.5" mesh gillnets for summer chum salmon (Appendix A2). A total of 1,797 summer chum salmon were captured at Big Eddy with a corresponding cumulative CPUE of 4,147.56. The midpoint for the of summer chum salmon run at the Big Eddy drift location was 20 June (Table 6). Females comprised 56.4% of the 635 summer chum salmon sampled for ASL data. Age-0.4 summer chum salmon predominated, making up 74.5% of the total sample. Age-0.3 summer chum salmon followed comprising 25.4%. Summer chum salmon ages-0.5 comprised just 0.2% of the total sample. Mean lengths for male summer chum salmon captured at Big Eddy were 567 mm for age-0.3 ( $n=82$ ), and 590 mm for age-0.4 ( $n=195$ ). Mean lengths for female summer chum salmon were 551 mm for age-0.3 ( $n=79$ ), 568 mm for age-0.4 ( $n=278$ ), and 610 mm for age-0.5 ( $n=1$ ) (Table 8).

The mean drift time at Middle Mouth was 18.5 minutes per drift for a total of 72.5 minutes per day for summer chum salmon using 5.5" mesh gillnet (Appendix A2). There were 934 total summer chum captured with a corresponding cumulative CPUE of 2,560.08. The midpoint of the summer chum salmon run at the Middle Mouth location was 24 June (Table 6). Females comprised 66.2% of the 225 summer chum salmon sampled for ASL data. Age-0.4 and -0.3 summer chum salmon comprised 65.8% and 32.9% of the total sample, respectively. Mean lengths for male summer chum salmon were 558 mm for age-0.2 ( $n=2$ ), 578 mm for age-0.3 ( $n=26$ ), and 579 mm for age-0.4 ( $n=48$ ). Female summer chum salmon had mean lengths of 535 mm for age-0.2 ( $n=1$ ), 558 mm for age-0.3 ( $n=48$ ), and 574 mm for age-0.4 ( $n=100$ ) (Table 8).

The Pilot Station sonar estimates for summer chum salmon passage for 2006 was 3,767,044. The midpoint observed by the Pilot Station sonar project occurred on 26 June (Table 5). This is the largest estimate for the years 1995–2006 (McIntosh *In prep*).

## DISCUSSION

### CHINOOK SALMON

The 2006 cumulative CPUE (188.95) was the lowest in the history of the project and was less than half the historical average CPUE (433.89) (Table 2 and Figure 3). Based on the cumulative CPUE, the midpoint of the Chinook salmon run occurred on 23 June at both the Big Eddy and Middle Mouth locations. Consequently, the combined midpoint of Chinook salmon run in the Lower Yukon River was determined to be 23 June (Table 1). Pilot Station sonar recorded the midpoint on 27 June (Table 5). The Lower Yukon drift project's midpoint should be 2 to 3 days earlier than the Pilot Station midpoint due to transit time. Accounting for travel time, the Lower Yukon drift test fishery reached the midpoint approximately 1 day earlier than would be expected based on Pilot Station sonar. The combined set gillnet test fisheries in the Lower Yukon River reached its midpoint on 24 June for Chinook salmon, corresponding with the midpoint at Pilot Station sonar when accounting for travel time (Table 4). The Lower Yukon drift gillnet test fisheries CPUE data followed trends in passage estimates recorded by Pilot Station sonar set gillnet test fisheries CPUE data for Chinook salmon (Figures 4–7). Differences found between the drift gillnet data from the set gillnet data may be explained by gear selectivity and changes in river morphology.

The Lower Yukon drift gillnet test fishery has been an effective tool for assessing run timing and to a lesser extent relative abundance of Chinook salmon. The Pilot Station sonar passage estimate and Lower Yukon set gillnet test fishery provide corroborative information regarding run strength and timing. These projects are believed to be better indexes of abundance. The set gillnet test fishery is operated 24 hours a day while the Pilot Station sonar passage estimate produces a daily passage estimate using information collected at frequent intervals over a 24-hour period, whereas the test fishery collects samples from a much shorter timeframe each day and may be influenced by clumped distribution and fishing conditions. However, the drift project could provide useful information in years when the efficiency of the set nets is compromised due to increased water levels and debris loads or when sonar operations are hindered. With increased experience and consistent use of a fixed schedule, the drift gillnet test fishing may result in data that are indicative of the relative Chinook salmon abundance. Currently only 5 years of Lower Yukon Chinook drift data are available to make comparisons (Table 2 and Figure 3).

In recent years the size of Chinook returning to the Yukon River has become an issue of increasing concern. In 2006, the department responded by implementing a weight and girth sampling protocol at select assessment projects to provide additional size information to address this issue. Weight and girth information collected from Chinook sampled from the Lower Yukon drift gillnet test fishery is described in detail in Bales (2008).

ADF&G worked in cooperation with the U. S. Fish and Wildlife Service (USFWS) to distribute 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 339 Chinook salmon captured in all mesh sizes combined, 120 were released unharmed, 164 were given away for subsistence uses, and 55 were sold (Appendix A3). These numbers include Chinook salmon caught in both summer chum and Chinook salmon gillnet gear and accounts for a larger total number of fish caught than recorded in the Chinook salmon drift gillnet test fisheries alone.

## **SUMMER CHUM SALMON**

The 2006 cumulative CPUE (3,363.76) was well above historical average for the project (2,199.77) (Table 7 and Figure 8). The data collected from the summer chum salmon captured by the 5.5" drift gillnets in the Lower Yukon test fisheries can only be compared to the 2001–2003, 2005 drift data and escapement estimates obtained from the Pilot Station sonar project as a set gillnet test fishery targeting summer chum salmon was not operating during these years (Table 7; Figures 8–11). The midpoint of the summer chum run in the Middle Mouth drift gillnet test fishery occurred on 24 June, 4 days later than the midpoint (20 June) recorded at Big Eddy. When the catch data from the Middle Mouth and Big Eddy drift gillnet test fishing locations were combined, the midpoint of the summer chum salmon run in the Lower Yukon River was determined to be 22 June (Table 6). Pilot Station recorded the midpoint on 26 June (Table 5). The midpoint for the Lower Yukon River test fishery occurred 1 day earlier than would be anticipated from the Pilot Station estimates. The Lower Yukon drift gillnet test fisheries catch rates followed trends in passage estimates recorded for summer chum salmon at Pilot Station. (Figures 9–11).

Of the 3,573 summer chum salmon captured in all mesh sizes combined, 1,121 were released unharmed, 2,122 were given away for subsistence uses with the assistance of the USFWS, and 330 were sold (Appendix A3). These numbers reflect summer chum salmon caught in both summer chum and Chinook salmon gillnet gear (all related mesh sizes), therefore the 3,573 fish

released, sold, or donated to residents is larger than the number of fish caught in the summer chum salmon drift gillnet test fisheries alone. The percentage of released summer chum salmon is much lower than that of Chinook salmon because chums tend to run in larger pulses than Chinook salmon (Appendix A3). During a large pulse, over 100 fish may be caught in a single drift. When these large pulses occur, the net is retrieved as quickly as possible to reduce harvest, and few fish end up being released.

## **RECOMMENDATIONS**

The Lower Yukon drift gillnet test fishing project provided valuable run timing and ASL information for Chinook and summer chum salmon in 2006. In 2007, the project will be temporarily discontinued so that resources may be directed towards a 3-year comparative mesh size study, designed to investigate size distributions and species composition of fish captured in 3 different mesh sizes.

The department recommends the drift project be reinstated in 2010, following the completion of this study.

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## **TABLES AND FIGURES**

**Table 1.**—Catch and CPUE data for the Lower Yukon River Chinook salmon drift gillnet test fisheries, 2006.

Date	Big Eddy			Middle Mouth			Combined		
	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE
4-Jun	0	0.00	0.00				0	0.00	0.00
5-Jun	0	0.00	0.00				0	0.00	0.00
6-Jun	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
7-Jun	1	1.88	1.88	0	0.00	0.00	1	0.94	0.94
8-Jun	0	0.00	1.88	1	1.50	1.50	1	0.75	1.69
9-Jun	0	0.00	1.88	0	0.00	1.50	0	0.00	1.69
10-Jun	0	0.00	1.88	0	0.00	1.50	0	0.00	1.69
11-Jun	0	0.00	1.88	0	0.00	1.50	0	0.00	1.69
12-Jun	0	0.00	1.88	0	0.00	1.50	0	0.00	1.69
13-Jun	7	9.39	11.27	1	1.62	3.12	8	5.51	7.20
14-Jun	4	5.91	17.18	2	3.64	6.76	6	4.78	11.97
15-Jun	7	9.39	26.57	14	24.47	31.23	21	16.93	28.90
16-Jun	21	21.09	47.66	8	12.89	44.12	29	16.99	45.89
17-Jun	10	13.00	60.66	11	15.27	59.39	21	14.14	60.03
18-Jun	1	1.50	62.16	2	3.16	62.55	3	2.33	62.36
19-Jun	9	12.27	74.43	0	0.00	62.55	9	6.14	68.49
20-Jun	10	14.36	88.79	1	1.54	64.09	11	7.95	76.44
21-Jun	1	1.54	90.33	1	1.46	65.55	2	1.50	77.94
22-Jun	1	1.54	91.87	3	4.50	70.05	4	3.02	80.96
23-Jun	13	18.85	110.72	18	25.82	95.87	31	22.34	103.30
24-Jun	13	17.29	128.01	13	19.34	115.21	26	18.32	121.61
25-Jun	15	22.25	150.26	16	20.99	136.20	31	21.62	143.23
26-Jun	2	3.08	153.34	7	10.24	146.44	9	6.66	149.89
27-Jun	8	11.12	164.46	2	3.16	149.60	10	7.14	157.03
28-Jun	4	5.86	170.32	2	2.96	152.56	6	4.41	161.44
29-Jun	5	7.50	177.82	5	7.58	160.14	10	7.54	168.98
30-Jun	0	0.00	177.82	2	3.43	163.57	2	1.72	170.70
1-Jul	1	1.54	179.36	0	0.00	163.57	1	0.77	171.47
2-Jul	2	3.00	182.36	3	4.62	168.19	5	3.81	175.28
3-Jul	1	1.54	183.90	9	14.51	182.70	10	8.03	183.30
4-Jul	0	0.00	183.90	0	0.00	182.70	0	0.00	183.30
5-Jul	0	0.00	183.90	1	1.62	184.32	1	0.81	184.11
6-Jul	0	0.00	183.90	1	1.71	186.03	1	0.86	184.97
7-Jul	0	0.00	183.90	0	0.00	186.03	0	0.00	184.97
8-Jul	0	0.00	183.90	1	1.71	187.74	1	0.86	185.82
9-Jul	0	0.00	183.90	2	3.21	190.95	2	1.61	187.43
10-Jul	1	1.50	185.40	0	0.00	190.95	1	0.75	188.18
11-Jul	1	1.54	186.94	0	0.00	190.95	1	0.77	188.95
12-Jul	0	0.00	186.94	0	0.00	190.95	0	0.00	188.95
13-Jul	0	0.00	186.94	0	0.00	190.95	0	0.00	188.95
14-Jul	0	0.00	186.94	0	0.00	190.95	0	0.00	188.95
15-Jul	0	0.00	186.94	0	0.00	190.95	0	0.00	188.95
<b>Total</b>	<b>138</b>	<b>186.94</b>		<b>126</b>	<b>190.95</b>		<b>264</b>	<b>188.95</b>	

*Note:* The Middle Mouth test fishery began operations on June 6. 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 2.**—Catch and CPUE data for the 2001–2003 and 2005 Lower Yukon River Chinook salmon drift gillnet test fisheries, Big Eddy and Middle Mouth combined.

Date	2001			2002			2003			2005			2006			2001-2003, 2005 Average		
	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE
28-May							2	5.72	5.72	0	0.00	0.00				1	2.86	2.86
29-May				0	0.00	0.00	2	2.86	8.58	0	0.00	0.00				1	0.95	2.86
30-May				0	0.00	0.00	0	0.00	8.58	0	0.00	0.00				0	0.00	2.86
31-May				0	0.00	0.00	6	7.78	16.36	0	0.00	0.00				2	2.59	5.45
1-Jun				2	1.58	1.58	4	2.61	18.96	0	0.00	0.00				2	1.40	6.85
2-Jun				0	0.00	1.58	6	4.42	23.38	0	0.00	0.00				2	1.47	8.32
3-Jun				5	4.06	5.64	0	0.00	23.38	0	0.00	0.00				2	1.35	9.67
4-Jun				0	0.00	5.64	3	2.27	25.65	0	0.00	0.00	0	0.00	0.00	1	0.76	10.43
5-Jun				10	7.38	13.01	4	2.91	28.56	0	0.00	0.00	0	0.00	0.00	5	3.43	13.86
6-Jun				6	4.54	17.55	14	10.38	38.94	0	0.00	0.00	0	0.00	0.00	7	4.97	18.83
7-Jun				7	5.16	22.71	4	3.08	42.01	0	0.00	0.00	1	0.94	0.94	4	2.74	21.57
8-Jun	2	1.58	1.58	1	0.77	23.48	5	3.72	45.73	0	0.00	0.00	1	0.75	1.69	2	1.52	17.70
9-Jun	6	4.66	6.24	4	3.10	26.58	2	1.54	47.27	2	1.47	1.47	0	0.00	1.69	4	2.69	20.39
10-Jun	1	0.79	7.03	7	3.85	30.43	3	2.27	49.54	3	3.00	4.47	0	0.00	1.69	4	2.48	22.86
11-Jun	5	3.86	10.89	6	3.90	34.33	58	36.48	86.02	10	8.51	12.97	0	0.00	1.69	20	13.19	36.05
12-Jun	21	15.22	26.10	29	20.92	55.25	53	41.66	127.68	24	18.66	31.63	0	0.00	1.69	32	24.11	60.16
13-Jun	49	38.30	64.40	37	43.19	98.44	27	14.71	142.39	27	21.65	53.28	8	5.51	7.20	35	29.46	89.62
14-Jun	49	107.90	172.29	15	11.87	110.30	33	23.69	166.08	3	2.39	55.67	6	4.78	11.97	25	36.46	126.08
15-Jun	22	43.54	215.83	18	12.85	123.15	34	28.68	194.76	0	0.00	55.67	21	16.93	28.90	19	21.27	147.35
16-Jun	39	29.38	245.20	17	19.97	143.12	3	4.50	199.26	6	4.25	59.91	29	16.99	45.89	16	14.52	161.87
17-Jun	1	0.88	246.08	4	3.31	146.42	28	23.41	222.67	23	15.58	75.49	21	14.14	60.03	14	10.79	172.66
18-Jun	0	0.00	246.08	13	17.54	163.96	5	3.76	226.43	14	9.72	85.21	3	2.33	62.36	8	7.76	180.42
19-Jun	7	5.00	251.08	15	11.75	175.71	13	9.82	236.25	78	106.23	191.43	9	6.14	68.49	28	33.20	213.62
20-Jun	4	3.29	254.37	7	6.42	182.13	29	20.86	257.10	13	19.05	210.48	11	7.95	76.44	13	12.40	226.02
21-Jun	48	50.21	304.58	17	12.03	194.15	7	10.72	267.82	7	5.30	215.78	2	1.50	77.94	20	19.56	245.58
22-Jun	31	25.43	330.01	25	19.34	213.49	37	25.36	293.18	14	10.40	226.18	4	3.02	80.96	27	20.13	265.71
23-Jun	46	65.19	395.20	36	29.36	242.85	13	10.05	303.22	48	32.38	258.56	31	22.34	103.30	36	34.24	299.95
24-Jun	23	72.78	467.98	12	25.20	268.05	42	29.58	332.80	9	13.02	271.57	26	18.32	121.61	22	35.14	335.10
25-Jun	41	36.42	504.40	5	3.87	271.92	5	3.97	336.77	20	13.14	284.71	31	21.62	143.23	18	14.35	349.45
26-Jun	38	27.55	531.95	8	5.66	277.57	11	15.32	352.09	28	19.49	304.20	9	6.66	149.89	21	17.00	366.45
27-Jun	38	27.14	559.09	3	4.43	282.00	5	7.15	359.24	24	37.49	341.69	10	7.14	157.03	18	19.05	385.50
28-Jun	27	21.57	580.66	1	0.73	282.73	6	4.04	363.28	5	3.72	345.41	6	4.41	161.44	10	7.51	393.02
29-Jun	10	13.64	594.30	28	19.74	302.46	12	14.59	377.87	9	4.50	349.91	10	7.54	168.98	15	13.12	406.13
30-Jun	4	3.32	597.61	5	3.95	306.41	11	11.07	388.93	1	1.58	351.49	2	1.72	170.70	5	4.98	411.11
1-Jul	4	2.29	599.90	4	3.24	309.64	3	2.31	391.24	16	9.66	361.14	1	0.77	171.47	7	4.37	415.48
2-Jul	1	0.65	600.55	5	3.55	313.19	3	5.30	396.54	7	5.66	366.80	5	3.81	175.28	4	3.79	419.27
3-Jul	1	0.79	601.34	3	2.37	315.56	0	0.00	396.54	3	2.30	369.09	10	8.03	183.30	2	1.36	420.63
4-Jul	3	2.14	603.48	1	1.50	317.06	3	3.20	399.74	4	3.06	372.15	0	0.00	183.30	3	2.48	423.11
5-Jul	10	7.43	610.91	0	0.00	317.06	5	3.75	403.48	3	4.54	376.69	1	0.81	184.11	5	3.93	427.03
6-Jul	4	3.12	614.03	1	0.81	317.87	2	1.58	405.06	1	0.79	377.48	1	0.86	184.97	2	1.58	428.61
7-Jul	0	0.00	614.03	0	0.00	317.87	0	0.00	405.06	0	0.00	377.48	0	0.00	184.97	0	0.00	428.61
8-Jul	3	2.33	616.36	0	0.00	317.87	0	0.00	405.06	7	5.40	382.88	1	0.86	185.82	3	1.93	430.54
9-Jul	5	3.66	620.02	1	0.75	318.62	1	0.72	405.78	4	3.00	385.88	2	1.61	187.43	3	2.03	432.57
10-Jul	0	0.00	620.02	0	0.00	318.62	0	0.00	405.78	1	0.73	386.61	1	0.75	188.18	0	0.18	432.76
11-Jul	1	0.79	620.81	1	0.81	319.43	2	1.47	407.24	1	0.73	387.34	1	0.77	188.95	1	0.95	433.70
12-Jul	0	0.00	620.81	0	0.00	319.43	0	0.00	407.24	0	0.00	387.34	0	0.00	188.95	0	0.00	433.70
13-Jul	0	0.00	620.81	0	0.00	319.43	0	0.00	407.24	0	0.00	387.34	0	0.00	188.95	0	0.00	433.70
14-Jul	0	0.00	620.81	0	0.00	319.43	0	0.00	407.24	0	0.00	387.34	0	0.00	188.95	0	0.00	433.70
15-Jul	0	0.00	620.81	0	0.00	319.43	1	0.73	407.97	0	0.00	387.34	0	0.00	188.95	0	0.18	433.89
Total	544		620.81	359		319.43	507		407.97	415		387.34	264		188.95	463		433.89

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. The test fishery began operations on June 8 in 2001 and May 29 in 2002. The test fishery did not operate in 2004.

**Table 3.**—Season summary of Chinook salmon age, sex, and length data for the Lower Yukon drift gillnet test fishery, 2006.

		<b>Brood Year and Age Class</b>												
		<b>2002</b>		<b>2001</b>		<b>2000</b>		<b>1999</b>		<b>1999</b>		<b>Total</b>		
		<b>Age 1.2</b>		<b>Age 1.3</b>		<b>Age 1.4</b>		<b>Age 1.5</b>		<b>Age 2.4</b>		<b>Total</b>		
		<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	
<b>Big Eddy</b>														
Sample Size	93	Males	2	2.2	25	26.9	15	16.1	0	0.0	0	0.0	42	45.2
		Females	0	0.0	11	11.8	37	39.8	2	2.2	1	1.1	51	54.8
		Total	2	2.2	36	38.7	52	55.9	2	2.2	1	1.1	93	100.0
Mean Length		Males	573		758		842		-		-			
Std. Error			3		11		19		-		-			
Mean Length		Females	-		783		846		893		805			
Std. Error			-		28		8		53		-			
<b>Middle Mouth</b>														
Sample Size	37	Males	0	0.0	10	27.0	4	10.8	0	0.0	0	0.0	14	37.8
		Females	0	0.0	2	5.4	21	56.8	0	0.0	0	0.0	23	62.2
		Total	0	0.0	12	32.4	25	67.6	0	0.0	0	0.0	37	100.0
Mean Length		Males	-		772		799		-		-			
Std. Error			-		19		14		-		-			
Mean Length		Females	-		795		855		-		-			
Std. Error			-		0		10		-		-			
<b>Total</b>														
Sample Size	130	Males	2	1.5	35	26.9	19	14.6	0	0.0	0	0.0	56	43.1
		Females	0	0.0	13	10.0	58	44.6	2	1.5	1	0.8	74	56.9
		Total	2	1.5	48	36.9	77	59.2	2	1.5	1	0.8	130	100.0

**Table 4.**—Catch and CPUE data for the Lower Yukon River Chinook salmon 8.5" set gillnet test fisheries, 2006.

<b>Date</b>	<b>Daily Catch</b>	<b>Daily CPUE</b>	<b>Cum. CPUE</b>
4-Jun	0	0.00	0.00
5-Jun	0	0.00	0.00
6-Jun	1	0.02	0.02
7-Jun	4	0.04	0.06
8-Jun	3	0.03	0.09
9-Jun	5	0.05	0.14
10-Jun	8	0.08	0.22
11-Jun	8	0.08	0.30
12-Jun	8	0.08	0.38
13-Jun	23	0.24	0.62
14-Jun	38	0.40	1.02
15-Jun	86	0.90	1.92
16-Jun	118	1.23	3.15
17-Jun	102	1.06	4.21
18-Jun	56	0.58	4.79
19-Jun	30	0.31	5.10
20-Jun	43	0.45	5.55
21-Jun	70	0.73	6.28
22-Jun	75	0.78	7.06
23-Jun	194	2.02	9.08
24-Jun	205	2.14	11.22
25-Jun	210	2.19	13.41
26-Jun	129	1.34	14.75
27-Jun	69	0.72	15.47
28-Jun	116	1.21	16.68
29-Jun	85	0.89	17.57
30-Jun	81	0.84	18.41
1-Jul	65	0.68	19.09
2-Jul	60	0.63	19.72
3-Jul	46	0.48	20.20
4-Jul	28	0.29	20.49
5-Jul	20	0.21	20.70
6-Jul	14	0.15	20.85
7-Jul	19	0.20	21.05
8-Jul	15	0.16	21.21
9-Jul	13	0.14	21.35
10-Jul	6	0.06	21.41
11-Jul	15	0.16	21.57
12-Jul	5	0.05	21.62
13-Jul	3	0.03	21.65
14-Jul	8	0.08	21.73
15-Jul	8	0.08	21.81
<b>Total</b>	<b>2,092</b>		<b>21.81</b>

*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 5.**—Pilot Station summer season sonar passage estimates, 2006.

Date	Chinook		Summer Chum	
	Daily	Cum.	Daily	Cum.
29-May				
30-May				
31-May				
1-Jun				
2-Jun				
3-Jun				
4-Jun				
5-Jun	0	0	0	0
6-Jun	0	0	0	0
7-Jun	0	0	0	0
8-Jun	292	292	2,257	2,257
9-Jun	87	379	2,308	4,565
10-Jun	628	1,007	6,973	11,538
11-Jun	195	1,202	11,576	23,114
12-Jun	449	1,651	16,902	40,016
13-Jun	323	1,974	16,250	56,266
14-Jun	579	2,553	14,650	70,916
15-Jun	769	3,322	19,420	90,336
16-Jun	437	3,759	64,670	155,006
17-Jun	2,940	6,699	133,693	288,699
18-Jun	10,782	17,481	264,010	552,709
19-Jun	4,047	21,528	259,207	811,916
20-Jun	6,729	28,257	228,794	1,040,710
21-Jun	4,293	32,550	149,074	1,189,784
22-Jun	2,732	35,282	142,627	1,332,411
23-Jun	6,755	42,037	183,335	1,515,746
24-Jun	4,751	46,788	128,994	1,644,740
25-Jun	9,677	56,465	154,111	1,798,851
26-Jun	26,010	82,475	308,282	2,107,133
27-Jun	8,823	91,298	197,128	2,304,261
28-Jun	8,896	100,194	188,153	2,492,414
29-Jun	12,766	112,960	129,933	2,622,347
30-Jun	15,069	128,029	147,620	2,769,967
1-Jul	6,934	134,963	146,898	2,916,865
2-Jul	5,790	140,753	117,784	3,034,649
3-Jul	2,684	143,437	100,448	3,135,097
4-Jul	5,185	148,622	106,387	3,241,484
5-Jul	3,891	152,513	84,637	3,326,121
6-Jul	842	153,355	58,931	3,385,052
7-Jul	706	154,061	66,924	3,451,976
8-Jul	1,908	155,969	41,816	3,493,792
9-Jul	1,113	157,082	25,391	3,519,183
10-Jul	2,319	159,401	37,050	3,556,233
11-Jul	932	160,333	36,411	3,592,644
12-Jul	1,836	162,169	26,685	3,619,329
13-Jul	1,051	163,220	17,247	3,636,576
14-Jul	1,756	164,976	20,068	3,656,644
15-Jul	1,075	166,051	12,495	3,669,139
16-Jul	388	166,439	33,970	3,703,109
17-Jul	285	166,724	28,015	3,731,124
18-Jul	227	166,951	35,920	3,767,044
Total	166,951		3,767,044	

*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 the Lower Yukon River summer chum salmon drift gillnet test fisheries, 2006.

Date	Big Eddy			Middle Mouth			Combined		
	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE
4-Jun	0	0.00	0.00				0	0.00	0.00
5-Jun	0	0.00	0.00				0	0.00	0.00
6-Jun	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
7-Jun	8	12.44	12.44	2	2.86	2.86	10	15.30	15.30
8-Jun	2	3.00	15.44	1	1.58	4.44	3	4.58	19.88
9-Jun	3	4.62	20.06	0	0.00	4.44	3	2.31	22.19
10-Jun	6	8.37	28.43	0	0.00	4.44	6	4.19	26.38
11-Jun	3	4.82	33.25	0	0.00	4.44	3	2.41	28.79
12-Jun	29	40.52	73.77	16	25.00	29.44	45	32.76	61.55
13-Jun	180	240.74	314.51	2	3.16	32.60	182	121.95	183.50
14-Jun	146	541.67	856.18	1	1.62	34.22	147	271.65	455.14
15-Jun	85	374.61	1,230.79	71	238.83	273.05	156	306.72	761.86
16-Jun	42	183.00	1,413.79	88	372.62	645.67	130	277.81	1,039.67
17-Jun	48	196.74	1,610.53	13	32.57	678.24	61	114.66	1,154.33
18-Jun	73	181.72	1,792.25	10	15.27	693.51	83	98.50	1,252.82
19-Jun	84	257.23	2,049.48	1	1.50	695.01	85	129.37	1,382.19
20-Jun	66	230.49	2,279.97	0	0.00	695.01	66	115.25	1,497.43
21-Jun	108	236.00	2,515.97	2	3.12	698.13	110	119.56	1,616.99
22-Jun	101	160.73	2,676.70	2	3.04	701.17	103	81.89	1,698.88
23-Jun	110	291.89	2,968.59	84	414.42	1,115.59	194	353.16	2,052.03
24-Jun	31	67.17	3,035.76	201	462.16	1,577.75	232	264.67	2,316.70
25-Jun	171	267.75	3,303.51	80	385.24	1,962.99	251	326.50	2,643.19
26-Jun	42	49.25	3,352.76	36	54.18	2,017.17	78	51.72	2,694.91
27-Jun	90	218.56	3,571.32	8	21.82	2,038.99	98	120.19	2,815.10
28-Jun	27	55.06	3,626.38	13	21.33	2,060.32	40	38.20	2,853.29
29-Jun	140	227.55	3,853.93	70	113.00	2,173.32	210	170.28	3,023.57
30-Jun	33	51.40	3,905.33	54	71.78	2,245.10	87	61.59	3,085.16
1-Jul	33	46.40	3,951.73	19	72.38	2,317.48	52	59.39	3,144.55
2-Jul	38	63.21	4,014.94	35	44.04	2,361.52	73	53.63	3,198.17
3-Jul	15	22.74	4,037.68	31	50.98	2,412.50	46	36.86	3,235.03
4-Jul	18	24.00	4,061.68	23	38.11	2,450.61	41	31.06	3,266.09
5-Jul	2	3.16	4,064.84	7	10.76	2,461.37	9	6.96	3,273.05
6-Jul	6	8.57	4,073.41	6	10.10	2,471.47	12	9.34	3,282.38
7-Jul	1	1.50	4,074.91	16	22.78	2,494.25	17	12.14	3,294.52
8-Jul	12	15.33	4,090.24	6	10.05	2,504.30	18	12.69	3,307.21
9-Jul	25	31.72	4,121.96	5	7.79	2,512.09	30	19.76	3,326.97
10-Jul	6	8.00	4,129.96	4	6.41	2,518.50	10	7.21	3,334.17
11-Jul	1	1.58	4,131.54	3	4.86	2,523.36	4	3.22	3,337.39
12-Jul	0	0.00	4,131.54	12	17.17	2,540.53	12	8.59	3,345.98
13-Jul	5	7.32	4,138.86	3	4.83	2,545.36	8	6.08	3,352.05
14-Jul	0	0.00	4,138.86	7	11.29	2,556.65	7	5.65	3,357.70
15-Jul	7	8.70	4,147.56	2	3.43	2,560.08	9	6.07	3,363.76
<b>Total</b>	<b>1,797</b>	<b>4,147.56</b>		<b>934</b>	<b>2,560.08</b>		<b>2,731</b>	<b>3,363.76</b>	

*Note:* The Middle Mouth test fishery began operations on June 9. 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.

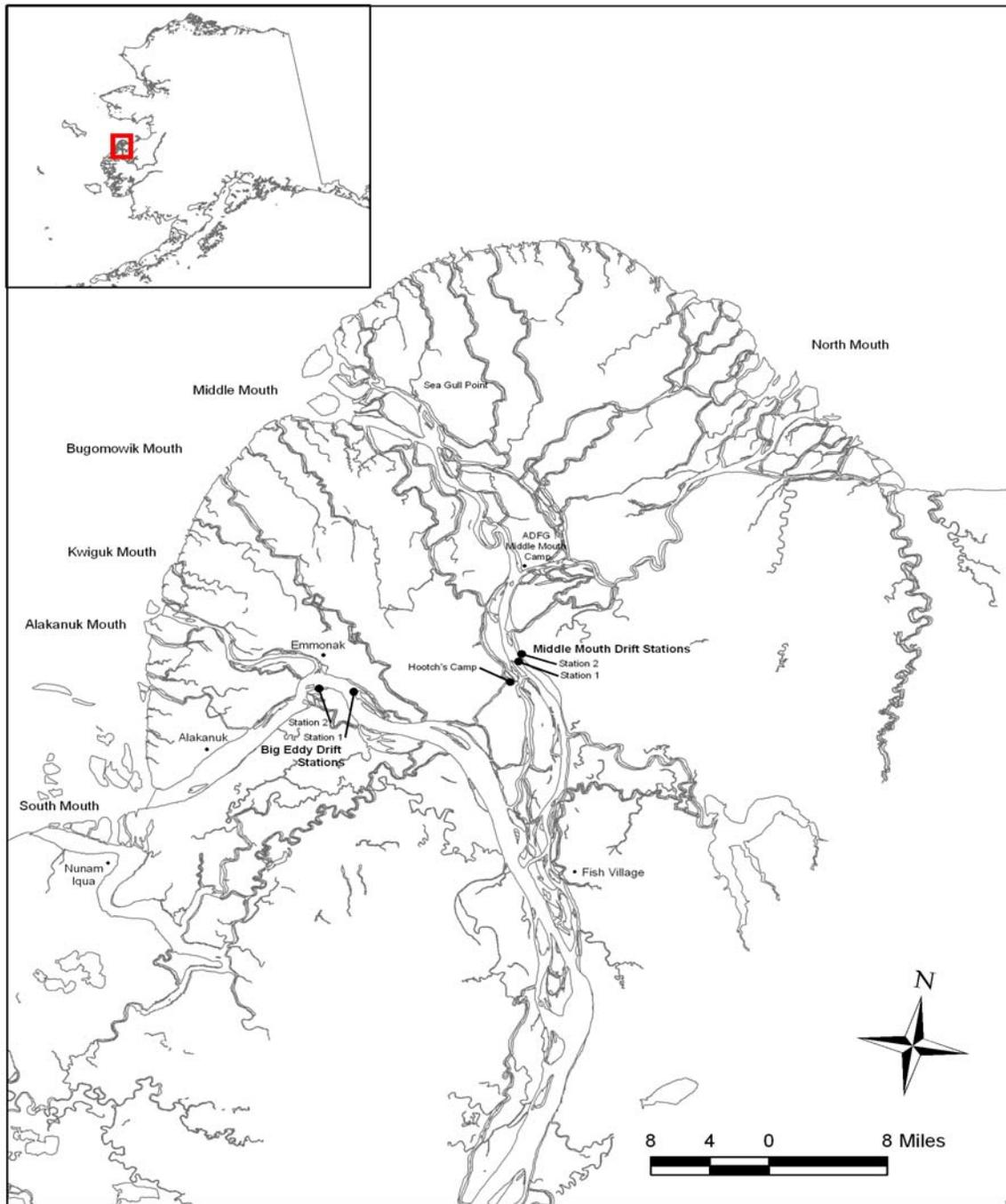
**Table 7.**—Catch and CPUE data for the 2001–2003 and 2005 Lower Yukon summer chum salmon drift gillnet test fisheries, Big Eddy and Middle Mouth combined.

Date	2001			2002			2003			2005			2006			2001-2003, 2005 Average		
	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE	Daily Catch	Daily CPUE	Cum. CPUE
28-May							0	0.00	0.00	0	0.00	0.00				0	0.00	0.00
29-May				0	0.00	0.00	0	0.00	0.00	0	0.00	0.00				0	0.00	0.00
30-May				7	7.57	7.57	2	2.93	2.93	0	0.00	0.00				3	3.50	3.50
31-May				3	2.26	9.83	0	0.00	2.93	0	0.00	0.00				1	0.75	4.25
1-Jun				2	1.49	11.31	0	0.00	2.93	0	0.00	0.00				1	0.50	4.75
2-Jun				1	0.75	12.06	3	2.48	5.41	0	0.00	0.00				1	1.08	5.82
3-Jun				7	3.89	15.95	3	2.35	7.76	0	0.00	0.00				3	2.08	7.90
4-Jun				0	0.00	15.95	1	0.81	8.57	0	0.00	0.00	0	0.00	0.00	0	0.27	8.17
5-Jun				7	5.36	21.31	6	4.27	12.84	0	0.00	0.00	0	0.00	0.00	4	3.21	11.38
6-Jun				17	13.00	34.31	10	7.40	20.23	2	5.85	5.85	0	0.00	0.00	10	8.75	20.13
7-Jun				5	3.76	38.07	2	1.56	21.79	0	0.00	5.85	10	15.30	15.30	2	1.77	21.90
8-Jun	0	0.00	0.00	2	1.50	39.57	5	3.92	25.71	2	6.00	11.85	3	4.58	19.88	2	2.86	19.28
9-Jun	1	0.84	0.84	4	3.04	42.61	0	0.00	25.71	5	3.91	15.76	3	2.31	22.19	3	1.95	21.23
10-Jun	0	0.00	0.84	1	0.28	42.88	2	1.47	27.18	0	0.00	15.76	6	4.19	26.38	1	0.44	21.66
11-Jun	0	0.00	0.84	47	27.11	69.99	18	12.59	39.76	110	56.62	72.38	3	2.41	28.79	44	24.08	45.74
12-Jun	3	2.31	3.15	363	345.04	415.03	226	230.11	269.87	110	114.36	186.74	45	32.76	61.55	176	172.95	218.69
13-Jun	42	34.81	37.95	26	115.38	530.40	77	111.27	381.13	64	80.39	267.12	182	121.95	183.50	52	85.46	304.15
14-Jun	163	200.72	238.67	25	23.54	553.94	75	50.31	431.44	11	8.90	276.02	147	271.65	455.14	69	70.86	375.01
15-Jun	41	86.87	325.54	28	23.76	577.69	57	44.80	476.24	9	6.73	282.75	156	306.72	761.86	34	40.54	415.55
16-Jun	43	40.92	366.46	73	58.52	636.21	42	61.54	537.78	16	11.79	294.53	130	277.81	1,039.67	44	43.19	458.74
17-Jun	41	32.84	399.30	16	12.51	648.72	39	31.34	569.11	85	52.34	346.87	61	114.66	1,154.33	45	32.26	491.00
18-Jun	25	16.47	415.76	128	89.44	738.16	1	0.72	569.83	8	8.12	354.99	83	98.50	1,252.82	41	28.69	519.68
19-Jun	9	8.83	424.59	101	73.70	811.86	56	41.08	610.91	373	588.66	943.65	85	129.37	1,382.19	135	178.07	697.75
20-Jun	10	8.24	432.83	98	116.46	928.31	114	81.59	692.50	135	134.19	1,077.84	66	115.25	1,497.43	89	85.12	782.87
21-Jun	83	77.92	510.75	398	454.68	1,382.99	43	63.10	755.59	56	33.11	1,110.95	110	119.56	1,616.99	145	157.20	940.07
22-Jun	83	64.19	574.94	58	63.35	1,446.34	19	13.31	768.90	166	85.54	1,196.49	103	81.89	1,698.88	82	56.60	996.66
23-Jun	126	155.53	730.47	233	198.52	1,644.85	3	2.48	771.37	102	263.73	1,460.22	194	353.16	2,052.03	116	155.06	1,151.73
24-Jun	68	241.58	972.05	180	308.93	1,953.78	207	137.32	908.69	20	51.71	1,511.93	232	264.67	2,316.70	119	184.88	1,336.61
25-Jun	200	139.02	1,111.07	90	60.83	2,014.61	16	12.24	920.93	151	88.36	1,600.28	251	326.50	2,643.19	114	75.11	1,411.72
26-Jun	126	113.93	1,224.99	13	8.98	2,023.58	26	36.42	957.35	106	114.21	1,714.49	78	51.72	2,694.91	68	68.38	1,480.10
27-Jun	214	222.35	1,447.34	10	14.62	2,038.20	20	26.66	984.01	20	51.77	1,766.26	98	120.19	2,815.10	66	78.85	1,558.95
28-Jun	159	117.57	1,564.91	25	44.03	2,082.23	82	35.90	1,019.90	91	131.80	1,898.06	40	38.20	2,853.29	89	82.32	1,641.27
29-Jun	16	13.24	1,578.15	203	163.64	2,245.86	81	83.25	1,103.15	214	178.05	2,076.10	210	170.28	3,023.57	129	109.54	1,750.81
30-Jun	86	61.47	1,639.62	54	48.82	2,294.68	200	159.47	1,262.62	37	61.79	2,137.89	87	61.59	3,085.16	94	82.89	1,833.70
1-Jul	27	21.59	1,661.20	50	36.13	2,330.81	26	18.56	1,281.18	192	120.67	2,258.56	52	59.39	3,144.55	74	49.24	1,882.94
2-Jul	12	9.08	1,670.28	27	26.77	2,357.58	54	73.90	1,355.07	127	163.07	2,421.63	73	53.63	3,198.17	55	68.20	1,951.14
3-Jul	21	16.27	1,686.54	92	83.96	2,441.54	32	32.93	1,388.00	16	19.34	2,440.97	46	36.86	3,235.03	40	38.12	1,989.26
4-Jul	37	27.59	1,714.13	5	7.55	2,449.09	19	17.16	1,405.16	30	22.29	2,463.25	41	31.06	3,266.09	23	18.65	2,007.91
5-Jul	28	23.57	1,737.70	5	3.93	2,453.02	78	50.94	1,456.10	1	1.47	2,464.72	9	6.96	3,273.05	28	19.98	2,027.88
6-Jul	13	9.40	1,747.10	15	11.58	2,464.60	8	6.12	1,462.22	19	14.98	2,479.70	12	9.34	3,282.38	14	10.52	2,038.40
7-Jul	17	24.40	1,771.49	5	3.06	2,467.66	0	0.00	1,462.22	176	150.24	2,629.94	17	12.14	3,294.52	50	44.42	2,082.82
8-Jul	26	19.12	1,790.61	1	1.50	2,469.16	3	4.54	1,466.76	63	88.90	2,718.84	18	12.69	3,307.21	23	28.52	2,111.34
9-Jul	10	7.15	1,797.76	7	5.37	2,474.52	44	30.95	1,497.71	9	6.85	2,725.68	30	19.76	3,326.97	18	12.58	2,123.92
10-Jul	3	2.37	1,800.13	4	3.87	2,478.39	82	64.16	1,561.87	8	6.00	2,731.68	10	7.21	3,334.17	24	19.10	2,143.02
11-Jul	1	0.75	1,800.88	1	0.84	2,479.23	106	66.41	1,628.27	25	25.81	2,757.49	4	3.22	3,337.39	33	23.45	2,166.47
12-Jul	1	0.77	1,801.65	4	5.62	2,484.84	17	12.84	1,641.11	73	52.95	2,810.44	12	8.59	3,345.98	24	18.04	2,184.51
13-Jul	0	0.00	1,801.65	3	2.33	2,487.17	5	3.94	1,645.04	18	13.76	2,824.20	8	6.08	3,352.05	7	5.01	2,189.51
14-Jul	0	0.00	1,801.65	3	2.38	2,489.55	34	24.85	1,669.89	8	6.04	2,830.24	7	5.65	3,357.70	11	8.32	2,197.83
15-Jul	0	0.00	1,801.65	0	0.00	2,489.55	6	7.75	1,677.63	0	0.00	2,830.24	9	6.07	3,363.76	2	1.94	2,199.77
	1,735		1,801.65	2,447		2,489.55	1,950		1,677.63	2,658		2,830.24	2,731		3,363.76	2,204		2,199.77

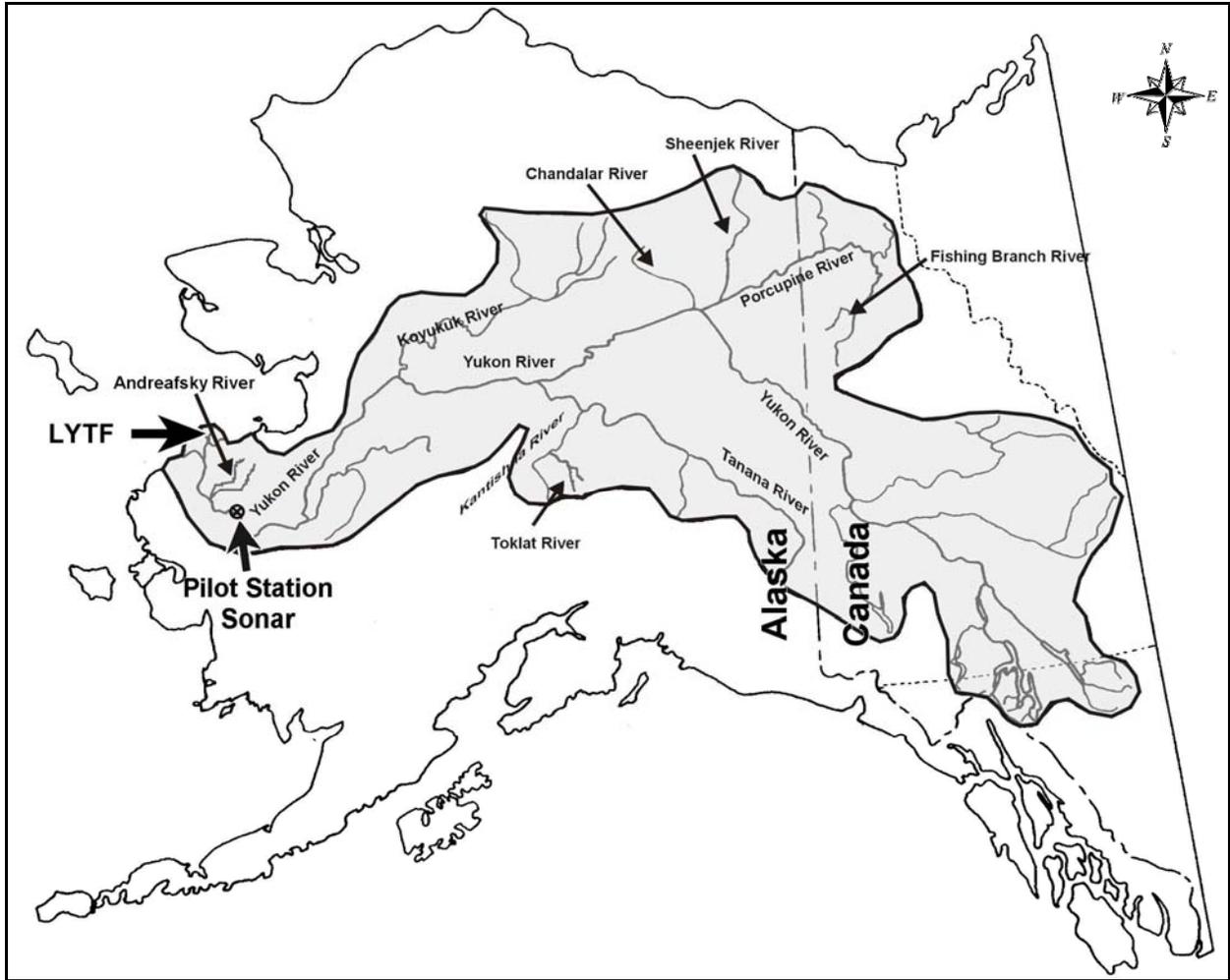
Note: The test fishery was not operational until June 8 in 2001 and May 29 during 2002. The project did not operate in 2004. The box within the column indicates the first to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box.

**Table 8.**—Season summary of summer chum salmon age, sex, and length data for the Lower Yukon drift gillnet test fishery, 2006.

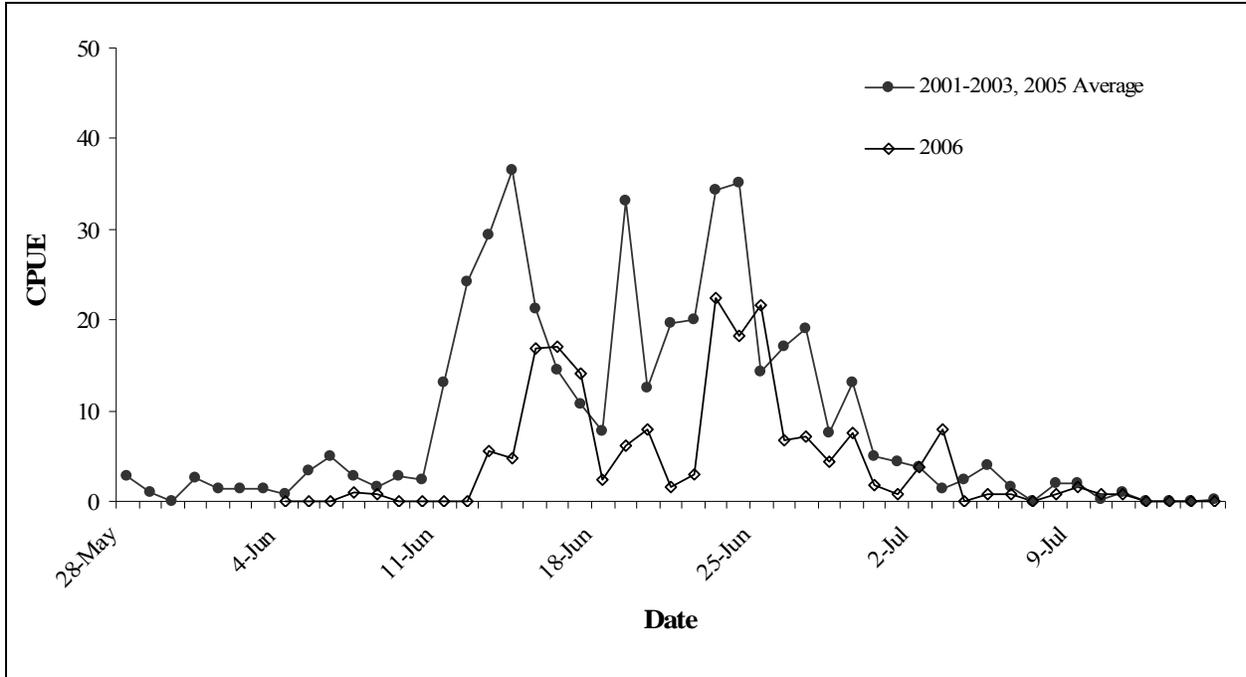
		<b>Brood Year and Age Class</b>										
		<b>2003</b>		<b>2002</b>		<b>2001</b>		<b>2000</b>		<b>Total</b>		
		<b>Age 0.2</b>		<b>Age 0.3</b>		<b>Age 0.4</b>		<b>Age 0.5</b>		<b>Total</b>		
		<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	
<b>Big Eddy</b>												
Sample Size	635	Males	0	0.0	82	12.9	195	30.7	0	0.0	277	43.6
		Females	0	0.0	79	12.4	278	43.8	1	0.2	358	56.4
		Total	0	0.0	161	25.4	473	74.5	1	0.2	635	100.0
Mean Length Std. Error		Males	-		567		590		-			
			-		3		2		-			
Mean Length Std. Error		Females	-		551		568		610			
			-		3		2		-			
<b>Middle Mouth</b>												
Sample Size	225	Males	2	0.9	26	11.6	48	21.3	0	0.0	76	33.8
		Females	1	0.4	48	21.3	100	44.4	0	0.0	149	66.2
		Total	3	1.3	74	32.9	148	65.8	0	0.0	225	100.0
Mean Length Std. Error		Males	558		578		579		-			
			18		7		4		-			
Mean Length Std. Error		Females	535		558		574		-			
			-		3		3		-			
<b>Total</b>												
Sample Size	860	Males	2	0.2	108	12.6	243	28.3	0	0.0	353	41.0
		Females	1	0.1	127	14.8	378	44.0	1	0.1	507	59.0
		Total	3	0.3	235	27.3	621	72.2	1	0.1	860	100.0



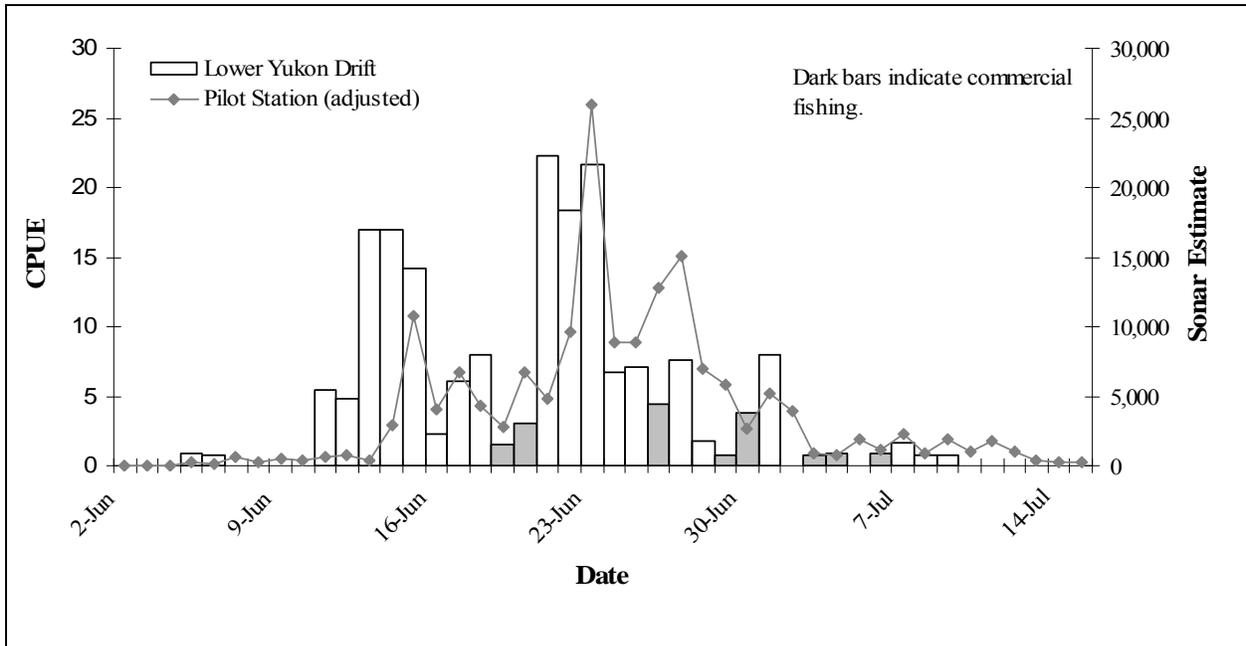
**Figure 1.**—Drift stations for the cooperative Lower Yukon drift gillnet test fishery, 2006.



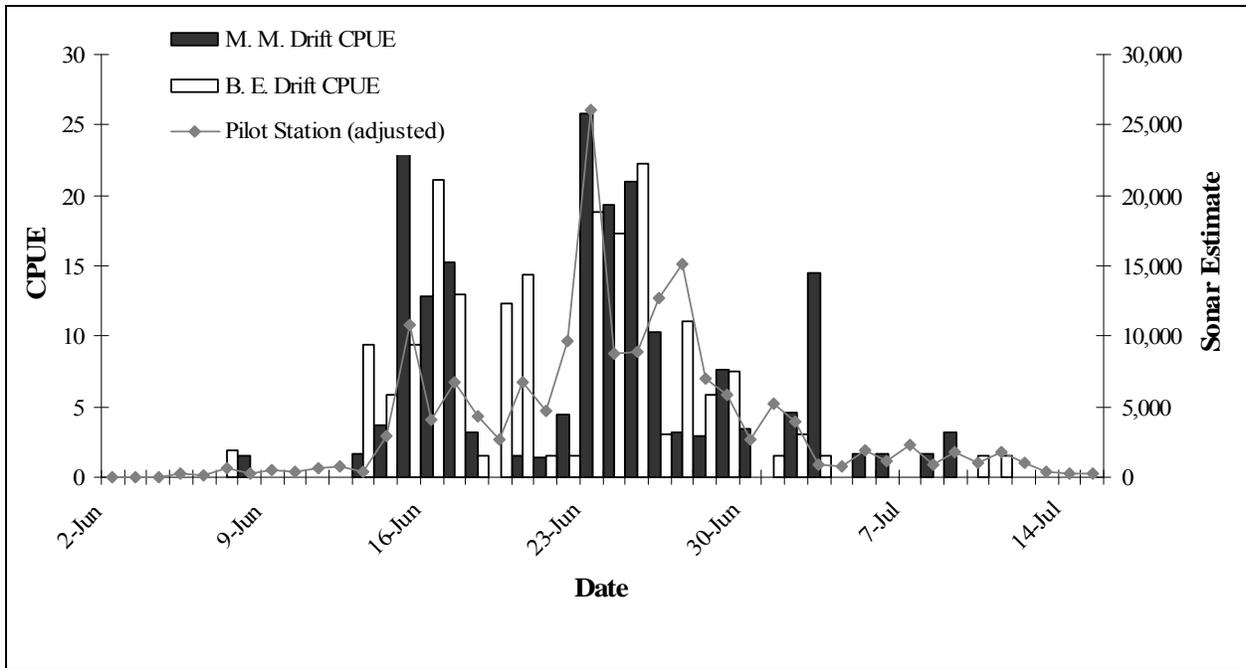
**Figure 2.**—Project site locations for the Yukon, highlighting the Lower Yukon test fisheries and Pilot Station sonar, 2006.



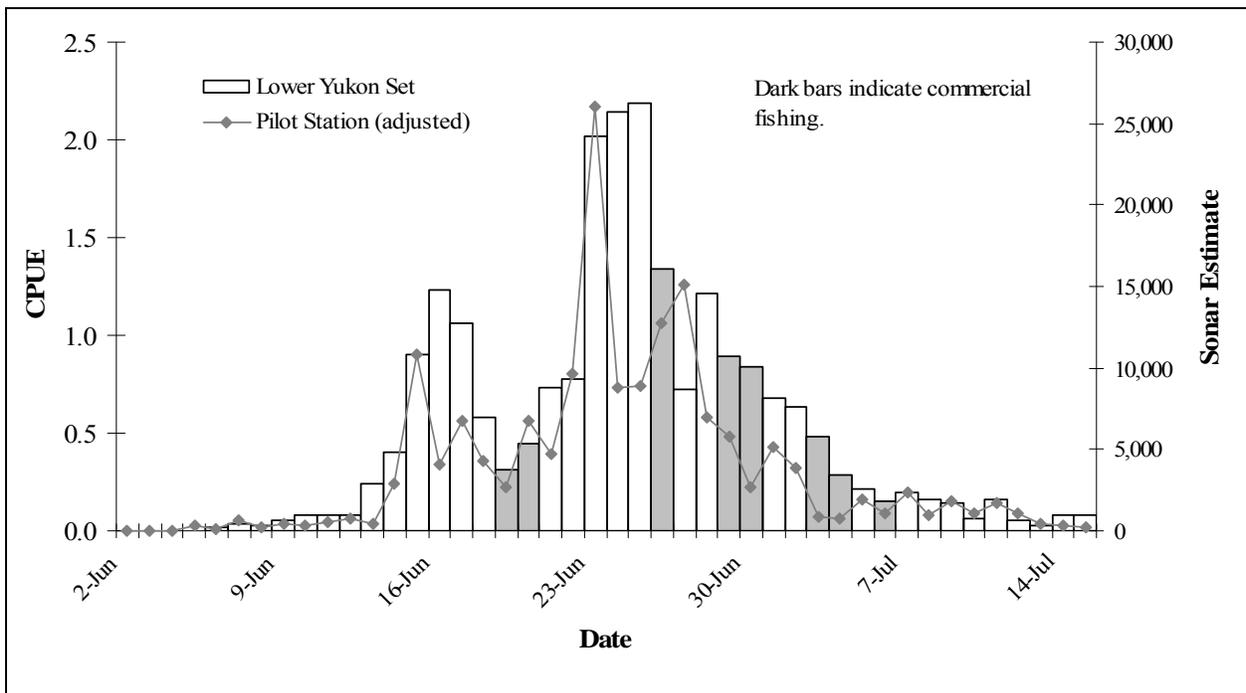
**Figure 3.**—Daily CPUE for Lower Yukon 8.25" drift gillnet Chinook salmon test fishery, comparing 2006 to the 2001–2003, 2005 average.



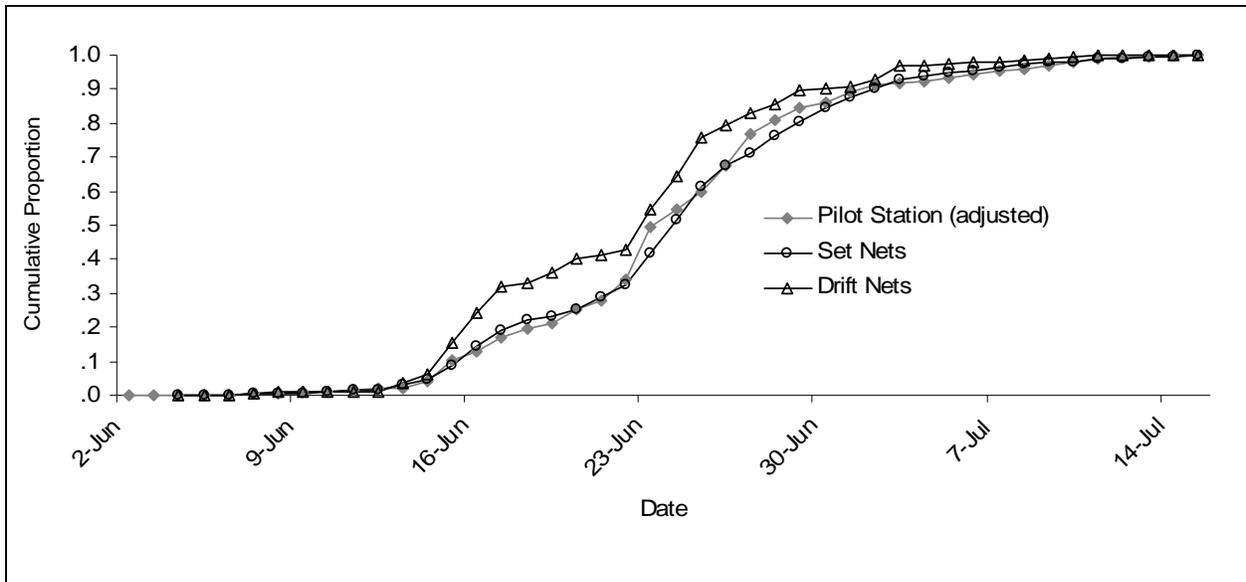
**Figure 4.**—Chinook salmon CPUE from the Lower Yukon 8.25" drift gillnet test fisheries compared to Pilot Station sonar Chinook passage estimates corrected for transit time, 2006.



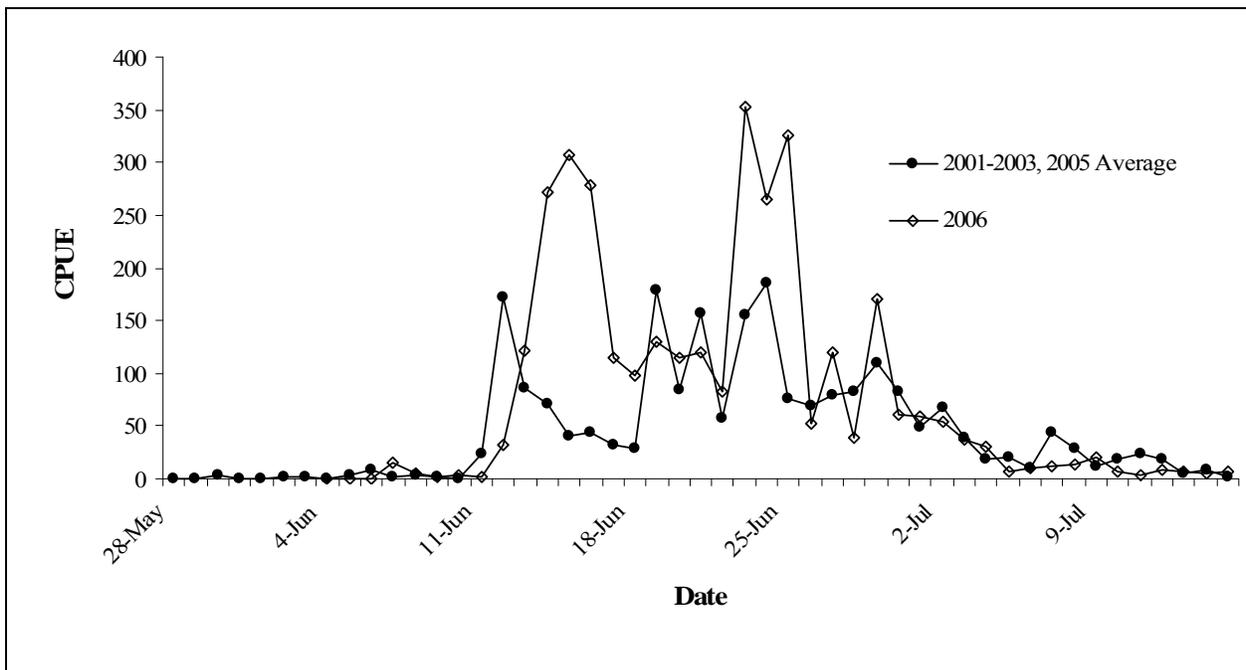
**Figure 5.**—Daily CPUE for the Middle Mouth and Big Eddy 8.25” Chinook salmon drift gillnet test fisheries compared to Pilot Station Chinook Salmon passage estimates corrected for transit time, 2006.



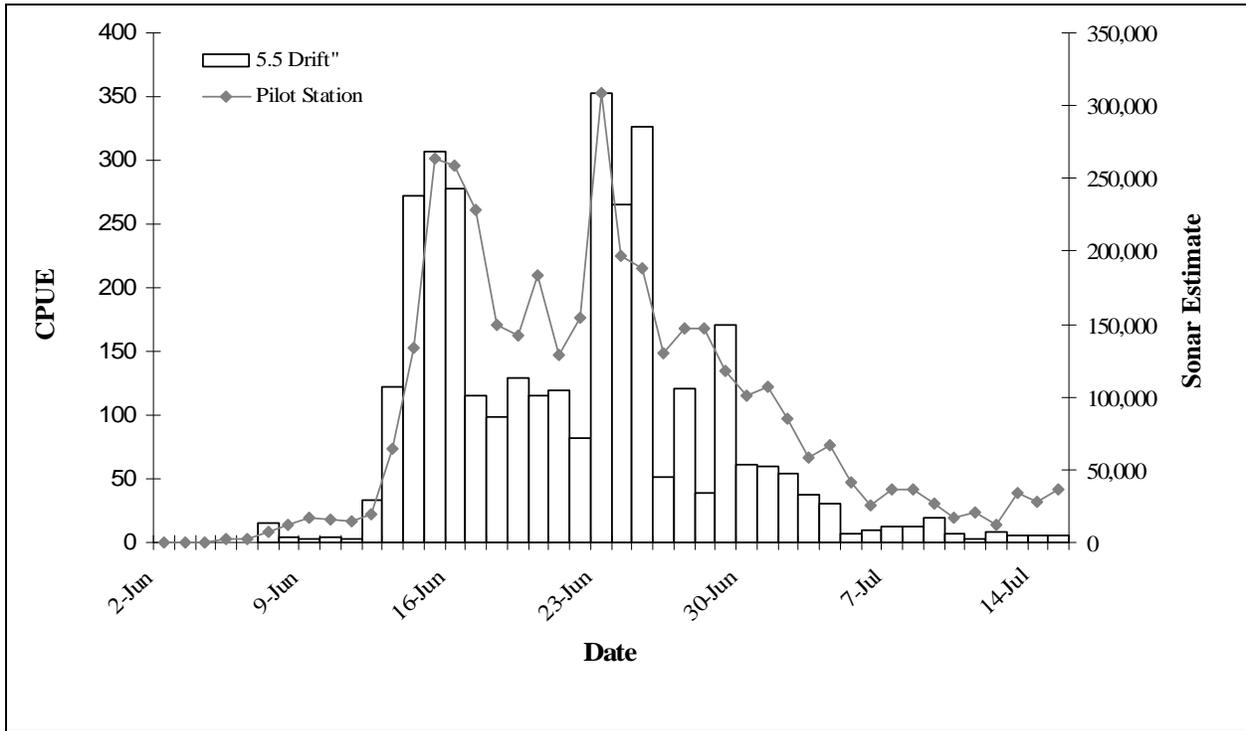
**Figure 6.**—Daily CPUE by the Lower Yukon 8.5” Chinook salmon set gillnet test fisheries compared to Pilot Station sonar passage estimates corrected for transit time, 2006.



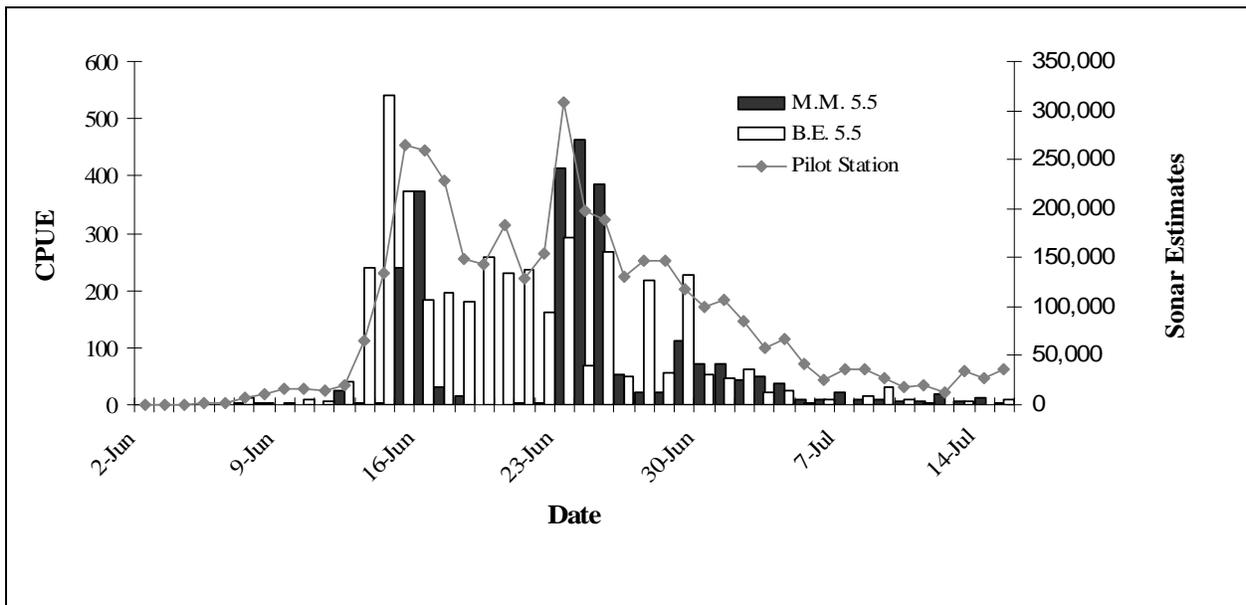
**Figure 7.**—Cumulative proportions of the Chinook salmon catches in the Lower Yukon 8.5" set and 8.25" drift gillnet test fisheries compared to Pilot Station Chinook proportions, corrected for transit time, 2006.



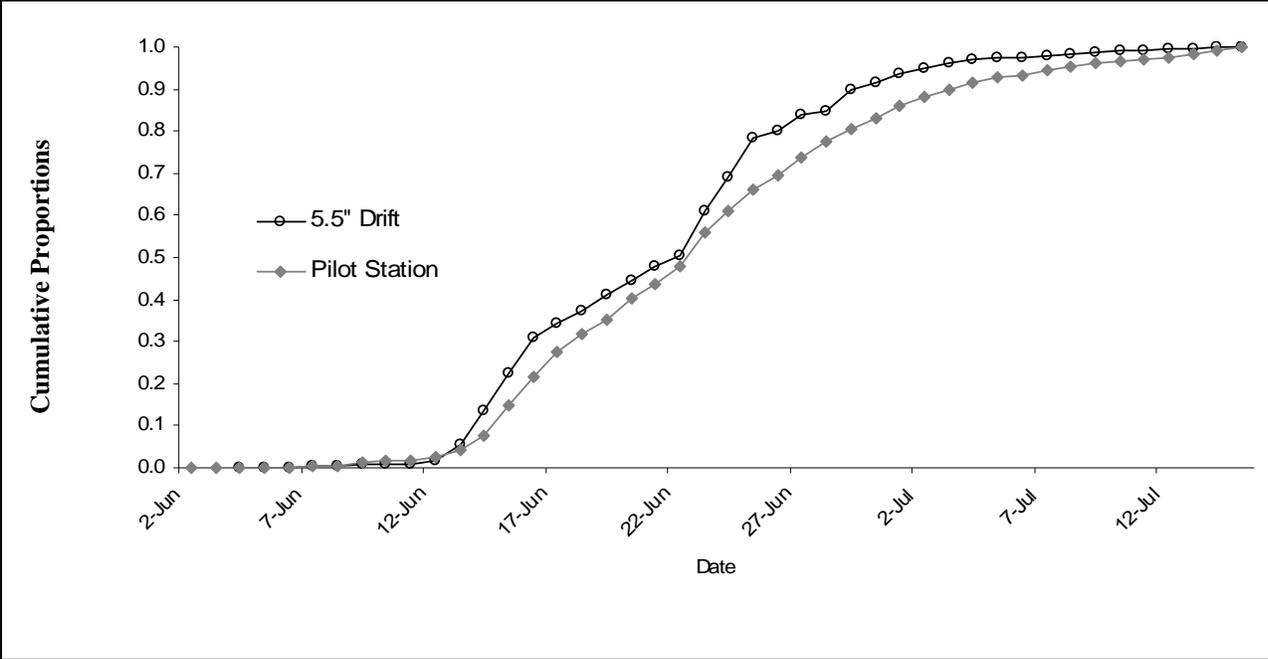
**Figure 8.**—Daily CPUE for Big Eddy Daily 5.5" drift gillnet summer chum salmon test fishery, comparing 2006 to the 2001–2003, 2005 average.



**Figure 9.**—Lower Yukon 5.5" summer chum drift gillnet test fisheries combined daily CPUE, compared to Pilot Station sonar passage estimates adjusted for transit time, 2006.



**Figure 10.**—Daily CPUE for the Middle Mouth and Big Eddy 5.5" summer chum salmon drift gillnet test fisheries compared to Pilot Station summer chum sonar passage estimates, 2006.



**Figure 11.**—Cumulative proportions for summer chum salmon in the Lower Yukon drift gillnet test fisheries compared to Pilot Station summer chum proportions adjusted for transit time, 2006.

## **APPENDIX A**

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

8.25 inch Chinook Drift Gillnet Test Fishery												
Date	Big Eddy Drift Times (min)					Catch	Middle Mouth Drift Times (min)					Catch
	1	2	3	4	Total		1	2	3	4	Total	
4-Jun	<sup>a</sup>	<sup>a</sup>	19.5	20.5	40.0	0	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
5-Jun	20.0	19.0	20.5	20.0	79.5	0	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
6-Jun	20.0	19.5	19.5	20.0	79.0	0	19.0	21.0	19.0	18.0	77.0	0
7-Jun	19.5	19.0	17.0	16.0	71.5	1	20.0	20.0	21.0	20.0	81.0	0
8-Jun	19.0	17.0	19.0	20.0	75.0	0	20.0	19.0	19.5	20.0	78.5	1
9-Jun	19.0	19.5	19.5	19.0	77.0	0	18.5	19.0	19.5	20.0	77.0	0
10-Jun	19.0	19.0	19.0	22.0	79.0	0	<sup>b</sup>	<sup>b</sup>	19.5	19.0	38.5	0
11-Jun	20.0	17.5	22.5	20.0	80.0	0	20.0	19.0	20.0	19.5	78.5	0
12-Jun	19.0	19.5	18.5	19.0	76.0	0	20.0	9.0	19.5	20.0	68.5	0
13-Jun	19.5	24.0	19.0	20.5	83.0	7	18.5	19.5	19.0	19.5	68.5	1
14-Jun	21.0	21.0	18.5	18.5	79.0	4	19.5	20.0	16.5	20.5	76.5	2
15-Jun	19.5	21.0	20.0	23.5	84.0	7	20.5	20.0	24.0	<sup>c</sup>	76.5	14
16-Jun	19.0	31.5	23.0	24.5	98.0	21	18.0	20.5	19.0	19.0	64.5	8
17-Jun	19.0	21.5	20.5	24.0	85.0	10	22.0	18.0	20.0	19.5	76.5	11
18-Jun	19.0	21.5	20.5	24.0	85.0	1	19.5	19.0	18.5	18.5	79.5	2
19-Jun	19.0	20.0	18.5	19.5	77.0	9	18.5	18.5	19.0	19.0	75.5	0
20-Jun	19.0	22.0	19.5	22.0	82.5	10	19.0	19.5	18.5	18.5	75.0	1
21-Jun	18.5	21.0	20.5	21.0	81.0	1	20.5	19.5	17.5	19.5	75.5	1
22-Jun	18.5	19.0	18.5	19.5	75.5	1	20.0	19.5	17.0	20.5	77.0	3
23-Jun	19.0	19.0	19.0	19.5	76.5	13	18.5	20.5	18.5	21.5	77.0	18
24-Jun	19.5	20.5	21.0	23.5	84.5	13	20.5	20.0	18.5	18.0	79.0	13
25-Jun	21.5	23.0	21.0	22.5	88.0	15	23.5	20.0	23.0	19.5	77.0	16
26-Jun	20.0	20.5	19.5	20.5	80.5	2	20.5	20.5	18.5	19.0	86.0	7
27-Jun	19.5	20.5	24.5	19.5	84.0	8	18.5	20.0	19.0	18.0	78.5	2
28-Jun	24.5	22.0	19.0	20.0	85.5	4	20.5	21.0	20.0	19.5	75.5	2
29-Jun	21.0	20.0	19.5	19.5	80.0	5	18.5	18.5	19.5	20.0	81.0	5
30-Jun	18.5	19.0	20.0	19.5	77.0	0	17.5	17.5	19.5	20.0	76.5	2
1-Jul	19.5	19.5	17.5	19.5	76.0	1	18.5	19.5	17.0	17.5	74.5	0
2-Jul	20.0	19.0	20.0	20.0	79.0	2	19.5	18.0	19.0	19.5	72.5	3
3-Jul	19.0	16.0	19.5	19.0	73.5	1	19.0	19.5	18.5	19.0	76.0	9
4-Jul	19.5	20.0	20.0	19.5	79.0	0	18.50	18.5	17.5	17.5	76.0	0
5-Jul	19.0	20.0	19.0	19.0	77.0	0	19.5	20.0	18.5	17.0	75.0	1
6-Jul	16.0	19.0	20.0	20.0	75.0	0	17.50	18.0	17.5	18.0	71.0	1
7-Jul	19.5	20.5	21.5	20.5	82.0	0	19.50	19.50	19.50	19.50	78.0	0
8-Jul	20.0	23.0	20.0	19.0	82.0	0	17.50	17.0	17.5	18.5	70.5	1
9-Jul	19.0	21.0	19.0	21.5	80.5	0	18.0	19.5	19.5	19.5	76.5	2
10-Jul	19.5	20.0	19.5	19.5	78.5	1	17.5	18.0	17.5	17.5	70.5	0
11-Jul	19.5	19.5	20.0	19.5	78.5	1	19.5	20.5	17.0	17.5	74.5	0
12-Jul	19.5	19.5	19.0	19.5	77.5	0	20.5	19.0	17.5	18.5	75.5	0
13-Jul	18.0	18.5	20.0	20.0	76.5	0	19.0	19.5	18.0	17.5	74.0	0
14-Jul	19.0	19.0	19.0	19.5	76.5	0	17.5	18.5	19.5	20.0	75.5	0
15-Jul	20.0	18.5	20.5	18.0	77.0	0	18.5	17.5	18.5	17.0	71.5	0
Daily Average					78.8						74.7	
Drift Average					19.9						19.0	
Total Catch						138						126

<sup>a</sup> Drift projects were not operational due to logistical reasons including setting up and closing camps.

<sup>b</sup> Individual drifts were not conducted due to mechanical failure.

<sup>c</sup> Individual drifts were not conducted due to poor weather, high water, or high debris load.

**Appendix A2.**—Mean fishing times for the summer chum Lower Yukon drift gillnet test fishery, 2006.

5.5 inch Summer Chum Drift Gillnet Test Fishery												
Date	Big Eddy Drift Times (min)					Catch	Middle Mouth Drift Times (min)					Catch
	1	2	3	4	Total		1	2	3	4	Total	
4-Jun	<sup>a</sup>	<sup>a</sup>	20.0	19.0	39.0	0	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
5-Jun	20.0	18.0	20.0	20.5	78.5	0	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
6-Jun	20.0	25.5	19.5	19.5	84.5	0	20.0	13.0	19.0	19.0	71.0	0
7-Jun	19.0	19.5	16.5	20.0	75.0	8	20.0	19.5	21.0	19.5	80.0	2
8-Jun	20.5	19.0	19.0	20.0	75.0	2	19.0	20.0	19.0	19.5	77.5	1
9-Jun	19.5	19.5	19.5	19.5	78.5	3	19.5	19.0	20.0	19.5	78.0	0
10-Jun	21.5	20.0	20.0	21.5	78.0	6	<sup>b</sup>	<sup>b</sup>	19.5	19.5	39.0	0
11-Jun	19.0	18.5	19.0	18.5	61.5	3	18.5	17.5	20.0	20.5	76.5	0
12-Jun	20.0	22.0	20.0	22.5	75.0	29	19.5	20.0	19.5	18.0	77.0	16
13-Jun	19.0	22.5	19.0	22.5	84.5	180	18.5	19.5	19.5	19.5	77.0	2
14-Jun	13.5	16.5	20.5	14.5	83.0	146	18.5	19.5	20.0	20.0	78.0	1
15-Jun	22.5	8.5	24.0	10.5	65.0	85	22.5	20.0	20.5	<sup>c</sup>	63.0	71
16-Jun	22.0	6.5	20.5	7.5	65.5	42	20.0	20.0	7.5	18.5	66.0	88
17-Jun	19.5	11.5	21.0	19.5	56.5	48	17.5	18.0	21.0	19.0	75.5	13
18-Jun	19.5	21.0	20.0	11.0	71.5	73	20.5	19.5	18.5	18.5	77.0	10
19-Jun	19.0	15.0	21.5	8.5	64.0	84	17.5	18.5	20.0	17.0	73.0	1
20-Jun	20.0	12.5	20.5	18.0	71.0	66	19.5	20.0	19.0	18.5	77.0	0
21-Jun	22.5	22.5	20.0	22.5	87.5	108	19.0	19.5	21.5	19.0	79.0	2
22-Jun	19.5	20.5	20.0	20.0	80.0	101	19.5	19.5	19.5	20.0	78.5	2
23-Jun	20.5	21.0	13.0	10.0	64.5	110	9.5	12.5	6.0	17.5	45.5	84
24-Jun	20.0	19.5	22.5	14.5	76.5	31	11.0	22.0	14.5	17.5	65.0	201
25-Jun	21.0	20.0	28.5	14.0	83.5	171	12.0	15.5	7.5	12.5	47.5	80
26-Jun	12.5	18.5	20.0	27.5	78.5	42	18.5	24.5	18.0	18.5	79.5	36
27-Jun	22.0	19.5	21.5	18.0	81.0	90	20.0	18.5	11.0	19.5	69.0	8
28-Jun	21.5	21.0	20.5	19.5	82.5	27	20.0	20.0	18.0	19.5	77.5	13
29-Jun	20.5	25.5	20.0	10.0	76.0	140	20.0	19.0	20.0	18.0	77.0	70
30-Jun	20.0	21.5	20.5	20.5	82.5	33	19.0	17.5	19.5	24.0	80.0	54
1-Jul	19.0	20.0	18.5	22.0	79.5	33	10.5	17.0	20.5	18.0	66.0	19
2-Jul	20.5	17.5	19.5	20.0	77.5	38	17.5	18.0	26.0	22.0	83.5	35
3-Jul	19.0	20.0	18.5	19.0	76.5	15	20.5	21.5	13.0	19.5	74.5	31
4-Jul	18.5	19.5	19.5	22.5	80.0	18	17.0	18.5	18.0	18.0	71.5	23
5-Jul	17.5	18.5	19.0	19.5	74.5	2	19.0	21.0	18.0	17.5	75.5	7
6-Jul	19.0	19.0	19.5	21.0	78.5	6	17.5	17.5	18.0	17.5	70.5	6
7-Jul	19.5	15.0	19.5	20.0	74.0	1	20.0	21.5	20.0	20.5	82.0	16
8-Jul	19.5	22.0	19.0	24.0	84.5	12	18.0	18.0	18.0	17.5	71.5	6
9-Jul	20.5	24.5	19.5	18.5	83.0	25	19.0	17.5	20.0	20.0	76.5	5
10-Jul	19.5	22.5	19.0	19.5	80.5	6	18.0	17.5	19.5	17.5	72.5	4
11-Jul	19.0	19.5	19.0	19.0	76.5	1	18.5	19.5	17.5	18.5	74.0	3
12-Jul	19.0	19.5	19.0	19.0	76.5	0	19.5	21.5	17.5	18.5	77.0	12
13-Jul	19.0	18.0	8.5	20.5	66.0	5	20.0	19.0	17.5	18.0	74.5	3
14-Jul	19.0	19.0	20.0	19.0	77.0	0	18.5	17.5	20.0	20.5	76.5	7
15-Jul	20.5	20.5	24.5	26.0	91.5	7	17.0	17.5	18.0	17.5	70.0	2
Daily Average					75.6						72.5	
Drift Average				19.2						18.5		
Catch Total						1,797						934

<sup>a</sup> Drift projects were not operational due to logistical reasons including setting up and closing camps.

<sup>b</sup> Individual drifts were not conducted due to mechanical failure.

<sup>c</sup> Individual drifts were not conducted due to poor weather, high water, or high debris load.

**Appendix A3.**—Catch distribution by species for the Lower Yukon drift gillnet test fishery summer season, 2006.

<b>Species</b>	<b>Big Eddy</b>		<b>Middle Mouth</b>		<b>Total</b>	
	<b>Chinook</b>	<b>S. Chum</b>	<b>Chinook</b>	<b>S.Chum</b>	<b>Chinook</b>	<b>S.Chum</b>
Fish released unharmed	33	391	87	730	120	1,121
Test fish sales <sup>a</sup>	30	10	25	320	55	330
Fish discarded	0	0	0	0	0	0
Test fish donated locally	125	1,611	39	511	164	2,122
<b>Total catch</b>	<b>188</b>	<b>2,012</b>	<b>151</b>	<b>1,332</b>	<b>339</b>	<b>3,573</b>

*Note:* Numbers reflect incidental catch and include Chinook caught in 5.5" and summer chum caught in 8.25" gear.

<sup>a</sup> Apportioned from total test fish sales to represent fish sold by the Lower Yukon drift gillnet test fishery only.