Fishery Data Series No. 11-30

Fall Season Cooperative Salmon Drift Gillnet Test Fishing in the Lower Yukon River, 2009

by

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and

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July 2011

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

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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)

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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July 2011

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This document should be cited as:
Padilla, A. J., and B. M. Borba. 2011. Fall season cooperative salmon drift gillnet test fishing in the Lower Yukon River, 2009. Alaska Department of Fish and Game, Fishery Data Series No. 11-30, Anchorage.

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ABSTRACT

The Lower Yukon River drift gillnet test fishery project is designed to provide an index of run timing and relative abundance of fall chum salmon *Oncorhynchus keta* and coho salmon *O. kisutch* returning to the Yukon River drainage. Drift gillnets were operated from 16 July through 28 August 2009 in the lower Yukon River near the village of Emmonak, Alaska. Catch per unit effort (CPUE) and age, sex, and length (ASL) composition were collected from drift gillnet catches from the Big Eddy and Middle Mouth test fishery operated in the lower river. The test fishery recorded a cumulative CPUE of 362.97 for fall chum salmon with the midpoint of the run occurring on 10 August. Fall chum salmon were predominantly age-0.3 fish, comprising 70.1% (n=176) of the unweighted age sample. The cumulative CPUE for coho salmon was 277.65 with the midpoint occurring on 16 August. Age-2.1 coho salmon were the most abundant, making up 79.3% (n=157) of the unweighted age sample. In 2009, the Lower Yukon River drift gillnet test fishery project provided critical information that was used to make inseason management decisions regarding prosecution of commercial and subsistence fisheries for fall chum and coho salmon, while providing escapement needs.

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

INTRODUCTION

The Lower Yukon River drift gillnet test fishery project provides an index of run timing and relative abundance of fall chum salmon *Oncorhynchus keta* and coho salmon *O. kisutch* returning to the Yukon River drainage. Catch per unit of effort (CPUE) is the index used to determine relative abundance for fall chum and coho salmon. Test fishery data in conjunction with data provided by other projects, in particular the daily passage estimates based on the sonar operated at Pilot Station, are used to monitor salmon passage through the Lower Yukon River and guide management decisions relating to escapement, treaty commitments, and subsistence, commercial and personal use fisheries upriver.

Fall chum salmon run sizes in the Yukon River were depressed from 1998 through 2002. In 2000, the Pilot Station sonar passage estimate was approximately 248,000 fall chum salmon, which was 43% lower than the previous four-year average of approximately 578,000 fish (JTC 2010). During the 2000 through 2002 fall season, no commercial fishery was conducted and subsistence harvest was considerably reduced (Lingnau and Bue 2004). With assistance and funding from the U.S. Fish and Wildlife Service, Office of Subsistence Management, the Lower Yukon drift gillnet test fishery project began operating in 2001 (Clark and Hayes 2002). Drift gillnet test fishing sites were established for both the Big Eddy (Kwikluak Pass/South Mouth) and the Middle Mouth (Kwikpak Pass) stations located downstream from major subsistence and commercial fisheries. The test fishery provides indications as to when and where salmon enter the river, thereby allowing ADF&G to better manage salmon harvest. This is particularly important due to the sporadic entry patterns of fall chum salmon.

The below-average run of fall chum salmon in 2000 combined with a dramatic increase in the efficiency of some Lower Yukon test fishery set gillnet sites prompted the Alaska Department of Fish and Game (ADF&G) to reevaluate the use of 6.0 in (15.2 cm) mesh set gillnet gear used in the test fishery. It was uncertain whether the set gillnets were adequately reflecting the relative abundance of the runs. Additionally, the large catches in the set gillnet test fishery saturated the local subsistence users' needs, making it difficult to distribute the surplus. Selling the surplus was not a feasible option during years of fishery restrictions. Thus in 2001, the set gillnets were replaced by 6.0 in (15.2 cm) mesh drift gillnets to target fall chum and coho salmon.

OBJECTIVES

The objectives of the 2009 fall season test fishery were to:

1) Estimate daily CPUE of fall chum and coho salmon as they enter the mouths of the Yukon River;
2) Estimate run timing of fall chum and coho salmon as they enter the various mouths of the Yukon River;
3) Estimate the age, sex and length (ASL) composition of fall chum and coho salmon for use in brood year assessment and run forecasting;
4) Collect daily climatic and hydrological measurements representative of the study area;
5) Build partnerships and capacity through involvement of local technicians and communities in project operation and information sharing.

METHODS

STUDY AREA

As in previous years, two separate drift gillnet sites were used in each the Middle Mouth and South Mouth (Big Eddy) of the Yukon River (Horne-Brine and Bue 2008). In 2009, a third site was fished near the South Mouth location to augment the low CPUE of the existing sites. These locations were chosen for their close proximity to the ADF&G Lower Yukon Area field office in the village of Emmonak (lat 62° 46′39″N, long 164° 32′47″W). The office is situated approximately 39 river kilometers (24 river miles) upstream of the South Mouth at the head of Kwiguk Pass known locally as Big Eddy, and approximately 159 river kilometers (99 river miles) downstream from the Pilot Station Sonar project (lat 61° 57′1″N, long 162° 51′37″W) (Figure 1 and Figure 2). The Big Eddy (South Mouth) and Middle Mouth fishing sites combined are collectively referred to as the Lower Yukon drift gillnet test fishery (LYTF).

The Big Eddy test fishery station, located in the main channel of Kwikluak Pass (South Mouth) of the Yukon River, upstream and southeast of the village of Emmonak, is used to assess salmon transiting the South Mouth of the Yukon River (Figure 2). Site 1 at Big Eddy is located directly upstream of the distributary of Kwiguk Pass from Kwikluak Pass along the right bank (lat 62° 44′58″N, long 164° 24′28″W). The starting point of Site 2 is located along the left bank, approximately 0.4 km (0.25 mi) downstream, and southwest from the starting point of Site 1 (lat 62° 44′24″N, long 164° 26′4″W). Supplementary Site 3 (lat 62° 44′41″N, long 164° 25′3″W) is approximately 0.8 km (0.5 mi) offshore towards the right bank adjacent to Site 1 and situated along the south side of a long sandbar separating the two sites (Figure 3).

The Middle Mouth test fishery station, located upstream from Kawanak (Middle Mouth) and Apoon Pass (North Mouth), is used to assess the passage of salmon transiting both these mouths of the Yukon River (Figure 2). Two drift gillnet sites are utilized in Kwikpak Pass, approximately 11.2 km (7.0 mi) upstream of the ADF&G Middle Mouth field camp (lat 62° 53′52.44″N, long 164° 5′49″W). The Site 1 drift gillnet starting point is along the left bank of the river (lat 62° 47′27.36″N, long 164° 03′27″W), and Site 2 is located across the river along the right bank (lat 62° 48′12.30″N, long 164° 04′16.80″W), approximately 1.2 km (0.75 mi) downstream from the starting point of Site 1 (Figure 4).

DRIFT GILLNET TEST FISHING

In 2009, both test fishery stations began operations on 16 July and continued through 28 August. It is understood that a portion of the fall chum and coho salmon runs continue after the test fishery is terminated, but that a majority of the runs are assessed during this time period. Site 3 in Big Eddy was incorporated into the project beginning 9 August and operated through the end of the project. Big Eddy Site 2 began on 16 July it and ended operation the evening of 21 August.

Fishing methods were similar at both the Big Eddy and Middle Mouth stations. Gillnets were constructed of 6.0 inches (15.2 cm) mesh, 35 meshes in depth, and 50 fathoms (91.4 m) in length with a cork marking at 25 fathoms (45.7 m). This dimension of gillnet is used to target fall chum and coho salmon in this test fishery. 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. During each drift 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 retained species were distributed locally for subsistence purposes. No fish were sold commercially during the 2009 fall season even though commercial fisheries were prosecuted.

Drifts were conducted daily at 0800 hours and 2000 hours regardless of tidal stage. Schedules were occasionally adjusted or cancelled to avoid test fishing during commercial periods or hazardous weather. During normal operations, gillnets were retrieved after 20 minutes of fishing time or after an estimated 30 fish had been captured. In times of high salmon abundance, inclement weather, or excessive debris, the gillnet efficiency was shortened to the 25 fathom (45.7 m) midpoint, indicated by a cork-mark, to improve fishing efficiency and to avoid net saturation. Also, in times of high salmon abundance drift time was reduced to avoid saturation. The calculation of CPUE compensates for times and lengths of gillnets that were fished.

CPUE CALCULATIONS

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

CPUE = [((100 fathom*60 minutes)*(n))/(L*T)]

where:

n= number of fish caught,

L= length of net in fathoms, and

T= the minutes the net fished.

The time the net fished was calculated using:

T = ([(set time + retrieval time)/2] + soak time

Variation in gillnet fishing time required an independent CPUE calculation for each drift. This value was summed with CPUE calculations from the same day and then averaged to obtain a CPUE for the day:

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

where:

n = number of sets for the given day (Molyneaux 1999).

Mean daily CPUE data were summed to produce total seasonal CPUE indices for the period of data collection. Cumulative proportions of seasonal total test fishery CPUE indices were also calculated and used to estimate the quarter points including the midpoint of the fall chum and coho salmon runs.

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 daily at the Big Eddy and Middle Mouth stations. All salmon lengths were measured as mideye to fork (MEF) and rounded off to the nearest five millimeters. Age was determined by examining scales (Mosher 1968). Scales were collected from the left side of the fish approximately two 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, three scales were collected from each fish. Only one 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 two numbers plus one to account for incubation time. The sex of each salmon was verified by visual examination of the gonads through a small ventral incision.

CLIMATIC AND HYDROLOGICAL OBSERVATIONS

Climate and hydrological data were collected daily at approximately 0800 and 2000 hours at both Big Eddy and Middle Mouth stations. Air and water temperatures are measured using a handheld thermometer although HOBO U22[1] water temperature data loggers suspended approximately 30 cm (12 in) below the surface are also attached to the docks 10 meters off shore. Daily observations of wind speed and direction, cloud cover, and precipitation were also recorded. Tides have an effect on water level at these sites thus data is not collected. Depth measurements were scheduled to be collected once per week at each drift gillnet site throughout the season to construct bottom profiles. Depth readings were taken with a HawkEye Handheld Sonar device and recorded at the nearshore buoy, mid-net, and offshore buoy while setting the net. Additional depth readings were recorded halfway through the drift and while the net was being retrieved.

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

PARTNERSHIP AND CAPACITY BUILDING

The Yukon Delta Fisheries Development Association (YDFDA), in partnership with ADF&G, has provided qualified technicians to help with test fishery operations since 2004. Six regular local technicians have been trained and incorporated into the test fishery. The Middle Mouth and Big Eddy test fishery crews each consisted of two trained YDFDA technicians that rotated shifts with one ADF&G technician.

Information sharing is an important part of building a reciprocating capacity and partnership. Local YDFDA technicians shared their knowledge of river navigation. Local subsistence fishermen provided catch information which aided in verifying test fishing catches. The cooperative LYTF contributed salmon catch, CPUE, and timing data to the local and general public. In addition, salmon retained in the test fishery were donated to local families.

RESULTS

FALL CHUM SALMON

In 2009, a total of 531 fall chum salmon were caught from the Big Eddy and Middle Mouth drift gillnet test fishery locations combined, resulting in a cumulative CPUE of 362.97. The midpoint of the fall chum salmon run at these locations occurred on 10 August. (Table 1; Figures 5 and 6; Appendix A1). Females comprised an unweighted 53.4% (*n*=251) of the fall chum salmon sampled at both sites. Age-0.3 were the dominant age class comprising 70.1 % of the fish aged, while ages-0.2, -0.4 and -0.5 represented 4.8%, 22.3%, and 2.8%, respectively, of the unweighted age sample (Table 2; Horne-Brine et al. 2011).

At the Big Eddy drift sites, (Sites 1, 2, and 3 combined), 187 fall chum salmon were captured resulting in a cumulative CPUE of 236.31 (Table 1). The midpoint of the fall chum salmon run at Big Eddy was 9 August. The mean daily fishing time at Big Eddy was 19.9 min per drift with a standard deviation of 1.9 min (Appendix B1). Females comprised 51.9% of the fall chum salmon sampled (*n*=181). Age-0.3 comprised 71.3% of the fish aged, with age-0.2, -0.4, and -0.5 comprising 5.0%, 21.0%, and 2.8%, respectively, of the unweighted sample. Mean lengths for males were 569 mm for age-0.2 (*n*=5), 585 mm for age-0.3 (*n*=62), 604 mm for age-0.4 (*n*=18), and 608 mm for age-0.5 (*n*=2). Females had mean lengths of 579 mm for age 0.2 (*n*=4), 582 mm for age-0.3 (*n*=67), 594 mm for age-0.4 (*n*=20), and 585 mm for age-0.5 (*n*=3) (Table 2; Horne-Brine et al. 2011).

At the Middle Mouth drift sites (Sites 1 and 2 combined), 344 fall chum salmon were captured resulting in a cumulative CPUE of 489.63. The midpoint of the run at Middle Mouth was 10 August (Table 1). The mean daily fishing time was 20.1 min per drift with a standard deviation of 1.2 min (Appendix B1). Females comprised 57.1% of the fall chum salmon sampled (*n*=70). Fall chum salmon age-0.3 predominated; comprising 67.1% of the fish sampled, while ages-0.2, -0.4, and -0.5 made up 4.3%, 25.7% and 2.9%, respectively, of the unweighted age sample. Mean lengths for male fall chum salmon were 587 mm for age-0.3 (*n*=21), 595 mm for age-0.4 (*n*=7), and 610 for age 0.5 (*n*=2). Females had mean lengths of 558 mm for age-0.2 (*n*=3), 576 mm for age -0.3 (*n*=26), and 595 mm for age -0.4 (*n*=11) (Table 2; Horne-Brine et al. 2011).

Fall chum salmon ages were also analyzed based on even and odd year cycles and are weighted by annual test fish CPUE. Age composition averages for odd-numbered years (1977–2009) include 1.9%, 77.2%, 20.1%, and 0.9% for age-0.2 through age-0.5, respectively (B. Borba,

Division of Commercial Fisheries Biologist, ADF&G, Fairbanks; memorandum dated 04/19/2010). The relatively high percentage (70.1%) of age-0.3 fall chum salmon observed in 2009 was expected based on the production of the particularly strong 2005 brood year (Bue and Hayes 2009).

COHO SALMON

A total of 432 coho were caught at the combined Big Eddy and Middle Mouth locations resulting in a cumulative CPUE of 277.65. The midpoint of the run occurred on 16 August (Table 3; Figures 7 and 8; Appendix A2). Females comprised 49.0% of the coho salmon sampled (*n*=198), Coho salmon age-2.1 predominated; comprising 79.3%, with age-1.1, and age-3.1 representing 14.1% and 6.6%, respectively, of the unweighted age sample (Table 4; Horne-Brine et al. 2011).

At the Big Eddy drift sites, 134 coho salmon were captured (Sites 1, 2, and 3 combined), with a corresponding cumulative CPUE of 150.09. The midpoint of the run at Big Eddy was 15 August (Table 3). The mean daily fishing time at Big Eddy was 19.9 minutes per drift (Appendix B1). Females comprised approximately 49.2% of the fish sampled (*n*=124). Coho salmon age-2.1 comprised 80.6%, age-1.1 represented 13.7%, followed by age-3.1 with 5.6% of the unweighted age sample. Mean lengths for males were 572 mm for age-1.1 (*n*=9), 575 mm for age-2.1 (*n*=52), and 583 mm for age-3.1 (*n*=2) Females had mean lengths of 583 mm for age-1.1 (*n*=8), 579 mm for age-2.1 (*n*=48), and 584 for age-3.1 (*n*=5) (Table 4; Horne-Brine et al. 2011).

At the Middle Fork drift sites, 298 coho salmon were captured (Sites 1 and 2 combined), resulting in a cumulative CPUE of 405.22. The midpoint of the run at Middle Mouth was 16 August (Table 3). The mean daily fishing time at Middle Mouth was 20.1 minutes per drift (Appendix B1). Females made up 48.6% of the coho salmon sampled (*n*=74). Coho salmon Age-2.1 comprised 77.0%, while ages-1.1 and -3.1 represented 14.9%, and 8.1%, respectively, of the unweighted sample. Males had mean length measurements of 594 mm for age-1.1 (*n*=10), 589 mm for age 2.1(*n*=26), and 588 mm for age-3.1 (*n*=2). Females had mean length measurements of 578 mm for age-2.1 (*n*=31), and 600 mm for age-3.1 (*n*=4) (Table 4; Horne-Brine et al. 2011).

CLIMATIC AND HYDROLOGICAL OBSERVATIONS

Details of weather and water observations recorded in Big Eddy (South Mouth) are presented in Appendix C1 and Middle Mouth observations are presented in Appendix C2. During the 2009 fall season, the highest winds noted at Big Eddy were gusts of over 20 mph (32 kph) on 17 July, from 29 July to 30 July, and on 21 August and 23 August. Middle Mouth recorded gusts over 20 mph (32 kph) on 29 July and 30 July. No major winds storms greater than 40 mph (64 kph) were recorded at either station. Water temperature crested at the end of July and beginning of August and subsequently decreased over the course of the season. Big Eddy recorded a maximum water temperature of 19.0°C and a minimum of 12.0°C, while Middle Mouth recorded a maximum of 19.0°C and a minimum of 14.0°C. Air temperatures also crested at the beginning of August and decreased throughout the season. Big Eddy recorded a maximum air temperature of 20.5°C and a minimum of 6.0°C, while a maximum of 20.5°C and minimum of 7.0°C were recorded at Middle Mouth. Appendix C3 presents sample depth profiles. Depth profiles for each station show examples of how seasonal discharge and tidal influence may affect drift efficiency.

PARTNERSHIP AND CAPACITY BUILDING

ADF&G hired 3 of 6 regular local YDFDA technicians who have worked on the LYTF crew as ADF&G technicians; 2 of the 3 have also enrolled at the University of Alaska Fairbanks. Local technicians have been invaluable assets to this project. Cooperation between ADF&G and YDFA technicians led to the sharing of experience and knowledge of the local river. This knowledge aided in the successful location and subsequent use of Big Eddy supplemental Site 3. Credibility of ADF&G catch information increased with local resource users as a result of hiring local fishermen, and notable appreciation by community members was received.

Of the 531 fall chum salmon captured in the test fishery, 259 were distributed to the local communities of Emmonak and Kotlik for subsistence use, 272 were released unharmed, and zero were sold. Of the 432 coho salmon captured in the test fishery, 219 were distributed to local residents for subsistence use, 213 coho salmon were released unharmed, and zero were sold (Appendix B2).

DISCUSSION

SITE PERFORMANCE

The Yukon River had a severe breakup in the spring of 2009, which led to high water levels and extremely swift currents during the early portion of the summer season. The breakup left large debris in the drift zones which created hazardous fishing conditions for the fall season crew as gear became entangled. Drift gillnets were caught on snags as deep as 6 m (20 ft) and several drift gillnets were damaged beyond repair. As the fall season progressed water levels dropped to near record low at LYTF, and all upriver assessment projects. On the contrary, one drift zone was affected by swift currents and deep water, either as a result of bottom scouring, or a shift of the thalweg toward the site during breakup.

Both Big Eddy drift Sites 1 and 2 were affected by varying degrees of the aforementioned river conditions. In years past, Site 1 persisted as an ideal drift zone. However in 2009, Site 1 on the right bank became a deposition zone at the downstream end and inshore side of a sandbar. This deposition was further exaggerated by extremely low water during the fall season; the sandbar exposed, and sections of the drift zone filled in as water flow through the site was reduced. In contrast to Site 1, deeper water and a swifter current than previous years resulted in the deposition of sunken debris and challenging drifts on the left bank (Site 2). Swift currents carried drift gillnets at a faster pace, decreasing the time through traditional drift zones. To compensate, zones were expanded upriver of traditional starting points and consequently into deeper water. These shifts in operation may have reduced the efficiency of the nets; however, it is not known to what degree the varying site depth profiles have affected CPUE. In response to changing Big Eddy depth profiles at Site 1 and Site 2, on 9 August, supplementary Site 3 was established to aid in detecting actively migrating fish. Site 3 was similar to Site 1 in that the profile had a consistent depth of 3 to 5 m (10–15 ft), and was free of river debris. Site 3 ran parallel to Site 1 and drift starting points were less than 0.4 km (0.25 ft) apart. Site 2 and 3 ran concurrently until it became apparent that the experimental site was fishable and productive, at which point Site 2 was no longer used. Site 1 relocation was considered but no additional safe, fishable location was available.

Middle Mouth drift sites were not appreciably affected by high water in the spring or the low water in the fall season, though drift zones were noted to be deeper than usual. While the drift

zones were adjusted according to water levels and current, the sites were not moved from traditional locations. Depth profile resolution is limited for Middle Mouth Site 1, and profiles tended to decrease over the season. Site 2 profile remained constant relative to the season's water levels.

FALL CHUM SALMON

As a result of river conditions Big Eddy and Middle Mouth, fall chum salmon CPUE was noticeably lower than the 2001–2008 average CPUE (Appendix A3) and may not be comparable to previous years. Extremely low water levels were thought to have changed fish movement patterns and the relative proportions of chum to coho salmon. Use of CPUE inseason was limited to timing and indication of salmon entering the Yukon River.

Fall chum salmon entered the South Mouth (Big Eddy/Kwikluak Pass) of the Yukon River Delta one day earlier than the Middle Mouth (Kawanak and Kwikpak Passes) and North Mouth (Apoon Pass). In 2009, the timing of fall chum salmon entering the South Mouth was two days later than the 2001–2008 average (Appendix A3), whereas pulses entering the Middle and North Mouths were three days later than the 2001–2008 average (Appendix A4). Based on the 10 August average passage date for LYTF (Big Eddy and Middle Mouth sites combined), timing of fall chum salmon caught in 2009 was three days later than the 2001–2008 average timing (Table 1; Appendix A1).

Fall chum salmon are believed to move into the river on either high tides or in association with high onshore winds. Local knowledge and observations indicate that the large pulses of fish often enter the river during extreme weather events. The highest observed wind events at Big Eddy were 20 mph (32 kph) on 29 July and 30 July, while Middle Mouth recorded wind up to 25 mph (40 kph) on 29 July and 40 mph (64 kph) on 30 July. The first pulse of fall chum salmon entered the river during this time period based on the substantial increase in CPUE at both Big Eddy and Middle Mouth sites. Winds blew steady for several days beginning 18 August around the time of the third pulse entered, however no wind events were observed during the second pulse. During storms or high winds fishing can be hazardous and occasionally must be deferred for safety reasons. Local knowledge also suggests higher southeasterly coastal winds and currents result in a decreased proportion of the salmon entering the South Mouth and increases in the Middle and North Mouths. This shift in winds often occurs during the latter half of August. Partly because of the low numbers of fall chum salmon captured in 2009 no substantial switch in CPUE was noted.

One overriding observation at all four lower river drift gillnet test fishery projects (LYTF, Mountain Village TF, Pilot Station apportionment nets, and an experimental test fishery at Flat Island operated by Kwik′pak) was the inability to catch fall chum salmon relative to expected proportions of coho salmon. The 2001–2008 average CPUE proportion of coho to chum salmon represented 24% whereas in 2009 the coho salmon proportion was 43% of the CPUE, the highest on record. One factor that may have contributed to change in net selectivity in 2009 was the extremely low water levels during most of the fall season. Consequently, behavioral changes may have altered the migration patterns of fall chum and coho salmon. The only other time the coho to fall chum salmon ratio increased to this extent has been in years where water levels dropped precipitously at the very end of the season.

STOCK COMPOSITION

Age-0.3 individuals made up the dominant age class (Table 3) for fall chum salmon. Overall the proportion of age-0.3 was higher than average in 2009, while the proportion age-0.4 was lower than average. However, average cumulative proportions by age trended similar to historical (1983–2008) patterns, in that age-0.3 increased as the season progressed from the end of July through August, and age-0.4 declined during the same time period. Females made up a larger proportion of age classes at all drift gillnet sites (Table 3) and, as expected, mean length increased with age for both sexes (Table 4). Typically, the average cumulative proportion of females increases throughout the run. In 2009 the proportion of females increased strongly until the end of July and then abruptly changed to 50:50, with only a slight increase the remainder of the season. The observed changes in both sex and age structure at the end of July may be related to the composition of the mixed stocks, including both summer and fall chum salmon runs, and/or individual stock composition based on distance to spawning grounds.

COHO SALMON

Temporal and spatial patterns for coho salmon are difficult to assess due to the overlap of their run timing with fall chum salmon. In 2009, coho salmon entering the South Mouth were three days later than the historical average of 14 August, while their entrance into Middle Mouth and North Mouth was one day earlier than the average of 17 August (Appendices C3 and C4). Based on the 16 August average passage date for the Big Eddy and Middle Mouth stations combined, timing of coho salmon was one day later than historical average (Appendix A2). Although pulses of coho salmon were recorded in all river mouths at similar time periods, over 70% of the run entered Middle Mouth and North Mouth. The extent to which weather and water conditions affect run timing of coho salmon in the lower portion of the Yukon River is unknown. On average, pulses of coho salmon take approximately 3.3 days to travel between the Lower Yukon test fishery and the Pilot Station sonar project, equating to an average travel speed of 48.3 km (30 mi) per day.

STOCK COMPOSITION

The major contributor to the 2009 coho salmon run were age-2.1 fish returning from the 2005 parent year (Bue and Hayes 2009). Although there is little comprehensive escapement information on coho salmon within the Yukon River drainage, it is known that coho salmon primarily return as four-year-old (age-2.1) fish (Horne-Brine et al. 2011). Age-2.1 individuals were the dominant age class at 79.3% (Table 4). Sample sizes were generally small except during passages of pulses, and the ratio of three-year-old (age-1.1) fish appeared to increase toward the end of the run.

RECOMMENDATIONS

Comparison of LYTF between and within seasons is more difficult than other inriver test fisheries. Because of the added elements of tidal influence, prevailing onshore winds, and currents, behavioral and entrance patterns of fish into one of three major mouths in the Yukon River Delta are affected. LYTF operates closest to the majority of the lower river commercial fishery and provides the timeliest information. Assessment of inseason run timing and harvest rates, provide a gauge for potential commercial catch. To account for such variation, and maintaining consistent and timely data, several recommendations are proposed.

Firstly, net sites for the test fishery must be constantly evaluated to determine site efficiency, particularly after catastrophic events that alter the substrate or have a potential to change migration routes. Depth profiles of fishing site have been evaluated using handheld depth finders. However, to aid in site evaluation, it is recommended to run bathymetric transects of the fishing sites annually using a high resolution LARANS type imaging system. These transects should be repeated whenever there is concern that a large change has occurred to the topography, such as after a prolonged high water event.

Secondly, documentation of the location of annual test net sites must be captured by global positioning units and assigned site numbers must be noted so that individual sites can be compared over multiple years. It has been noted in the past that site numbers relative to left and right bank operations have not been consistent.

Lastly, community outreach and support from the local processor (Kwik′pak) working through YDFDA has become an important part of capacity building in that it provides employment to local fishermen. These partnerships promote participation and perspective of fishery management decisions that affect the lives of all Yukon River communities. ADF&G welcomes and will continue to build partnerships with lower river fishermen and community members.

ACKNOWLEDGEMENTS

The Lower Yukon River drift gillnet test fishery project is a cooperative study between ADF&G and Yukon Delta Fisheries Development Association (YDFDA). The Alaska Department of Fish and Game would like to acknowledge the work of the entire technical staff dedicated to this project, including ADF&G technicians Mick Leach, Abraham Gioffre, and Daniel Warnke, and YDFDA technicians Isaiah Charles, Henry Uisok, and Joel Hunt. The authors would also like to acknowledge Larry DuBois and Maureen Horne-Brine for compiling ASL data. Furthermore, the authors would like to thank department staff Stacey Buckelew, Jeff Estensen, Dayna Green, and Toshihide Hamazaki for their constructive comments and review of this report.

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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, 2009.

	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	1	1.50	0.01	1.50	5	7.50	0.02	7.50	6	4.50	0.01	4.50
17 Jul	1	1.54	0.01	3.04	5	7.33	0.03	14.83	6	4.43	0.02	8.93
18 Jul	0	0.00	0.01	3.04	4	6.08	0.04	20.91	4	3.04	0.03	11.97
19 Jul	1	1.50	0.02	4.54	1	1.54	0.05	22.44	2	1.52	0.04	13.49
20 Jul	0	0.00	0.02	4.54	0	0.00	0.05	22.44	0	0.00	0.04	13.49
21 Jul	0	0.00	0.02	4.54	1	1.54	0.05	23.98	1	0.77	0.04	14.26
22 Jul[a]	0	0.00	0.02	4.54	0	0.00	0.05	23.98	0	0.00	0.04	14.26
23 Jul	2	2.87	0.03	7.41	2	3.08	0.06	27.06	4	2.97	0.05	17.24
24 Jul	0	0.00	0.03	7.41	0	0.00	0.06	27.06	0	0.00	0.05	17.24
25 Jul	0	0.00	0.03	7.41	2	3.61	0.06	30.67	2	1.80	0.05	19.04
26 Jul	0	0.00	0.03	7.41	1	1.50	0.07	32.17	1	0.75	0.05	19.79
27 Jul	1	1.54	0.04	8.95	1	1.54	0.07	33.71	2	1.54	0.06	21.33
28 Jul	0	0.00	0.04	8.95	0	0.00	0.07	33.71	0	0.00	0.06	21.33
29 Jul	0	0.00	0.04	8.95	1	1.50	0.07	35.21	1	0.75	0.06	22.08
30 Jul	25	41.67	0.21	50.62	2	3.00	0.08	38.21	27	22.33	0.12	44.41
31 Jul	6	9.23	0.25	59.85	18	26.78	0.13	64.99	24	18.01	0.17	62.42
1 Aug	1	1.54	0.26	61.38	2	2.93	0.14	67.91	3	2.23	0.18	64.65
2 Aug	1	1.43	0.27	62.81	5	7.14	0.15	75.06	6	4.29	0.19	68.94
3 Aug	2	3.04	0.28	65.85	0	0.00	0.15	75.06	2	1.52	0.19	70.45
4 Aug	0	0.00	0.28	65.85	2	2.79	0.16	77.85	2	1.40	0.20	71.85
5 Aug	0	0.00	0.28	65.85	9	12.00	0.18	89.85	9	6.00	0.21	77.85
6 Aug	0	0.00	0.28	65.85	4	5.86	0.20	95.70	4	2.93	0.22	80.78
7 Aug	7	9.77	0.32	75.62	15	20.18	0.24	115.89	22	14.97	0.26	95.75
8 Aug	6	8.18	0.35	83.80	29	41.05	0.32	156.94	35	24.62	0.33	120.37
9 Aug	31	38.08	0.52	121.88	58	75.97	0.48	232.91	89	57.02	0.49	177.39
10 Aug	19	29.67	0.64	151.54	16	22.53	0.52	255.44	35	26.10	0.56	203.49
11 Aug	0	0.00	0.64	151.54	3	4.39	0.53	259.83	3	2.20	0.57	205.69
12 Aug	0	0.00	0.64	151.54	6	9.19	0.55	269.02	6	4.60	0.58	210.28
13 Aug	0	0.00	0.64	151.54	2	3.04	0.56	272.06	2	1.52	0.58	211.80
14 Aug	0	0.00	0.64	151.54	2	2.96	0.56	275.02	2	1.48	0.59	213.28
15 Aug	2	1.91	0.65	153.46	3	4.46	0.57	279.49	5	3.19	0.60	216.47
16 Aug	26	21.43	0.74	174.89	5	7.65	0.59	287.14	31	14.54	0.64	231.01
17 Aug	10	9.69	0.78	184.58	2	3.00	0.59	290.14	12	6.34	0.65	237.36
18 Aug	9	8.72	0.82	193.30	0	0.00	0.59	290.14	9	4.36	0.67	241.72
19 Aug	23	23.99	0.92	217.30	56	83.97	0.76	374.11	79	53.98	0.81	295.71
20 Aug[b]	0	0.00	0.92	217.30	25	33.83	0.83	407.95	25	16.92	0.86	312.62
21 Aug	0	0.00	0.92	217.30	6	9.23	0.85	417.18	6	4.62	0.87	317.24
22 Aug	1	1.50	0.93	218.80	18	25.12	0.90	442.30	19	13.31	0.91	330.55
23 Aug	3	4.62	0.95	223.41	3	4.46	0.91	446.76	6	4.54	0.92	335.09
24 Aug	5	7.18	0.98	230.59	1	1.54	0.92	448.30	6	4.36	0.94	339.44
25 Aug	0	0.00	0.98	230.59	1	1.50	0.92	449.80	1	0.75	0.94	340.19
26 Aug	0	0.00	0.98	230.59	17	23.65	0.97	473.45	17	11.83	0.97	352.02
27 Aug	3	4.19	0.99	234.78	8	11.64	0.99	485.09	11	7.91	0.99	359.93
28 Aug	1	1.54	1.00	236.31	3	4.54	1.00	489.63	4	3.04	1.00	362.97
Total	187			236.31	344			489.63	531			362.97

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] Commercial fishing occurred on this day.

[b] Only 3 drifts for the day due to snag. One fall chum and one coho salmon caught in snag drift but were not included in CPUE, catch, or ASL.

Table 2.–Summary of fall chum salmon age and sex data for the Lower Yukon drift gillnet test fishery, 2009.

Station	Sample Size	Sex	Brood Year and Age Class									
			2006 Age-0.2		2005 Age-0.3		2004 Age-0.4		2003 Age-0.5		Total	
Big Eddy	181		No.	%	No.	%	No.	%	No.	%	No.	%
		Males	5	2.8	62	34.3	18	9.9	2	1.1	87	48.1
		Females	4	2.2	67	37.0	20	11.0	3	1.7	94	51.9
		Subtotal	9	5.0	129	71.3	38	21.0	5	2.8	181	100.0
		Mean Length Males	569		585		604		608			
		SE	10		3		6		13			
		Mean Length Females	579		582		594		585			
		SE	11		2		5		17			
Middle Mouth	70		No.	%	No.	%	No.	%	No.	%	No.	%
		Males	0	0.0	21	30.0	7	10.0	2	2.9	30	42.9
		Females	3	4.3	26	37.1	11	15.7	0	0.0	40	57.1
		Total	3	4.3	47	67.1	18	25.7	2	2.9	70	100.0
		Mean Length Males	-		587		595		610			
		SE	-		4		14		30			
		Mean Length Females	558		576		595		-			
		SE	9		5		4		-			
Season Total	251		No.	%	No.	%	No.	%	No.	%	No.	%
		Males	5	2.0	83	33.1	25	10.0	4	1.6	117	46.6
		Females	7	2.8	93	37.1	31	12.4	3	1.2	134	53.4
		Total	12	4.8	176	70.1	56	22.3	7	2.8	251	100.0
		Mean Length Males	569		586		601		609			
		SE	10		2		6		13			
		Mean Length Females	570		581		594		585			
		SE	8		2		4		17			

Table 3.–Catch and CPUE for coho salmon in the Lower Yukon drift gillnet test fishery, 2009.

	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	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
17 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
18 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
19 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
20 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
21 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
22 Jul[a]	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
23 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
24 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
25 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
26 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
27 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
28 Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
29 Jul	0	0.00	0.06	8.33	0	0.00	0.00	0.00	0	0.00	0.00	0.00
30 Jul	5	8.33	0.06	8.33	0	0.00	0.00	0.00	5	4.17	0.02	4.17
31 Jul	0	0.00	0.06	8.33	0	0.00	0.00	0.00	0	0.00	0.02	4.17
1 Aug	0	0.00	0.06	8.33	0	0.00	0.00	0.00	0	0.00	0.02	4.17
2 Aug	0	0.00	0.06	8.33	2	2.79	0.01	2.79	2	1.40	0.02	5.56
3 Aug	0	0.00	0.06	8.33	0	0.00	0.01	2.79	0	0.00	0.02	5.56
4 Aug	0	0.00	0.06	8.33	1	1.40	0.01	4.19	1	0.70	0.02	6.26
5 Aug	0	0.00	0.06	8.33	11	14.98	0.05	19.16	11	7.49	0.05	13.75
6 Aug	0	0.00	0.06	8.33	4	5.82	0.06	24.98	4	2.91	0.06	16.66
7 Aug	0	0.00	0.15	22.22	1	1.43	0.07	26.41	1	0.71	0.06	17.37
8 Aug	10	13.89	0.23	34.25	13	17.40	0.11	43.81	23	15.64	0.12	33.02
9 Aug	10	12.03	0.34	51.36	38	50.80	0.23	94.60	48	31.41	0.23	64.43
10 Aug	14	17.10	0.36	53.31	53	67.92	0.40	162.52	67	42.51	0.39	106.94
11 Aug	2	1.95	0.36	54.31	11	16.10	0.44	178.62	13	9.02	0.42	115.96
12 Aug	1	1.00	0.36	54.31	5	7.58	0.46	186.20	6	4.29	0.43	120.25
13 Aug	0	0.00	0.38	57.33	5	7.32	0.48	193.51	5	3.66	0.45	123.91
14 Aug	3	3.03	0.40	60.21	2	3.00	0.48	196.51	5	3.01	0.46	126.92
15 Aug	3	2.88	0.50	74.37	0	0.00	0.48	196.51	3	1.44	0.46	128.36
16 Aug	16	14.16	0.65	96.96	4	6.04	0.50	202.55	20	10.10	0.50	138.46
17 Aug	23	22.59	0.70	104.63	2	3.00	0.51	205.55	25	12.80	0.54	151.26
18 Aug	8	7.67	0.85	127.41	2	3.08	0.51	208.63	10	5.37	0.56	156.63
19 Aug	22	22.78	0.89	133.22	35	45.70	0.63	254.33	57	34.24	0.69	190.87
20 Aug[b]	5	5.80	0.91	136.98	51	66.76	0.79	321.09	56	36.28	0.82	227.15
21 Aug	3	3.76	0.98	147.01	14	20.77	0.84	341.86	17	12.26	0.86	239.42
22 Aug	7	10.03	0.99	148.55	13	17.71	0.89	359.57	20	13.87	0.91	253.29
23 Aug	1	1.54	0.99	148.55	4	5.97	0.90	365.53	5	3.75	0.93	257.04
24 Aug	0	0.00	1.00	150.09	2	3.00	0.91	368.53	2	1.50	0.93	258.54
25 Aug	1	1.54	1.00	150.09	8	11.93	0.94	380.46	9	6.73	0.96	265.27
26 Aug	0	0.00	1.00	150.09	7	10.12	0.96	390.58	7	5.06	0.97	270.33
27 Aug	0	0.00	1.00	150.09	7	10.14	0.99	400.72	7	5.07	0.99	275.40
28 Aug	0	0.00	1.00	150.09	3	4.50	1.00	405.22	3	2.25	1.00	277.65
Total	134			150.09	298			405.22	432			277.65

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] Commercial fishing occurred on this day.

[b] Only 3 drifts for the day due to snag. One fall chum and one coho salmon caught in snag drift but were not included in CPUE, catch, or ASL.

Table 4.–Summary of coho salmon age and sex data for the Lower Yukon Drift gillnet test fishery, 2009.

Station	Sample Size	Sex	Brood Year and Age Class							
			2006 Age-1.1		2005 Age-2.1		2004 Age-3.1		Total	
Big Eddy	124		No.	%	No.	%	No.	%	No.	%
		Males	9	7.3	52	41.9	2	1.6	63	50.8
		Females	8	6.5	48	38.7	5	4.0	61	49.2
		Subtotal	17	13.7	100	80.6	7	5.6	124	100.0
		Mean Length Males	572		575		583			
		SE	10		4		23			
		Mean Length Females	583		579		584			
		SE	6		3		8			
Middle Mouth	74		No.	%	No.	%	No.	%	No.	%
		Males	10	13.5	26	35.1	2	2.7	38	51.4
		Females	1	1.4	31	41.9	4	5.4	36	48.6
		Subtotal	11	14.9	57	77.0	6	8.1	74	100.0
		Mean Length Males	594		589		588			
		SE	7		6		38			
		Mean Length Females	570		578		600			
		SE	–		4		7			
Season Total	198		No.	%	No.	%	No.	%	No.	%
		Males	19	9.6	78	39.4	4	2.0	101	51.0
		Females	9	4.5	79	39.9	9	4.5	97	49.0
		Total	28	14.1	157	79.3	13	6.6	198	100.0
		Mean Length Males	583		580		585			
		SE	6		4		18			
		Mean Length Females	581		579		591			
		SE	6		2		6			

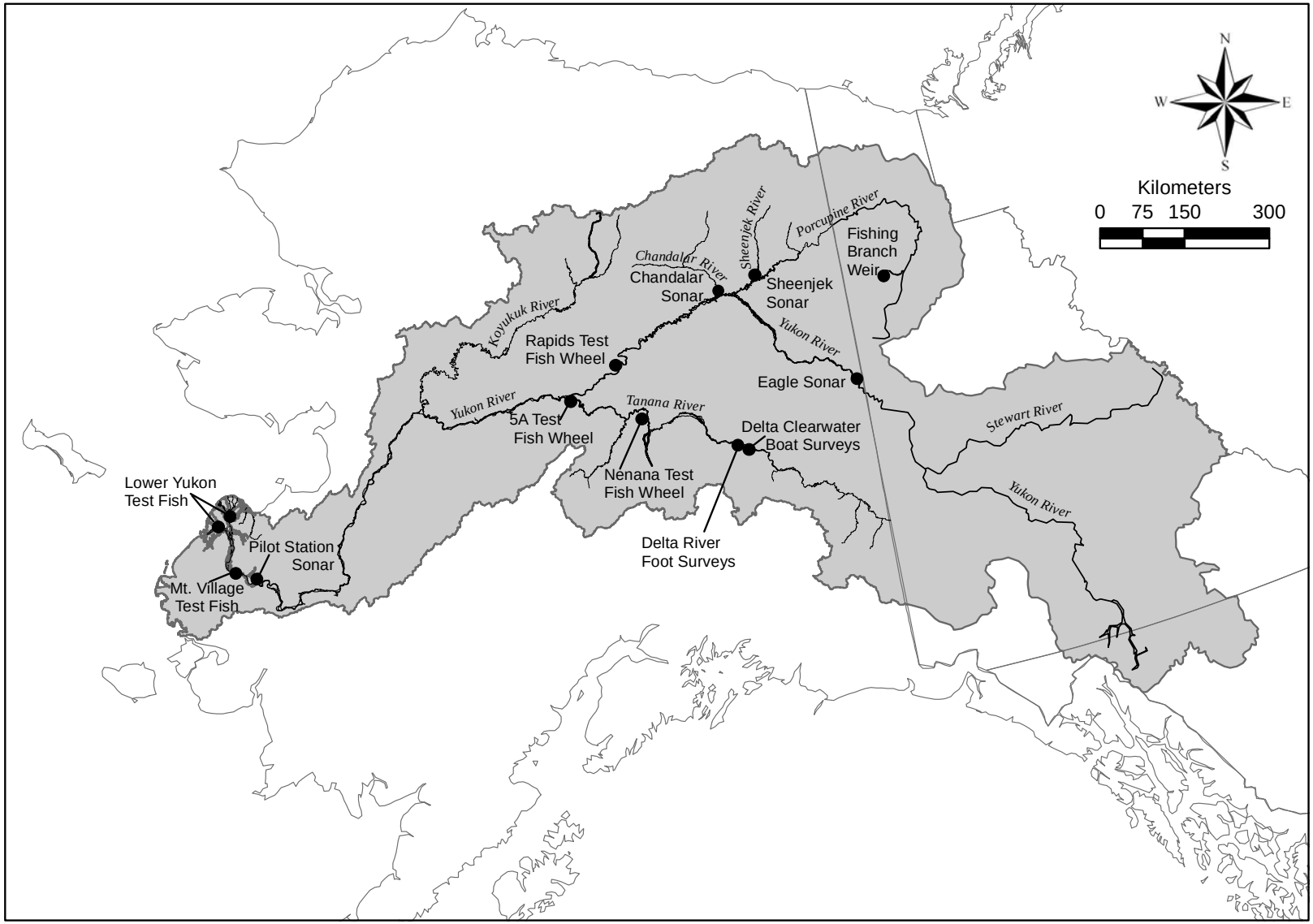

Figure 1.–Select project site locations for fall season salmon assessment in the Yukon River drainage, 200.

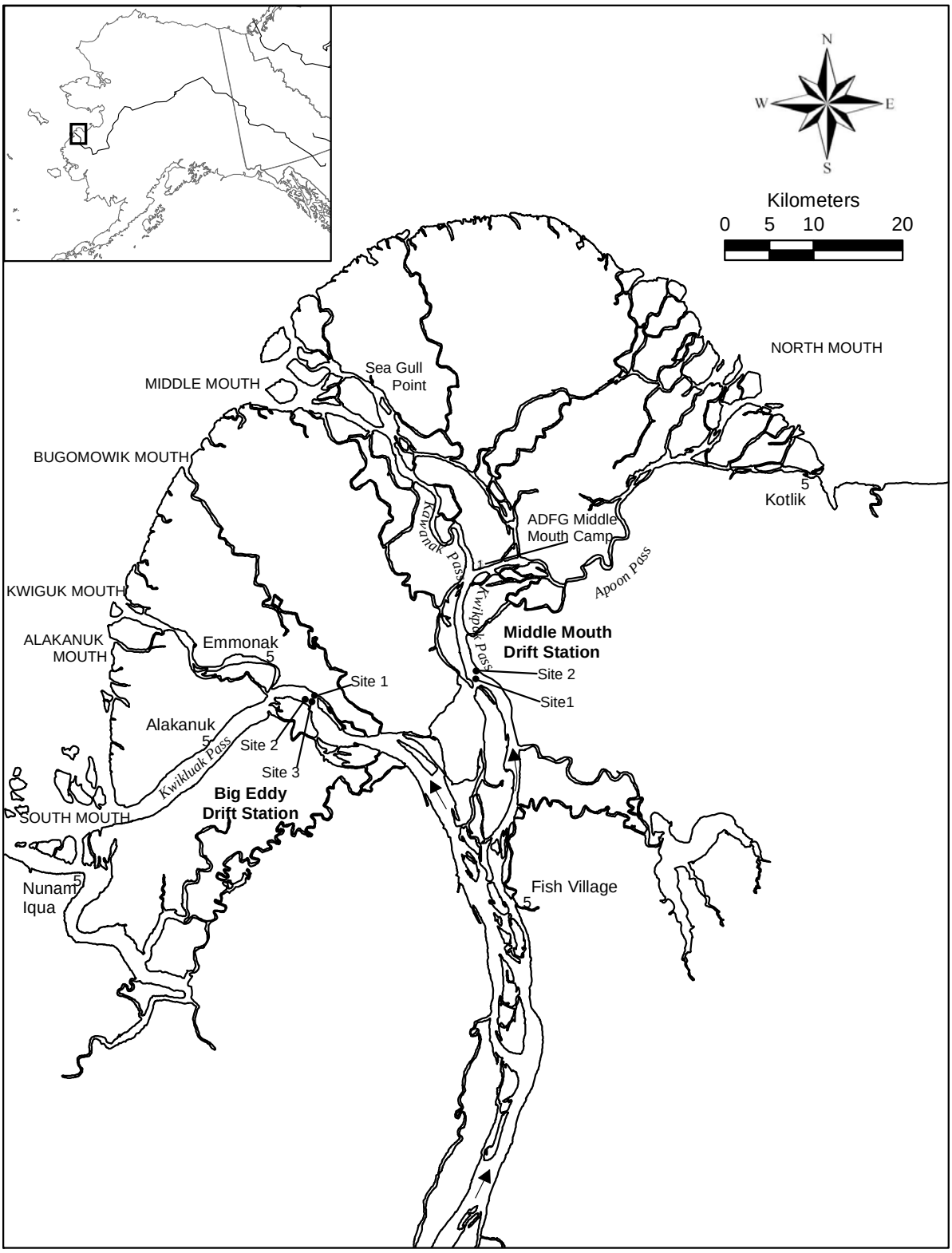

Figure 2.–Drift sites for the cooperative Lower Yukon drift gillnet test fishery, 2009.

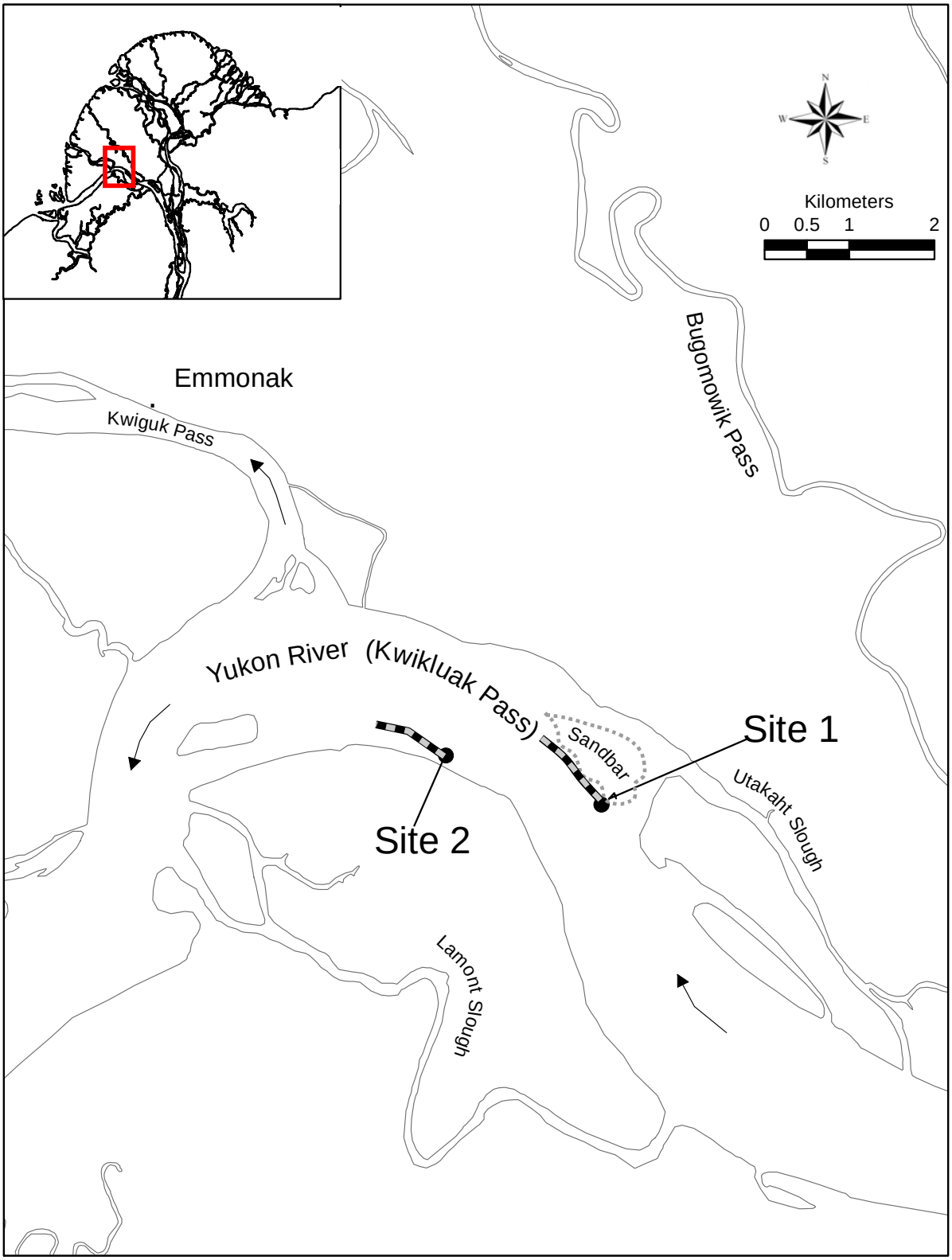

Figure 3.–Big Eddy Station test drift gillnet sites in the Lower Yukon River, 2009.

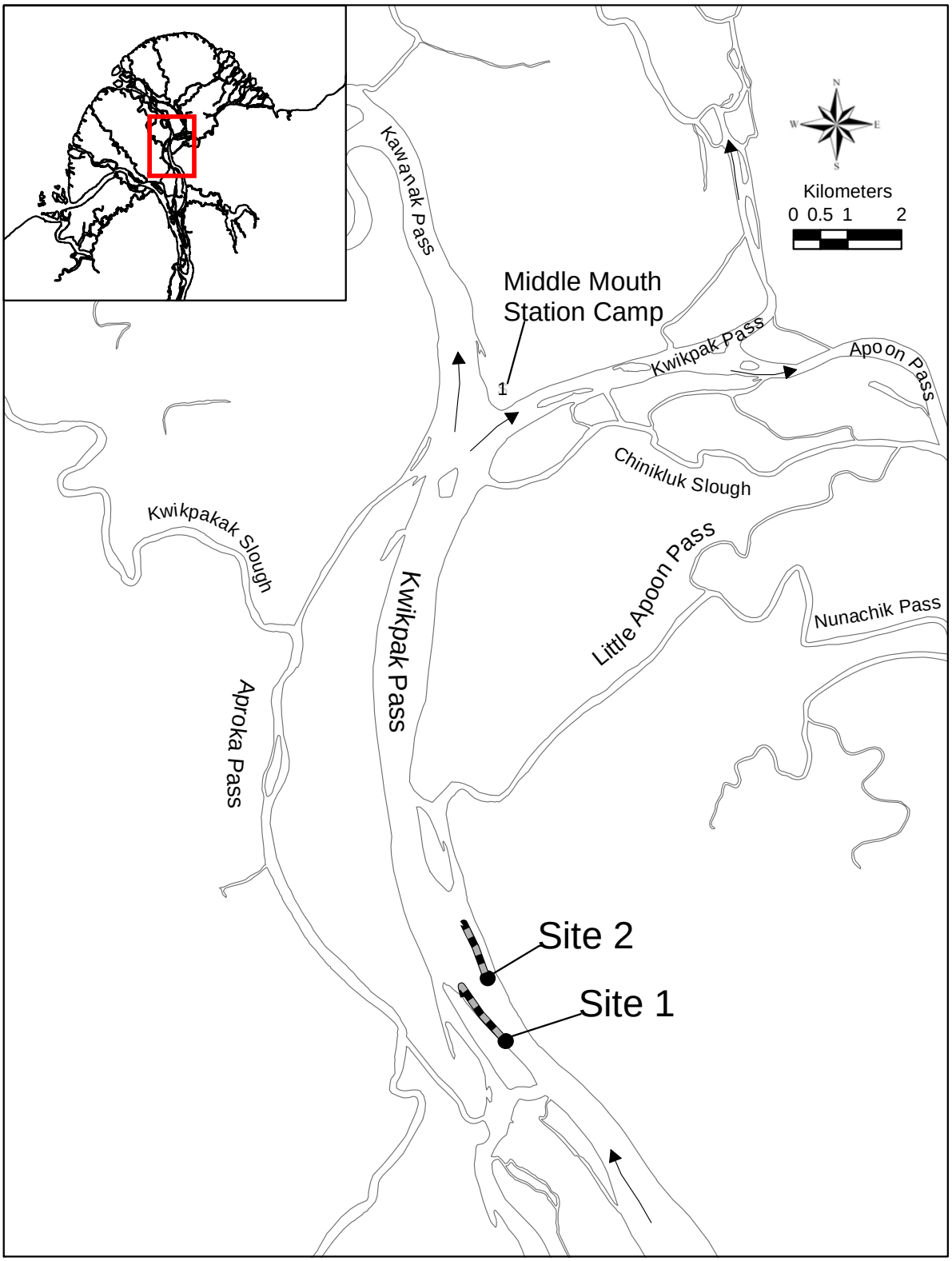

Figure 4.–Middle Mouth Station test drift gillnet sites in the Lower Yukon River, 2009.

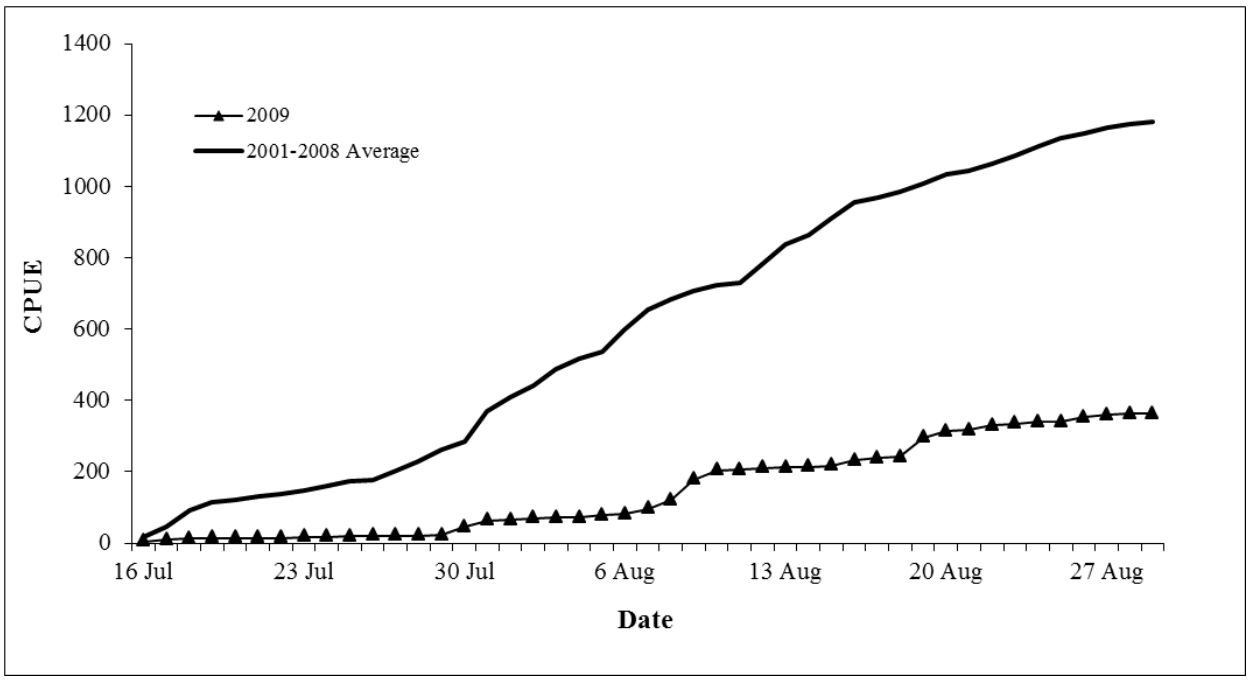

Figure 5.–Cumulative CPUE for fall chum salmon in the Lower Yukon drift gillnet test fishery, 2009 compared to the 2001 through 2008 average.

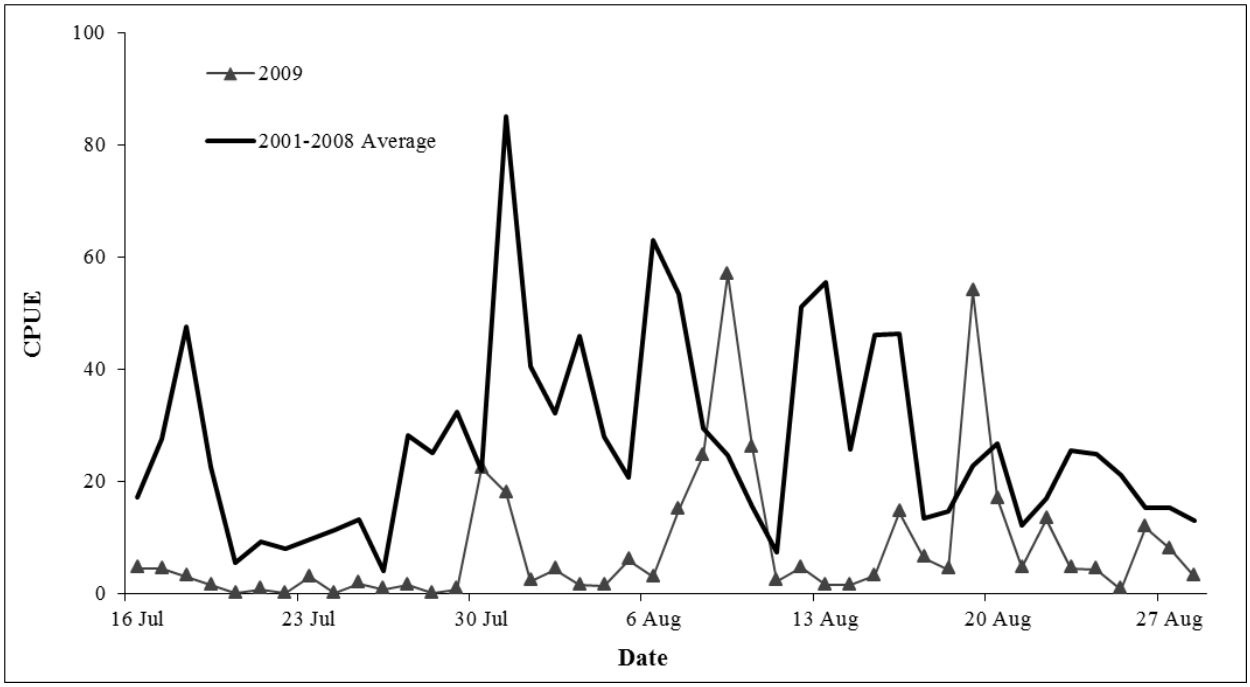

Figure 6.–Daily CPUE for fall chum salmon in the Lower Yukon drift gillnet test fishery, 2009 compared to the 2001 through 2008 average.

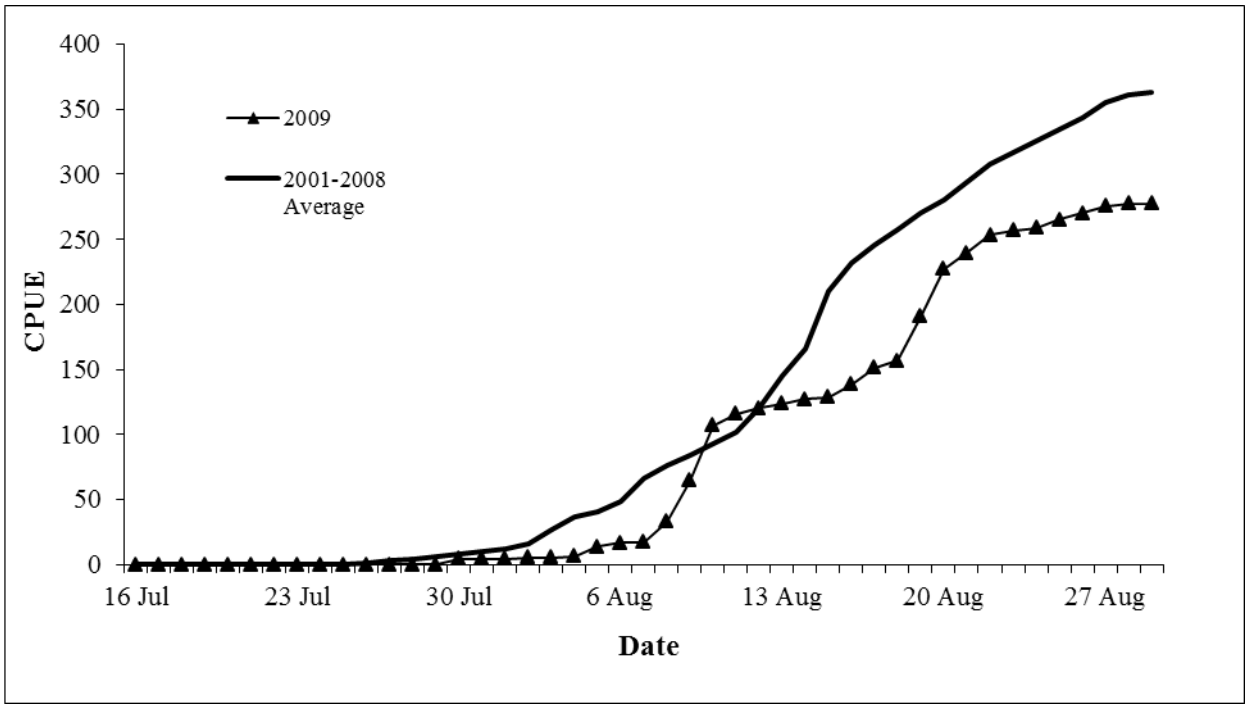

Figure 7.–Cumulative CPUE for coho salmon in the Lower Yukon drift gillnet test fishery, 2009 compared to the 2001 through 2008 average.

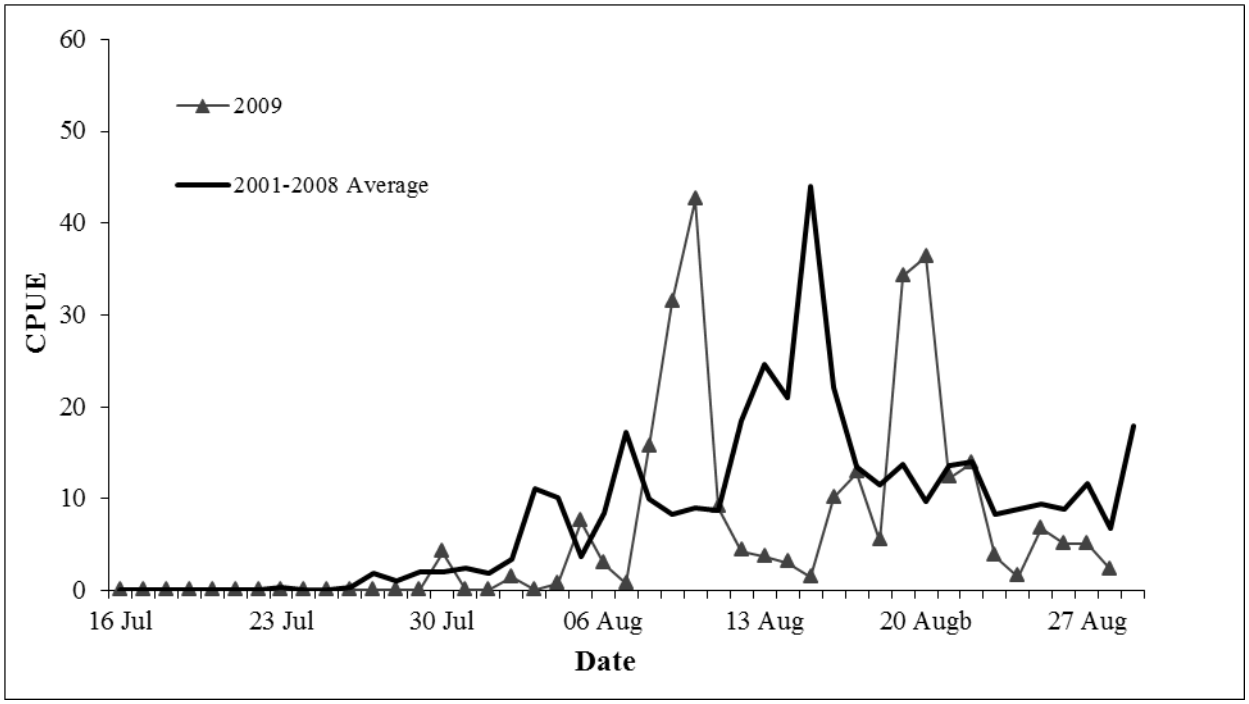

Figure 8.–Daily CPUE for coho salmon in the Lower Yukon drift gillnet test fishery, 2009 compared to the 2001 through 2008 average.

APPENDIX A. HISTORICAL DATA

Appendix A1.–Historical CPUE data for fall chum salmon in the Lower Yukon drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
Date	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE
16 Jul	21.28	0.02	21.28	0.79	0.00	0.79	25.78	0.02	25.78	0.00	0.00	0.00
17 Jul	149.66	0.13	170.94	11.03	0.01	11.82	20.68	0.04	46.46	0.00	0.00	0.00
18 Jul	139.21	0.23	310.14	0.00	0.01	11.82	1.50	0.04	47.96	0.72	0.00	0.72
19 Jul	27.38	0.25	337.52	3.01	0.02	14.82	1.84	0.04	49.79	48.07	0.06	48.79
20 Jul	1.50	0.26	339.02	0.00	0.02	14.82	1.58	0.04	51.37	15.96	0.09	64.74
21 Jul	3.00	0.26	342.02	0.73	0.02	15.55	24.23	0.06	75.60	19.89	0.11	84.63
22 Jul	6.31	0.26	348.32	0.00	0.02	15.55	41.50	0.09	117.10	5.28	0.12	89.90
23 Jul	50.64	0.30	398.96	0.00	0.02	15.55	15.10	0.11	132.19	1.60	0.12	91.50
24 Jul	64.87	0.35	463.83	0.00	0.02	15.55	9.75	0.11	141.94	0.77	0.12	92.27
25 Jul	31.44	0.37	495.27	54.30	0.09	69.85	2.29	0.12	144.23	0.75	0.12	93.02
26 Jul	4.25	0.38	499.52	3.27	0.09	73.12	6.61	0.12	150.84	5.11	0.13	98.13
27 Jul	11.33	0.39	510.85	9.29	0.10	82.41	84.82	0.19	235.66	1.55	0.13	99.68
28 Jul	4.62	0.39	515.46	35.28	0.14	117.69	25.61	0.21	261.27	0.00	0.13	99.68
29 Jul	0.77	0.39	516.23	32.18	0.18	149.86	17.68	0.22	278.94	0.73	0.13	100.41
30 Jul	7.54	0.39	523.77	1.54	0.19	151.40	1.59	0.22	280.53	0.00	0.13	100.41
31 Jul	95.32	0.47	619.09	0.00	0.19	151.40	0.84	0.23	281.36	6.89	0.14	107.29
1 Aug	43.12	0.50	662.20	15.57	0.20	166.97	4.83	0.23	286.19	146.73	0.34	254.02
2 Aug	114.07	0.59	776.27	1.54	0.21	168.51	0.75	0.23	286.94	74.50	0.43	328.52
3 Aug	101.86	0.66	878.13	5.84	0.21	174.35	203.48	0.39	490.42	18.10	0.46	346.62
4 Aug	22.58	0.68	900.71	0.77	0.21	175.12	179.98	0.54	670.40	12.06	0.47	358.68
5 Aug	7.00	0.68	907.70	0.79	0.22	175.91	15.99	0.55	686.38	2.22	0.48	360.89
6 Aug	100.73	0.76	1,008.43	0.00	0.22	175.91	1.54	0.55	687.92	3.79	0.48	364.68
7 Aug	136.78	0.86	1,145.20	18.10	0.24	194.01	0.00	0.55	687.92	2.27	0.49	366.95
8 Aug	32.57	0.89	1,177.77	16.55	0.26	210.55	0.00	0.55	687.92	59.62	0.56	426.57
9 Aug	19.44	0.90	1,197.21	95.72	0.38	306.27	2.85	0.55	690.77	51.31	0.63	477.88
10 Aug	16.23	0.91	1,213.43	49.88	0.44	356.15	25.26	0.57	716.03	16.64	0.65	494.52
11 Aug	2.91	0.92	1,216.34	19.38	0.46	375.52	3.09	0.58	719.11	1.54	0.66	496.06
12 Aug	26.21	0.94	1,242.55	23.14	0.49	398.66	65.33	0.63	784.44	0.00	0.66	496.06
13 Aug	27.06	0.96	1,269.61	20.94	0.51	419.60	0.00	0.63	784.44	2.52	0.66	498.58
14 Aug	17.26	0.97	1,286.87	7.08	0.52	426.67	55.12	0.67	839.56	24.61	0.69	523.19
15 Aug	11.23	0.98	1,298.10	18.65	0.55	445.32	259.41	0.88	1,098.97	10.44	0.71	533.63
16 Aug	3.76	0.98	1,301.86	284.72	0.89	730.03	48.76	0.92	1,147.73	0.00	0.71	533.63
17 Aug	1.56	0.98	1,303.42	38.44	0.94	768.47	12.61	0.93	1,160.34	2.12	0.71	535.75
18 Aug	2.29	0.98	1,305.71	12.06	0.96	780.53	4.72	0.93	1,165.06	1.47	0.71	537.21
19 Aug	0.00	0.98	1,305.71	6.68	0.96	787.20	0.00	0.93	1,165.06	0.00	0.71	537.21
20 Aug	2.33	0.99	1,308.04	2.85	0.97	790.05	2.33	0.93	1,167.39	119.04	0.87	656.25
21 Aug	13.83	1.00	1,321.87	5.66	0.97	795.71	3.92	0.94	1,171.31	20.35	0.90	676.60
22 Aug	3.75	1.00	1,325.62	13.04	0.99	808.75	21.23	0.95	1,192.53	0.77	0.90	677.37
23 Aug	0.00	1.00	1,325.62	3.95	1.00	812.70	34.13	0.98	1,226.66	0.00	0.90	677.37
24 Aug	0.77	1.00	1,326.39	0.00	1.00	812.70	17.16	1.00	1,243.82	5.81	0.90	683.18
25 Aug	0.00	1.00	1,326.39	0.00	1.00	812.70	3.00	1.00	1,246.82	10.32	0.92	693.50
26 Aug	0.00	1.00	1,326.39	0.00	1.00	812.70	2.33	1.00	1,249.15	17.81	0.94	711.31
27 Aug	0.00	1.00	1,326.39	0.79	1.00	813.49	0.00	1.00	1,249.15	44.26	1.00	755.56
28 Aug	0.00	1.00	1,326.39	3.08	1.00	816.57	0.00	1.00	1,249.15	–		755.56
29 Aug	–		1,326.39	–		816.57	–		1,249.15	–		755.56
Totals	1,326.39			816.57			1,249.15			755.56		

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	2005			2006			2007			2008		
Date	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE
16 Jul	11.22	0.00	11.22	69.62	0.06	69.62	4.35	0.00	4.35	3.86	0.00	3.86
17 Jul	14.11	0.01	25.33	9.65	0.07	79.27	8.73	0.01	13.08	7.70	0.01	11.55
18 Jul	231.72	0.11	257.04	3.81	0.07	83.08	2.27	0.02	15.35	2.25	0.02	13.80
19 Jul	99.31	0.15	356.35	0.86	0.07	83.93	0.79	0.02	16.14	0.00	0.02	13.80
20 Jul	22.54	0.16	378.89	0.00	0.07	83.93	3.32	0.02	19.45	0.00	0.02	13.80
21 Jul	2.24	0.16	381.12	11.79	0.08	95.72	3.02	0.02	22.47	9.28	0.03	23.08
22 Jul	0.86	0.16	381.98	2.25	0.09	97.97	0.00	0.02	22.47	7.79	0.04	30.87
23 Jul	0.72	0.16	382.69	0.75	0.09	98.72	0.00	0.02	22.47	7.99	0.05	38.86
24 Jul	1.40	0.16	384.09	2.33	0.09	101.05	0.73	0.02	23.20	11.09	0.06	49.94
25 Jul	0.77	0.16	384.86	7.24	0.09	108.29	0.00	0.02	23.20	9.08	0.07	59.02
26 Jul	3.79	0.17	388.65	0.00	0.09	108.29	0.73	0.02	23.93	8.49	0.08	67.51
27 Jul	2.22	0.17	390.86	77.34	0.16	185.63	0.77	0.02	24.70	39.00	0.13	106.50
28 Jul	5.39	0.17	396.25	89.31	0.24	274.94	3.73	0.03	28.44	37.23	0.18	143.73
29 Jul	123.99	0.22	520.24	81.91	0.31	356.84	0.00	0.03	28.44	2.29	0.18	146.02
30 Jul	42.22	0.24	562.46	87.06	0.39	443.90	0.77	0.03	29.20	35.28	0.22	181.30
31 Jul	473.54	0.44	1,036.00	33.20	0.41	477.10	0.00	0.03	29.20	72.10	0.31	253.40
1 Aug	34.74	0.46	1,070.73	47.63	0.46	524.72	0.00	0.03	29.20	32.59	0.35	285.98
2 Aug	0.75	0.46	1,071.48	18.48	0.47	543.20	11.59	0.04	40.80	35.46	0.40	321.44
3 Aug	2.95	0.46	1,074.43	2.39	0.47	545.58	13.14	0.05	53.94	19.94	0.42	341.37
4 Aug	0.75	0.46	1,075.18	2.74	0.48	548.32	0.77	0.05	54.71	4.02	0.43	345.39
5 Aug	124.68	0.51	1,199.85	11.99	0.49	560.31	0.73	0.06	55.44	2.92	0.43	348.30
6 Aug	256.76	0.62	1,456.61	28.36	0.51	588.66	110.89	0.17	166.33	2.28	0.43	350.58
7 Aug	105.32	0.67	1,561.92	12.78	0.52	601.44	137.18	0.30	303.51	15.28	0.45	365.86
8 Aug	52.04	0.69	1,613.96	9.07	0.53	610.51	64.98	0.37	368.49	1.53	0.45	367.38
9 Aug	19.47	0.70	1,633.43	3.79	0.53	614.30	3.02	0.37	371.51	1.54	0.46	368.92
10 Aug	12.46	0.70	1,645.89	0.00	0.53	614.30	2.93	0.38	374.44	0.75	0.46	369.67
11 Aug	20.90	0.71	1,666.79	1.50	0.54	615.80	9.27	0.39	383.71	0.77	0.46	370.44
12 Aug	7.97	0.72	1,674.76	185.14	0.70	800.93	92.70	0.48	476.41	8.95	0.47	379.39
13 Aug	3.03	0.72	1,677.78	31.52	0.72	832.45	149.66	0.63	626.07	209.31	0.73	588.69
14 Aug	30.03	0.73	1,707.81	7.90	0.73	840.34	32.54	0.66	658.61	32.23	0.77	620.92
15 Aug	17.94	0.74	1,725.75	36.98	0.76	877.32	7.11	0.67	665.72	7.80	0.78	628.72
16 Aug	6.63	0.74	1,732.37	11.03	0.77	888.35	8.49	0.68	674.22	7.54	0.79	636.26
17 Aug	13.04	0.75	1,745.41	32.06	0.80	920.40	7.60	0.68	681.81	0.00	0.79	636.26
18 Aug	71.54	0.78	1,816.94	15.14	0.81	935.54	5.87	0.69	687.69	3.63	0.79	639.88
19 Aug	69.99	0.81	1,886.93	92.10	0.89	1,027.64	8.05	0.70	695.74	6.50	0.80	646.38
20 Aug	50.03	0.83	1,936.95	34.02	0.92	1,061.65	1.58	0.70	697.32	1.62	0.80	648.00
21 Aug	43.27	0.85	1,980.22	7.77	0.93	1,069.42	0.86	0.70	698.18	2.27	0.80	650.27
22 Aug	64.93	0.88	2,045.15	0.84	0.93	1,070.25	0.73	0.70	698.91	30.31	0.84	680.58
23 Aug	128.61	0.93	2,173.75	20.95	0.95	1,091.20	10.19	0.71	709.10	5.89	0.85	686.47
24 Aug	58.17	0.95	2,231.92	15.48	0.96	1,106.68	93.02	0.81	802.12	9.36	0.86	695.82
25 Aug	30.22	0.97	2,262.14	2.50	0.96	1,109.18	96.78	0.90	898.90	26.95	0.89	722.77
26 Aug	18.25	0.98	2,280.39	5.00	0.97	1,114.18	28.48	0.93	927.38	49.94	0.95	772.71
27 Aug	11.45	0.98	2,291.84	27.47	0.99	1,141.64	4.62	0.94	932.00	33.48	1.00	806.19
28 Aug	11.78	0.99	2,303.62	8.61	1.00	1,150.25	64.27	1.00	996.27	3.83	1.00	810.02
29 Aug	33.59	1.00	2,337.21	–		1,150.25	–		996.27	–		810.02
Totals	2,337.21			1,150.25			996.27			810.02		

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	2009			2001–2008 Average		
Date	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE
16 Jul	4.50	0.01	4.50	17.11	0.01	17.11
17 Jul	4.43	0.02	8.93	27.69	0.04	44.80
18 Jul	3.04	0.03	11.97	47.68	0.06	92.49
19 Jul	1.52	0.04	13.49	22.66	0.08	115.14
20 Jul	0.00	0.04	13.49	5.61	0.08	120.75
21 Jul	0.77	0.04	14.26	9.27	0.09	130.02
22 Jul	0.00	0.04	14.26	8.00	0.10	138.02
23 Jul	2.97	0.05	17.24	9.60	0.11	147.62
24 Jul	0.00	0.05	17.24	11.37	0.12	158.98
25 Jul	1.80	0.05	19.04	13.23	0.13	172.22
26 Jul	0.75	0.05	19.79	4.03	0.14	176.25
27 Jul	1.54	0.06	21.33	28.29	0.16	204.53
28 Jul	0.00	0.06	21.33	25.14	0.19	229.68
29 Jul	0.75	0.06	22.08	32.44	0.21	262.12
30 Jul	22.33	0.12	44.41	22.00	0.23	284.12
31 Jul	18.01	0.17	62.42	85.23	0.28	369.35
1 Aug	2.23	0.18	64.65	40.65	0.32	410.00
2 Aug	4.29	0.19	68.94	32.14	0.35	442.14
3 Aug	1.52	0.19	70.45	45.96	0.39	488.10
4 Aug	1.40	0.20	71.85	27.96	0.42	516.06
5 Aug	6.00	0.21	77.85	20.79	0.43	536.85
6 Aug	2.93	0.22	80.78	63.04	0.47	599.89
7 Aug	14.97	0.26	95.75	53.46	0.51	653.35
8 Aug	24.62	0.33	120.37	29.54	0.54	682.89
9 Aug	57.02	0.49	177.39	24.64	0.57	707.53
10 Aug	26.10	0.56	203.49	15.52	0.58	723.05
11 Aug	2.20	0.57	205.69	7.42	0.59	730.47
12 Aug	4.60	0.58	210.28	51.18	0.63	781.65
13 Aug	1.52	0.58	211.80	55.50	0.69	837.15
14 Aug	1.48	0.59	213.28	25.84	0.72	862.99
15 Aug	3.19	0.60	216.47	46.19	0.76	909.19
16 Aug	14.54	0.64	231.01	46.36	0.81	955.55
17 Aug	6.34	0.65	237.36	13.43	0.82	968.98
18 Aug	4.36	0.67	241.72	14.59	0.83	983.57
19 Aug	53.98	0.81	295.71	22.91	0.85	1,006.48
20 Aug	16.92	0.86	312.62	26.72	0.88	1,033.20
21 Aug	4.62	0.87	317.24	12.24	0.89	1,045.44
22 Aug	13.31	0.91	330.55	16.95	0.90	1,062.39
23 Aug	4.54	0.92	335.09	25.46	0.91	1,087.86
24 Aug	4.36	0.94	339.44	24.97	0.93	1,112.83
25 Aug	0.75	0.94	340.19	21.22	0.95	1,134.05
26 Aug	11.83	0.97	352.02	15.22	0.97	1,149.27
27 Aug	7.91	0.99	359.93	15.26	0.99	1,164.53
28 Aug	3.04	1.00	362.97	13.08	1.00	1,175.98
29 Aug	–		362.97	33.59	1.00	1,180.17
Totals	362.97			1,180.17		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

Appendix A2.–Historical catch and CPUE data for coho salmon in Lower Yukon drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
Date	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
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
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
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
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
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
22 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.79	0.00	0.00	0.00
23 Jul	1.50	0.00	1.50	0.00	0.00	0.00	0.84	0.00	1.63	0.00	0.00	0.00
24 Jul	0.88	0.01	2.38	0.00	0.00	0.00	0.00	0.00	1.63	0.00	0.00	0.00
25 Jul	0.00	0.01	2.38	0.00	0.00	0.00	0.00	0.00	1.63	0.00	0.00	0.00
26 Jul	0.00	0.01	2.38	0.00	0.00	0.00	0.00	0.00	1.63	0.72	0.00	0.72
27 Jul	0.75	0.01	3.13	0.00	0.00	0.00	11.95	0.02	13.57	0.00	0.00	0.72
28 Jul	0.00	0.01	3.13	0.00	0.00	0.00	3.08	0.02	16.65	0.00	0.00	0.72
29 Jul	0.00	0.01	3.13	0.00	0.00	0.00	5.27	0.03	21.91	0.00	0.00	0.72
30 Jul	0.75	0.01	3.88	0.00	0.00	0.00	0.00	0.03	21.91	0.00	0.00	0.72
31 Jul	3.05	0.02	6.93	0.00	0.00	0.00	0.79	0.03	22.70	0.00	0.00	0.72
1 Aug	0.00	0.02	6.93	2.04	0.01	2.04	2.39	0.04	25.09	1.35	0.01	2.06
2 Aug	4.86	0.03	11.79	0.00	0.01	2.04	0.00	0.04	25.09	8.00	0.03	10.06
3 Aug	13.29	0.06	25.07	2.20	0.01	4.24	55.61	0.11	80.70	6.67	0.06	16.73
4 Aug	9.85	0.09	34.92	0.00	0.01	4.24	67.84	0.21	148.54	0.00	0.06	16.73
5 Aug	5.70	0.10	40.62	0.72	0.01	4.95	10.94	0.22	159.47	0.77	0.06	17.50
6 Aug	18.03	0.15	58.65	0.00	0.01	4.95	0.00	0.22	159.47	0.00	0.06	17.50
7 Aug	50.38	0.28	109.02	5.53	0.03	10.48	0.77	0.23	160.24	0.00	0.06	17.50
8 Aug	21.82	0.33	130.84	5.18	0.04	15.66	0.00	0.23	160.24	4.68	0.07	22.17
9 Aug	14.08	0.37	144.92	16.70	0.08	32.35	5.15	0.23	165.39	19.97	0.14	42.14
10 Aug	27.75	0.44	172.67	9.56	0.11	41.91	12.64	0.25	178.03	14.38	0.19	56.52
11 Aug	15.41	0.48	188.07	26.15	0.18	68.06	7.62	0.26	185.65	5.39	0.21	61.90
12 Aug	28.61	0.55	216.68	15.58	0.22	83.63	33.53	0.31	219.17	1.39	0.21	63.29
13 Aug	31.52	0.63	248.20	21.92	0.28	105.55	3.08	0.31	222.25	4.02	0.23	67.31
14 Aug	28.23	0.70	276.42	5.34	0.29	110.89	53.68	0.39	275.93	25.69	0.31	93.00
15 Aug	34.28	0.79	310.70	20.02	0.34	130.90	261.64	0.76	537.56	5.26	0.33	98.25
16 Aug	13.58	0.82	324.28	102.86	0.61	233.76	41.42	0.81	578.98	2.40	0.34	100.65
17 Aug	11.14	0.85	335.41	45.98	0.73	279.74	10.91	0.83	589.89	6.61	0.36	107.25
18 Aug	9.23	0.87	344.64	34.05	0.82	313.79	13.87	0.85	603.76	9.01	0.39	116.26
19 Aug	15.60	0.91	360.24	22.75	0.88	336.54	2.37	0.85	606.13	2.36	0.40	118.62
20 Aug	2.35	0.92	362.59	10.59	0.91	347.12	2.37	0.86	608.50	18.72	0.46	137.34
21 Aug	11.27	0.95	373.86	3.81	0.92	350.93	10.14	0.87	618.63	58.75	0.66	196.09
22 Aug	14.50	0.98	388.36	17.87	0.97	368.80	44.84	0.93	663.47	1.52	0.66	197.61
23 Aug	1.54	0.99	389.90	3.04	0.97	371.84	24.76	0.97	688.23	1.48	0.67	199.09
24 Aug	2.29	0.99	392.19	3.12	0.98	374.96	13.18	0.99	701.41	1.50	0.67	200.59
25 Aug	0.00	0.99	392.19	0.77	0.98	375.73	3.79	0.99	705.20	11.75	0.71	212.33
26 Aug	1.47	1.00	393.65	1.03	0.99	376.76	3.17	1.00	708.36	11.29	0.75	223.62
27 Aug	0.00	1.00	393.65	0.79	0.99	377.55	0.00	1.00	708.36	73.83	1.00	297.45
28 Aug	0.81	1.00	394.46	4.62	1.00	382.16	3.16	1.00	711.52	–		297.45
29 Aug	–		394.46	–		382.16	–		711.52	–		297.45
Totals	394.46			382.16			711.52			297.45		

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	2005			2006			2007			2008		
Date	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
17 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.00	0.00	0.00
18 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
19 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
20 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
21 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
22 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
23 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
24 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
25 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00
26 Jul	0.00	0.00	0.00	0.84	0.00	0.84	0.00	0.00	0.67	0.72	0.00	0.72
27 Jul	0.00	0.00	0.00	2.65	0.02	3.49	0.00	0.00	0.67	0.00	0.00	0.72
28 Jul	0.00	0.00	0.00	1.50	0.03	4.99	0.75	0.00	1.42	2.97	0.02	3.68
29 Jul	3.64	0.01	3.64	6.17	0.06	11.16	0.00	0.00	1.42	0.72	0.02	4.40
30 Jul	3.13	0.02	6.76	8.30	0.10	19.46	1.46	0.01	2.88	2.49	0.03	6.88
31 Jul	6.68	0.04	13.44	3.98	0.12	23.43	0.77	0.01	3.65	3.84	0.05	10.72
1 Aug	3.11	0.06	16.55	3.69	0.14	27.12	0.75	0.01	4.40	1.90	0.06	12.62
2 Aug	0.73	0.06	17.28	0.75	0.15	27.87	11.02	0.04	15.42	2.43	0.07	15.05
3 Aug	1.45	0.06	18.73	1.03	0.15	28.89	5.95	0.05	21.37	2.29	0.08	17.34
4 Aug	0.00	0.06	18.73	0.00	0.15	28.89	1.50	0.06	22.87	1.61	0.08	18.94
5 Aug	2.65	0.07	21.38	3.18	0.17	32.07	4.45	0.07	27.31	0.73	0.09	19.67
6 Aug	19.87	0.14	41.25	0.00	0.17	32.07	24.93	0.13	52.24	4.61	0.11	24.28
7 Aug	36.04	0.26	77.29	1.27	0.18	33.34	36.22	0.22	88.45	8.14	0.14	32.42
8 Aug	16.83	0.31	94.11	1.11	0.18	34.45	27.98	0.29	116.43	2.26	0.15	34.67
9 Aug	5.63	0.33	99.74	0.67	0.19	35.12	1.52	0.29	117.95	2.20	0.16	36.87
10 Aug	4.41	0.35	104.15	1.58	0.19	36.70	0.70	0.29	118.65	0.75	0.17	37.62
11 Aug	4.18	0.36	108.33	1.61	0.20	38.30	9.57	0.32	128.22	0.00	0.17	37.62
12 Aug	7.96	0.39	116.28	10.21	0.26	48.51	43.47	0.42	171.69	6.74	0.20	44.36
13 Aug	3.85	0.40	120.13	3.80	0.28	52.31	108.05	0.69	279.74	20.39	0.29	64.74
14 Aug	10.42	0.43	130.55	4.01	0.30	56.32	19.65	0.74	299.39	21.34	0.38	86.08
15 Aug	5.49	0.45	136.03	14.16	0.37	70.47	5.52	0.75	304.91	5.40	0.40	91.48
16 Aug	2.99	0.46	139.02	3.31	0.39	73.78	6.20	0.77	311.11	4.54	0.42	96.02
17 Aug	8.57	0.49	147.59	17.65	0.48	91.43	6.99	0.79	318.09	0.00	0.42	96.02
18 Aug	10.89	0.53	158.48	5.97	0.52	97.40	2.98	0.79	321.07	5.77	0.45	101.79
19 Aug	15.29	0.58	173.77	35.84	0.71	133.24	4.41	0.80	325.48	10.85	0.50	112.64
20 Aug	8.79	0.61	182.56	20.74	0.82	153.98	8.66	0.83	334.14	5.41	0.52	118.05
21 Aug	8.14	0.63	190.69	3.92	0.84	157.89	3.43	0.83	337.57	9.14	0.56	127.19
22 Aug	12.00	0.67	202.69	0.00	0.84	157.89	0.73	0.84	338.30	20.68	0.65	147.86
23 Aug	24.81	0.76	227.50	2.79	0.85	160.68	2.06	0.84	340.36	5.97	0.68	153.83
24 Aug	27.81	0.85	255.31	6.03	0.88	166.71	5.90	0.86	346.25	10.66	0.73	164.48
25 Aug	8.05	0.88	263.36	1.69	0.89	168.40	18.37	0.90	364.62	30.86	0.86	195.34
26 Aug	13.02	0.92	276.38	11.60	0.95	179.99	16.76	0.94	381.38	12.28	0.92	207.62
27 Aug	4.28	0.93	280.66	0.79	0.96	180.78	2.35	0.95	383.73	10.95	0.97	218.57
28 Aug	2.21	0.94	282.87	7.88	1.00	188.66	20.78	1.00	404.52	7.66	1.00	226.22
29 Aug	17.87	1.00	300.73	–		188.66	–		404.52	–		226.22
Totals	300.73			188.66			404.52			226.22		

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	2009			2001–2008 Average		
Date	Daily CPUE	%	Cum. CPUE	Daily CPUE	%	Cum. CPUE
16 Jul	0.00	0.00	0.00	0.00	0.00	0.00
17 Jul	0.00	0.00	0.00	0.08	0.00	0.08
18 Jul	0.00	0.00	0.00	0.00	0.00	0.08
19 Jul	0.00	0.00	0.00	0.00	0.00	0.08
20 Jul	0.00	0.00	0.00	0.00	0.00	0.08
21 Jul	0.00	0.00	0.00	0.00	0.00	0.08
22 Jul	0.00	0.00	0.00	0.10	0.00	0.18
23 Jul	0.00	0.00	0.00	0.29	0.00	0.47
24 Jul	0.00	0.00	0.00	0.11	0.00	0.58
25 Jul	0.00	0.00	0.00	0.00	0.00	0.58
26 Jul	0.00	0.00	0.00	0.28	0.00	0.87
27 Jul	0.00	0.00	0.00	1.92	0.01	2.79
28 Jul	0.00	0.00	0.00	1.04	0.01	3.82
29 Jul	0.00	0.00	0.00	1.97	0.02	5.79
30 Jul	4.17	0.02	4.17	2.02	0.03	7.81
31 Jul	0.00	0.02	4.17	2.39	0.03	10.20
1 Aug	0.00	0.02	4.17	1.90	0.04	12.10
2 Aug	1.40	0.02	5.56	3.47	0.05	15.57
3 Aug	0.00	0.02	5.56	11.06	0.07	26.63
4 Aug	0.70	0.02	6.26	10.10	0.09	36.73
5 Aug	7.49	0.05	13.75	3.64	0.10	40.37
6 Aug	2.91	0.06	16.66	8.43	0.12	48.80
7 Aug	0.71	0.06	17.37	17.29	0.17	66.09
8 Aug	15.64	0.12	33.02	9.98	0.20	76.07
9 Aug	31.41	0.23	64.43	8.24	0.22	84.31
10 Aug	42.51	0.39	106.94	8.97	0.25	93.28
11 Aug	9.02	0.42	115.96	8.74	0.27	102.02
12 Aug	4.29	0.43	120.25	18.43	0.32	120.45
13 Aug	3.66	0.45	123.91	24.58	0.39	145.03
14 Aug	3.01	0.46	126.92	21.04	0.44	166.07
15 Aug	1.44	0.46	128.36	43.97	0.53	210.04
16 Aug	10.10	0.50	138.46	22.16	0.58	232.20
17 Aug	12.80	0.54	151.26	13.48	0.62	245.68
18 Aug	5.37	0.56	156.63	11.47	0.65	257.15
19 Aug	34.24	0.69	190.87	13.68	0.70	270.83
20 Aug	36.28	0.82	227.15	9.70	0.74	280.53
21 Aug	12.26	0.86	239.42	13.57	0.78	294.10
22 Aug	13.87	0.91	253.29	14.02	0.82	308.12
23 Aug	3.75	0.93	257.04	8.31	0.84	316.43
24 Aug	1.50	0.93	258.54	8.81	0.87	325.24
25 Aug	6.73	0.96	265.27	9.41	0.90	334.64
26 Aug	5.06	0.97	270.33	8.82	0.93	343.47
27 Aug	5.07	0.99	275.40	11.62	0.97	355.09
28 Aug	2.25	1.00	277.65	6.73	0.99	360.98
29 Aug	–		277.65	17.87	1.00	363.21
Totals	277.65			363.21		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

Appendix A3.–Fall chum salmon average daily and cumulative catch per unit effort (CPUE), Big Eddy (sites 1 and 2 and site 3 in 2009) drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
16 Jul	37.62	0.03	37.62	1.58	0.00	1.58	1.54	0.00	1.54	0.00	0.00	0.00
17 Jul	171.69	0.18	209.31	19.12	0.02	20.70	4.7	0.00	6.24	0.00	0.00	0.00
18 Jul	72.24	0.24	281.55	0.00	0.02	20.70	0.00	0.00	6.24	0.00	0.00	0.00
19 Jul	16.06	0.25	297.61	0.00	0.02	20.70	3.67	0.01	9.91	62.73	0.12	62.73
20 Jul	0.00	0.25	297.61	0.00	0.02	20.70	1.62	0.01	11.53	7.91	0.14	70.64
21 Jul	0.00	0.25	297.61	0.00	0.02	20.70	1.71	0.01	13.24	16.62	0.17	87.26
22 Jul	8.11	0.26	305.72	0.00	0.02	20.70	7.73	0.02	20.97	1.58	0.17	88.84
23 Jul	79.46	0.33	385.18	0.00	0.02	20.70	1.67	0.02	22.64	1.58	0.17	90.42
24 Jul	36.00	0.36	421.18	0.00	0.02	20.70	0.00	0.02	22.64	1.54	0.18	91.96
25 Jul	3.00	0.36	424.18	108.59	0.09	129.29	0.00	0.02	22.64	1.50	0.18	93.46
26 Jul	1.50	0.36	425.68	3.24	0.10	132.53	13.21	0.03	35.85	7.14	0.19	100.60
27 Jul	18.00	0.38	443.68	17.04	0.11	149.57	163.31	0.15	199.16	0.00	0.19	100.60
28 Jul	7.65	0.39	451.33	69.02	0.16	218.59	7.14	0.15	206.30	0.00	0.19	100.60
29 Jul	0.00	0.39	451.33	55.12	0.20	273.71	4.58	0.15	210.88	0.00	0.19	100.60
30 Jul	12.00	0.40	463.33	0.00	0.20	273.71	3.17	0.16	214.05	0.00	0.19	100.60
31 Jul	80.11	0.46	543.44	0.00	0.20	273.71	0.00	0.16	214.05	13.77	0.22	114.37
1 Aug	7.78	0.47	551.22	28.06	0.22	301.77	0.00	0.16	214.05	131.66	0.47	246.03
2 Aug	151.88	0.60	703.10	1.54	0.22	303.31	0.00	0.16	214.05	59.61	0.59	305.64
3 Aug	64.58	0.66	767.68	8.68	0.23	311.99	220.22	0.32	434.27	0.00	0.59	305.64
4 Aug	18.83	0.67	786.51	0.00	0.23	311.99	240.22	0.49	674.49	0.00	0.59	305.64
5 Aug	12.41	0.68	798.92	1.58	0.23	313.57	9.64	0.50	684.13	0.00	0.59	305.64
6 Aug	170.67	0.83	969.59	0.00	0.23	313.57	3.08	0.50	687.21	0.00	0.59	305.64
7 Aug	100.47	0.91	1,070.06	34.65	0.26	348.22	0.00	0.50	687.21	1.46	0.59	307.10
8 Aug	2.22	0.92	1,072.28	33.09	0.28	381.31	0.00	0.50	687.21	102.31	0.78	409.41
9 Aug	11.79	0.93	1,084.07	183.93	0.41	565.24	5.69	0.51	692.90	50.06	0.88	459.47
10 Aug	24.27	0.95	1,108.34	98.26	0.49	663.50	49.09	0.54	741.99	7.43	0.90	466.90
11 Aug	1.36	0.95	1,109.70	30.97	0.51	694.47	4.74	0.54	746.73	0.00	0.90	466.90
12 Aug	28.40	0.97	1,138.10	41.88	0.54	736.35	65.82	0.59	812.55	0.00	0.90	466.90
13 Aug	3.62	0.97	1,141.72	23.25	0.56	759.60	0.00	0.59	812.55	3.54	0.90	470.44
14 Aug	1.50	0.98	1,143.22	10.90	0.57	770.50	55.4	0.63	867.95	2.74	0.91	473.18
15 Aug	0.00	0.98	1,143.22	37.29	0.59	807.79	354.34	0.89	1,222.29	0.00	0.91	473.18
16 Aug	0.00	0.98	1,143.22	448.29	0.92	1,256.08	45.34	0.92	1,267.63	0.00	0.91	473.18
17 Aug	1.58	0.98	1,144.80	44.46	0.95	1,300.54	4.76	0.93	1,272.39	1.28	0.91	474.46
18 Aug	0.00	0.98	1,144.80	10.67	0.96	1,311.21	4.62	0.93	1,277.01	0.00	0.91	474.46
19 Aug	0.00	0.98	1,144.80	6.32	0.97	1,317.53	0.00	0.93	1,277.01	0.00	0.91	474.46
20 Aug	3.08	0.98	1,147.88	0.00	0.97	1,317.53	0.00	0.93	1,277.01	5.55	0.92	480.01
21 Aug	21.95	1.00	1,169.83	8.28	0.97	1,325.81	7.84	0.94	1,284.85	1.50	0.92	481.51
22 Aug	1.50	1.00	1,171.33	22.90	0.99	1,348.71	3.20	0.94	1,288.05	1.54	0.93	483.05
23 Aug	0.00	1.00	1,171.33	6.40	0.99	1,355.11	57.67	0.98	1,345.72	0.00	0.93	483.05
24 Aug	0.00	1.00	1,171.33	0.00	0.99	1,355.11	19.34	1.00	1,365.06	11.61	0.95	494.66
25 Aug	0.00	1.00	1,171.33	0.00	0.99	1,355.11	6.00	1.00	1,371.06	0.00	0.95	494.66
26 Aug	0.00	1.00	1,171.33	0.00	0.99	1,355.11	0.00	1.00	1,371.06	18.01	0.98	512.67
27 Aug	0.00	1.00	1,171.33	1.58	1.00	1,356.69	0.00	1.00	1,371.06	8.94	1.00	521.61
28 Aug	0.00	1.00	1,171.33	6.15	1.00	1,362.84	0.00	1.00	1,371.06	0.00	1.00	521.61
29 Aug	–		1,171.33	–		1,362.84	–		1,371.06	–		521.61
Total	1,171.33			1,362.84			1,371.06			521.61		

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	2005			2006			2007			2008		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
16 Jul	7.46	0.00	7.46	74.31	0.08	74.31	5.37	0.00	5.37	1.71	0.00	1.71
17 Jul	23.47	0.01	30.93	9.23	0.09	83.54	6.11	0.01	11.48	3.08	0.00	4.79
18 Jul	460.35	0.14	491.28	6.00	0.09	89.54	1.58	0.01	13.06	0.00	0.00	4.79
19 Jul	185.00	0.19	676.28	0.00	0.09	89.54	1.58	0.01	14.64	0.00	0.00	4.79
20 Jul	25.69	0.20	701.97	0.00	0.09	89.54	3.55	0.01	18.19	0.00	0.00	4.79
21 Jul	1.43	0.20	703.40	20.19	0.12	109.73	0.00	0.01	18.19	12.63	0.01	17.42
22 Jul	1.71	0.20	705.11	4.50	0.12	114.23	0.00	0.01	18.19	6.49	0.02	23.91
23 Jul	0.00	0.20	705.11	1.50	0.12	115.73	0.00	0.01	18.19	0.00	0.02	23.91
24 Jul	2.79	0.20	707.90	4.66	0.13	120.39	0.00	0.01	18.19	0.00	0.02	23.91
25 Jul	1.54	0.20	709.44	0.00	0.13	120.39	0.00	0.01	18.19	3.16	0.02	27.07
26 Jul	7.58	0.20	717.02	0.00	0.13	120.39	0.00	0.01	18.19	9.15	0.03	36.22
27 Jul	3.00	0.20	720.02	37.27	0.17	157.66	0.00	0.01	18.19	65.68	0.09	101.90
28 Jul	10.77	0.21	730.79	0.00	0.17	157.66	4.47	0.02	22.66	30.45	0.11	132.35
29 Jul	207.55	0.27	938.34	97.63	0.27	255.29	0.00	0.02	22.66	1.62	0.11	133.97
30 Jul	66.94	0.28	1,005.28	30.81	0.30	286.10	0.00	0.02	22.66	29.59	0.14	163.56
31 Jul	933.14	0.55	1,938.42	4.66	0.31	290.76	0.00	0.02	22.66	103.46	0.23	267.02
1 Aug	66.43	0.57	2,004.85	4.74	0.31	295.50	0.00	0.02	22.66	36.99	0.26	304.01
2 Aug	1.50	0.57	2,006.35	6.00	0.32	301.50	21.64	0.03	44.30	47.70	0.30	351.71
3 Aug	2.93	0.57	2,009.28	1.67	0.32	303.17	26.28	0.05	70.58	18.91	0.31	370.62
4 Aug	0.00	0.57	2,009.28	0.00	0.32	303.17	0.00	0.05	70.58	3.33	0.32	373.95
5 Aug	246.35	0.64	2,255.63	4.66	0.33	307.83	0.00	0.05	70.58	4.29	0.32	378.24
6 Aug	513.51	0.78	2,769.14	0.00	0.33	307.83	123.61	0.15	194.19	4.56	0.32	382.80
7 Aug	93.04	0.81	2,862.18	12.31	0.34	320.14	136.25	0.25	330.44	29.01	0.35	411.81
8 Aug	36.93	0.82	2,899.11	7.69	0.35	327.83	8.79	0.26	339.23	1.62	0.35	413.43
9 Aug	11.29	0.82	2,910.40	7.58	0.36	335.41	1.54	0.26	340.77	3.08	0.35	416.51
10 Aug	23.41	0.83	2,933.81	0.00	0.36	335.41	2.86	0.26	343.63	1.50	0.35	418.01
11 Aug	32.80	0.84	2,966.61	3.00	0.36	338.41	18.54	0.27	362.16	0.00	0.35	418.01
12 Aug	5.00	0.84	2,971.61	183.75	0.55	522.16	183.91	0.41	546.07	17.89	0.37	435.90
13 Aug	2.93	0.84	2,974.54	0.00	0.55	522.16	244.95	0.60	791.01	409.38	0.72	845.28
14 Aug	18.82	0.85	2,993.36	0.00	0.55	522.16	3.08	0.60	794.09	52.61	0.76	897.89
15 Aug	31.26	0.86	3,024.62	61.33	0.62	583.49	4.50	0.60	798.59	10.77	0.77	908.66
16 Aug	11.75	0.86	3,036.37	20.43	0.64	603.92	0.00	0.60	798.59	15.08	0.78	923.74
17 Aug	26.07	0.87	3,062.44	47.44	0.69	651.36	1.54	0.60	800.13	0.00	0.78	923.74
18 Aug	132.60	0.91	3,195.04	18.19	0.71	669.55	5.85	0.61	805.98	7.25	0.79	930.99
19 Aug	124.97	0.94	3,320.01	114.22	0.83	783.77	13.17	0.62	819.15	12.99	0.80	943.98
20 Aug	26.61	0.95	3,346.62	49.20	0.88	832.97	0.00	0.62	819.15	0.00	0.80	943.98
21 Aug	12.70	0.95	3,359.32	9.00	0.89	841.97	0.00	0.62	819.15	0.00	0.80	943.98
22 Aug	11.16	0.95	3,370.48	0.00	0.89	841.97	0.00	0.62	819.15	36.17	0.83	980.15
23 Aug	16.92	0.96	3,387.40	33.77	0.93	875.74	18.89	0.63	838.04	1.46	0.83	981.61
24 Aug	35.67	0.97	3,423.07	20.00	0.95	895.74	181.53	0.77	1,019.58	14.35	0.84	995.96
25 Aug	32.12	0.98	3,455.19	0.00	0.95	895.74	149.62	0.88	1,169.20	50.90	0.89	1,046.86
26 Aug	13.62	0.98	3,468.81	6.92	0.96	902.66	38.64	0.91	1,207.84	77.35	0.95	1,124.21
27 Aug	22.90	0.99	3,491.71	30.06	0.99	932.72	3.00	0.91	1,210.84	53.37	1.00	1,177.58
28 Aug	19.10	0.99	3,510.81	10.50	1.00	943.22	117.31	1.00	1,328.15	4.62	1.00	1,182.20
29 Aug	19.50	1.00	3,530.31	–		943.22	–		1,328.15	–		1,182.20
Total	3,510.81			943.22			1,328.15			1,182.20		

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	2009			2001–2008 Average		
	Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index
16 Jul	1.50	0.01	1.50	16.20	0.02	16.20
17 Jul	1.54	0.01	3.04	29.68	0.04	45.87
18 Jul	0.00	0.01	3.04	67.52	0.06	113.40
19 Jul	1.50	0.02	4.54	33.63	0.09	147.03
20 Jul	0.00	0.02	4.54	4.85	0.09	151.87
21 Jul	0.00	0.02	4.54	6.57	0.10	158.44
22 Jul	0.00	0.02	4.54	3.77	0.10	162.21
23 Jul	2.87	0.03	7.41	10.53	0.11	172.74
24 Jul	0.00	0.03	7.41	5.62	0.12	178.36
25 Jul	0.00	0.03	7.41	14.72	0.13	193.08
26 Jul	0.00	0.03	7.41	5.23	0.13	198.31
27 Jul	1.54	0.04	8.95	38.04	0.16	236.35
28 Jul	0.00	0.04	8.95	16.19	0.17	252.53
29 Jul	0.00	0.04	8.95	45.81	0.20	298.35
30 Jul	41.67	0.21	50.62	17.81	0.21	316.16
31 Jul	9.23	0.25	59.85	141.89	0.27	458.05
1 Aug	1.54	0.26	61.38	34.46	0.31	492.51
2 Aug	1.43	0.27	62.81	36.23	0.35	528.74
3 Aug	3.04	0.28	65.85	42.91	0.38	571.65
4 Aug	0.00	0.28	65.85	32.80	0.40	604.45
5 Aug	0.00	0.28	65.85	34.87	0.42	639.32
6 Aug	0.00	0.28	65.85	101.93	0.47	741.25
7 Aug	9.77	0.32	75.62	50.90	0.50	792.14
8 Aug	8.18	0.35	83.80	24.08	0.53	816.23
9 Aug	38.08	0.52	121.88	34.37	0.56	850.60
10 Aug	29.67	0.64	151.54	25.85	0.58	876.45
11 Aug	0.00	0.64	151.54	11.43	0.59	887.87
12 Aug	0.00	0.64	151.54	65.83	0.65	953.70
13 Aug	0.00	0.64	151.54	85.96	0.72	1,039.66
14 Aug	0.00	0.64	151.54	18.13	0.73	1,057.79
15 Aug	1.91	0.65	153.46	62.44	0.78	1,120.23
16 Aug	21.43	0.74	174.89	67.61	0.83	1,187.84
17 Aug	9.69	0.78	184.58	15.89	0.84	1,203.73
18 Aug	8.72	0.82	193.30	22.40	0.85	1,226.13
19 Aug	23.99	0.92	217.30	33.96	0.87	1,260.09
20 Aug	0.00	0.92	217.30	10.56	0.88	1,270.64
21 Aug	0.00	0.92	217.30	7.66	0.89	1,278.30
22 Aug	1.50	0.93	218.80	9.56	0.89	1,287.86
23 Aug	4.62	0.95	223.41	16.89	0.91	1,304.75
24 Aug	7.18	0.98	230.59	35.31	0.93	1,340.06
25 Aug	0.00	0.98	230.59	29.83	0.95	1,369.89
26 Aug	0.00	0.98	230.59	19.32	0.97	1,389.21
27 Aug	4.19	0.99	234.78	14.98	0.99	1,404.19
28 Aug	1.54	1.00	236.31	19.71	1.00	1,423.90
29 Aug	–		236.31	19.50	1.00	1,426.34
Total	236.31			1,426.34		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

Appendix A4.–Fall chum salmon average daily and cumulative catch per unit effort (CPUE), Middle Mouth (sites 1 and 2) drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
16 Jul	4.94	0.00	4.94	0.00	0.00	0.00	50.02	0.04	50.02	0.00	0.00	0.00
17 Jul	127.62	0.09	132.56	2.93	0.01	2.93	36.65	0.08	86.67	0.00	0.00	0.00
18 Jul	206.17	0.23	338.73	0.00	0.01	2.93	3.00	0.08	89.67	1.43	0.00	1.43
19 Jul	38.69	0.25	377.42	6.01	0.03	8.94	0.00	0.08	89.67	33.41	0.04	34.84
20 Jul	3.00	0.26	380.42	0.00	0.03	8.94	1.54	0.08	91.21	24.00	0.06	58.84
21 Jul	6.00	0.26	386.42	1.46	0.04	10.40	46.75	0.12	137.96	23.15	0.08	81.99
22 Jul	4.50	0.26	390.92	0.00	0.04	10.40	75.26	0.19	213.22	8.97	0.09	90.96
23 Jul	21.82	0.28	412.74	0.00	0.04	10.40	28.52	0.21	241.74	1.62	0.09	92.58
24 Jul	93.73	0.34	506.47	0.00	0.04	10.40	19.50	0.23	261.24	0.00	0.09	92.58
25 Jul	59.88	0.38	566.35	0.00	0.04	10.40	4.58	0.24	265.82	0.00	0.09	92.58
26 Jul	7.00	0.39	573.35	3.30	0.05	13.70	0.00	0.24	265.82	3.08	0.10	95.66
27 Jul	4.66	0.39	578.01	1.54	0.06	15.24	6.33	0.24	272.15	3.09	0.10	98.75
28 Jul	1.58	0.39	579.59	1.54	0.06	16.78	44.08	0.28	316.23	0.00	0.10	98.75
29 Jul	1.54	0.39	581.13	9.23	0.10	26.01	30.77	0.31	347.00	1.46	0.10	100.21
30 Jul	3.08	0.39	584.21	3.08	0.11	29.09	0.00	0.31	347.00	0.00	0.10	100.21
31 Jul	110.52	0.47	694.73	0.00	0.11	29.09	1.67	0.31	348.67	0.00	0.10	100.21
1 Aug	78.45	0.52	773.18	3.08	0.12	32.17	9.65	0.32	358.32	161.80	0.26	262.01
2 Aug	76.26	0.57	849.44	1.54	0.12	33.71	1.50	0.32	359.82	89.39	0.36	351.40
3 Aug	139.14	0.67	988.58	3.00	0.14	36.71	186.74	0.48	546.56	36.19	0.39	387.59
4 Aug	26.32	0.69	1,014.90	1.54	0.14	38.25	119.74	0.59	666.30	24.12	0.42	411.71
5 Aug	1.58	0.69	1,016.48	0.00	0.14	38.25	22.33	0.61	688.63	4.43	0.42	416.14
6 Aug	30.78	0.71	1,047.26	0.00	0.14	38.25	0.00	0.61	688.63	7.58	0.43	423.72
7 Aug	173.08	0.82	1,220.34	1.54	0.15	39.79	0.00	0.61	688.63	3.08	0.43	426.80
8 Aug	62.91	0.87	1,283.25	0.00	0.15	39.79	0.00	0.61	688.63	16.93	0.45	443.73
9 Aug	27.09	0.88	1,310.34	7.50	0.17	47.29	0.00	0.61	688.63	52.56	0.50	496.29
10 Aug	8.18	0.89	1,318.52	1.50	0.18	48.79	1.43	0.61	690.06	25.85	0.53	522.14
11 Aug	4.46	0.89	1,322.98	7.78	0.21	56.57	1.43	0.61	691.49	3.08	0.53	525.22
12 Aug	24.02	0.91	1,347.00	4.39	0.23	60.96	64.84	0.67	756.33	0.00	0.53	525.22
13 Aug	50.50	0.94	1,397.50	18.63	0.29	79.59	0.00	0.67	756.33	1.50	0.53	526.72
14 Aug	33.02	0.97	1,430.52	3.25	0.31	82.84	54.83	0.72	811.16	46.48	0.58	573.20
15 Aug	22.46	0.98	1,452.98	0.00	0.31	82.84	164.48	0.87	975.64	20.87	0.60	594.07
16 Aug	7.51	0.99	1,460.49	121.14	0.75	203.98	52.18	0.91	1,027.82	0.00	0.60	594.07
17 Aug	1.54	0.99	1,462.03	32.41	0.87	236.39	20.46	0.93	1,048.28	2.96	0.60	597.03
18 Aug	4.58	0.99	1,466.61	13.45	0.92	249.84	4.82	0.93	1,053.10	2.93	0.61	599.96
19 Aug	0.00	0.99	1,466.61	7.03	0.95	256.87	0.00	0.93	1,053.10	0.00	0.61	599.96
20 Aug	1.58	0.99	1,468.19	5.70	0.97	262.57	4.66	0.94	1,057.76	232.53	0.84	832.49
21 Aug	5.71	0.99	1,473.90	3.04	0.98	265.61	0.00	0.94	1,057.76	39.20	0.88	871.69
22 Aug	6.00	1.00	1,479.90	3.18	0.99	268.79	39.25	0.97	1,097.01	0.00	0.88	871.69
23 Aug	0.00	1.00	1,479.90	1.50	1.00	270.29	10.59	0.98	1,107.60	0.00	0.88	871.69
24 Aug	1.54	1.00	1,481.44	0.00	1.00	270.29	14.97	1.00	1,122.57	0.00	0.88	871.69
25 Aug	0.00	1.00	1,481.44	0.00	1.00	270.29	0.00	1.00	1,122.57	20.64	0.90	892.33
26 Aug	0.00	1.00	1,481.44	0.00	1.00	270.29	4.66	1.00	1,127.23	17.61	0.92	909.94
27 Aug	0.00	1.00	1,481.44	0.00	1.00	270.29	–	1.00	1,127.23	79.57	1.00	989.51
28 Aug	0.00	1.00	1,481.44	0.00	1.00	270.29	–	1.00	1,127.23	0.00	1.00	989.51
29 Aug	–		1,481.44	–		270.29	–		1,127.23	–		989.51
Total	1,481.44			270.29			1,127.23			989.51		

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Appendix A4.–Page 2 of 3.

	2005			2006			2007			2008		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
16 Jul	14.98	0.01	14.98	64.93	0.05	64.93	3.33	0.01	3.33	6.00	0.01	6.00
17 Jul	4.74	0.02	19.72	10.06	0.06	74.99	11.34	0.02	14.67	12.31	0.04	18.31
18 Jul	3.08	0.02	22.80	1.62	0.06	76.61	2.96	0.03	17.63	4.50	0.05	22.81
19 Jul	13.62	0.03	36.42	1.71	0.06	78.32	0.00	0.03	17.63	0.00	0.05	22.81
20 Jul	19.38	0.05	55.80	0.00	0.06	78.32	3.08	0.03	20.71	0.00	0.05	22.81
21 Jul	3.04	0.05	58.84	3.38	0.06	81.70	6.04	0.04	26.75	5.93	0.07	28.74
22 Jul	0.00	0.05	58.84	0.00	0.06	81.70	0.00	0.04	26.75	9.08	0.09	37.82
23 Jul	1.43	0.05	60.27	0.00	0.06	81.70	0.00	0.04	26.75	15.98	0.12	53.80
24 Jul	0.00	0.05	60.27	0.00	0.06	81.70	1.46	0.04	28.21	22.17	0.17	75.97
25 Jul	0.00	0.05	60.27	14.48	0.07	96.18	0.00	0.04	28.21	15.00	0.21	90.97
26 Jul	0.00	0.05	60.27	0.00	0.07	96.18	1.46	0.04	29.68	7.82	0.23	98.79
27 Jul	1.43	0.05	61.70	117.41	0.16	213.59	1.54	0.05	31.22	12.31	0.25	111.10
28 Jul	0.00	0.05	61.70	178.62	0.29	392.21	3.00	0.05	34.22	44.00	0.35	155.10
29 Jul	40.43	0.09	102.13	66.18	0.34	458.39	0.00	0.05	34.22	2.96	0.36	158.06
30 Jul	17.50	0.10	119.63	143.31	0.44	601.70	1.54	0.05	35.75	40.97	0.45	199.03
31 Jul	13.94	0.12	133.57	61.73	0.49	663.43	0.00	0.05	35.75	40.74	0.55	239.77
1 Aug	3.04	0.12	136.61	90.51	0.56	753.94	0.00	0.05	35.75	28.18	0.61	267.95
2 Aug	0.00	0.12	136.61	30.95	0.58	784.89	1.54	0.06	37.29	23.21	0.67	291.16
3 Aug	2.96	0.12	139.57	3.10	0.58	787.99	0.00	0.06	37.29	20.96	0.71	312.12
4 Aug	1.50	0.12	141.07	5.47	0.58	793.46	1.54	0.06	38.83	4.70	0.72	316.82
5 Aug	3.00	0.13	144.07	19.32	0.60	812.78	1.46	0.06	40.29	1.54	0.73	318.36
6 Aug	0.00	0.13	144.07	56.71	0.64	869.49	98.18	0.21	138.47	0.00	0.73	318.36
7 Aug	117.59	0.23	261.66	13.24	0.65	882.73	138.11	0.42	276.59	1.54	0.73	319.90
8 Aug	67.15	0.29	328.81	10.45	0.66	893.18	121.16	0.60	397.75	1.43	0.73	321.33
9 Aug	27.65	0.31	356.46	0.00	0.66	893.18	4.50	0.61	402.25	0.00	0.73	321.33
10 Aug	1.50	0.31	357.96	0.00	0.66	893.18	3.00	0.61	405.25	0.00	0.73	321.33
11 Aug	9.00	0.32	366.96	0.00	0.66	893.18	0.00	0.61	405.25	1.54	0.74	322.87
12 Aug	10.94	0.33	377.90	186.52	0.80	1,079.70	1.50	0.61	406.75	0.00	0.74	322.87
13 Aug	3.12	0.33	381.02	63.03	0.84	1,142.73	54.38	0.69	461.13	9.23	0.76	332.10
14 Aug	41.23	0.37	422.25	15.79	0.85	1,158.52	62.00	0.79	523.13	11.85	0.79	343.95
15 Aug	4.62	0.37	426.87	12.63	0.86	1,171.15	9.73	0.80	532.86	4.82	0.80	348.77
16 Aug	1.50	0.37	428.37	1.62	0.86	1,172.77	16.98	0.83	549.84	0.00	0.80	348.77
17 Aug	0.00	0.37	428.37	16.67	0.88	1,189.44	13.66	0.85	563.50	0.00	0.80	348.77
18 Aug	10.47	0.38	438.84	12.08	0.89	1,201.52	5.90	0.86	569.40	0.00	0.80	348.77
19 Aug	15.00	0.40	453.84	69.98	0.94	1,271.50	2.93	0.86	572.32	0.00	0.80	348.77
20 Aug	73.44	0.46	527.28	18.83	0.95	1,290.33	3.17	0.87	575.49	3.24	0.80	352.01
21 Aug	73.84	0.53	601.12	6.53	0.96	1,296.86	1.71	0.87	577.20	4.54	0.81	356.55
22 Aug	118.69	0.63	719.81	1.67	0.96	1,298.53	1.46	0.87	578.67	24.45	0.87	381.00
23 Aug	240.29	0.84	960.10	8.12	0.96	1,306.65	1.50	0.87	580.17	10.32	0.89	391.32
24 Aug	80.67	0.91	1,040.77	10.96	0.97	1,317.61	4.50	0.88	584.67	4.36	0.90	395.68
25 Aug	28.32	0.93	1,069.09	5.00	0.97	1,322.61	43.94	0.95	628.61	3.00	0.91	398.68
26 Aug	22.87	0.95	1,091.96	3.08	0.98	1,325.69	18.31	0.97	646.91	22.52	0.96	421.20
27 Aug	0.00	0.95	1,091.96	24.87	1.00	1,350.56	6.24	0.98	653.16	13.59	0.99	434.79
28 Aug	4.46	0.96	1,096.42	6.72	1.00	1,357.28	11.23	1.00	664.39	3.04	1.00	437.83
29 Aug	47.67	1.00	1,144.09	–		1,357.28	–			–		437.83
Total	1,144.09			1,357.28			664.39			437.83		

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	2009			2001–2008 Average		
	Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index
16 Jul	7.50	0.02	7.50	18.03	0.02	18.03
17 Jul	7.33	0.03	14.83	25.71	0.04	43.73
18 Jul	6.08	0.04	20.91	27.85	0.06	71.58
19 Jul	1.54	0.05	22.44	11.68	0.07	83.26
20 Jul	0.00	0.05	22.44	6.38	0.08	89.63
21 Jul	1.54	0.05	23.98	11.97	0.09	101.60
22 Jul	0.00	0.05	23.98	12.23	0.10	113.83
23 Jul	3.08	0.06	27.06	8.67	0.11	122.50
24 Jul	0.00	0.06	27.06	17.11	0.13	139.61
25 Jul	3.61	0.06	30.67	11.74	0.14	151.35
26 Jul	1.50	0.07	32.17	2.83	0.15	154.18
27 Jul	1.54	0.07	33.71	18.54	0.16	172.72
28 Jul	0.00	0.07	33.71	34.10	0.20	206.82
29 Jul	1.50	0.07	35.21	19.07	0.22	225.89
30 Jul	3.00	0.08	38.21	26.18	0.25	252.08
31 Jul	26.78	0.13	64.99	28.58	0.27	280.65
1 Aug	2.93	0.14	67.91	46.84	0.32	327.49
2 Aug	7.14	0.15	75.06	28.05	0.35	355.54
3 Aug	0.00	0.15	75.06	49.01	0.39	404.55
4 Aug	2.79	0.16	77.85	23.12	0.42	427.67
5 Aug	12.00	0.18	89.85	6.71	0.42	434.38
6 Aug	5.86	0.20	95.70	24.16	0.45	458.53
7 Aug	20.18	0.24	115.89	56.02	0.50	514.55
8 Aug	41.05	0.32	156.94	35.00	0.54	549.56
9 Aug	75.97	0.48	232.91	14.91	0.56	564.47
10 Aug	22.53	0.52	255.44	5.18	0.57	569.65
11 Aug	4.39	0.53	259.83	3.41	0.57	573.06
12 Aug	9.19	0.55	269.02	36.53	0.60	609.59
13 Aug	3.04	0.56	272.06	25.05	0.63	634.64
14 Aug	2.96	0.56	275.02	33.56	0.67	668.20
15 Aug	4.46	0.57	279.49	29.95	0.70	698.15
16 Aug	7.65	0.59	287.14	25.12	0.76	723.26
17 Aug	3.00	0.59	290.14	10.96	0.79	734.23
18 Aug	0.00	0.59	290.14	6.78	0.80	741.00
19 Aug	83.97	0.76	374.11	11.87	0.81	752.87
20 Aug	33.83	0.83	407.95	42.89	0.85	795.76
21 Aug	9.23	0.85	417.18	16.82	0.87	812.59
22 Aug	25.12	0.90	442.30	24.34	0.90	836.92
23 Aug	4.46	0.91	446.76	34.04	0.93	870.96
24 Aug	1.54	0.92	448.30	14.63	0.94	885.59
25 Aug	1.50	0.92	449.80	12.61	0.96	898.20
26 Aug	23.65	0.97	473.45	11.13	0.97	909.33
27 Aug	11.64	0.99	485.09	17.75	0.99	924.87
28 Aug	4.54	1.00	489.63	3.64	0.99	928.05
29 Aug	–		489.63	47.67	1.00	972.52
Total	489.63			972.52		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

Appendix A5.–Coho salmon average daily and cumulative catch per unit effort (CPUE), Big Eddy (sites 1 and 2 and site 3 in 2009) drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
16 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0	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
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
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
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
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
22 Jul	0.00	0.00	0.00	0.00	0.00	0.00	1.58	0.00	1.58	0.00	0.00	0.00
23 Jul	3.00	0.01	3.00	0.00	0.00	0.00	1.67	0.00	3.25	0.00	0.00	0.00
24 Jul	0.00	0.01	3.00	0.00	0.00	0.00	0.00	0.00	3.25	0.00	0.00	0.00
25 Jul	0.00	0.01	3.00	0.00	0.00	0.00	0.00	0.00	3.25	0.00	0.00	0.00
26 Jul	0.00	0.01	3.00	0.00	0.00	0.00	0.00	0.00	3.25	1.43	0.01	1.43
27 Jul	1.50	0.02	4.50	0.00	0.00	0.00	23.89	0.04	27.14	0.00	0.01	1.43
28 Jul	0.00	0.02	4.50	0.00	0.00	0.00	1.62	0.04	28.76	0.00	0.01	1.43
29 Jul	0.00	0.02	4.50	0.00	0.00	0.00	1.58	0.04	30.34	0.00	0.01	1.43
30 Jul	1.50	0.02	6.00	0.00	0.00	0.00	0.00	0.04	30.34	0.00	0.01	1.43
31 Jul	4.67	0.04	10.67	0.00	0.00	0.00	1.58	0.05	31.92	0.00	0.01	1.43
1 Aug	0.00	0.04	10.67	4.07	0.01	4.07	1.62	0.05	33.54	2.69	0.04	4.12
2 Aug	5.31	0.06	15.98	0.00	0.01	4.07	0.00	0.05	33.54	12.67	0.16	16.79
3 Aug	12.81	0.11	28.79	4.40	0.02	8.47	63.30	0.14	96.84	0.00	0.16	16.79
4 Aug	7.34	0.13	36.13	0.00	0.02	8.47	76.98	0.25	173.82	0.00	0.16	16.79
5 Aug	9.82	0.17	45.95	0.00	0.02	8.47	8.70	0.27	182.52	0.00	0.16	16.79
6 Aug	16.84	0.23	62.79	0.00	0.02	8.47	0.00	0.27	182.52	0.00	0.16	16.79
7 Aug	64.60	0.47	127.39	6.44	0.04	14.91	0.00	0.27	182.52	0.00	0.16	16.79
8 Aug	13.33	0.52	140.72	10.35	0.06	25.26	0.00	0.27	182.52	9.35	0.25	26.14
9 Aug	11.78	0.56	152.50	28.89	0.13	54.15	8.58	0.28	191.10	1.50	0.27	27.64
10 Aug	28.88	0.66	181.38	19.12	0.18	73.27	23.66	0.31	214.76	1.46	0.28	29.10
11 Aug	9.95	0.70	191.33	15.37	0.22	88.64	6.24	0.32	221.00	0.00	0.28	29.10
12 Aug	37.47	0.84	228.80	22.18	0.27	110.82	21.67	0.35	242.67	1.28	0.29	30.38
13 Aug	4.11	0.85	232.91	16.84	0.32	127.66	0.00	0.35	242.67	5.08	0.34	35.46
14 Aug	6.08	0.88	238.99	5.81	0.33	133.47	71.85	0.46	314.52	0.00	0.34	35.46
15 Aug	3.04	0.89	242.03	38.45	0.43	171.92	248.71	0.82	563.23	0.00	0.34	35.46
16 Aug	3.04	0.90	245.07	168.01	0.84	339.93	25.04	0.86	588.27	0.00	0.34	35.46
17 Aug	0.00	0.90	245.07	18.88	0.89	358.81	0.00	0.86	588.27	1.28	0.35	36.74
18 Aug	6.19	0.92	251.26	14.40	0.92	373.21	11.82	0.88	600.09	0.00	0.35	36.74
19 Aug	0.00	0.92	251.26	11.05	0.95	384.26	0.00	0.88	600.09	0.00	0.35	36.74
20 Aug	0.00	0.92	251.26	1.43	0.96	385.69	0.00	0.88	600.09	9.16	0.44	45.90
21 Aug	11.11	0.96	262.37	1.58	0.96	387.27	18.69	0.90	618.78	0.00	0.44	45.90
22 Aug	8.93	0.99	271.30	9.36	0.98	396.63	6.40	0.91	625.18	0.00	0.44	45.90
23 Aug	0.00	0.99	271.30	0.00	0.98	396.63	35.98	0.97	661.16	1.46	0.46	47.36
24 Aug	0.00	0.99	271.30	3.24	0.99	399.87	8.92	0.98	670.08	3.00	0.48	50.36
25 Aug	0.00	0.99	271.30	0.00	0.99	399.87	6.00	0.99	676.08	3.00	0.51	53.36
26 Aug	0.00	0.99	271.30	2.05	1.00	401.92	1.67	0.99	677.75	6.85	0.58	60.21
27 Aug	0.00	0.99	271.30	1.58	1.00	403.50	0.00	0.99	677.75	43.63	1.00	103.84
28 Aug	1.50	1.00	272.80	0.00	1.00	403.50	6.32	1.00	684.07	0.00	1.00	103.84
29 Aug	–		272.80	–		403.50	–		684.07	–		103.84
Total	272.80			403.50			684.07			103.84		

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	2005			2006			2007			2008		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
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
17 Jul	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	1.33	0.00	0.00	0.00
18 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
19 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
20 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
21 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
22 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
23 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
24 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
25 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00
26 Jul	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	1.43	0.00	1.43
27 Jul	0.00	0.00	0.00	1.36	0.01	1.36	0.00	0.00	1.33	0.00	0.00	1.43
28 Jul	0.00	0.00	0.00	3.00	0.02	4.36	0.00	0.00	1.33	3.00	0.01	4.43
29 Jul	7.27	0.02	7.27	11.36	0.09	15.72	0.00	0.00	1.33	0.00	0.01	4.43
30 Jul	1.82	0.03	9.09	3.43	0.10	19.15	2.93	0.01	4.26	3.39	0.03	7.82
31 Jul	13.36	0.07	22.45	0.00	0.10	19.15	0.00	0.01	4.26	7.67	0.05	15.49
1 Aug	6.22	0.09	28.67	0.00	0.10	19.15	1.50	0.01	5.76	2.22	0.06	17.71
2 Aug	1.46	0.10	30.13	1.50	0.11	20.65	22.04	0.07	27.80	4.86	0.08	22.57
3 Aug	1.43	0.10	31.56	0.00	0.11	20.65	10.43	0.09	38.23	1.58	0.08	24.15
4 Aug	0.00	0.10	31.56	0.00	0.11	20.65	0.00	0.09	38.23	3.21	0.09	27.36
5 Aug	5.30	0.12	36.86	6.36	0.15	27.01	0.00	0.09	38.23	0.00	0.09	27.36
6 Aug	39.74	0.25	76.60	0.00	0.15	27.01	32.17	0.17	70.40	9.22	0.12	36.58
7 Aug	33.15	0.36	109.75	1.54	0.16	28.55	28.02	0.24	98.42	16.27	0.18	52.85
8 Aug	23.93	0.44	133.68	0.00	0.16	28.55	0.00	0.24	98.42	0.00	0.18	52.85
9 Aug	8.00	0.47	141.68	0.00	0.16	28.55	1.54	0.24	99.96	1.54	0.18	54.39
10 Aug	7.32	0.49	149.00	3.16	0.17	31.71	1.40	0.24	101.35	0.00	0.18	54.39
11 Aug	8.36	0.52	157.36	0.00	0.17	31.71	17.64	0.29	118.99	0.00	0.18	54.39
12 Aug	8.13	0.55	165.49	18.65	0.27	50.36	80.94	0.48	199.94	11.85	0.22	66.24
13 Aug	0.00	0.55	165.49	3.16	0.29	53.52	124.30	0.78	324.23	37.69	0.35	103.93
14 Aug	14.19	0.59	179.68	1.62	0.30	55.14	12.31	0.81	336.54	31.39	0.46	135.32
15 Aug	9.35	0.63	189.03	25.15	0.44	80.29	0.00	0.81	336.54	7.69	0.48	143.01
16 Aug	2.82	0.64	191.85	1.76	0.45	82.05	0.00	0.81	336.54	9.08	0.51	152.09
17 Aug	12.34	0.68	204.19	25.57	0.59	107.62	3.08	0.82	339.62	0.00	0.51	152.09
18 Aug	20.32	0.74	224.51	5.85	0.62	113.47	2.96	0.83	342.58	4.29	0.53	156.38
19 Aug	27.58	0.83	252.09	18.21	0.72	131.68	4.39	0.84	346.97	21.70	0.60	178.08
20 Aug	4.36	0.85	256.45	13.18	0.79	144.86	0.00	0.84	346.97	3.04	0.61	181.12
21 Aug	1.40	0.85	257.85	4.50	0.81	149.36	0.00	0.84	346.97	1.50	0.62	182.62
22 Aug	1.50	0.86	259.35	0.00	0.81	149.36	0.00	0.84	346.97	16.37	0.67	198.99
23 Aug	4.62	0.87	263.97	5.58	0.84	154.94	1.11	0.84	348.08	0.00	0.67	198.99
24 Aug	7.62	0.90	271.59	2.79	0.86	157.73	10.29	0.87	358.37	9.49	0.70	208.48
25 Aug	6.79	0.92	278.38	0.00	0.86	157.73	16.25	0.91	374.63	52.64	0.88	261.12
26 Aug	7.62	0.95	286.00	16.86	0.95	174.59	22.86	0.96	397.49	18.97	0.95	280.09
27 Aug	7.06	0.97	293.06	0.00	0.95	174.59	1.54	0.96	399.02	14.24	0.99	294.33
28 Aug	1.46	0.98	294.52	9.04	1.00	183.63	14.69	1.00	413.71	1.54	1.00	295.87
29 Aug	7.50	1.00	302.02	–		183.63	–			–		295.87
Total	302.02			183.63			413.71			295.87		

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Appendix A5.–Page 3 of 3.

	2009			2001–2008 Average		
	Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index
16 Jul	0.00	0.00	0.00	0.00	0.00	0.00
17 Jul	0.00	0.00	0.00	0.17	0.00	0.17
18 Jul	0.00	0.00	0.00	0.00	0.00	0.17
19 Jul	0.00	0.00	0.00	0.00	0.00	0.17
20 Jul	0.00	0.00	0.00	0.00	0.00	0.17
21 Jul	0.00	0.00	0.00	0.00	0.00	0.17
22 Jul	0.00	0.00	0.00	0.20	0.00	0.36
23 Jul	0.00	0.00	0.00	0.58	0.00	0.95
24 Jul	0.00	0.00	0.00	0.00	0.00	0.95
25 Jul	0.00	0.00	0.00	0.00	0.00	0.95
26 Jul	0.00	0.00	0.00	0.36	0.00	1.31
27 Jul	0.00	0.00	0.00	3.34	0.01	4.65
28 Jul	0.00	0.00	0.00	0.95	0.01	5.60
29 Jul	0.00	0.00	0.00	2.53	0.03	8.13
30 Jul	8.33	0.06	8.33	1.63	0.03	9.76
31 Jul	0.00	0.06	8.33	3.41	0.04	13.17
1 Aug	0.00	0.06	8.33	2.29	0.05	15.46
2 Aug	0.00	0.06	8.33	5.98	0.08	21.44
3 Aug	0.00	0.06	8.33	11.74	0.10	33.19
4 Aug	0.00	0.06	8.33	10.94	0.12	44.13
5 Aug	0.00	0.06	8.33	3.77	0.13	47.90
6 Aug	0.00	0.06	8.33	12.25	0.17	60.15
7 Aug	0.00	0.06	8.33	18.75	0.23	78.90
8 Aug	13.89	0.15	22.22	7.12	0.26	86.02
9 Aug	12.03	0.23	34.25	7.73	0.29	93.75
10 Aug	17.10	0.34	51.36	10.62	0.32	104.37
11 Aug	1.95	0.36	53.31	7.20	0.34	111.57
12 Aug	1.00	0.36	54.31	25.27	0.41	136.84
13 Aug	0.00	0.36	54.31	23.90	0.48	160.73
14 Aug	3.03	0.38	57.33	17.91	0.52	178.64
15 Aug	2.88	0.40	60.21	41.55	0.60	220.19
16 Aug	14.16	0.50	74.37	26.22	0.67	246.41
17 Aug	22.59	0.65	96.96	7.64	0.70	254.05
18 Aug	7.67	0.70	104.63	8.23	0.72	262.28
19 Aug	22.78	0.85	127.41	10.37	0.76	272.65
20 Aug	5.80	0.89	133.22	3.90	0.79	276.54
21 Aug	3.76	0.91	136.98	4.85	0.80	281.39
22 Aug	10.03	0.98	147.01	5.32	0.81	286.71
23 Aug	1.54	0.99	148.55	6.09	0.83	292.80
24 Aug	0.00	0.99	148.55	5.67	0.85	298.47
25 Aug	1.54	1.00	150.09	10.59	0.88	309.06
26 Aug	0.00	1.00	150.09	9.61	0.92	318.67
27 Aug	0.00	1.00	150.09	8.51	0.98	327.17
28 Aug	0.00	1.00	150.09	4.32	1.00	331.49
29 Aug	–		150.09	7.50	1.00	320.82
Total	150.09			320.82		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

Appendix A6.–Coho salmon average daily and cumulative catch per unit effort (CPUE), Middle Mouth (sites 1 and 2) drift gillnet test fishery, 2001 to 2009.

	2001			2002			2003			2004		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
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
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
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
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
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
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
22 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
23 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
24 Jul	1.76	0.00	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Jul	0.00	0.00	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 Jul	0.00	0.00	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27 Jul	0.00	0.00	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 Jul	0.00	0.00	1.76	0.00	0.00	0.00	4.53	0.01	4.53	0.00	0.00	0.00
29 Jul	0.00	0.00	1.76	0.00	0.00	0.00	8.95	0.02	13.48	0.00	0.00	0.00
30 Jul	0.00	0.00	1.76	0.00	0.00	0.00	0.00	0.02	13.48	0.00	0.00	0.00
31 Jul	1.43	0.01	3.19	0.00	0.00	0.00	0.00	0.02	13.48	0.00	0.00	0.00
1 Aug	0.00	0.01	3.19	0.00	0.00	0.00	3.16	0.02	16.64	0.00	0.00	0.00
2 Aug	4.40	0.01	7.59	0.00	0.00	0.00	0.00	0.02	16.64	3.33	0.01	3.33
3 Aug	13.76	0.04	21.35	0.00	0.00	0.00	47.92	0.09	64.56	13.33	0.03	16.66
4 Aug	12.35	0.07	33.70	0.00	0.00	0.00	58.69	0.17	123.25	0.00	0.03	16.66
5 Aug	1.58	0.07	35.28	1.43	0.00	1.43	13.17	0.18	136.42	1.54	0.04	18.20
6 Aug	19.22	0.11	54.50	0.00	0.00	1.43	0.00	0.18	136.42	0.00	0.04	18.20
7 Aug	36.15	0.18	90.65	4.62	0.02	6.05	1.54	0.19	137.96	0.00	0.04	18.20
8 Aug	30.31	0.23	120.96	0.00	0.02	6.05	0.00	0.19	137.96	0.00	0.04	18.20
9 Aug	16.37	0.27	137.33	4.50	0.03	10.55	1.71	0.19	139.67	38.44	0.12	56.64
10 Aug	26.62	0.32	163.95	0.00	0.03	10.55	1.62	0.19	141.29	27.29	0.17	83.93
11 Aug	20.86	0.36	184.81	36.92	0.13	47.47	9.00	0.20	150.29	10.77	0.19	94.70
12 Aug	19.74	0.40	204.55	8.97	0.16	56.44	45.38	0.26	195.67	1.50	0.20	96.20
13 Aug	58.93	0.51	263.48	27.00	0.23	83.44	6.16	0.27	201.83	2.96	0.20	99.16
14 Aug	50.37	0.61	313.85	4.86	0.24	88.30	35.50	0.32	237.33	51.37	0.31	150.53
15 Aug	65.52	0.74	379.37	1.58	0.25	89.88	274.56	0.69	511.89	10.51	0.33	161.04
16 Aug	24.11	0.78	403.48	37.71	0.35	127.59	57.79	0.77	569.68	4.79	0.34	165.83
17 Aug	22.27	0.82	425.75	73.08	0.56	200.67	21.82	0.80	591.50	11.93	0.36	177.76
18 Aug	12.27	0.85	438.02	53.70	0.70	254.37	15.92	0.82	607.42	18.02	0.40	195.78
19 Aug	31.19	0.91	469.21	34.44	0.80	288.81	4.74	0.83	612.16	4.72	0.41	200.50
20 Aug	4.70	0.92	473.91	19.74	0.86	308.55	4.74	0.83	616.90	28.28	0.47	228.78
21 Aug	11.43	0.94	485.34	6.04	0.87	314.59	1.58	0.84	618.48	117.49	0.71	346.27
22 Aug	20.07	0.98	505.41	26.38	0.94	340.97	83.27	0.95	701.75	3.04	0.71	349.31
23 Aug	3.08	0.99	508.49	6.08	0.96	347.05	13.54	0.97	715.29	1.50	0.71	350.81
24 Aug	4.58	0.99	513.07	3.00	0.97	350.05	17.44	0.99	732.73	0.00	0.71	350.81
25 Aug	0.00	0.99	513.07	1.54	0.97	351.59	1.58	0.99	734.31	20.49	0.76	371.30
26 Aug	2.93	1.00	516.00	0.00	0.97	351.59	4.66	1.00	738.97	15.72	0.79	387.02
27 Aug	0.00	1.00	516.00	0.00	0.97	351.59		1.00	738.97	104.03	1.00	491.05
28 Aug	0.12	1.00	516.12	9.23	1.00	360.82		1.00	738.97	0.00	1.00	491.05
29 Aug	–		516.12	–		360.82	–		738.97	–		491.05
Total	516.12			360.82			738.97			491.05		

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	2005			2006			2007			2008		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index	Index	%	Index	Index	%	Index
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
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
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
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
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
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
22 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
23 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
24 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
25 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
26 Jul	0.00	0.00	0.00	1.67	0.01	1.67	0.00	0.00	0.00	0.00	0.00	0.00
27 Jul	0.00	0.00	0.00	3.94	0.03	5.61	0.00	0.00	0.00	0.00	0.00	0.00
28 Jul	0.00	0.00	0.00	0.00	0.03	5.61	1.50	0.00	1.50	2.93	0.02	2.93
29 Jul	0.00	0.00	0.00	0.98	0.03	6.59	0.00	0.00	1.50	1.43	0.03	4.36
30 Jul	4.43	0.01	4.43	13.17	0.10	19.76	0.00	0.00	1.50	1.58	0.04	5.94
31 Jul	0.00	0.01	4.43	7.95	0.14	27.71	1.54	0.01	3.04	0.00	0.04	5.94
1 Aug	0.00	0.01	4.43	7.37	0.18	35.08	0.00	0.01	3.04	1.58	0.05	7.52
2 Aug	0.00	0.01	4.43	0.00	0.18	35.08	0.00	0.01	3.04	0.00	0.05	7.52
3 Aug	1.46	0.02	5.89	2.05	0.19	37.13	1.46	0.01	4.50	3.00	0.07	10.52
4 Aug	0.00	0.02	5.89	0.00	0.19	37.13	3.00	0.02	7.50	0.00	0.07	10.52
5 Aug	0.00	0.02	5.89	0.00	0.19	37.13	8.89	0.04	16.39	1.46	0.08	11.98
6 Aug	0.00	0.02	5.89	0.00	0.19	37.13	17.68	0.09	34.07	0.00	0.08	11.98
7 Aug	38.93	0.15	44.82	1.00	0.20	38.13	44.42	0.20	78.49	0.00	0.08	11.98
8 Aug	9.72	0.18	54.54	2.22	0.21	40.35	55.96	0.34	134.45	4.51	0.11	16.49
9 Aug	3.25	0.19	57.79	1.33	0.22	41.68	1.50	0.34	135.95	2.86	0.12	19.35
10 Aug	1.50	0.20	59.29	0.00	0.22	41.68	0.00	0.34	135.95	1.50	0.13	20.85
11 Aug	0.00	0.20	59.29	3.21	0.23	44.89	1.50	0.35	137.45	0.00	0.13	20.85
12 Aug	7.78	0.22	67.07	1.76	0.24	46.65	6.00	0.36	143.45	1.62	0.14	22.47
13 Aug	7.69	0.25	74.76	4.44	0.26	51.09	91.79	0.60	235.24	3.08	0.16	25.55
14 Aug	6.65	0.27	81.41	6.40	0.30	57.49	27.00	0.66	262.24	11.29	0.24	36.84
15 Aug	1.62	0.28	83.03	3.16	0.31	60.65	11.04	0.69	273.28	3.11	0.26	39.95
16 Aug	3.16	0.29	86.19	4.86	0.34	65.51	12.39	0.72	285.67	0.00	0.26	39.95
17 Aug	4.80	0.30	90.99	9.73	0.39	75.24	10.89	0.75	296.57	0.00	0.26	39.95
18 Aug	1.46	0.31	92.45	6.09	0.42	81.33	3.00	0.76	299.57	7.25	0.30	47.20
19 Aug	3.00	0.32	95.45	53.46	0.70	134.79	4.43	0.77	303.99	0.00	0.30	47.20
20 Aug	13.21	0.36	108.66	28.30	0.84	163.09	17.32	0.81	321.31	7.78	0.35	54.98
21 Aug	14.87	0.41	123.53	3.33	0.86	166.42	6.86	0.83	328.17	16.77	0.46	71.75
22 Aug	22.50	0.49	146.03	0.00	0.86	166.42	1.46	0.83	329.63	24.98	0.62	96.73
23 Aug	45.00	0.64	191.03	0.00	0.86	166.42	3.00	0.84	332.63	11.93	0.69	108.66
24 Aug	48.00	0.80	239.03	9.26	0.91	175.68	1.50	0.85	334.13	11.82	0.77	120.48
25 Aug	9.31	0.83	248.34	3.38	0.92	179.06	20.49	0.90	354.62	9.08	0.83	129.56
26 Aug	18.41	0.89	266.75	6.33	0.96	185.39	10.65	0.92	365.27	5.58	0.86	135.14
27 Aug	1.50	0.90	268.25	1.58	0.97	186.97	3.17	0.93	368.44	7.66	0.91	142.80
28 Aug	2.96	0.91	271.21	6.72	1.00	193.69	26.88	1.00	395.32	13.77	1.00	156.57
29 Aug	28.23	1.00	299.44	–		193.69	–			-	1.00	156.57
Total	299.44			193.69			395.32			156.57		

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Appendix A6.–Page 3 of 3.

	2009			2001-2008 Average		
	Daily	Cumulative		Daily	Cumulative	
Date	Index	%	Index	Index	%	Index
16 Jul	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
18 Jul	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
20 Jul	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
22 Jul	0.00	0.00	0.00	0.00	0.00	0.00
23 Jul	0.00	0.00	0.00	0.00	0.00	0.00
24 Jul	0.00	0.00	0.00	0.22	0.00	0.22
25 Jul	0.00	0.00	0.00	0.00	0.00	0.22
26 Jul	0.00	0.00	0.00	0.21	0.00	0.43
27 Jul	0.00	0.00	0.00	0.49	0.00	0.92
28 Jul	0.00	0.00	0.00	1.12	0.01	2.04
29 Jul	0.00	0.00	0.00	1.42	0.01	3.46
30 Jul	0.00	0.00	0.00	2.40	0.02	5.86
31 Jul	0.00	0.00	0.00	1.36	0.03	7.22
1 Aug	0.00	0.00	0.00	1.51	0.04	8.74
2 Aug	2.79	0.01	2.79	0.97	0.04	9.70
3 Aug	0.00	0.01	2.79	10.37	0.06	20.08
4 Aug	1.40	0.01	4.19	9.26	0.07	29.33
5 Aug	14.98	0.05	19.16	3.51	0.08	32.84
6 Aug	5.82	0.06	24.98	4.61	0.09	37.45
7 Aug	1.43	0.07	26.41	15.83	0.13	53.29
8 Aug	17.40	0.11	43.81	12.84	0.16	66.12
9 Aug	50.80	0.23	94.60	8.75	0.18	74.87
10 Aug	67.92	0.40	162.52	7.32	0.20	82.19
11 Aug	16.10	0.44	178.62	10.28	0.22	92.47
12 Aug	7.58	0.46	186.20	11.59	0.25	104.06
13 Aug	7.32	0.48	193.51	25.26	0.31	129.32
14 Aug	3.00	0.48	196.51	24.18	0.37	153.50
15 Aug	0.00	0.48	196.51	46.39	0.44	199.89
16 Aug	6.04	0.50	202.55	18.10	0.48	217.99
17 Aug	3.00	0.51	205.55	19.32	0.53	237.30
18 Aug	3.08	0.51	208.63	14.71	0.57	252.02
19 Aug	45.70	0.63	254.33	17.00	0.63	269.01
20 Aug	66.76	0.79	321.09	15.51	0.68	284.52
21 Aug	20.77	0.84	341.86	22.30	0.74	306.82
22 Aug	17.71	0.89	359.57	22.71	0.80	329.53
23 Aug	5.97	0.90	365.53	10.52	0.83	340.05
24 Aug	3.00	0.91	368.53	11.95	0.87	352.00
25 Aug	11.93	0.94	380.46	8.23	0.90	360.23
26 Aug	10.12	0.96	390.58	8.04	0.92	368.27
27 Aug	10.14	0.99	400.72	16.85	0.96	383.01
28 Aug	4.50	1.00	405.22	8.53	0.99	390.47
29 Aug	-	1.00	405.22	28.23	1.00	393.81
Total	405.22			393.81		

Note: The box indicates the first quartile to the third quartile of the cumulative index. The median date of the cumulative index is indicated in the bold box and shaded bands indicate historical average quartile passage dates. Differences in the termination dates of the project confounds computation of the cumulative percent and average. As a convenience, the historical daily cumulative and average was computed by assuming that 100 percent was completed on the date of the project termination.

APPENDIX B. LOWER YUKON TEST FISHERY RELATED INFORMATION

Appendix B1.–Big Eddy and Middle Mouth drift gillnet mean fishing times, 2009.

Drift Gillnet Test Fishery Mean Fishing Times (min)																	
	Big Eddy										Middle Mouth						
	Drift Site							Catch			Drift Site					Catch	
	a.m.			p.m.				Fall			a.m.		p.m.			Fall	
Date	1	2	3	1	2	3	Total	Chum	Coho	Date	1	2	1	2	Total	Chum	Coho
16 Jul	20.0	20.0	-	20.0	20.0	-	80.0	1	0	16 Jul	20.0	20.0	19.5	19.5	79.0	5	0
17 Jul	20.5	19.5	-	19.0	19.0	-	78.0	1	0	17 Jul	19.5	19.5	20.0	21.5	80.5	5	0
18 Jul	21.0	19.5	-	20.0	19.5	-	80.0	0	0	18 Jul	19.5	20.0	19.5	19.5	78.5	4	0
19 Jul	20.0	28.5	-	19.5	18.5	-	86.5	1	0	19 Jul	19.5	19.5	19.5	19.5	78.0	1	0
20 Jul	20.5	36.5	-	19.5	19.5	-	96.0	0	0	20 Jul	19.5	19.5	19.5	19.5	78.0	0	0
21 Jul	19.5	19.5	-	18.5	18.5	-	76.0	0	0	21 Jul	19.5	20.0	19.5	17.0	76.0	1	0
22 Jul [a]	19.5	19.5	-	-	-	-	39.0	0	0	22 Jul [a]	19.5	19.5	-	-	39.0	0	0
23 Jul	22.5	19.5	-	19.5	20.0	-	81.5	2	0	23 Jul	19.5	19.5	19.5	19.5	78.0	2	0
24 Jul	20.0	20.0	-	19.5	19.5	-	79.0	0	0	24 Jul	19.5	19.5	19.5	19.5	78.0	0	0
25 Jul	19.5	19.5	-	17.5	18.5	-	75.0	0	0	25 Jul	20.5	19.5	14.5	19.5	74.0	2	0
26 Jul	19.5	19.5	-	19.5	18.5	-	77.0	0	0	26 Jul	20.0	19.5	19.5	19.5	78.5	1	0
27 Jul	20.5	19.5	-	19.5	19.5	-	79.0	1	0	27 Jul	19.5	19.5	19.5	19.5	78.0	1	0
28 Jul	19.5	20.0	-	20.0	19.5	-	79.0	0	0	28 Jul	19.5	19.5	19.5	19.5	78.0	0	0
29 Jul	19.5	18.5	-	19.5	20.0	-	77.5	0	0	29 Jul	19.5	19.5	20.0	20.0	79.0	1	0
30 Jul	19.5	20.0	-	18.0	19.5	-	77.0	25	5	30 Jul	20.0	17.5	19.5	20.0	77.0	2	0
31 Jul	19.5	19.5	-	19.5	19.5	-	78.0	6	0	31 Jul	19.5	20.0	19.5	20.5	79.5	18	0
1 Aug	19.5	20.5	-	19.5	20.5	-	80.0	1	0	1 Aug	19.5	20.5	19.5	19.5	79.0	2	0
2 Aug	21.0	20.5	-	20.5	20.5	-	82.5	1	0	2 Aug	21.5	20.5	20.5	21.0	83.5	5	2
3 Aug	20.5	19.5	-	20.0	20.0	-	80.0	2	0	3 Aug	20.5	20.5	20.5	20.5	82.0	0	0
4 Aug	20.5	19.5	-	20.5	20.5	-	81.0	0	0	4 Aug	20.5	20.5	20.5	21.5	83.0	2	1
5 Aug	19.5	20.5	-	20.5	20.5	-	81.0	0	0	5 Aug	20.5	22.5	22.0	20.5	85.5	9	11
6 Aug	20.5	20.0	-	21.0	21.0	-	82.5	0	0	6 Aug	21.0	20.5	20.5	20.0	82.0	4	4
7 Aug	22.0	21.5	-	21.5	20.5	-	85.5	7	0	7 Aug	20.5	21.0	22.5	22.0	86.0	15	1
8 Aug	22.0	20.0	-	21.5	20.0	-	83.5	6	10	8 Aug	21.5	21.0	22.5	20.0	85.0	29	13
9 Aug [b]	21.0	21.0	19.0	21.0	-	19.5	101.5	31	10	9 Aug	27.0	19.0	21.5	20.0	87.5	58	38
10 Aug	20.0	19.5	11.0	20.5	20.0	18.5	109.5	19	14	10 Aug	20.5	20.0	24.5	18.5	83.5	16	53
11 Aug	20.5	19.5	19.5	20.5	19.5	14.5	114.0	0	2	11 Aug	20.5	20.5	20.5	19.5	81.0	3	11
12 Aug	19.5	19.5	18.5	20.0	20.5	15.5	113.5	0	1	12 Aug	19.5	20.0	19.5	20.0	79.0	6	5
13 Aug	19.5	19.5	16.5	20.5	20.5	16.5	113.0	0	0	13 Aug	19.5	20.5	20.5	20.0	80.5	2	5

-continued-

Appendix B1.–Page 2 of 2.

Drift Gillnet Test Fishery Mean Fishing Times (min)

	Big Eddy										Middle Mouth						
	Drift Site							Catch			Drift Site					Catch	
	a.m.			p.m.				Fall			a.m.		p.m.			Fall	
Date	1	2	3	1	2	3	Total	Chum	Coho	Date	1	2	1	2	Total	Chum	Coho
14 Aug	20.0	19.5	20.0	20.5	20.5	17.5	118.0	0	3	14 Aug	20.0	20.0	20.5	20.5	81.0	2	2
15 Aug	21.0	20.5	19.5	20.0	20.0	21.0	122.0	2	3	15 Aug	20.0	19.5	20.5	19.5	79.5	3	0
16 Aug	20.5	20.0	24.5	19.0	18.5	24.0	126.5	26	16	16 Aug	19.5	19.5	20.0	19.5	78.5	5	4
17 Aug	20.0	18.5	21.0	20.5	19.5	20.5	120.0	10	23	17 Aug	20.0	19.5	20.5	20.5	80.5	2	2
18 Aug	20.5	19.0	22.0	20.0	19.5	20.5	121.5	9	8	18 Aug	19.5	19.5	19.5	20.5	79.0	0	2
19 Aug	20.0	19.5	19.5	19.5	20.5	19.0	118.0	23	22	19 Aug	21.0	18.5	25.5	16.5	81.5	56	35
20 Aug [c]	21.0	20.5	-	19.5	20.5	20.5	102.0	0	5	20 Aug	21.0	19.5	24.0	20.0	84.5	25	51
21 Aug[d]	19.5	19.0	15.5	18.5	-	19.5	92.0	0	3	21 Aug	19.5	19.5	21.0	19.5	79.5	6	14
22 Aug	21.0	-	21.0	20.0	-	20.5	82.5	1	7	22 Aug	20.0	19.5	22.5	21.0	83.0	18	13
23 Aug	20.5	-	20.5	19.5	-	19.5	80.0	3	1	23 Aug	20.5	20.0	19.5	20.0	80.0	3	4
24 Aug	21.0	-	20.5	20.5	-	21.0	83.0	5	0	24 Aug	20.0	19.5	19.5	19.5	78.5	1	2
25 Aug	19.0	-	19.0	19.5	-	20.5	78.0	0	1	25 Aug	20.0	20.0	20.0	20.5	80.5	1	8
26 Aug	19.0	-	18.0	18.5	-	21.5	77.0	0	0	26 Aug	20.5	20.0	20.0	22.0	82.5	17	7
27 Aug	21.5	-	20.0	19.0	-	18.5	79.0	3	0	27 Aug	20.0	20.5	21.0	20.0	81.5	8	7
28 Aug	18.0	-	18.5	19.5	-	20.5	76.5	1	0	28 Aug	19.5	20.0	19.5	20.0	79.0	3	3
Daily Average							89.1			Daily Average					79.4		
St. Dev.							18.0			St. Dev.					6.8		
Drift Average							19.9			Drift Average					20.1		
St. Dev.							1.9			St. Dev.					1.2		
Total Catch								187	134							344	298

[a] Commercial fishing occurred on this day.

[b] Beginning use of supplemental Site 3.

[c] Missed drift due to inclement weather.

[d] Site 2 removed from use.

Appendix B2.–Species captured, retained, and released during the fall season Lower Yukon drift gillnet test fishery, 2009.

	Big Eddy		Middle Mouth		Total	
Species	Fall Chum	Coho	Fall Chum	Coho	Fall Chum	Coho
Fish released unharmed	3	0	269	213	272	213
Test fish sales	0	0	0	0	0	0
Fish discarded	0	0	0	0	0	0
Test fish donated locally	184	134	75	85	259	219
Total catch	187	134	344	298	531	432

APPENDIX C. CLIMACTIC AND HYDROLOGICAL DATA

Appendix C1.–Big Eddy fall season climatological and stream observations, 2009.

	Cloud Cover (code)[a]		Precipitation (code)[b]		Wind Direction & Velocity (m.p.h.)				Temperature (C°) Air		Temperature (C°) Water Surface	
Date [c]	am	pm	am	pm	am		pm		am	pm	am	pm
16 Jul	4	1	0	0	SE	10	SE	15	10.0	11.0	18.0	18.0
17 Jul [d]	4	2	B	A	SSE	5	SE	20	12.0	16.0	19.0	19.0
18 Jul	4	3	0	A	SSE	15	SE	15	11.0	16.0	18.0	18.0
19 Jul	4	4	A	0	SE	5	calm	0	11.0	17.0	17.0	19.0
20 Jul	4	3	A	0	SE	15	SE	10	9.0	16.0	18.5	18.0
21 Jul	2	1	0	0	N	15	SE	10	15.0	17.5	17.0	19.0
22 Jul [e]	4	-	0	0	SE	5	NE	10	14.0	-	18.0	-
23 Jul	4	1	A	0	SE	10	E	10	13.0	20.5	18.0	19.0
24 Jul	1	4	0	A	SE	5	calm	0	10.0	16.5	18.0	18.5
25 Jul	4	3	A	0	SE	5	E	10	13.0	15.5	18.5	17.5
26 Jul	4	4	A	0	SE	5	SE	5	14.0	16.0	18.0	18.0
27 Jul	4	3	A	0	NE	5	SE	5	12.0	17.0	17.5	18.5
28 Jul	4	4	0	0	SE	5	SE	5	13.0	16.5	17.0	18.0
29 Jul [d]	4	4	B	A	NW	15	SE	20	13.0	13.0	17.5	17.0
30 Jul [d]	4	4	B	0	SE	20	SE	5	11.0	14.0	16.0	16.0
31 Jul	4	4	0	A	SE	5	SE	10	11.0	12.0	16.5	16.0
1 Aug	3	4	0	A	SE	5	SE	10	10.5	14.0	16.0	16.0
2 Aug	2	3	0	A	SE	5	SE	15	10.5	15.0	15.0	16.0
3 Aug	3	1	A	0	NE	5	NE	10	11.5	17.0	15.5	16.0
4 Aug	4	4	0	0	NE	5	NE	5	16.0	18.5	16.0	16.5
5 Aug	4	3	0	A	ESE	15	calm	0	13.0	14.5	16.0	16.0
6 Aug	2	1	A	0	calm	0	NW	10	13.0	15.5	16.0	16.0
7 Aug	2	4	0	0	NW	10	NW	10	12.0	14.0	16.0	15.5
8 Aug	4	2	0	0	NW	10	NW	10	13.5	12.0	16.0	15.5
9 Aug	4	4	0	0	NW	10	NW	15	11.7	13.0	16.0	16.0
10 Aug	4	4	0	0	NW	10	NW	10	9.0	11.5	14.5	16.0
11 Aug	5	1	0	0	N	5	NW	5	8.5	16.5	15.5	17.0
12 Aug	4	4	0	B	calm	0	NW	15	12.5	12.0	16.0	16.0
13 Aug	4	4	A	B	SSE	10	SE	15	10.0	12.0	16.0	16.0
14 Aug	4	3	A	0	SE	5	SE	5	11.0	16.0	16.0	16.0
15 Aug	4	3	0	0	NW	10	NW	15	11.5	15.0	16.0	16.5
16 Aug	5	1	0	0	NW	5	NW	15	9.0	15.0	16.0	16.0
17 Aug	3	1	0	0	SW	5	SE	15	11.0	15.0	16.0	16.0
18 Aug	4	2	A	0	NW	15	NW	10	9.0	10.5	15.0	15.5
19 Aug	1	2	0	0	calm	0	E	5	8.0	15.0	15.5	16.0
20 Aug	4	4	A	0	SE	10	SW	10	11.5	13.0	15.0	14.0
21 Aug [d]	4	3	A	A	SE	10	SE	20	11.5	12.0	14.5	9.5
22 Aug	3	3	A	0	SE	10	SW	10	8.5	11.0	13.0	14.0
23 Aug [d]	4	4	B	0	SE	10	SW	20	8.0	10.5	13.5	14.0
24 Aug	4	4	A	0	SE	10	NE	5	8.0	9.5	13.5	13.5
25 Aug	2	3	0	0	NW	5	WNW	15	6.0	11.0	14.0	13.0
26 Aug	1	2	0	0	W	5	NW	10	6.0	11.0	12.5	13.0
27 Aug	3	1	0	0	NW	5	NW	10	7.0	12.0	13.0	13.0
28 Aug	1	2	0	0	WNW	10	WNW	5	8.0	12.0	12.0	12.5

[a] Cloud cover code: 0= No observation made. 1= Clear sky, cloud covering not more than 1/10 of sky. 2= Cloud covering not more than 1/2 of sky. 3= Cloud more than 1/2 of sky. 4=Completely overcast. 5= Fog or thick haze.

[b] Precipitation code: A= Intermittent rain. B= Continuous rain. C= Snow. D= Snow and rain mixed. E= Hail. F=Thunderstorms w/or w/o precipitation. 0= No precipitation.

[c] All morning observations were taken at 0800 and all evening observations were taken at 2000.

[d] Wind gusts 20 m.p.h. or greater.

[e] Evening drifts cancelled due to commercial period. Evening temperatures were not measured.

Appendix C2.–Middle Mouth fall season climatological and stream observations, 2009.

	Cloud Cover (code)[a]		Precipitation (code)[b]		Wind Direction & Velocity (m.p.h.)				Temperature (C°) Air		Temperature (C°) Water Surface	
Date [c]	am	pm	am	pm	am		pm		am	pm	am	pm
16 Jul	4	1	0	0	calm	0	W	10	12.0	20.5	16.0	16.0
17 Jul	4	4	B	0	N	15	N	10	8.0	11.0	16.0	16.0
18 Jul	4	4	0	B	SW	5	0	0	13.0	14.0	16.0	16.0
19 Jul	4	4	0	0	calm	0	0	0	13.0	16.0	16.0	16.0
20 Jul	4	3	A	0	N	10	S	10	9.0	16.0	16.0	16.0
21 Jul	3	2	0	0	N	10	0	0	12.0	16.5	16.0	17.0
22 Jul [d]	3	-	0	-	calm	0	-	-	12.0	-	16.5	-
23 Jul	1	2	0	0	calm	0	E	5	13.0	15.0	16.5	19.0
24 Jul	2	3	0	0	calm	0	0	0	13.0	15.0	18.5	19.0
25 Jul	4	4	0	0	NE	10	SE	15	13.0	16.5	18.5	18.0
26 Jul	4	4	A	A	N	10	SE	5	11.0	14.0	18.0	18.0
27 Jul	4	4	A	A	calm	0	0	0	11.0	14.0	18.0	18.0
28 Jul	4	4	B	A	calm	0	0	0	10.0	13.0	18.0	18.0
29 Jul [e]	-	4	-	B	-	-	N	25	-	12.0	-	18.0
30 Jul [e]	4	4	B	A	N	40	0	0	10.0	13.5	18.0	17.0
31 Jul	4	4	A	A	W	5	SE	10	10.5	11.0	16.5	16.5
1 Aug	3	3	0	A	calm	0	SW	5	12.0	13.5	16.5	16.5
2 Aug	4	4	0	A	NE	5	SE	5	10.5	14.0	16.5	16.0
3 Aug	4	1	A	0	calm	0	N	10	11.0	16.0	16.0	16.5
4 Aug	4	4	0	0	S	1	NE	5	12.0	16.5	16.0	16.5
5 Aug	4	4	A	0	SE	5	0	0	12.5	18.0	16.0	16.0
6 Aug	1	2	0	0	calm	0	NE	15	13.0	15.5	16.0	16.0
7 Aug	4	4	0	0	calm	0	W	10	12.0	13.0	16.0	16.0
8 Aug	4	3	0	0	calm	0	W	10	12.0	14.0	16.0	16.0
9 Aug	3	4	0	0	NW	5	NW	15	13.0	13.5	16.0	16.0
10 Aug	4	4	0	0	calm	0	0	0	12.0	14.0	16.0	16.0
11 Aug	5	1	0	0	calm	0	N	10	13.0	16.0	16.0	16.5
12 Aug	3	4	0	A	calm	0	S	5	12.0	13.0	16.0	16.0
13 Aug	4	4	B	B	N	15	N	10	11.0	13.0	16.0	16.0
14 Aug	4	3	A	A	S	5	0	0	12.0	16.0	16.0	16.5
15 Aug	4	3	0	0	calm	0	NW	5	13.0	15.0	16.0	16.5
16 Aug	2	2	0	0	calm	0	N	5	12.0	13.0	16.0	16.0
17 Aug	2	2	0	0	calm	0	W	5	12.0	14.0	16.0	16.0
18 Aug	3	2	0	0	N	15	N	10	10.0	12.0	16.0	16.0
19 Aug	1	3	0	0	calm	0	0	0	11.0	13.0	15.0	15.5
20 Aug	4	4	A	0	S	15	SW	10	10.0	12.5	15.0	15.0
21 Aug	4	4	B	B	S	10	S	15	10.0	11.0	15.0	15.0
22 Aug	4	3	A	A	S	15	0	0	10.0	9.0	15.0	14.0
23 Aug	4	3	A	A	S	15	W	10	9.0	7.5	14.0	14.0
24 Aug	3	4	0	0	calm	0	0	0	7.0	8.0	14.0	14.0
25 Aug	1	2	0	0	NW	5	NW	15	8.0	8.5	14.0	14.0
26 Aug	3	3	0	0	calm	0	N	10	8.0	7.0	14.0	14.0
27 Aug	4	1	0	0	N	10	N	10	7.0	-	14.0	-
28 Aug	3	3	0	0	N	10	N	10	-	-	-	-

[a] Cloud cover code: 0= No observation made. 1= Clear sky, cloud covering not more than 1/10 of sky. 2= Cloud covering not more than 1/2 of sky. 3= Cloud more than 1/2 of sky. 4=Completely overcast. 5= Fog or thick haze.

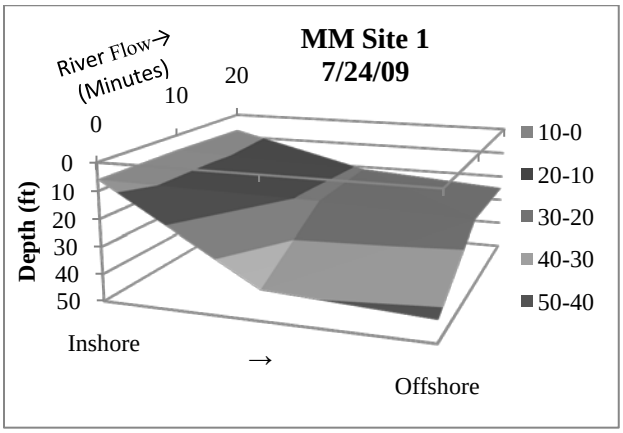
[b] Precipitation code: A= Intermittent rain. B= Continuous rain. C= Snow. D= Snow and rain mixed. E= Hail. F=Thunderstorms w/or w/o precipitation. 0= No precipitation.

[c] All morning observations were taken at 0800 and all evening observations were taken at 2000.

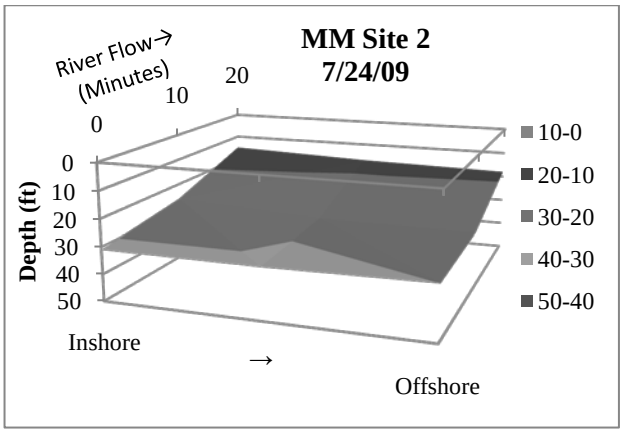
[d] Evening drifts cancelled due to commercial period. Evening temperatures were not measured.

[e] Wind gusts 20 m.p.h. or greater

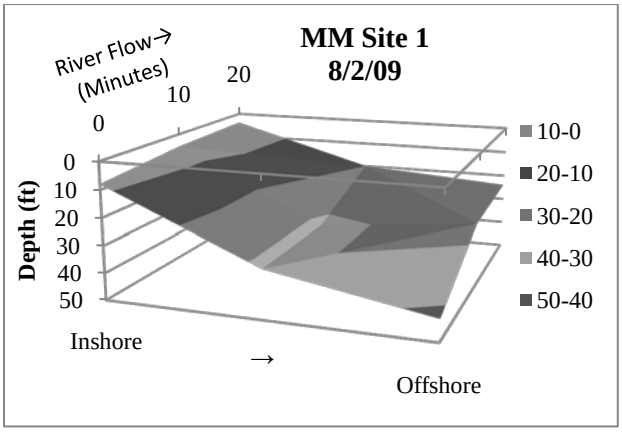
Appendix C3.–Example depth profiles from Middle Mouth (MM) Sites1 (a-c) and 2 (d-f), and Big Eddy (BE) Sites 1 (g-h) and 2 (i-j), 2009.



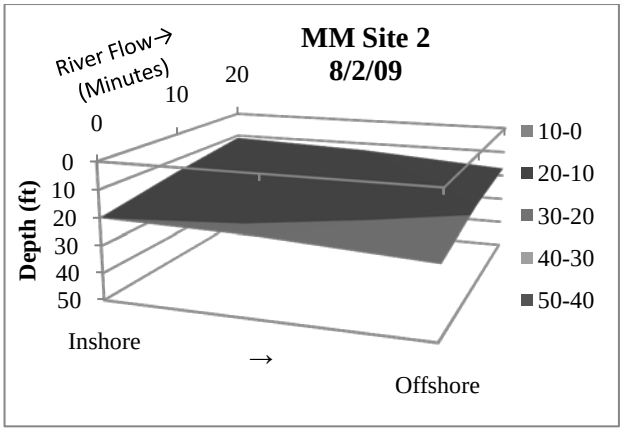
a)



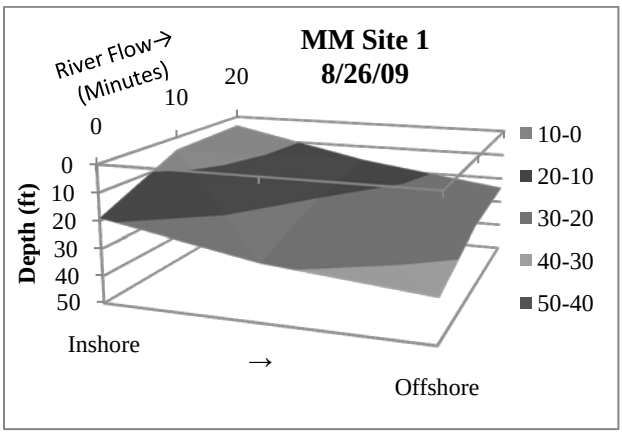
d)



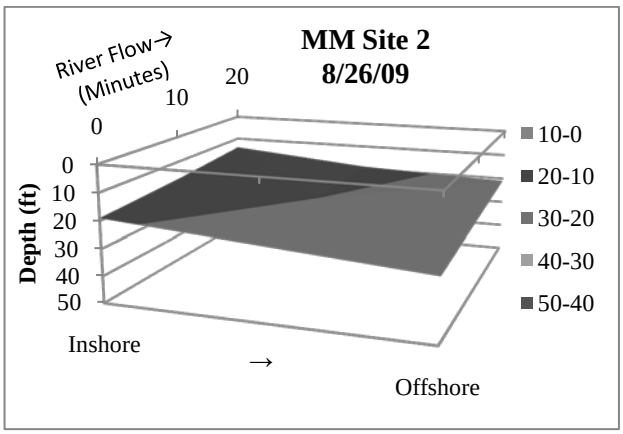
b)



e)



c)



f)

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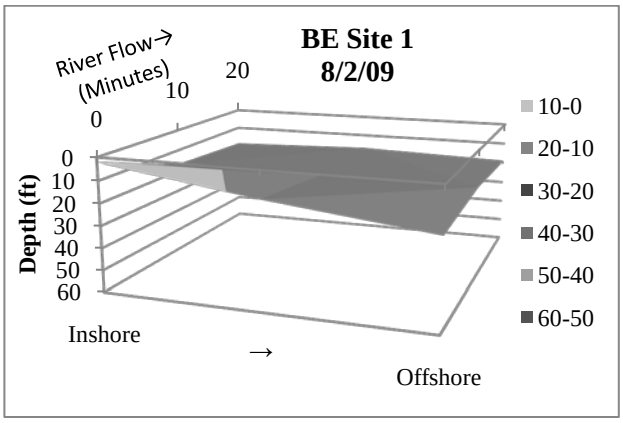
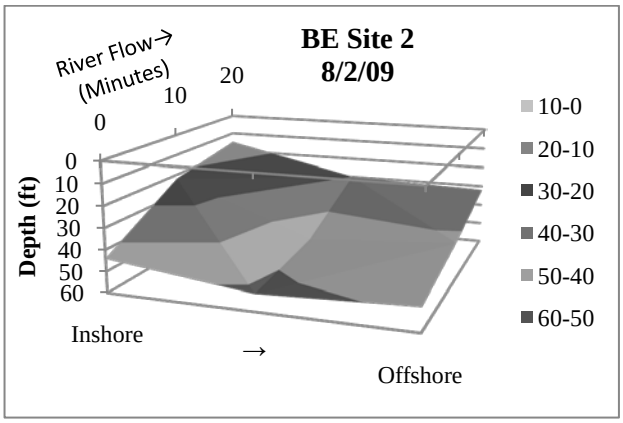
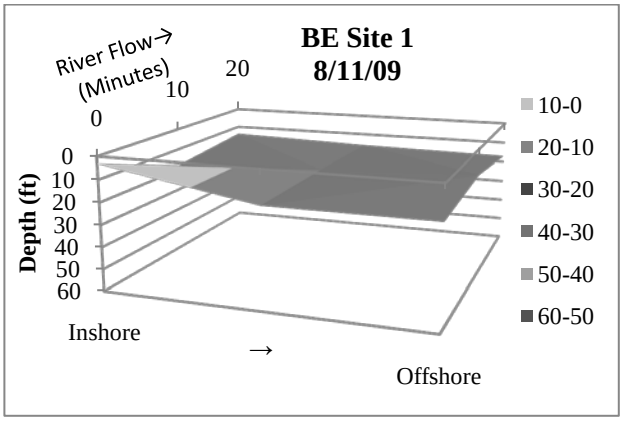
g)



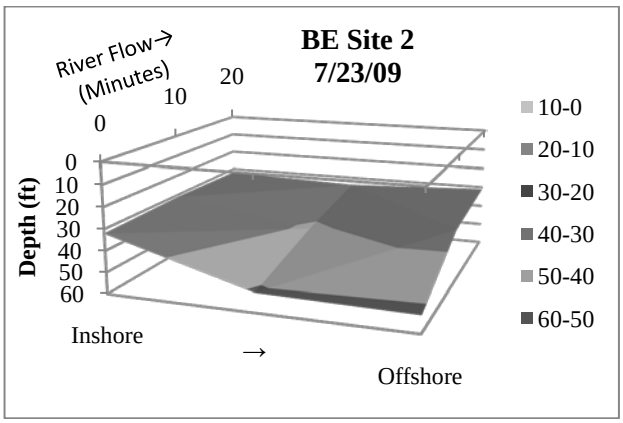
i)



h)



j)



Note: Depth measurements are influenced by weather, river discharge and tides. Samples were collected at MM on 7/21, 7/24, 7/27, 7/30, 8/02, 8/8, 8/15, 8/19, and 8/26; and BE on 7/20, 7/23, 8/2, and 8/11.