Fishery Data Series No. 06-37

Characterization of the 2004 Salmon Run in the Kuskokwim River Based on Test Fishing at Bethel

by

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and

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

Symbols and Abbreviations

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Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Measures (fisheries)

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

Mathematics, statistics

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

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ABSTRACT

Annual timing and abundance of adult Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, chum *O. keta*, and coho *O. kisutch* salmon returning to the Kuskokwim River have been assessed by the Bethel drift gillnet test fishery since 1984. In 2004, the Bethel salmon test fishery operated from June 1 through August 29. A series of timed drifts using 5 3/8-inch (13.6-cm) and 8-inch (20.3 cm) stretch mesh gillnets were made at 3 stations across the river channel. Each series of drifts began approximately 1 hour following each high tide throughout the fishing season. Mean tidal catch per unit effort (CPUE) that served as an index of abundance was calculated for each species. The cumulative mean tidal CPUE was compared to information from earlier years and to the results from the Lower Kuskokwim inseason subsistence salmon harvest monitoring project to determine salmon abundance and run timing to help direct subsistence and commercial management decisions. The peak dates of migration for Chinook, sockeye, chum and coho salmon were June 21, June 24, June 26, and August 10, respectively; these dates were generally within 1 or 2 days of the historical averages. The collected age, sex, and length data exhibited an increasing trend in age-1.2, -1.3 and -1.4 Chinook salmon and a decrease in the percentage of females since 2001. The percentage of age-1.2 sockeye salmon increased from 2002 and 2003. The percentage of age-0.3 chum salmon (36.3%) was lower than previous years, which ranged from 52.5% to 82%. The test fishery was one of the primary information sources used by managers to terminate the subsistence fishing schedule on June 20 and implement a commercial fishery for sockeye and chum salmon on June 30. In late July, the test fishery provided information allowing implementation of a commercial coho salmon fishery on July 28.

Key words: Chinook salmon *Oncorhynchus tshawytscha*, sockeye salmon *O. nerka*, chum salmon *O. gorbuscha*, coho salmon *O. kisutch*, Kuskokwim River, Bethel salmon test fishery, run timing, relative abundance, commercial fishery, subsistence fishery, stocks of concern, escapement, drift gillnet, index, water level, ASL composition.

INTRODUCTION

The primary objective of Kuskokwim River salmon management is to manage the fishery for sustained yield according to the Kuskokwim River Salmon Rebuilding Management Plan (Rebuilding Plan) (5 AAC 07.365) and under policies directed by the Alaska Board of Fisheries (BOF) (5 AAC 39.220, 39.222, and 39.223; Ward et al. 2003). The management of this salmon fishery is confounded by unknown variables such as run size and migratory timing, harvest of mixed stocks, overlapping multi-species salmon runs, allocation issues, and the immense size of the Kuskokwim River drainage. To address this management objective, managers rely on subsistence harvest reports, test fish catch per unit effort (CPUE) indices, summaries, commercial harvest catch rates, and, as fish begin reaching clear water tributaries, reports from weir, sonar, and aerial survey programs. This information is used to attempt to adequately characterize inseason migratory timing, run strength, and escapement of Pacific salmon in the Kuskokwim River drainage.

The Bethel test fishery provides an inseason CPUE index comparable to historic test-fish CPUE indices that fishery managers use to addresses inseason salmon run timing and relative abundance. Test fishery CPUE data are not used to measure escapement of adult salmon to the spawning grounds or to provide an estimate of total run abundance because of the unknown and variable implications of harvests that occur both upstream and downstream of the test fishery. However, the current year test-fish CPUE index can be compared to prior year indices and, along with associated subsistence reports and weir, sonar, and aerial survey data, can be used to assess salmon run strength. Comparison of test-fish CPUE data between years should be approached cautiously due to an array of factors affecting salmon catchability at the test-fish site. Such factors include, but are not limited to, water level and clarity, height of the flooding tides,

weather conditions, river channel morphology and hydrology, fish size relative to gillnet mesh size, net saturation effects, and test-fish crew technique.

The location of the Bethel test fishery within the Kuskokwim River drainage is important to salmon managers by providing some of the first information on the development of salmon runs in a given year. Historically managers relied on test fisheries, commercial catch statistics, and informal reports from subsistence and sport fishers to gauge inseason salmon run abundance (Ward et al. 2003). In 1987, the directed Chinook salmon *Oncorhynchus tshawytscha*, commercial fishery was discontinued in the Kuskokwim River due to conservation concerns. In the absence of a June fishery, early inseason salmon run information was limited primarily to test-fish data and informal subsistence harvest reports. Due to confounding factors affecting salmon catchability, the Bethel test fishery did not always give managers a clear picture of inseason salmon migration,

In 2001, the U.S. Fish and Wildlife Service (USFWS) Office of Subsistence Management (OSM) approved funding for a subsistence fishing monitoring project in the lower, middle and upper areas of the Kuskokwim River drainage to provide a qualitative assessment of subsistence fishing success and degree to which subsistence needs were met in season (Ward et al. 2003; Whitmore et al. 2004). In the Bethel area, the Orutsararmiut Native Council (ONC) conducts the cooperative project, Lower Kuskokwim River inseason subsistence salmon catch monitoring (Catch Monitoring Project), and formally surveys subsistence fishers inseason and reports their findings to Alaska Department of Fish and Game (ADF&G) and the Kuskokwim River Salmon Management Working Group (KRSMWG) on a weekly basis (Martz and Whitmore 2005). This project gives managers an additional tool to monitor salmon run abundance and provides a measure of effectiveness for the CPUE index from the Bethel test fishery as an index of relative abundance of salmon returns.

FISHERY DESCRIPTION

Mixed stocks of Chinook salmon, sockeye salmon *O. nerka*, chum salmon *O. keta*, and coho salmon *O. kisutch* that are returning to the Kuskokwim River are subjected to periodic commercial and subsistence fishing in the Kuskokwim River drainage. Prior to 2004, the commercial fishery was directed towards chum and coho salmon; and sockeye salmon, generally less abundant, were considered incidental in the commercial harvest. In 2004, the BOF accepted a proposal that provided a commercial harvest guideline level of up to 50,000 sockeye salmon for the Kuskokwim River (Whitmore et al. *In prep*). Chinook salmon are the principal target species of subsistence fishers; however, chum, sockeye and coho salmon contribute significantly to the subsistence harvest. Although the commercial Chinook salmon fishery is closed, an incidental catch guideline harvest level of up to 50,000 Chinook salmon is established in the Rebuilding Plan. Harvests of pink salmon *O. gorbuscha* are negligible, in part, because of the lack of both commercial markets and interest by subsistence fishers.

In the fall of 2000, the BOF designated Kuskokwim River Chinook and chum salmon to be stocks of concern under the Management of Sustainable Salmon Fisheries Policy (5 AAC 39.222). These stocks were determined to be yield concerns based on very poor returns and harvests since 1997 and expected poor returns in 2001 (Ward et al. 2003). The BOF adopted the Rebuilding Plan (5 AAC 07.365) to guide ADF&G in the management of these stocks of concern by directing conservative management of the commercial and subsistence salmon fisheries during the months of June and July. The Rebuilding Plan also provides guidelines for the

management of salmon runs toward achieving established escapement goals, to meet amounts necessary for subsistence, and to assign any harvestable surpluses to other fisheries (Ward et al. 2003).

Commercial Fishery

Commercial salmon harvests in the Kuskokwim River have occurred in two districts (Figure 1). District W-1, the lower Kuskokwim, is 220 km (137 mi) in length and extends from the mouth of the river to Bogus Creek. District W-1 is divided into two Subdistricts (W-1A and W-1B) and into four statistical areas (335-11, 335-12, 335-13 and 335-14), which partition the district into segments of approximately equal length (Figure 2).[1] District W-2, the middle Kuskokwim, is 80 km (50 mi) in length and extends from approximately 12 km (7.5 mi) downstream of Lower Kalskag to Chuathbaluk. District W-2 consists of one statistical area (335-20). Districts W-1 and W-2 are separated by a section of river approximately 61 km (37 mi) in length that is closed to commercial salmon fishing. All waters upstream of District W-2 are also closed to commercial salmon fishing.

Due to declining prices and low salmon returns since the mid-1990s, the Kuskokwim River commercial salmon fishery has been characterized by generally low effort levels and low harvests (Ward et al. 2003). In 2004, coho salmon were the most important species in the commercial fishery in terms of both harvest and value to fishers. Commercial fishers saw a slight increase in price paid per pound for coho salmon in 2004 from that of 2003. Chum salmon were the second most important species in the commercial fishery in 2004 in terms of numbers harvested, but the decline in value of chum salmon in the wild salmon market has contributed to an overall decline of the Kuskokwim River commercial salmon fishery to unprecedented levels. Processor interest in sockeye salmon provided fishers with limited commercial fishing opportunity during the last week of June and the first week of July.

Kuskokwim area commercial fishers may fish in any district in the management area, including District W-4 and W-5, however, most effort is concentrated in District W-1 (Figure 1). There has not been a commercial salmon fishery in District W-2 since 2000 due to low market values of salmon caught in that area. In 2004, processor participation included 2 buyers, limiting fishers to 2 shore-based buying stations at Bethel, and a single tender to buy fish elsewhere in District W-1. With continued emphasis on product quality and limited processing capacity, commercial openings were limited to subdistrict openings of 2 to 4 hours in duration from June 30 through July 7 in District W-1. During the period from July 28 through August 20, commercial openings were limited to subdistrict openings of 6 hours in duration. During the period from August 23 through September 8, full District W-1 (Subdistricts W-1A and W1-B) openings were 8 hours in duration. Total commercial fishing time allowed in 2004 (148 hours) was 80% (30 hours) and 28% (107 hours) more than in 2002 and 2003, respectively (Whitmore et al. *In Prep*).

[1] Prior to 1990, District W-1 was divided into three statistical areas (335-11, 335-12 and 335-13). In 1990, the statistical area farthest downstream (335-11) was divided in half. The numbering of all four statistical areas was then reordered to 335-11 and 335-12 (formerly 335-11), 335-13 (formerly 335-12) and 335-14 (formerly 335-13). Furthermore, in 2000, District W-1 was divided into two subdistricts. Subdistrict W-1A consists of that portion of District W-1 upstream from a line between regulatory markers located at the downstream end of Steamboat Slough near Bethel. Subdistrict W-1B consists of that portion of District W-1 downstream from the Steamboat Slough regulatory markers.

Drift gillnets are the principal commercial gear type used in the Kuskokwim River, although set gillnets are also legal (Ward et al. 2003). The mesh size used in the fishery is restricted to 6 in (15.2 cm) or smaller with net depth being no more than 45 meshes (6 m) deep. This mesh restriction has been in effect since 1985 in an attempt to improve the declining Chinook salmon escapements. The most common mesh sizes used range from 5 1/4-inch (13.3 cm) to 6 in (Molyneaux 2003).

Subsistence Fishery

The subsistence salmon fishery in the Kuskokwim region is one of the largest and most important in the state and supports one of the largest subsistence salmon fisheries in North America (ADF&G 2005). There are 38 communities consisting of approximately 4,500 households in the Kuskokwim Area. The majority (88%) of Kuskokwim area households are situated within the Kuskokwim River drainage. Bethel is the largest community in the region, consisting of approximately 1,800 households. In 2004, the postseason survey conducted by ADF&G Division of Subsistence (SD) estimated that residents of Bethel accounted for 30% of the Kuskokwim Area subsistence harvests and 32% of all subsistence caught Chinook salmon. ADF&G SD also estimated that 66,687 Chinook salmon were harvested by residents of lower Kuskokwim River villages, or 78% of the total Kuskokwim River Chinook salmon subsistence harvest (Krauthoefer and Caylor *In Prep*).

The Rebuilding Plan allows subsistence fishing with gillnets and fish wheels for 4 consecutive days per week during June and July unless Chinook and chum salmon runs appear to be of low abundance, at which time subsistence fishing may be reduced to less than 4 days per week for conservation purposes. In 2004, the BOF amended the Rebuilding Plan, allowing subsistence fishers to fish 7 days per week, giving them priority over commercial fishers to fish on identified harvestable surpluses of salmon (Whitmore et al. *In Prep*). These changes in the nature of the subsistence fishery in season and between comparable years also need to be factored into the interpretation of the Bethel test fish CPUE index.

The type of gear used by subsistence fishers in the lower river is generally similar to the gear used for commercial fishing. However, set gillnets are prevalent in the subsistence fishery and there are no restrictions on mesh size. Set and drift gillnets with a 6-inch maximum stretched mesh size that are used for subsistence purposes are restricted to be no more than 45 meshes deep. Similarly, gillnets with stretched mesh size greater than 6-inch can be no deeper than 35 meshes. In June, many subsistence fishers use mesh sizes of 8- to 8 1/2-inch (20 to 22 cm) stretched mesh to target Chinook salmon (Francisco et al. 1995; Martz and Whitmore 2005). In 2004, 84% of interviewed fishing families reported using drift gillnets in the ONC Catch Monitoring Project and 11% reported using set gillnets (Martz and Whitmore 2005).

PROJECT BACKGROUND

From 1966 through 1983, ADF&G conducted a set gillnet test fishery in the lower portion of the Kuskokwim River near an abandoned fish camp called Kwegooyuk (Huttunen 1984). At that site, the river ranged from approximately 5 to 7 km (3 to 4 mi) in width and had two major channels; one channel along the east shore and one along the west shore. The river channels were separated by soft sandy shoals that were mostly flooded at high tide. It was also difficult to predict which side, east shore or west shore, would be the "main" river channel in a given year and it appears that it may have fluctuated several times during the history of the Kwegooyuk test fishery project (Huttunen 1984). In that expansive body of water, the Kwegooyuk test fishery

gillnets, 49 m in length, were set from the east shore just upstream of the lower boundary of District W-1 and fished 24 hours a day (Molyneaux 2003).

The goals of the Kwegooyuk test fishery were to describe run timing and provide an index of abundance for Chinook, sockeye, and chum salmon, similar to the present day Bethel test fishery. Managers believed that run timing was adequately described by the Kwegooyuk test fishery, but the project did not provide a satisfactory index of run abundance. This problem was attributed to fluctuations in the migratory route of salmon between the east and west river channels as influenced inseason by changes in weather patterns and tidal stages, and between seasons by alterations in river channel morphology (Huttunen 1984). The Kwegooyuk test fishery was also a poor predictor of Chinook and chum salmon catches in the District W-1 (Huttunen 1984). Due to the remoteness of the test-fish site, daily catches of fish were not able to be sold or distributed to the public for subsistence uses. This made discarding of the daily catches difficult or impossible, resulting in unavoidable waste that was not acceptable to ADF&G, local residents, and the industry (Molyneaux 2003).

In an effort to provide a more reliable index of relative abundance and run strength, and to provide a better avenue for the sale of test fishery catches, a drift gillnet test fishery program near Bethel was evaluated in July 1983 (Huttunen 1984). This program ran concurrently with the Kwegooyuk test fishery. The focus was on the use of drift gillnets in a narrower river channel of the mainstem Kuskokwim River near Bethel. The objectives of the 1983 drift gillnet test fishery were to assess the feasibility of collecting run timing and abundance information for coho salmon (Huttunen 1984). The new site was in the mainstem Kuskokwim River about 5 km (3 mi) upstream from Bethel, just above the boundary line separating current statistical areas 335-12 and 335-13. The river was approximately 1 km (.5 mile) wide at the new location and had a single major channel that allowed drift gillnets to collect CPUE information at selected stations across the entire channel width. Four small channels circumvent the site (Steamboat, Straight, Church, and Napaskiak sloughs), but their influence on the test fishery was assumed negligible. The new test-fish location was also conveniently located in close proximity to local fish processors for the timely distribution and sale of daily catches. Conclusions from the 1983 program evaluation were that the drift gillnet test fishery at Bethel was viable and offered a more reliable means of monitoring salmon run timing and abundance than the Kwegooyuk test fishery. The Kwegooyuk set gillnet program was then discontinued after 1983 and replaced with a multiple-mesh drift gillnet project referred to as the Bethel test fishery (Huttunen 1984).

Operating at a point upriver of most commercial and subsistence harvest meant that instead of indexing total run abundance, the objective of the Kwegooyuk test fishery, the Bethel test fishery provides an index of relative abundance for salmon at a point midway in the commercial fishing district. This distinction is important because downriver commercial and subsistence harvests are not accounted for in the Bethel test fishery index. Moreover, the exploitation rate of the commercial fishery is likely inconsistent because of changes in gear efficiency, changes in regulations designed to alter harvest efficiency, variability in fishing patterns (length of openings and frequency of openings), changes in water level, variability in the synchrony of openings with the river entry patterns of salmon, the occurrence of fisher strikes, etc. Any of these variables confound the comparison of current year data with historic test-fish data. Inconsistencies in exploitation rates of the commercial fishery and the effect of subsistence closures associated with commercial fishing periods influence the ability of the Bethel test fish project to accurately and consistently estimate total run abundance and salmon escapement (Brannian 1988). Instead, it is

more appropriate to use the Bethel test-fish data as an index of relative salmon abundance at Bethel. Taken within the context of these limitations, the Bethel test fishery provides timely and useful insights beneficial to salmon management in the Kuskokwim area (Molyneaux 2003).

OBJECTIVES

Objectives for the Bethel test fishery salmon run monitoring project include:

1. Determine a daily mean index expressed as CPUE and a cumulative daily mean CPUE index for Chinook, sockeye, chum and coho salmon at the Bethel test-fish site from June 1 through August 24.
2. Estimate relative run abundance and timing of Chinook, sockeye, chum and coho salmon at the Bethel test-fish site by comparison of historical test-fish information.
3. Serve as a platform for collection of biological information such as age, sex and length (ASL) and genetic samples from Chinook, sockeye and chum salmon.

METHODS

FIELD OPERATIONS

The methods and location used in the 2004 Bethel test fishery were similar to those used since 1984 (Huttunen 1985, Molyneaux 1991, Molyneaux 1994 and Molyneaux 2003). Following each high tide, a series of gillnet drifts were conducted by the test fish crew in the Kuskokwim River approximately 5 km (3 mi) upstream of Bethel, where Straight Slough diverges from the main river channel (Figure 3). A 3-person crew consisting of 2 ADF&G Fish and Wildlife Technicians (FWT) and a third member (FWT equivalent provided by the Orutsararmiut Native Council (ONC) of Bethel and funded through grants from the Bering Sea Fishermen's Association as a cooperative partnership) performed the drifts. The crew utilized a 20 ft (6.1 m) skiff and two 50 fathom (90 m) drift gillnets of different mesh sizes. Each series of drifts began approximately 1 hour after the published high slack tide (i.e. high tide) for Bethel to ensure all drifts were conducted in water flowing downstream. If the weather conditions and high tide magnitude caused a delay in the ebbing of the tide, the time that the drifts began was delayed. Each drift was conducted at 1 of 3 stations across the width of the main channel (Figure 3). For each high tide drift series, 1 of 6 unique permutations from a repeating fishing schedule was used to determine which mesh size would be fished at each station (Table 1). This meant that no station was fished with the same mesh size twice during a single high tide. However, this design dictated that 1 station was fished twice each high tide; first with the 8-inch gear and then with the 5 3/8-inch gear. The 2 remaining stations were fished only once; 1 station with the 8-inch gear and the other station with the 5 3/8-inch gear. The station fished and the station missed by a given mesh size varied with the random fishing schedule. This discontinuity was the result of time and fiscal restraints but was consistent with past years. The duration of each drift was approximately 20 minutes and the mean fishing time was calculated as half the time it took to deploy and retrieve the gillnet, plus the time the gillnet was fully deployed. The river distance traversed by each drift varied depending on water and channel conditions, but the distance was generally less than 3 km (2 mi). To avoid conflicting with commercial fishers, the test fishery did not operate when commercial fishing was in progress in Subdistrict W-1A.

The river channel is typically 36 ft (12 m) deep and 1,050 ft (320 m) wide as measured near the downriver end of the test-fish site (Figure 4). Gillnets used in the test fishery generally sampled the upper half of the water column; however, at station 1 the inshore end of the gillnet dragged along a section of sand bar. At station 3, the crew deployed the inshore end of the gillnet approximately 24 ft (8 m) offshore to avoid snags along the channel edge. As the station 3 drift progressed, it typically moved towards the center of the channel and overlapped with station 2.

Drifting began on June 1 and continued through the evening tide on August 29 (passed the original project termination date of August 24) at the request of managers. Through the first tide on July 7, 2 different mesh sizes were used in the test fishery; the first 2 drifts of the day were conducted with an 8-inch stretched mesh gillnet, and the second 2 drifts were performed with a 5 3/8-inch (13.6 cm) stretched mesh gillnet. Different mesh sizes were used because the larger mesh catches larger Chinook salmon, whereas the smaller mesh is more effective on smaller Chinook and other salmon species.

Generally, the use of the 8-inch mesh gear is discontinued for the remainder of the season on July 10 because, typically, by mid July the Chinook salmon migration in the lower Kuskokwim River is essentially over. Because the Chinook catches were stronger in 2004 than in previous years, managers wanted to minimize unnecessary harvest of larger Chinook salmon by the Bethel test fishery. Consequently, the test fish crew discontinued the use of 8-inch mesh gear on July 7, which was 3 days earlier than the general termination date.

Until 1990, four drifts continued to be conducted at the 3 stations after mid July using only the 5 3/8-inch mesh gillnet. The random fishing schedule was used to determine the drift sequence as well as the station that received the duplicate drift. Results of the duplicated drifts were then averaged. However, Molyneaux (1991) found the duplicated fourth drift was unnecessary and it was discontinued beginning in 1990. In 2003, inseason adjustments were made to the standard operating procedures when the use of the 8-inch mesh gear was discontinued for the remainder of the season on June 30. The change in procedures was a result of strong Chinook and chum salmon returns and the inability to sell or distribute chum salmon from test-fish catches to subsistence users or local charities. Additionally, from June 30 to July 13, the use of the 5 3/8-inch mesh gillnet was reduced to fishing only 2 of the 3 stations. This procedure was a change from prior year's procedures when the use of the 5 3/8-inch gear was increased to fishing all 3 stations. Further adjustments were made to the fishing schedule on July 18 when the test-fish project discontinued operations for a consecutive 5-tide period to address the chum salmon catch disposal problem.

In 2004, inseason indicators suggested that chum salmon abundance was stronger than what was observed in 2003. As a method of avoiding the operational problems encountered in 2003, the use of the 5 3/8-inch mesh gillnet was reduced to fishing only 2 of the 3 stations, beginning on July 7 and continued through the project's termination date (Appendix A1). The stations fished and the station missed during a given tide varied with the random fishing schedule. Although a procedural change, the reduction in fishing time was consistent with the June 1 to July 7 period when only catches in the 5 3/8-inch mesh gillnets were used to calculate mean high tidal CPUEs for sockeye, chum and coho salmon.

The 8-inch and 5 3/8-inch mesh gillnets were 6.7 m and 5.8 m in depth, respectively. The webbing was manufactured by Nagura Net Company[2] and hung at a 2:1 ratio. The 8-inch mesh webbing was made of 225d #24 twine, 35 meshes deep by 105 fathoms long and the color code was NG80 (light green). The 5 3/8-inch webbing was made of 225d #18 twine, 45 meshes deep by 105 fathoms long and the color code was NG45 (light green).

The catch for each drift was tallied by species and by station. At the end of each series of drifts, the catch was either donated to charities or individuals desiring the fish for subsistence purposes or sold to a local processor. The data were entered into a Microsoft Excel™ computer program for analysis and recorded in the office log.

TEST FISHING INDEX

The actual salmon catch for each drift was converted to CPUE to enhance the comparability of catch results. This was accomplished by converting the difference in net length and mean fishing time of each drift to the number of fish caught by 100 fathoms (180 m) of net fished for 60 minutes. This standard net length and fishing time was used in many gillnet test fisheries conducted by ADF&G (Meacham 1978; Waltemeyer 1983). Each drift CPUE (I) was computed as:

$$I = (100 fathoms)(60 minutes) C (L T)^{-1} \quad (1)$$

where C was the catch of each species in numbers of fish, L was the length of net used in fathoms and T was the mean fishing time in minutes.

For each high tide, the drift CPUEs were averaged over all stations to calculate a mean tidal CPUE index (I_i) for each species:

$$I_i = n^{-1}\left(\sum_{j=1}^{n} I_{i,j}\right) \quad (2)$$

where $I_{i,j}$ was the drift CPUE index from drift j on high tide i, and n was the number of drifts conducted.

For Chinook salmon the mean was calculated using the drift CPUEs from both 8-inch and 5 3/8-inch mesh nets with each drift and mesh size weighted equally (n = 4). In contrast, only catches in the 5 3/8-inch mesh nets were used to calculate mean tidal CPUEs for sockeye, chum and coho salmon (n = 2).

If a high tide was not fished by the test-fish crew, then an estimated mean high tidal CPUE was calculated using one of two methods. First, if the high tide was missed because of either a commercial fishing period or some other reason, then the estimate was assumed an average of the mean tidal CPUE of the high tide two tides prior to and following the missed high tide. This use of averaging was to take into account that the catch was larger for one of the two high tides each day and this large catch/small catch pattern was consistent from day to day. When a series of more than two consecutive high tides were missed, then the estimated mean high tidal CPUE for the morning tide was considered the average of the CPUE from the last AM index prior to the missed high tide and the CPUE from the first AM index after test fishing resumed. If the missed

[2] Use of a company's name does not constitute endorsement.

high tide was a PM tide then the CPUE from the last actual PM tide prior to and the CPUE from the first PM index after test fishing resumed was used in the estimate.

The actual and estimated mean high tidal CPUEs were summed by species throughout the season to generate a cumulative CPUE index (*I*) for the season:

$$I = \sum_{1=1}^{n} I_i \tag{3}$$

where *n* was the total number of tides which were actually fished or for which the CPUE was estimated throughout the season.

WATER LEVEL COMPARISONS

The U.S. Department of the Interior, U. S. Geological Survey (USGS) branch has collected water level information for the Kuskokwim River since 1953. The USGS collects discharge, gage height and precipitation information at a site located at the community of Crooked Creek 212 river mile (341 km) upstream of Bethel (Appendix H1). Although other tributaries downstream of Crooked Creek such as, but not limited to, the Aniak, Tuluksak, Kisaralik, Kasigluk and Kwethluk rivers contribute to the volume of water passing the Bethel test-fish site, we assume that the measured fluctuations in water level at the Crooked Creek site generally reflect the observed trends in water levels at the Bethel test-fish site. We define a historical year to be 'similar' in water level to the current year when daily comparisons of Crooked Creek water level data are within +/- 2 ft. We assume that years with similar water levels produce similar catchability of the test-fish gillnets, therefore comparable test-fish CPUE indices for years with similar water levels. This comparison of water level information is used to further refine the interpretation of the test fishery CPUEs to index relative salmon abundance and passage at the Bethel test-fish site. Comparison of recent (within 10 years) historical year's data assumes similar river morphology at the test-fish site.

AGE, SEX AND LENGTH COMPOSITION

Age, sex, and length (ASL) information was collected from Chinook, sockeye and chum salmon in order to provide a general characterization of the composition of these runs and to serve as a proxy for information collected from the commercial fishery. Collection of ASL data for chum salmon has been implemented periodically throughout the history of the Bethel test fishery; however, the decline in commercial fishing activity in the Kuskokwim River in recent years has precluded ASL sample collection for Chinook and sockeye salmon. As a result, the collection of ASL data from Chinook and sockeye salmon began in 2001 and 2002 respectively, as a proxy for the lack of ASL samples from a June and July commercial fishery.

ASL sampling of Chinook and sockeye salmon was conducted for most drifts and for most tidal drift sequences. Chum salmon were also intensely sampled, however, during the peak of the chum run the volume of fish caught during a single drift and the time allocated to sampling prohibited the complete sampling of some catches. The catch was typically sampled during the time when the next sequential drift was being conducted, although during periods of high catches additional time was taken between drifts to sample. After sampling, these fish were then placed in a tote located either in the boat or on shore to prevent the same fish from being sampled twice.

Standard sampling procedures were followed to remove scales from the preferred area of the fish (Dubois and Molyneaux 2000). A minimum of 3 scales were taken from each Chinook salmon

and a single scale was taken from sockeye and chum salmon. Scales were mounted on labeled gum cards and each card was identified with a unique card number. Sex was positively determined by slitting the belly of each fish sampled and visually examining the gonads. Length was measured to the nearest millimeter from mideye to tail fork using standardized calipers.

The sex-length information was matched with each scale sample and recorded in a notebook. Upon completion of each scale card and corresponding sex-length data, scale cards and logged data were analyzed by Kuskokwim research staff in Bethel. Original ASL scale cards, scale acetates, and sex-length data logs were archived at the ADF&G office in Anchorage.

The European notation system is used to report salmon ages. This system denotes the fish age with two numerals separated by a decimal, the first numeral indicates the number of winters the juvenile spent in fresh water and the second numeral indicates the number of winters spent in the ocean (Dubois and Molyneaux 2000). Total age of the fish is equal to the sum of these two numerals, plus 1 year to account for the winter that the egg incubated in the gravel. For example, a Chinook salmon described as an age-1.4 fish is 6 years old.

HYDROLOGICAL MONITORING

Hydrological conditions were recorded during the first drift of each tide. Water surface temperature was recorded in degrees Celsius (°C); depth of water clarity was recorded in meters (m). The daily water surface temperature value recorded on the data spreadsheet was the lowest value for all high tides for that day. The daily value for depth of water clarity recorded on the data spreadsheet was the highest value for all tides for that day.

RESULTS

In the context of this report, reference to historical Bethel test fishery data included those years from 1994 through 2003. Complete historical information most recently published in Bue (2005).

OPERATIONS

The Bethel test fishery operated from June 1 through August 29 with the first salmon being caught on June 1 (Table 2). During the 90-day period, 173 high tides occurred. Four hundred and one drifts caught 691 Chinook, 742 sockeye, 1,810 chum and 2,259 coho salmon (Appendix A1). Chinook, sockeye and chum salmon migrations ended before the test fishery was concluded, but catches of coho salmon persisted up to and possibly past August 29 (Table 2). On 6 of the days during the project operational period, only one high tide occurred during the day. Fourteen tides were missed as cost saving measures, 9 tides were missed due to simultaneously scheduled commercial fishing periods, 4 tides were missed because of poor weather conditions and 5 tides were missed due to equipment problems (Appendix A1).

RUN TIMING AND ABUNDANCE INDICES

Chinook Salmon

The first Chinook salmon caught in the Bethel test fishery during the 2004 season occurred on June 1, 2004. The peak daily mean high tidal CPUE index of 72 occurred on June 21 and the cumulative mean tidal CPUE index (cumulative index) was 1,134 for the season. Based on the cumulative index, the central 50% of the run passed the test-fish site between June 14 and June 27 with 50% of the catch occurring on June 21 (Table 2).

Sockeye Salmon

The first sockeye salmon caught in the Bethel test fishery during the 2004 season occurred on June 9. The peak daily mean high tidal CPUE index of 205 occurred on June 24 and the cumulative index was 2,108 for the season. Based on the cumulative index, the central 50% of the sockeye salmon run passed the test-fish site between June 23 and July 5 with 50% of the passage occurring on June 27 (Table 2).

Chum Salmon

The first chum salmon caught in the Bethel test fishery during the 2004 season occurred on June 2. The peak daily mean high tidal CPUE index of 343 occurred on June 26 and the cumulative index was 5,254 for the season. Based on the cumulative index, the central 50% of the chum salmon run passed the test-fish site between June 25 and July 11 with 50% of the passage occurring on June 30 (Table 2).

Coho Salmon

The first coho salmon caught in the Bethel test fishery during the 2004 season occurred on July 6 and catches continued through the project termination date of August 29. The 2004 peak daily mean high tidal CPUE index for coho salmon of 554 was on August 10 and the cumulative mean tidal CPUE index was 7,183 by the project's completion date. Based on cumulative indices the central 50% of the run passed the test-fish site between August 1 and August 15 with 50% of the passage occurring by August 8 (Table 2).

AGE, SEX, AND LENGTH COMPOSITION

Chinook Salmon

Scale samples, sex and length information were collected from 322 Chinook salmon, which was 47% of the total 691 Chinook salmon caught in the test fishery. Of the 322 Chinook salmon sampled, 168 fish (52%) were from the 8-inch mesh gillnet, and 154 fish (48%) were from the 5 3/8-inch mesh gillnet. In the combined catch the most abundant age class was age-1.3 (42.5%), followed by age-1.2 (32.3%), age-1.4 (22.4%), age-1.5 (2.2%), and age-2.2 (0.6%) fish (Table 3). Sex composition of the combined sample was 273 males (84.8%) and 49 females (15.2%). Average lengths of the combined sample for males age-1.2, -1.3, -2.2, -1.4 and -1.5 Chinook salmon were 601 mm, 669 mm, 617 mm, 823 mm and 834 mm, respectively. Average lengths for female age-1.3, -1.4 and -1.5 Chinook salmon were 811 mm, 848 mm, and 853 mm, respectively. Overall, male lengths ranged from 420 to 988 mm, and female lengths ranged from 714 to 1,020 mm (Table 4).

Of the ASL data collected from the 168 Chinook salmon caught in the 8-inch mesh gillnet, the most abundant age class was age-1.3 (44.6%), followed by age-1.4 (34.5%), age-1.2 (16.7%), age-1.5 (3.6%) and age-2.2 (0.6%) fish. Sex composition was 129 males (76.8%) and 39 females (23.2%) (Table 3). Average lengths for males age-1.2, -1.3, -2.2, -1.4 and -1.5 Chinook salmon were 621 mm, 700 mm, 613 mm, 805 mm, and 834 mm, respectively. Average lengths for female age-1.3, -1.4 and -1.5 Chinook salmon were 814 mm, 861 mm and 819 mm, respectively. Overall, male lengths ranged from 420 to 967 mm and female lengths ranged from 724 to 1020 mm (Table 4).

Of the ASL data collected from the 154 Chinook salmon caught in the 5 3/8-inch mesh gillnet, the most abundant age class was age-1.2 (49.4%), followed by age-1.3 (40.3%), age-1.4 (9.1%),

and age-2.2 and -1.5 (0.6%) fish. Sex composition was 144 males (93.5%) and 10 females (6.5%) (Table 3). Average lengths for male age-1.2, -1.3, -2.2, and -1.4 Chinook salmon were 580 mm, 637 mm, 620 mm, and 840 mm, respectively. Average lengths for females age-1.3, -1.4 and -1.5 was 808 mm, 834 mm and 887 mm, respectively. Overall, male lengths ranged from 495 to 988 mm and female lengths ranged from 714 to 930 mm (Table 4).

Sockeye Salmon

Scale samples, sex and length data were collected from 155 (21%) of the 742 sockeye salmon caught in the test fishery. Of the 155 sockeye salmon sampled, 24 fish (15.5%) were from the 8-inch mesh gillnet, and 131 fish (84.5%) were from the 5 3/8-inch mesh gillnet. In the combined catch the most abundant age classes were age-1.3 (57.4%), followed by age-1.2 (29.7%), age-2.2 (6.5%), age-2.3 (4.5%), and age-1.4 (1.9%) fish. Sex composition was 70 males (45.2%) and 85 females (54.8%) (Table 5). Average lengths for male age-1.2, -1.3, -2.2, and -2.3 sockeye salmon were 561 mm, 604 mm, 568 mm, and 608 mm, respectively. Average lengths for females age-1.2, -1.3, -2.2, -1.4 and -2.3 sockeye salmon were 519 mm, 571 mm, 531 mm, 570 mm and 592 mm, respectively. Overall, male lengths ranged from 482 to 670 mm and female lengths ranged from 496 to 627 mm (Table 6).

Of the ASL data collected from the 24 sockeye salmon caught in the 8-inch mesh gillnet, the most abundant age classes were age-1.3 (58.3%) followed by age-1.2 (33.3%) and age-2.2 (8.3%) fish. Sex composition was 16 males (66.7%) and 8 females (33.3%) (Table 5). Average lengths for males age-1.2, -1.3 and -1.4 sockeye salmon were 576 mm, 620 mm and 584 mm, respectively. Average lengths for females age-1.2 and -1.3 were 518 and 582 mm, respectively. Overall, male lengths ranged from 482 to 670 mm and female lengths ranged from 500 to 614 mm (Table 6).

Of the ASL data collected from the 131 sockeye salmon caught in the 5 3/8-inch mesh gillnet, the most abundant age class was age-1.3 (57.3%), followed by age-1.2 (29.0%), age-2.2 (6.1%), age-2.3 (5.3%), and age-1.4 (2.3%) fish. Sex composition was 54 males (42.5%) and 73 females (57.5%) (Table 5). Average lengths for males age-1.2, -1.3, -2.2, and -2.3 sockeye salmon were 545 mm, 587 mm, 551 mm, and 608 mm, respectively. Average lengths for females age-1.2, -1.3, -2.2, -1.4, and -2.3 sockeye salmon were 519 mm, 559 mm, 531 mm, 570 mm, and 592 mm, respectively. Overall, male lengths ranged from 498 to 642 mm and female lengths ranged from 496 to 627 mm (Table 6).

Chum Salmon

Scale samples, sex and length data were collected from 491 (27%) of the 1,810 chum salmon caught in the Bethel test fishery. Of the 491 chum salmon sampled, 20 fish (4%) were from the 8-inch mesh gillnet, and 471 fish (96%) were from the 5 3/8-inch mesh gillnet. In the combined catch, the most abundant age class was age-0.4 (38.5%), followed by age-0.3 (36%), and age-0.2 (25.5%) fish. Sex composition was 236 males (48.1%) and 255 females (51.9%) (Table 7). Average lengths for males age-0.2, -0.3, and -0.4 chum salmon were 548 mm, 578 mm, and 604 mm, respectively. Average lengths for females age-0.2, -0.3, and -0.4 salmon were 533 mm, 552 mm, and 570 mm, respectively. Overall, male lengths ranged from 484 to 679 mm and female lengths ranged from 425 to 693 mm (Table 8).

Of the ASL data collected from the 20 chum salmon caught in the 8-inch mesh gillnet, the most abundant age class was age-0.4 (70%) followed by age-0.3 (30%) fish. The sex composition was 16 males (80.0%) and 4 females (20.0%) (Table 7). The average lengths for male chum salmon

age-0.3 and -0.4 were 624 mm and 633 mm, respectively. The average lengths for female chum salmon age-0.3 and age-0.4 were 529 mm and 577 mm, respectively. Overall, male lengths ranged from 581 to 679 mm and female lengths ranged from 529 to 597 mm (Table 8).

Of the ASL data collected from the 471 chum salmon caught in the 5 3/8-inch mesh gillnet, the most abundant age class was age-0.4 (37.2%), followed by age-0.3 (36.3%), and age-0.2 (26.5%) fish. The sex composition was 220 males (46.7%) and 251 females (53.3%) (Table 7). The average lengths for male chum salmon age-0.2, -0.3, and -0.4 were 548 mm, 575 mm, and 599 mm, respectively. The average lengths for female chum salmon age-0.2, -0.3, and -0.4 chum salmon were 533 mm, 552 mm, and 570 mm, respectively. Overall, male lengths ranged from 484 to 671 mm and female lengths ranged from 425 to 693 mm (Table 8).

HYDROLOGICAL MONITORING

Surface water temperature and water clarity measurements were recorded during each high tide fished from June 1 through August 29. In 2004, water temperatures ranged from 12° to 24°C with an average temperature of 16°C (Appendix B1). The average daily water clarity was 0.3 m and ranged from 0.1 to 0.9 m during the 2004 season (Appendix B2).

The 2004 water temperature range was well above the 1994 to 2003 historical mean range of 9° to 17°C (Appendix B1). Daily water temperatures were consistently at or above the high end of historical daily mean temperature ranges throughout the season. In 2004, daily water clarity was at or below the most recent 10 year historical mean daily measurements (Appendix B2). The average water clarity for the season of 0.3 m fell within the historic range of 0.1 to 1.0 m.

DISCUSSION

ABUNDANCE INDEX

The Bethel test fishery performed well as an index of relative salmon abundance in 2004. Inseason evaluation of the Bethel test-fish CPUE index information, in conjunction with inseason subsistence fishing reports, was the primary information used by managers to rescind the subsistence fishing schedule on June 20, allowing for subsistence fishing 7 days per week. Relative abundance of Chinook salmon in the Kuskokwim River at Bethel was very good in 2004 as indicated by daily and cumulative CPUE indices from the Bethel test fishery, and from reports from the Catch Monitoring Project. Daily tidal indices for Chinook salmon in the Bethel test fishery were well above the 1994–2003 mean indices and generally well above 2003, which was the previous record high year (Figure 5; Appendix C1). The cumulative mean tidal CPUE index for Chinook salmon was the highest among all years by June 30. By July 7, 2004, the cumulative CPUE index for Chinook salmon was stronger than all other years and inseason subsistence harvest reports suggested better than normal Chinook salmon abundance and fishing success in the lower Kuskokwim River (Martz and Whitmore 2005). The 2004 cumulative index of 1,134 is the largest in the history of the project, 63% higher than the 1994–2003 average, 43% higher than the previous record high year of 2003, and above all years of similar water levels (Figure 6; Appendix C2).

The 2004 inseason subsistence salmon harvest monitoring project supported the high Bethel test fishery Chinook salmon cumulative CPUE index. Martz and Whitmore (2005) reported that by mid June the majority of interviewed subsistence fishers by the Catch Monitoring Project had reported Chinook salmon fishing as ‘Very Good’ to ‘Normal’ (Table 9). This data collaborated with the test-fish cumulative index in support of rescinding the subsistence fishing schedule

(Whitmore et al. *In prep*). The 2004 Chinook salmon run timing was average when compared to historical data (Appendix C3).

Relative abundance of sockeye salmon in the Kuskokwim River at Bethel was good in 2004 as indicated by daily and cumulative CPUE indices from the Bethel test fishery. The 2004 daily high tidal sockeye CPUE indices were above the 1994–2003 indices and generally above the 2003 indices, which was the most recent year with strong indices since the late 1980s (Figure 7; Appendix D1). The 2004 cumulative CPUE index of 2,108 was 45% above the historical 1994–2003 season cumulative mean CPUE of 1,155 and 18% above the 2003 cumulative index of 1,718 (Figure 8; Appendix D2). The 2004 cumulative mean high tidal CPUE index for sockeye salmon was well above the more recent years with similar water levels of 1998, 2000, 2002 and 2003 for the period from June 1 to July 10 by which time approximately 95% sockeye salmon run had been caught by the test fishery (Appendices B3 and D3). In 2004, sockeye salmon run timing was average when compared to historical data (Appendix D3). By the end of June, 15% of the subsistence fishers interviewed by the Catch Monitoring Project described the sockeye salmon fishing as "Very Good," 79% of the fishers described their success as "Normal" while 6% reported their harvest was poor (Table 9) (Martz and Whitmore 2005).

The 2004 daily chum salmon high tidal CPUE indices were generally at or above the 1994–2003 mean tidal indices and below most of the 2003 indices (Figure 9; Appendix E1). The 2004 cumulative mean tidal CPUE index for chum salmon was above the more recent years with similar water levels of 1998, 1999, 2000, 2001, and 2003 but below the 2002 index for the period from June 1 to July 25 (Appendices E.2 and B.3). With the exception of 1987, the 2004 cumulative CPUE index for the Bethel test fishery was above all years when the chum salmon escapement goals of 30,000 fish and 250,000 fish were not achieved at the Kogrukluk River weir and Aniak River sonar projects respectively (Appendix E2). The 2004 cumulative CPUE index for chum salmon was above the more recent years with similar water levels of 1998, 1999, 2000, 2001, and 2003 but below the 2002 index (Figure 10; Appendices E2 and B3). Based on the 2004 cumulative indices, the peak chum salmon run passage date of June 30 was about 4 days earlier than the historical median peak passage date of July 4 while 95% of the run was passed the test fishery by July 30, about seven days later than the recent historical 95% mean passage date of July 25 (Appendix E3).

The inseason subsistence monitoring project weekly reports for chum salmon (Table 9) mirrored the test-fish cumulative index through the development of the run. The ONC report given on June 19 indicated that the majority (87%) of subsistence fishers interviewed described fishing for chum salmon as "Normal" while others (13%) thought fishing to be "Very Good." The test–fish cumulative CPUE index at that time indicated chum salmon abundance was stronger than years 1997 through 2001 and 2003 but not as strong as 1996 and 2002 (Appendix E2) with less than 8% of the run past the test-fish site (Appendix E3). On June 26, survey interviews indicated that the majority (77%) of subsistence fishers described fishing for chum salmon as "Very Good" while others (23%) thought fishing was "Normal." The Bethel test–fish cumulative CPUE index by that time had surpassed all historical years except for 1996 while only 25% of the run had passed the test-fish site. On July 3, subsistence fishers interviewed during the prior week were divided equally in describing fishing for chum salmon as either "Very Good" or "Normal" (Martz and Whitmore 2005). The increase in the test-fish cumulative CPUE index by that time had slowed and was only slightly higher than the recent year of 2002 but not as strong as 1996. Although only a few subsistence fishers were fishing by July 10, survey interviews indicated that

the majority (62%) of subsistence fishers described fishing for chum salmon as "Very Good" while others (15%) thought fishing was "Normal." The test–fish cumulative CPUE index by that time was higher than 2003 but below the recent years of 1996 and 2002. The test-fish CPUE index indicated that nearly 75% of the chum salmon run had passed the test-fish site by that time.

Relative abundance of coho salmon as indicated by daily and cumulative CPUE indices from the Bethel test fishery was very good in 2004. The 2004 coho salmon daily high tidal CPUE indices were generally above the 1994–2003 mean high tidal indices and above most of the 2003 daily CPUE indices (Figure 11; Appendix F1). The 2004 cumulative mean tidal CPUE index for coho salmon was above the more recent years with similar water level years of 1996, 1998, 1999 and 2001 (Figure 12). The 2004 cumulative index was above all years when the coho salmon sustainable escapement goal of 25,000 fish was not achieved at the Kogrukluk River weir (Appendix F2). The 2004 coho salmon cumulative indices remained above the most recent historical years of 1994 to 2003, and above all years except 1996 and 2000 by the historical 50% run passage date of August 8 and above all years by the historical 75% run passage date of August 15 (Figure 12; Appendices F2 and F3).

In late July, the Bethel test-fish index in conjunction with inseason subsistence harvest reports allowed for implementing a commercial coho salmon fishery on July 28. The cumulative index for coho salmon was above all but two of the historic years by July 28 and above all years when the sustainable escapement goal of 25,000 fish was not achieved at Kogrukluk River weir. Although coho salmon are of less importance to subsistence salmon fishers in the Bethel area, the fishers that did participate in the 2004 inseason subsistence monitoring project 93% indicated coho salmon fishing was "Very Good" while 7% reported "Normal" fishing success (Table 9; Martz and Whitmore 2005). Prior to August 1, the Bethel test-fish cumulative index for coho salmon indicated a slightly lower abundance of fish than what was observed in 1996 and 2003. However, as the season progressed, the index for coho salmon increased and surpassed all historical years for the test fishery.

AGE, SEX AND LENGTH COMPOSITION

Chinook Salmon:

Chinook salmon ASL data collected from the Bethel test fishery in 2004 exhibited an increasing trend in the percentages of age-1.2, -1.3 and -1.4 fish for the 4 years of comparable data collected since 2001 (Appendix G1). The increasing trend of younger age Chinook salmon suggests an increase in abundance of age-1.3 and older fish in 2005. The percentage of females (15.2%) in the 2004 data shows a decrease from the 24.0% in 2001, though consistent with percentage females documented in 2002 and 2003 of 15.7% and 14.2% respectively. The majority of females (11.5%) were age-1.4, while age-1.3 and age-1.5 fish were 2.2% and 1.6% females, respectively. Given that age -1.3 fish return mostly as males, the percentage of age-1.3 females suggests an increase in female Chinook salmon in 2005. The mean length of Chinook salmon in 2004 showed female fish to be larger than males for all ages, and regardless of sex, to be larger, as age increases (Appendix G2). This is consistent with historical data collected from Chinook salmon ASL sampling programs in the Kuskokwim area (Molyneaux and Folletti 2005).

Sockeye Salmon:

Comparable ASL data for sockeye salmon from the Bethel test fishery is limited because data collection began in 2002. Additionally, only data taken from the 5 3/8-inch mesh gillnets were

used for comparison purposes, as the 8-inch mesh gillnet is selective for only the largest fish, resulting in a catch that does not accurately represent the age classes of this smaller salmon species.

In 2004, age-1.3 sockeye salmon were the dominant age class in the test fishery, the same as in 2002 and 2003 (Appendix G3). The percentage of age-1.3 fish in 2004 (57.3%) was 6% higher than in 2002 (54.0%) though 25% less abundant than in 2003 (76.4%). Age-1.2 sockeye salmon (29.0%) were the next most prominent age class in 2004, followed by age-2.2 (6.1%), -2.3 (5.3%) and –1.4 (2.3%), respectively. The percentage of age-1.2 fish in 2004 was 73% and 64% greater than in 2002 and 2003 respectively. The strong representation of age-1.2 sockeye salmon in 2004 should suggest a strong return of age-1.3 fish in 2005. The percentage of female fish documented in 2004 (58.8%) is slightly higher than what was observed in the 2003 (57.5%) but 7% lower than what was observed in the 2002 (63.2%) season. The mean length of sockeye salmon in 2004 showed male fish to be larger than females for all ages, which is consistent with data results from 2002 and 2003 with the exception of age-1.2 fish in 2003 (Appendix G4).

Chum Salmon:

ASL data for chum salmon have been collected at different times over the history of the project with the most current data collected since 2000 (Molyneaux and Folletti 2005). As with sockeye salmon, the ASL data comparisons for chum salmon are from the 5 3/8-inch mesh gillnets only, since chum salmon caught in the 8-inch mesh are not representative of the run.

The percentage of younger age-0.3 chum salmon caught in the test fishery increased as the 2004 run progressed, consistent with previous year's test-fish data (Appendix G5). This trend is consistent with historical ASL data collected at other chum salmon run monitoring projects in the Kuskokwim River drainage (Molyneaux and Folletti 2005). In 2004, the percentage of age-0.3 (36.3%) fish was lower than previous years, which ranged from 52.5% to 82%. The low percentage of age-0.3 chum salmon in 2004 should suggest smaller returns of age-0.4 chum salmon in 2005; however, the strong representation of age-0.2 chum salmon should suggest a strong return of age-0.3 fish in 2005. The 2004 percentage of female chum salmon (53.3%) in the test fishery is below the historical range of 59.9% to 64.4%. The mean length of chum salmon in 2004 showed male fish to be larger than females for all ages, and fish length, regardless of sex, was shown to increase with age (Appendix G6). The difference in fish length between sex and age is consistent with historical test-fish ASL data and the general trend exhibited at other Kuskokwim River chum salmon run monitoring projects (Molyneaux and Folletti 2005).

Several factors during the field season had an effect on the collection of ASL samples, most notably was the effect budgetary constraints had on the amount of hours the test fish crew was able to work. During periods of high salmon abundance and inclement weather, ASL sampling requires the test fish crew to pull the boat to the shore to organize the salmon and collect ASL samples. The amount of time it takes to collect ASL data increases the amount of time the test fish crew works in a given tide. Compounding this problem is the fact that the crew is also responsible for the adequate distribution of the catch to local charities. In previous years, the local fish processor purchased the test fishery catches. In 2004, the processor declined to purchase the majority of Bethel test fish catches. The test fish crew was then responsible for removing the salmon from the test fish boat, transporting the fish to a repository tote located at the Bethel Tundra Center, and ensure that the catch is adequately iced so people from local

charities and the general public can remove the salmon for use; a process that is time consuming. In trying to keep the test fish project within budget, active ASL sampling was scaled back in 2004.

CONCLUSION

Kuskokwim River subsistence and commercial fishery salmon managers have found the Bethel test fishery project to be successful at indexing the relative abundance and migratory timing of salmon runs. Fishery managers require timely inseason assessment of salmon run abundance. Due to the great river distances (Appendix H1) between areas of harvest and escapement project locations throughout the Kuskokwim drainage, escapement projects provided limited usefulness early in the salmon runs. As the runs progress, a relationship may be seen between inseason index information and escapement project information, however, given the mixed stock nature of the fishery, it is not possible to correct for prior management actions through increasing or decreasing harvest rates. In the absence of June commercial catch statistics, the early season indicators are limited to test fisheries and reports (both formal and informal) from subsistence fishers. In 2004, the inseason subsistence salmon catch monitoring project (operated by ONC) interviews provided formal catch monitoring information that was timely and comparable to the inseason development of salmon run abundance indices seen in the Bethel test fishery. The subsistence harvest monitoring project's weekly reports were an effective means by which to evaluate interpretation of the test fishery data inseason.

Recommendations regarding the interpretation of inter-annual comparison of Bethel test fishery information in future reports would be the following:

- Compare information from years with similar water level conditions to reduce the confounding influence these variables have on catchability.
- Try to make comparisons of CPUE indices to recent years to avoid the influence of changing river channel morphology.
- Consider the relative magnitude of fish removal and harvest effort downstream of the Bethel test-fish site as it may influence interpretation of the cumulative test fish CPUE indices as they relate to relative abundance and run timing.
- Consider the relative magnitude of fish removal and harvest effort upstream of the Bethel test fish site as it may influence interpretation of the adequacy of the cumulative test fish CPUE indices as they relate to escapement information.
- Certain size components of the population could be under or over represented in the test fish catch because of the size selectivity of the gillnet mesh sizes used in the project. Variation of those size components of a population, between years or within a year, can affect the comparability of the index values. This influence may be especially profound for Chinook salmon.
- Maintain the inseason subsistence harvest monitoring program to utilize as a comparison of run timing and run strength as described by the Bethel test fish project.

Recommendations regarding the collection of Bethel test fishery ASL data would be the following:

- Increase the priority of collecting Chinook salmon ASL samples relative to other salmon species.
- Outline a detailed ASL sampling regime that optimizes collection of samples over the entire season while having a minimal effect on the amount of time the test fishery crew spends on ASL collection.

As one of the salmon stock assessment programs, the Bethel test fishery has evolved into the primary inseason salmon management tool. Consistency in methods, completeness of a historical database, frequency of operation, and timeliness of results contribute to the success of this program. The test fishery by itself is an imperfect tool. It requires a measure of subjectivity by experienced staff to interpret the information effectively. When used in conjunction with other inseason assessment tools, the test fishery can provide managers with insight into salmon run abundance and migratory timing to provide for sustained yield fishery management on the Kuskokwim River.

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TABLES AND FIGURES

Table 1.–The 2004 drift schedule used to determine the sequence (number) of stations and mesh sizes fished during each tidal drift series of the Bethel test fishery from June 1 through July 7 (A) and July 8 through August 29 (B).

(A)	Schedule	Mesh Size (cm) and (Sequence)		
	Number	Station: 1	2	3
	1	20.3 (1)		20.3 (2)
			13.6 (3)	13.6 (4)
	2	20.3 (1)	20.3 (2)	
		13.6 (4)		13.6 (3)
	3		20.3 (1)	20.3 (2)
		13.6 (3)	13.6 (4)	
	4	20.3 (1)	20.3 (2)	
			13.6 (4)	13.6 (3)
	5		20.3 (1)	20.3 (2)
		13.6 (3)		13.6 (4)
	6	20.3 (1)		20.3 (2)
		13.6 (4)	13.6 (3)	

(B)	Schedule	Mesh Size (cm) and (Sequence)		
	Number	Station: 1	2	3
	1	13.6 (1)	13.6 (2)	13.6 (3)
	2	13.6 (3)	13.6 (1)	13.6 (2)
	3	13.6 (2)	13.6 (3)	13.6 (1)
	4	13.6 (1)	13.6 (3)	13.6 (2)
	5	13.6 (2)	13.6 (1)	13.6 (3)
	6	13.6 (3)	13.6 (2)	13.6 (1)

Table 2.–Catch, daily mean tidal CPUE, cumulative mean tidal CPUE, and percent passage for the Bethel test fishery, 2004.

	Chinook				Sockeye				Chum				Coho			
Date	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage
6/01	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
6/02	1	2	4	1	0	0	0	0	1	3	3	0	0	0	0	0
6/03	2	3	7	1	0	0	0	0	0	0	3	0	0	0	0	0
6/04	4	6	13	2	0	0	0	0	2	5	8	0	0	0	0	0
6/05	4	6	19	2	0	0	0	0	1	3	11	0	0	0	0	0
6/06[a]	1	4	23	2	0	0	0	0	0	0	11	0	0	0	0	0
6/07	3	4	27	4	0	0	0	0	1	0	11	0	0	0	0	0
6/08	9	13	40	6	0	0	0	0	1	3	14	0	0	0	0	0
6/09	22	30	70	7	3	8	8	0	3	8	22	0	0	0	0	0
6/10	4	6	75	10	1	3	11	1	0	0	22	0	0	0	0	0
6/11	32	43	118	13	4	11	22	1	1	3	25	0	0	0	0	0
6/12	23	29	147	15	2	5	27	1	4	9	34	1	0	0	0	0
6/13	20	27	174	19	4	11	38	2	14	37	71	1	0	0	0	0
6/14	35	43	216	23	5	11	49	2	16	39	110	2	0	0	0	0
6/15	32	42	258	27	11	28	77	4	13	34	144	3	0	0	0	0
6/16	41	53	311	31	6	53	130	6	14	35	179	3	0	0	0	0
6/17	28	36	347	35	7	15	145	7	19	50	229	4	0	0	0	0
6/18	42	49	396	38	21	44	189	9	35	81	310	6	0	0	0	0
6/19	26	34	430	43	9	23	212	10	24	61	371	7	0	0	0	0
6/20[b]	0	53	483	49	0	58	270	13	0	79	450	9	0	0	0	0
6/21	66	72	556	53	51	94	364	17	49	98	547	10	0	0	0	0
6/22	34	44	599	57	67	145	509	24	73	112	659	13	0	0	0	0
6/23	43	44	643	61	69	119	628	30	172	300	959	18	0	0	0	0
6/24	40	48	691	65	98	205	833	40	160	301	1,260	24	0	0	0	0
6/25[b]	0	47	738	69	0	133	966	46	0	322	1,583	30	0	0	0	0
6/26	42	47	785	71	37	61	1,027	49	196	343	1,926	37	0	0	0	0
6/27[b]	0	16	800	75	0	27	1,055	50	0	88	2,014	38	0	0	0	0
6/28[a]	9	47	848	79	12	79	1,133	54	22	257	2,271	43	0	0	0	0
6/29	42	46	893	82	47	89	1,222	58	113	242	2,514	48	0	0	0	0
6/30[b]	0	35	928	84	0	60	1,283	61	0	139	2,653	51	0	0	0	0
7/01	15	24	951	85	15	32	1,315	62	10	36	2,690	51	0	0	0	0

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Table 2.–Page 2 of 3.

	Chinook				Sockeye				Chum				Coho			
Date	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage
7/02[a]	4	16	967	86	6	38	1,352	64	3	47	2,736	52	0	0	0	0
7/03	9	12	979	87	32	66	1,418	67	38	83	2,819	54	0	0	0	0
7/04	5	6	985	88	37	89	1,507	72	61	146	2,965	56	0	0	0	0
7/05	6	8	993	88	55	140	1,647	78	60	156	3,120	59	0	0	0	0
7/06[a]	3	9	1,001	89	9	106	1,753	83	5	106	3,226	61	1	0	0	0
7/07	4	5	1,006	89	30	72	1,825	87	72	168	3,395	65	0	0	0	0
7/08	3	7	1,013	90	34	87	1,912	91	77	166	3,561	68	0	0	3	0
7/09	4	10	1,023	90	26	53	1,965	93	86	173	3,733	71	4	9	11	0
7/10	1	3	1,026	91	6	15	1,980	94	27	67	3,800	72	1	3	14	0
7/11	2	5	1,031	91	12	31	2,010	96	62	144	3,945	75	2	5	19	0
7/12	1	3	1,034	92	1	3	2,013	96	17	49	3,993	76	0	0	19	0
7/13	3	12	1,045	93	3	12	2,025	96	21	68	4,061	77	1	6	25	0
7/14[b]	0	7	1,052	93	0	7	2,032	97	0	60	4,122	78	0	5	30	0
7/15	1	3	1,055	93	1	3	2,035	97	19	53	4,175	79	1	3	33	0
7/16	1	3	1,058	94	0	0	2,035	97	28	80	4,254	81	1	3	36	0
7/17[b]	0	3	1,061	94	0	4	2,039	97	0	55	4,309	82	0	22	58	1
7/18[b]	0	3	1,064	94	0	4	2,043	97	0	55	4,364	83	0	22	81	1
7/19	1	3	1,066	96	3	8	2,052	98	12	30	4,395	84	15	42	122	2
7/20[a]	1	17	1,084	98	0	7	2,059	98	14	76	4,471	85	13	54	176	2
7/21	12	29	1,113	98	5	12	2,071	98	42	128	4,599	88	19	55	231	3
7/22	1	2	1,116	98	1	3	2,074	99	31	83	4,681	89	41	109	339	5
7/23	0	0	1,116	99	2	5	2,079	99	7	19	4,700	89	18	48	387	5
7/24	2	6	1,121	99	2	5	2,084	99	1	3	4,703	90	22	63	450	6
7/25	1	3	1,124	100	0	0	2,084	99	4	11	4,714	90	33	92	542	8
7/26	2	5	1,129	100	3	7	2,092	99	18	44	4,758	91	44	106	648	9
7/27	0	0	1,129	100	0	0	2,092	99	14	38	4,797	91	17	47	695	10
7/28[a]	1	3	1,131	100	0	0	2,092	99	24	88	4,884	93	15	136	831	12
7/29	0	0	1,131	100	0	0	2,092	99	19	50	4,935	94	103	265	1,095	15
7/30[a]	0	0	1,131	100	0	0	2,092	99	3	45	4,980	95	29	262	1,357	19
7/31	0	0	1,131	100	0	0	2,092	99	22	49	5,029	96	154	365	1,722	24
8/01	1	2	1,134	100	0	0	2,092	99	23	55	5,084	97	136	314	2,036	28

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Table 2.–Page 3 of 3.

	Chinook				Sockeye				Chum				Coho			
Date	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage	No. Caught	Daily Mean Tidal CPUE	Cum. Mean Tidal CPUE	Percent Passage
8/02	0	0	1,134	100	0	0	2,092	99	8	19	5,103	97	59	139	2,176	30
8/03	0	0	1,134	100	2	5	2,097	100	13	30	5,133	98	94	216	2,391	33
8/04	0	0	1,134	100	1	3	2,100	100	3	8	5,140	98	82	211	2,602	36
8/05[a]	0	0	1,134	100	1	4	2,104	100	1	7	5,147	98	47	219	2,821	39
8/06	0	0	1,134	100	0	0	2,104	100	1	3	5,149	98	62	163	2,984	42
8/07	0	0	1,134	100	0	0	2,104	100	4	11	5,161	98	97	274	3,258	45
8/08[a]	0	0	1,134	100	0	0	2,104	100	3	16	5,177	99	33	339	3,597	50
8/09[a]	0	0	1,134	100	0	0	2,104	100	0	5	5,182	99	0	145	3,743	52
8/10	0	0	1,134	100	0	0	2,104	100	5	10	5,192	99	269	554	4,297	60
8/11	0	0	1,134	100	0	0	2,104	100	2	5	5,197	99	89	210	4,507	63
8/12[a]	0	0	1,134	100	0	0	2,104	100	0	4	5,200	99	17	189	4,696	65
8/13[a]	0	0	1,134	100	0	0	2,104	100	3	10	5,211	99	96	363	5,059	70
8/14	0	0	1,134	100	0	0	2,104	100	3	8	5,219	99	95	233	5,293	74
8/15	0	0	1,134	100	0	0	2,104	100	3	7	5,226	99	210	468	5,760	80
8/16[a]	0	0	1,134	100	0	0	2,104	100	0	6	5,232	100	7	268	6,028	84
8/17	0	0	1,134	100	0	0	2,104	100	3	8	5,240	100	65	167	6,196	86
8/18	0	0	1,134	100	0	0	2,104	100	0	0	5,240	100	28	79	6,275	87
8/19[a]	0	0	1,134	100	0	1	2,105	100	0	0	5,240	100	23	112	6,387	89
8/20	0	0	1,134	100	1	3	2,108	100	0	0	5,240	100	17	48	6,435	90
8/21	0	0	1,134	100	0	0	2,108	100	1	3	5,242	100	23	64	6,499	90
8/22	0	0	1,134	100	0	0	2,108	100	1	3	5,245	100	38	105	6,605	92
8/23[a]	0	0	1,134	100	0	0	2,108	100	0	1	5,247	100	10	88	6,693	93
8/24[a]	0	0	1,134	100	0	0	2,108	100	0	1	5,248	100	8	81	6,774	94
8/25	0	0	1,134	100	0	0	2,108	100	1	3	5,251	100	27	75	6,848	95
8/26	0	0	1,134	100	0	0	2,108	100	1	3	5,254	100	45	119	6,968	97
8/27[a]	0	0	1,134	100	0	0	2,108	100	0	0	5,254	100	9	70	7,038	98
8/28	0	0	1,134	100	0	0	2,108	100	0	0	5,254	100	23	64	7,102	99
8/29[a]	0	0	1,134	100	0	0	2,108	100	0	0	5,254	100	16	81	7,183	100
Totals	691				742				1,810				2,259			

Note: The boxes represent the central 50% of the run and the shaded cells represent the median passage date of the run.

[a] Estimated CPUE index used to represent data missing from one tide not fished on that date.

[b] Estimated CPUE index used to represent data missing from two tides not fished on that date.

Table 3.–Age composition of Chinook salmon caught in the Bethel test fishery by age class, sex and mesh size, 2004.

				Age Class																	
	Sample	Sample		0.2		1.1		1.2		2.1		1.3		2.2		1.4		2.3		1.5		2.4		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2004	Season	168	M	0	0.0	0	0.0	28	16.7	0	0.0	69	41.0	1	0.6	29	17.3	0	0.0	2	1.2	0	0.0	129	76.8
8- in			F	0	0.0	0	0.0	0	0.0	0	0.0	6	3.6	0	0.0	29	17.2	0	0.0	4	2.4	0	0.0	39	23.2
(20.3-cm)			Total	0	0.0	0	0.0	28	16.7	0	0.0	75	44.6	1	0.6	58	34.5	0	0.0	6	3.6	0	0.0	168	100.0
2004	Season	154	M	0	0.0	0	0.0	76	49.4	0	0.0	61	39.6	0	0.0	6	3.9	0	0.0	0	0.5	0	0.0	144	93.5
5 3/8-in			F	0	0.0	0	0.0	0	0.0	0	0.0	1	0.7	1	0.6	8	5.2	0	0.0	1	0.6	0	0.0	10	6.5
(13.7-cm)			Total	0	0.0	0	0.0	76	49.4	0	0.0	62	40.3	1	0.6	14	9.1	0	0.0	1	0.6	0	0.0	154	100.0
2004	Season	322	M	0	0.0	0	0.0	104	32.3	0	0.0	130	40.4	1	0.3	35	10.9	0	0.0	2	0.6	0	0.0	273	84.8
Combined			F	0	0.0	0	0.0	0	0.0	0	0.0	7	2.2	1	0.3	37	11.5	0	0.0	5	1.6	0	0.0	49	15.2
			Total	0	0.0	0	0.0	104	32.3	0	0.0	137	42.5	2	0.6	72	22.4	0	0.0	7	2.2	0	0.0	322	100.0

Table 4.–Mean lengths (mm) of Chinook salmon by age class and mesh size from the Bethel test fishery, 2004.

Year	Sample Dates	Sample Size	Sex		Age Class 0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5
2004	Season	168	M	Mean Length			621		700	613	805		834			
8-in				Range			517-683		420-790	613-613	620-967		778-890			
(20.7 cm)				Sample Size	0	0	28	0	69	1	29	0	2	0	0	0
			F	Mean Length					814		861		819			
				Range					724-893		746-1020		778-890			
				Sample Size	0	0	0	0	6	0	29	0	4	0	0	0
2003	Season	154	M	Mean Length			580		637	620	840					
5 3/8-in				Range			500-698		495-850	620-620	700-988					
(13.7 cm)				Sample Size	0	0	76	0	61	1	6	0		0	0	0
			F	Mean Length					808		834		887			
				Range					808-808		714-930		887-887			
				Sample Size	0	0	0	0	1	0	8	0	1	0	0	0
2004	Season	322	M	Mean Length			601		669	617	823		834			
Combined				Range			500-698		420-850	613-620	620-988		778-890			
				Sample Size	0	0	104	0	130	2	35	0	2	0	0	0
			F	Mean Length					811		848		853			
				Range					724-893		714-1020		778-890			
				Sample Size	0	0	0	0	7	0	37	0	5	0	0	0

Table 5.–Age composition of sockeye salmon caught in the Bethel test fishery by age class, sex and mesh size, 2004.

				Age Class											
				1.2		0.4		1.3		2.2		1.4		2.3		Total	
Year	Sample Dates	Sample Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2004	Season	24	M	4	17	0	0	10	42	2	8	0	0	0	0	16	66.7
8-in			F	4	17	0	0	4	17	0	0	0	0	0	0	8	33.3
(20.3 cm)			Total	8	33	0	0	14	58	2	8	0	0	0	0	24	100.0
2004	Season	131	M	20	15	0	0	28	21	2	2	0	0.0	4	3.0	54	41.2
5 3/8-in			F	18	14	0	0	47	36	6	5	3	2	3	2	77	58.8
(13.7 cm)			Total	38	29.0	0	0	75	57	8	6	3	2	7	5	131	100.0
2004	Season	155	M	24	16	0	0	38	25	4	3	0	0	4	3	70	45.2
Combined			F	22	14	0	0	51	33	6	4	3	2	3	2	85	54.8
			Total	**46**	**30**	**0**	**0**	**89**	**57**	**10**	**7**	**3**	**2**	**7**	**5**	**155**	**100.0**

Table 6.–Mean lengths (mm) of sockeye salmon by age class and mesh size from the Bethel test fishery, 2004.

Year	Sample Dates	Sample Size	Sex		Age Class								
					0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
2004	Season	24	M	Mean Length				576		620	584		
8-in				Range				482-646		585-670	505-663		
(20.3 cm)				Sample Size	0	0	0	4	0	10	2	0	0
			F	Mean Length				518		582			
				Range				500-543		560-614			
				Sample Size	0	0	0	4	0	4	0	0	0
2004	Season	131	M	Mean Length				545		587	551		608
5 3/8-in				Range				498-606		525-642	545-556		593-623
(13.7 cm)				Sample Size	0	0	0	20	0	28	2	0	4
			F	Mean Length				519		559	531	570	592
				Range				496-563		498-604	505-568	560-577	569-627
				Sample Size	0	0	0	18	0	47	6	3	3
2004	Season	155	M	Mean Length				561		604	568		608
Combined				Range				482-646		525-670	505-663		593-623
				Sample Size	0	0	0	24	0	38	4	0	4
			F	Mean Length				519		571	531	570	592
				Range				496-543		498-614	505-568	560-577	569-627
				Sample Size	0	0	0	22	0	51	6	3	3

Table 7.–Age composition of chum salmon caught in the Bethel test fishery by age class, sex and mesh size, 2004.

				Age Class									
	Sample	Sample		0.2		0.3		0.4		0.5		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2004	Season	20	M	0	0.0	5	25.0	11	55.0	0	0.0	16	80.0
8-in			F	0	0.0	1	5.0	3	15.0	0	0.0	4	20.0
(20.3 cm)			Total	0	0.0	6	30.0	14	70.0	0	0.0	20	100.0
2004	Season	471	M	66	14.0	82	17	72	15	0	0.0	220	46.7
5 3/8-in			F	59	12.5	89	19	103	22	0	0.0	251	53.3
(13.7 cm)			Total	125	26.5	171	36	175	37	0	0.0	471	100.0
2004	Season	491	M	66	13.5	87	17.7	83	17	0	0.0	236	48.1
Combined			F	59	12.0	90	18.3	106	22	0	0.0	255	51.9
			Total	125	25.5	177	36.0	189	39	0	0.0	491	100.0

Table 8.–Mean lengths (mm) of chum salmon by age class and mesh size from the Bethel test fishery, 2004.

Year	Sample Dates	Sample Size	Sex		Age Class 0.2	0.3	0.4	0.5
2004	Season	20	M	Mean Length		624	633	
8-in				Range		600-661	581-679	
(20.3 cm)				Sample Size	0	5	11	0
			F	Mean Length		529	577	
				Range		529-529	566-597	
				Sample Size	0	1	3	0
2004	Season	471	M	Mean Length	548	575	599	
5 3/8-in				Range	484-627	519-639	537-671	
(13.7 cm)				Sample Size	66	82	72	0
			F	Mean Length	533	552	570	
				Range	500-583	434-607	425-693	
				Sample Size	59	89	103	0
2004	Season	491	M	Mean Length	548	578	604	
Combined				Range	484-627	519-661	537-679	
				Sample Size	66	87	83	0
			F	Mean Length	533	552	570	
				Range	500-583	434-607	425-693	
				Sample Size	59	90	106	0

Table 9.–Kuskokwim River inseason subsistence salmon harvest interview summary report, 2004.

Week Ending	No. Families Fishing	Chinook salmon						Chum salmon						Sockeye salmon						Coho salmon					
		Very Good		Normal		Poor		Very Good		Normal		Poor		Very Good		Normal		Poor		Very Good		Normal		Poor	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
6/05	10	6	60	4	40	0	0																		
6/12	37	27	73	8	22	2	5																		
6/19	31	23	74	8	26	0	0	4	13	27	87	0	0	4	13	27	87	0	0						
6/26	31	19	61	12	39	0	0	24	77	7	23	0	0	5	16	22	71	4	13						
7/03	22	3	14	17	77	0	0	10	45	10	45	0	0	0	0	13	59	7	32						
7/10	13	0	0	10	77	0	0	8	62	2	15	0	0	0	0	4	31	6	46						
7/17	6	0	0	6	100	0	0	0	0	6	100	0	0	0	0	6	100	0	0	0	0	6	100	0	0
7/24	8																			0	0	8	100	0	0
7/31	7																			7	100	0	0	0	0
8/07	22																			19	86	3	14	0	0
8/14	16																			16	100	0	0	0	0
8/21	8																			8	100	0	0	0	0

Note: Information collected by Orutsararmiut Native Counsil (ONC) Technicians.

Figure 1.–Kuskokwim Management Area including commercial fishing Districts W-1, W-2, W-4, and W-5.

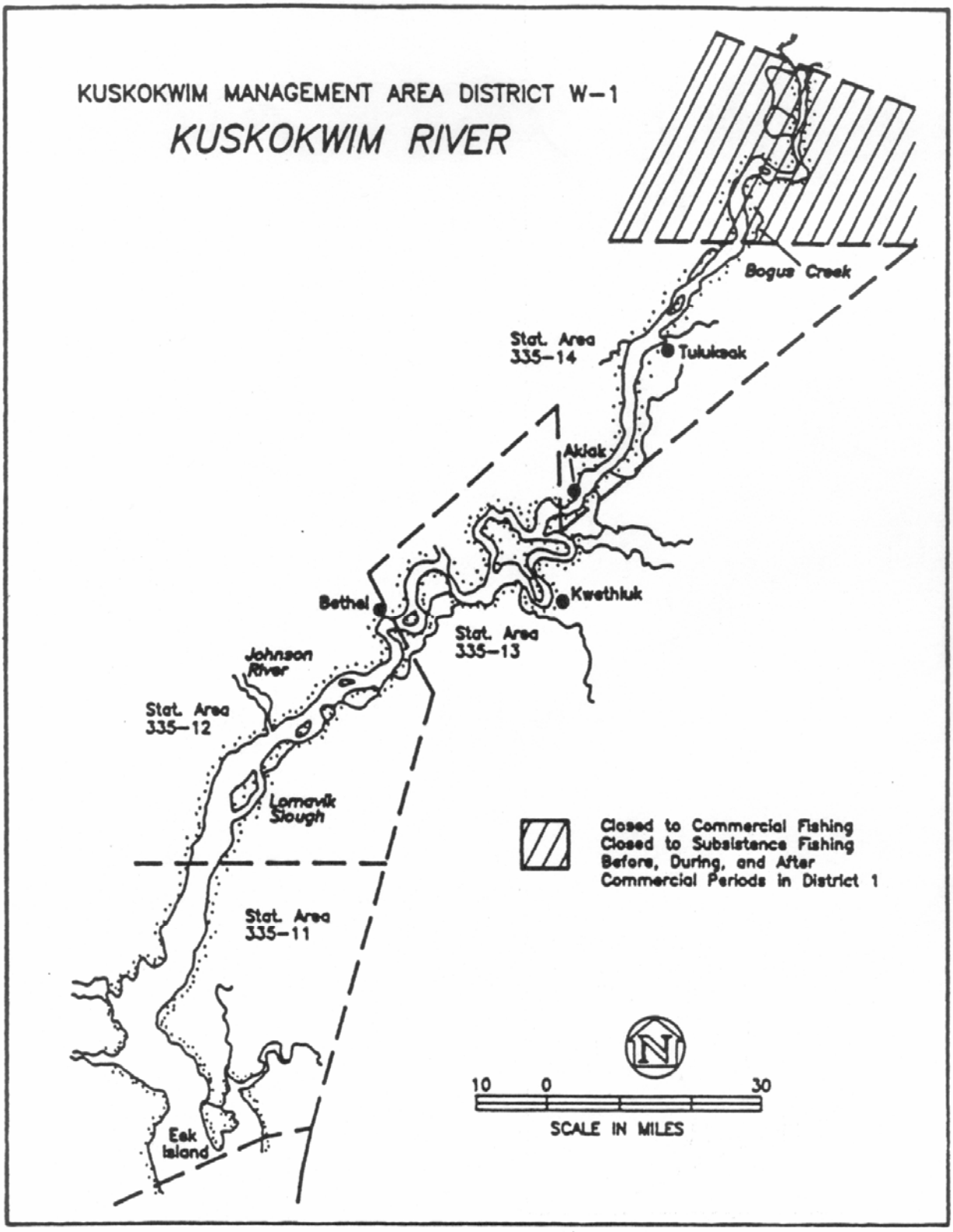


Figure 2.–District 1 (also known as District W-1), the Kuskokwim commercial salmon management area.

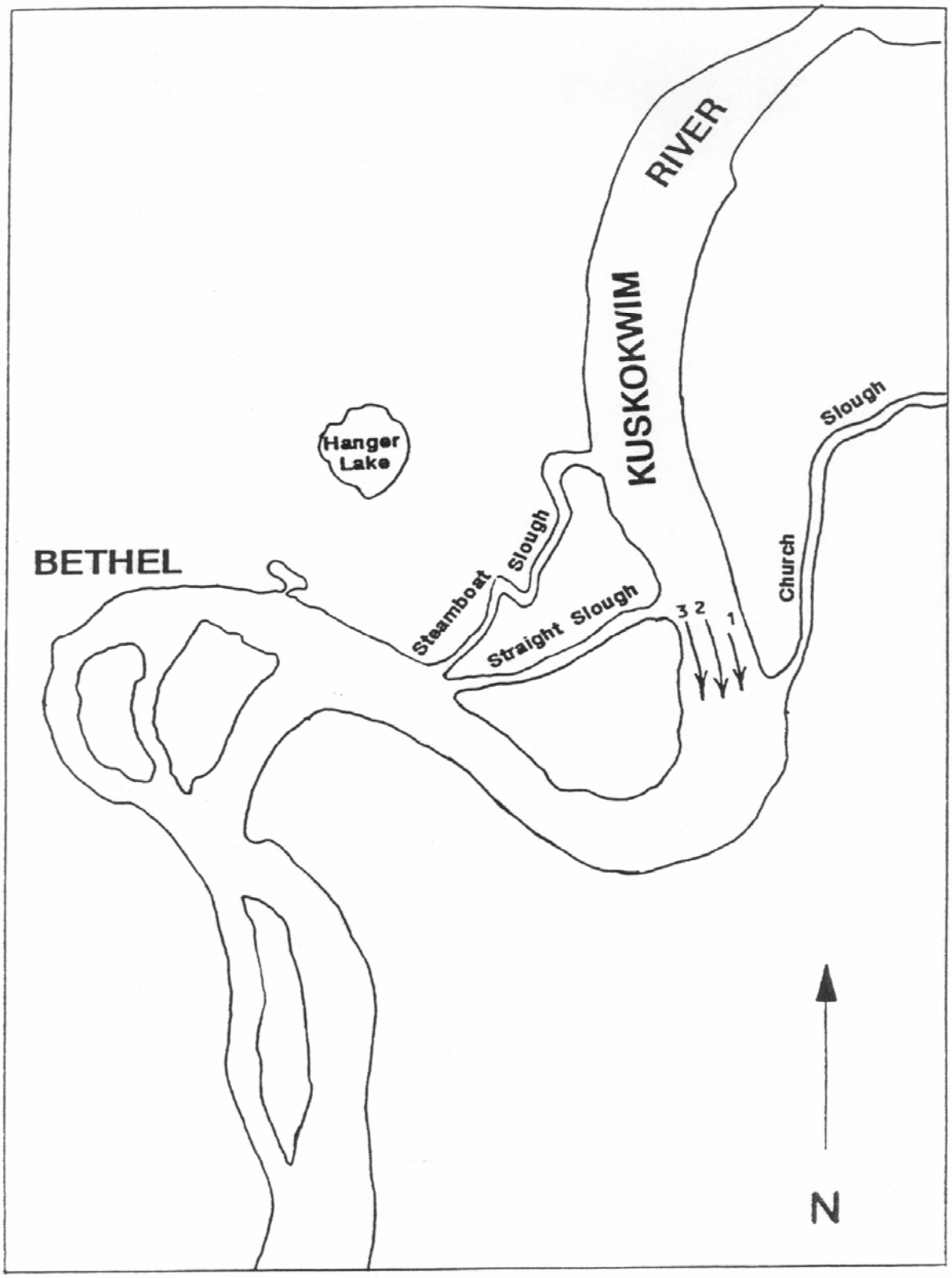
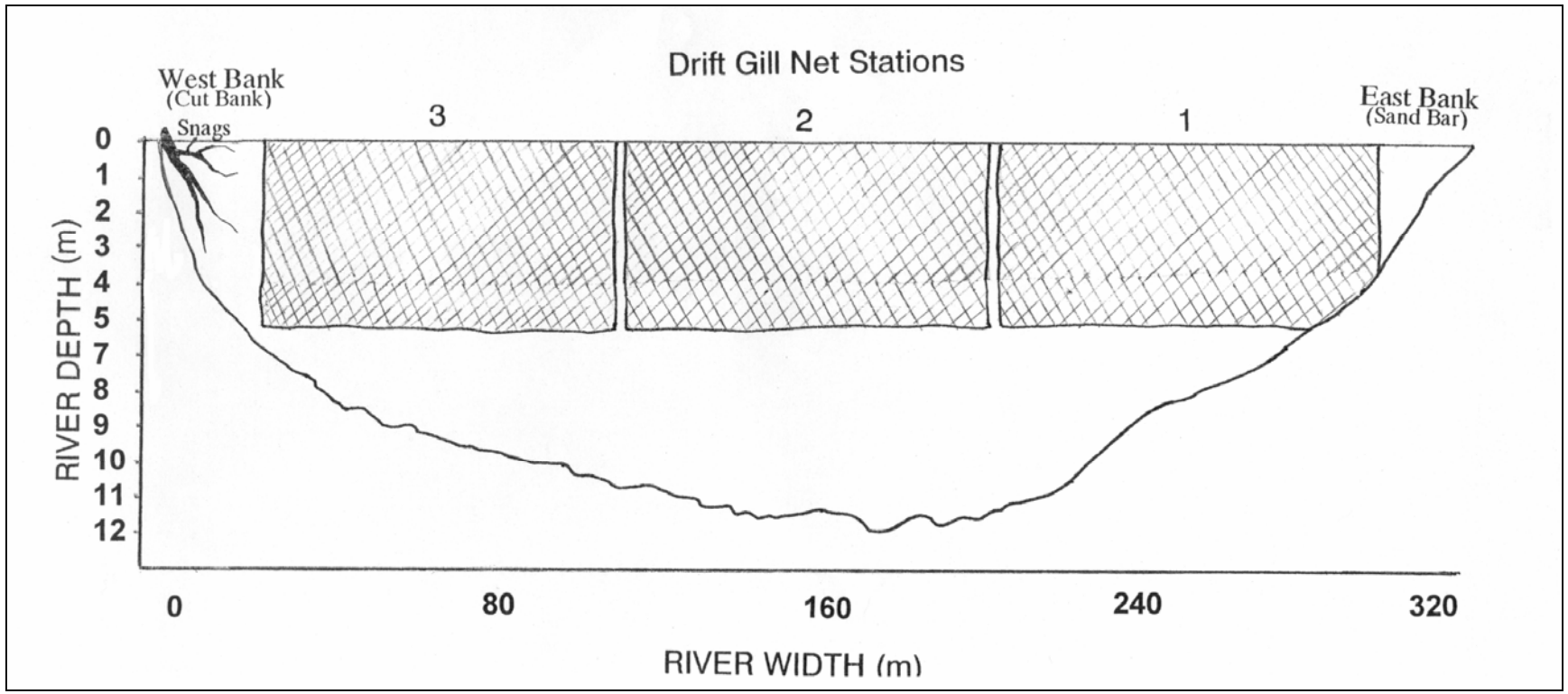


Figure 3.–Bethel test fishery drift stations 1, 2 and 3.



Note: The profile depicted was measured in 1995.

Figure 4.–Typical profile of the Kuskokwim River 4 miles upstream of Bethel, illustrating the area covered by gillnets used in the Bethel test fishery.

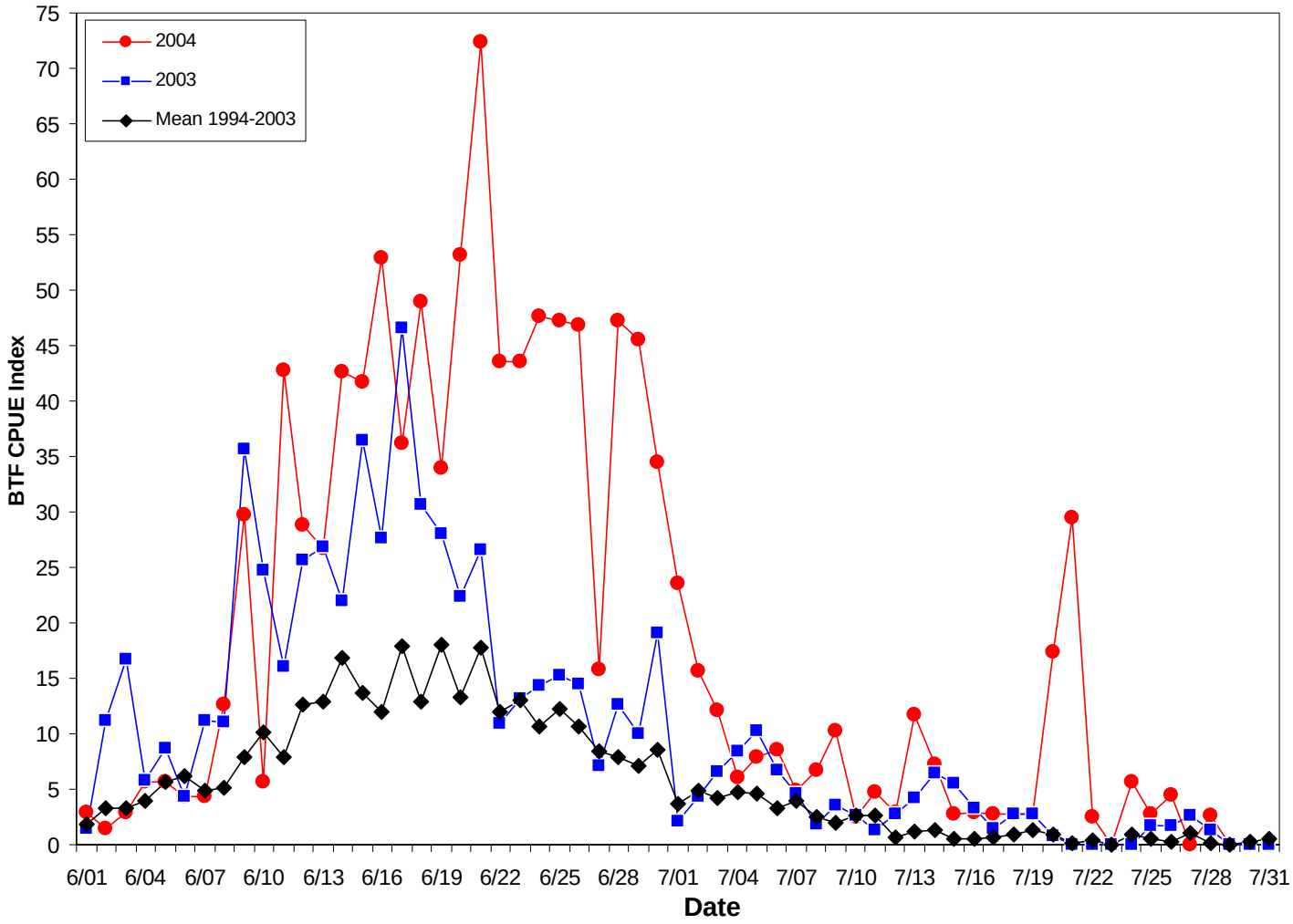


Figure 5.–Daily Chinook salmon CPUE indices for mean 1994–2003, 2003 and 2004, Bethel test fishery (BTF).

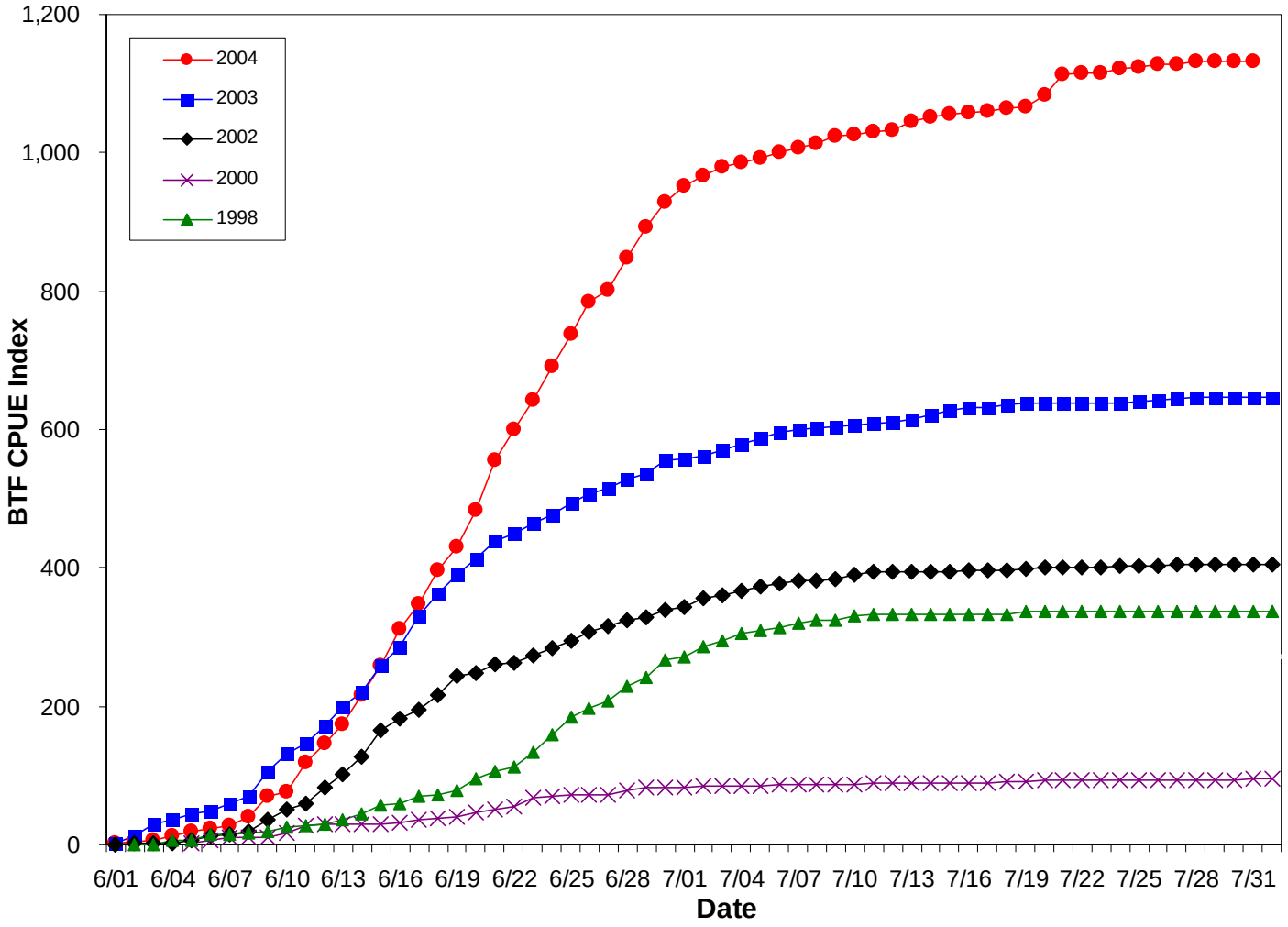


Figure 6.–2004 Cumulative Chinook salmon CPUE index for years with similar water levels, Bethel test fishery (BTF).

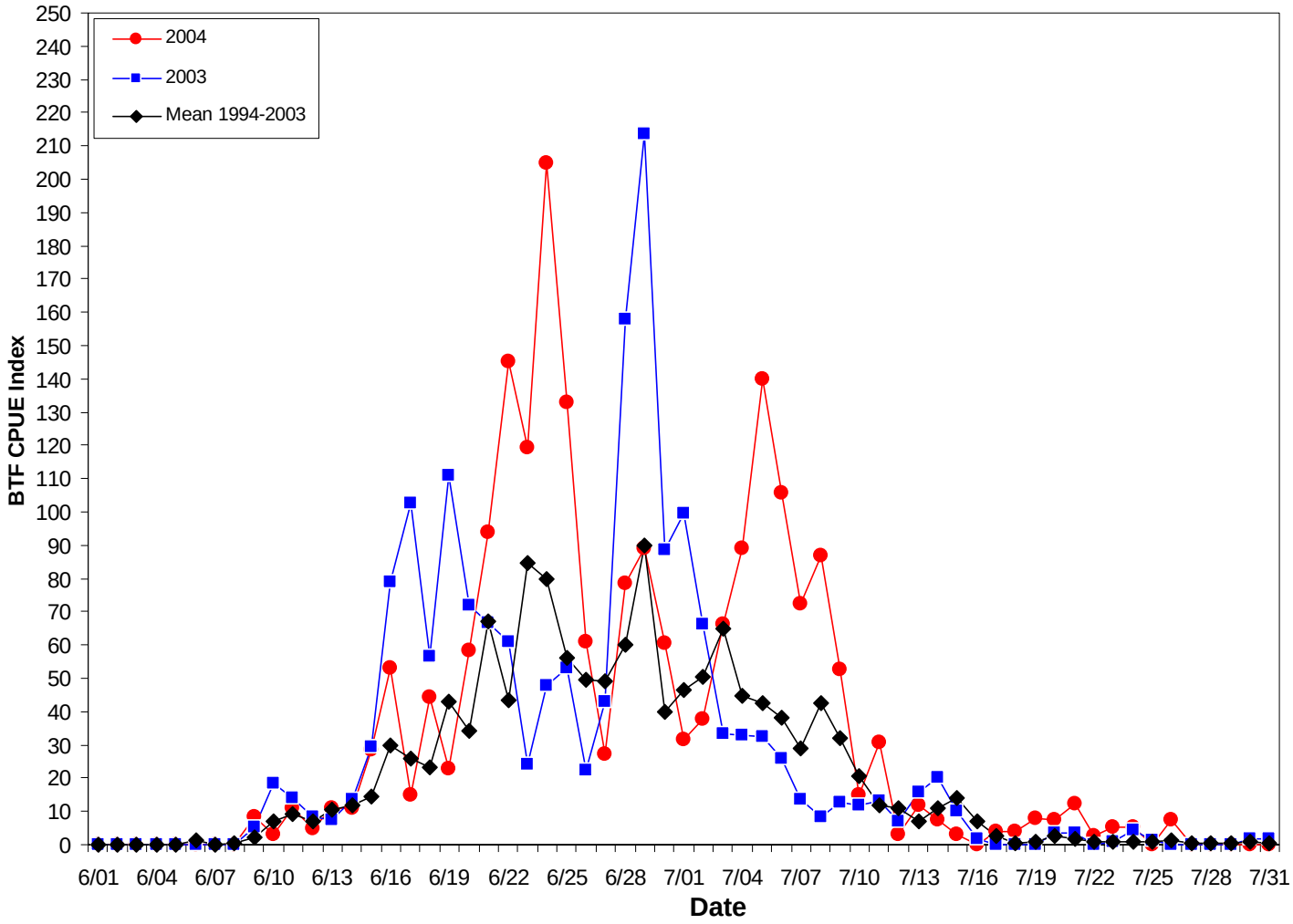


Figure 7.–Daily sockeye salmon CPUE indices for mean 1994–2003, 2003 and 2004, Bethel test fishery (BTF).

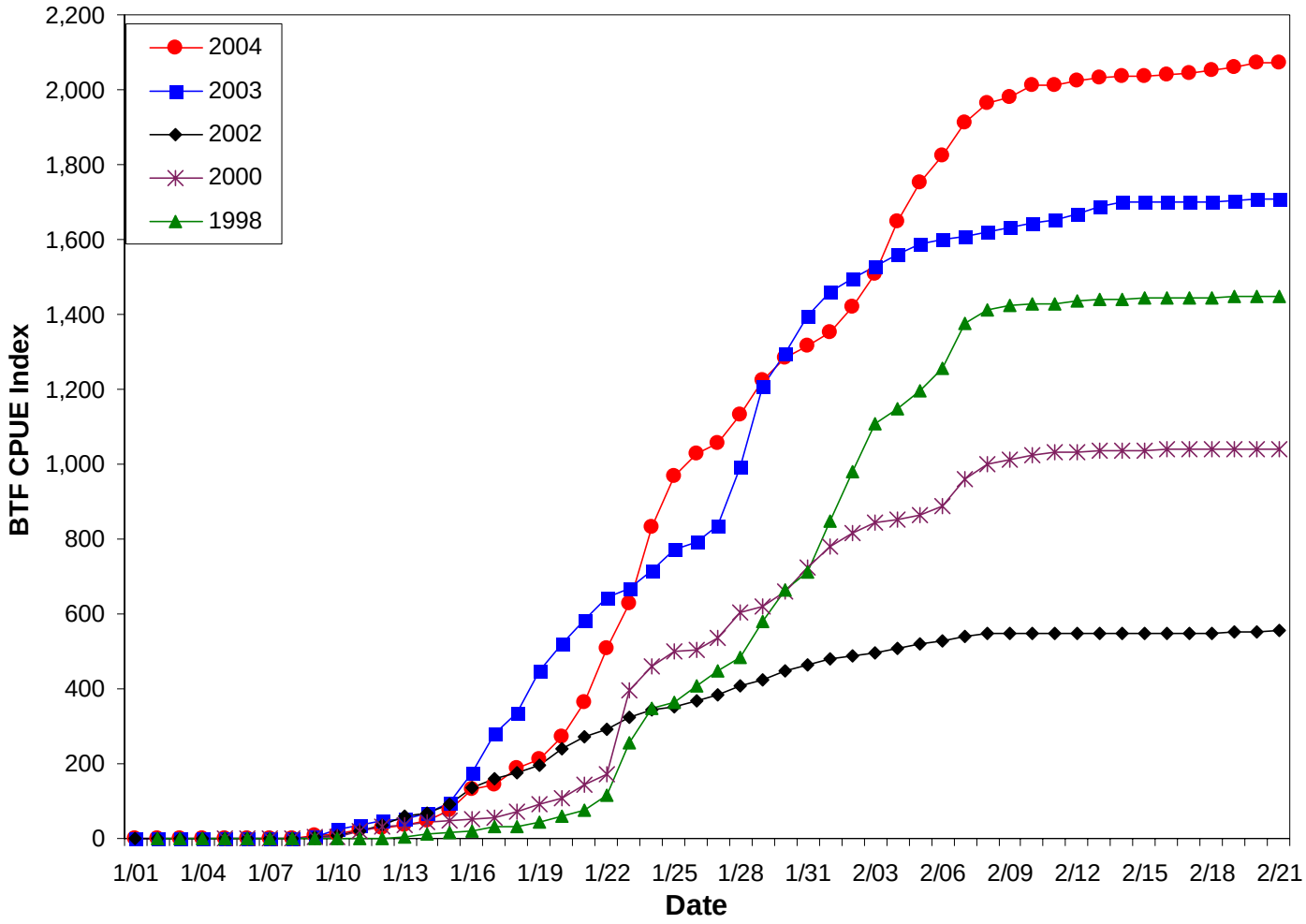


Figure 8.–2004 Cumulative sockeye salmon CPUE index for years with similar water levels, Bethel test fishery (BTF).

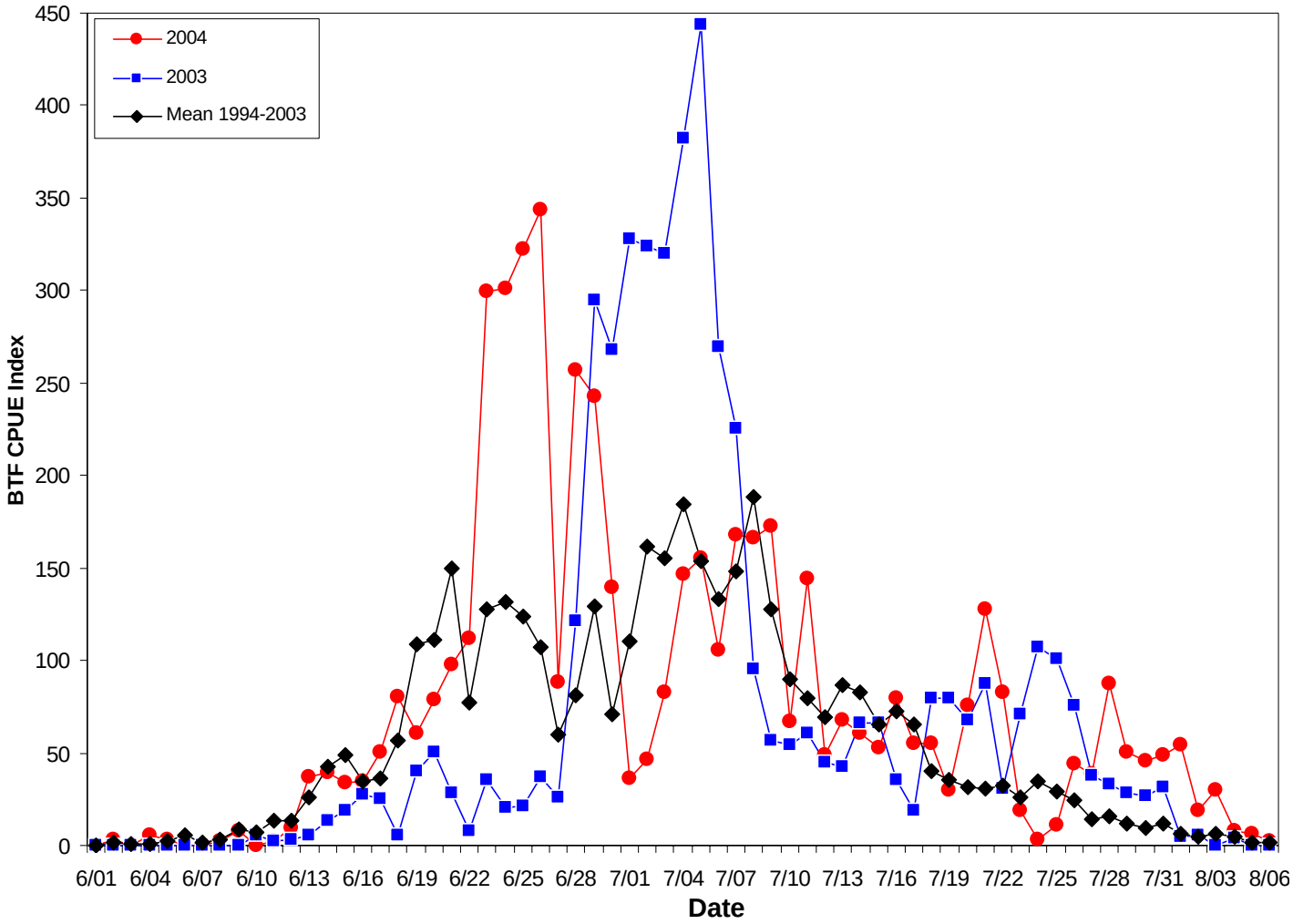


Figure 9.–Daily chum salmon CPUE indices for mean 1994–2003, 2003 and 2004, Bethel test fishery (BTF).

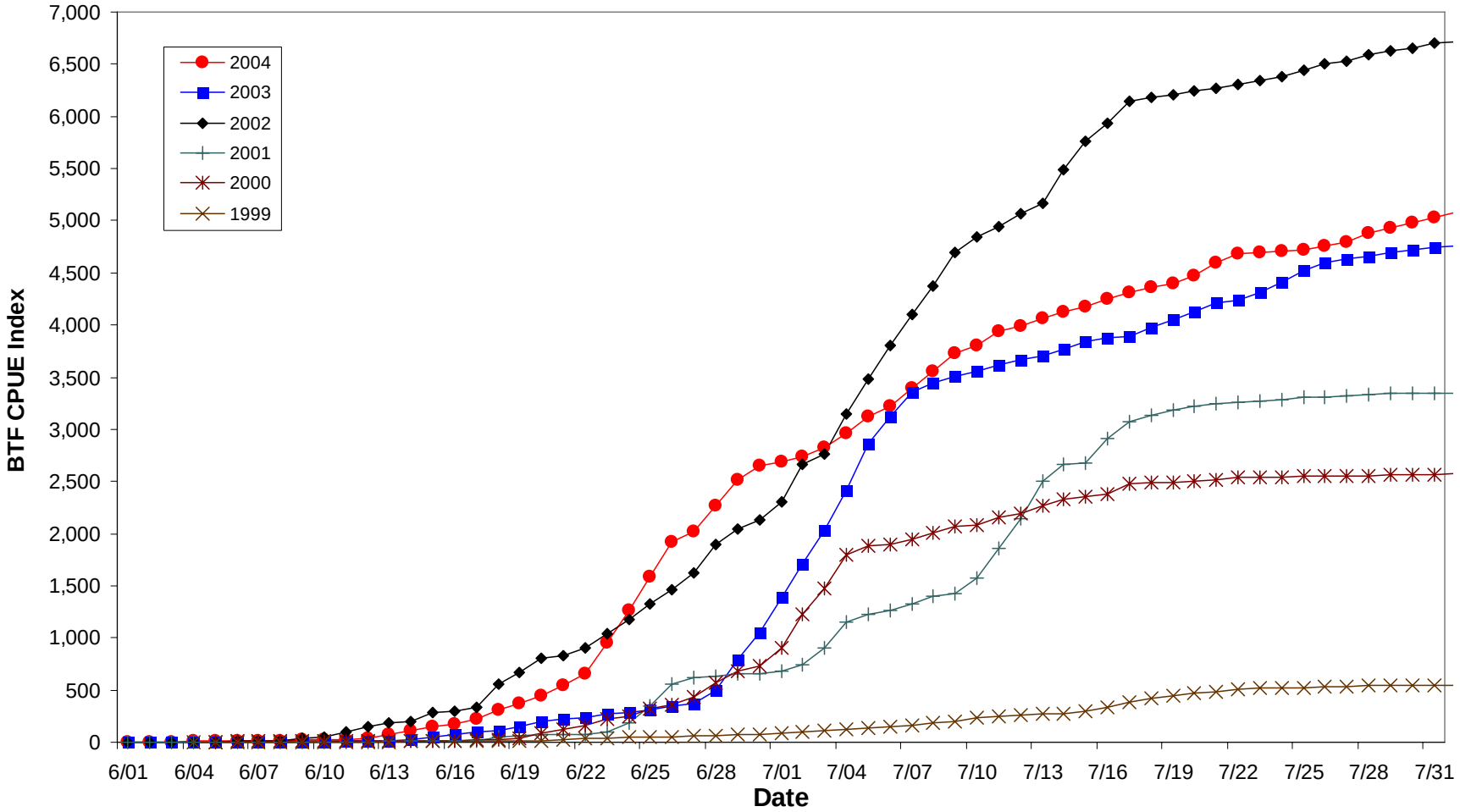


Figure 10.–2004 Cumulative chum salmon CPUE index for years with similar water levels, Bethel test fishery (BTF).

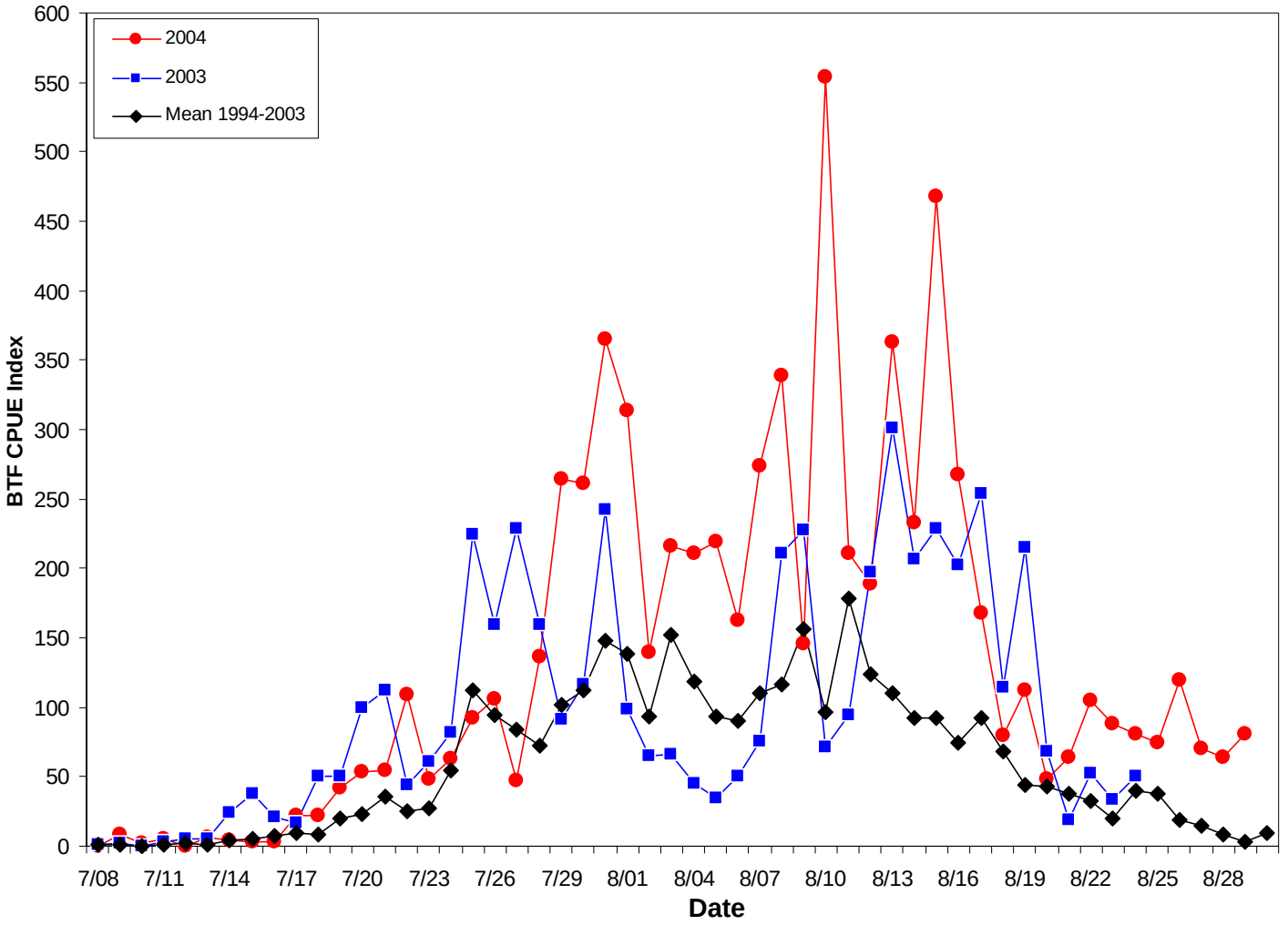


Figure 11.–Daily coho salmon CPUE indices for mean 1994–2003, 2003, and 2004, Bethel test fishery (BTF).

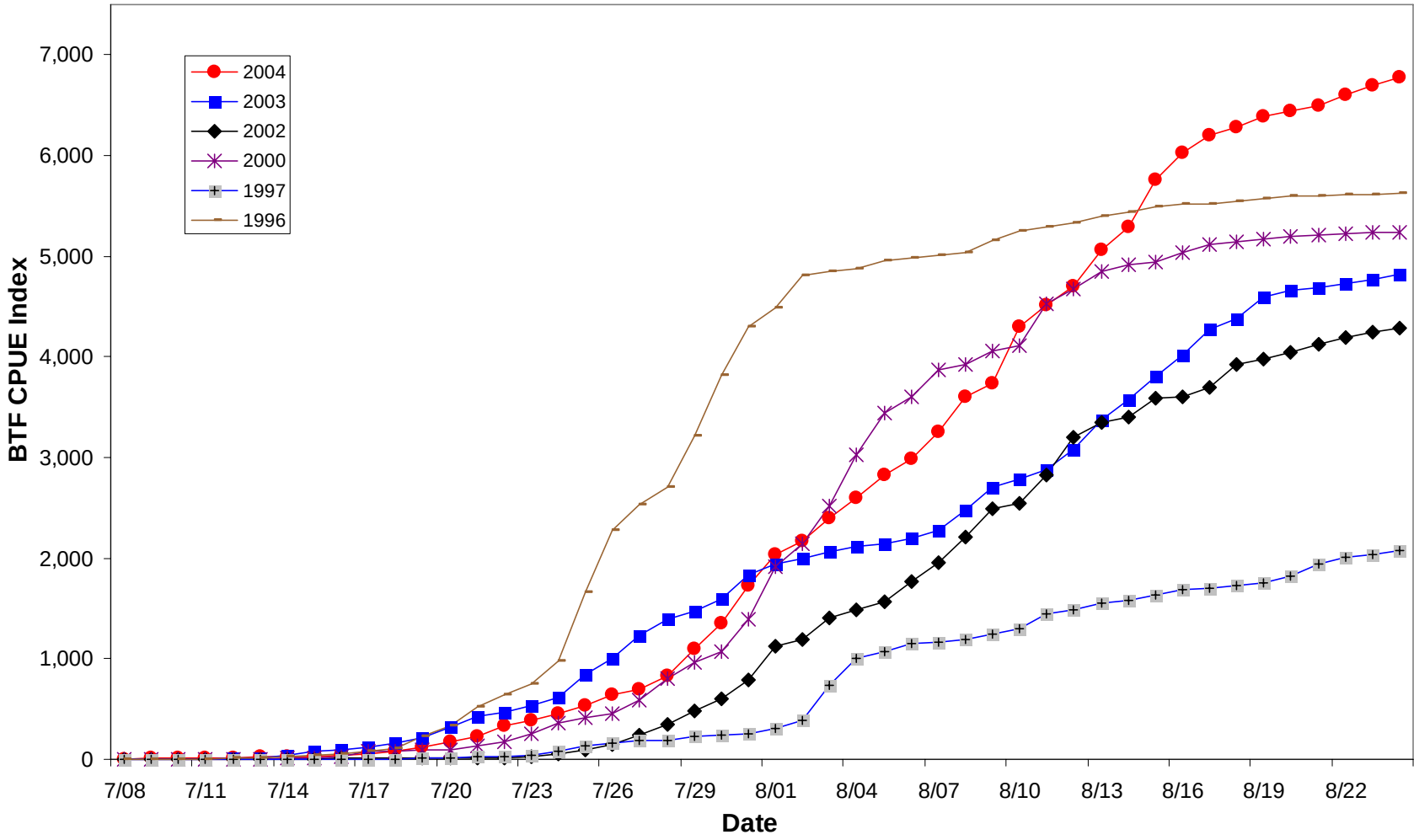


Figure 12.–2004 Cumulative coho salmon CPUE index for years with similar water levels, Bethel test fishery (BTF).

APPENDIX A. DAILY DRIFT INFORMATION

Appendix A1.–Catch and CPUE by drift and by species for the Bethel test fishery, 2004.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
6/01	1	1	1	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/01	1	2	3	8	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/01	1	3	2	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/01	1	4	3	5.4	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
6/02	2	5	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/02	2	6	3	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/02	2	7	1	5.4	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/02	2	8	2	5.4	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/02	3	9	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/02	3	10	2	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/02	3	11	3	5.4	50	20.0	0	0.0	0	0.0	1	6.0	0	0.0
6/02	3	12	1	5.4	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
6/03	4	13	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/03	4	14	3	8	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/03	4	15	2	5.4	50	19.0	0	0.0	0	0.0	0	0.0	0	0.0
6/03	4	16	3	5.4	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/03	5	17	1	8	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
6/03	5	18	2	8	50	8.0	0	0.0	0	0.0	0	0.0	0	0.0
6/03	5	19	3	5.4	50	23.0	0	0.0	0	0.0	0	0.0	0	0.0
6/03	5	20	1	5.4	50	23.5	0	0.0	0	0.0	0	0.0	0	0.0
6/04	6	21	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/04	6	22	3	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/04	6	23	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/04	6	24	2	5.4	50	22.0	0	0.0	0	0.0	0	0.0	0	0.0
6/04	7	25	1	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/04	7	26	3	8	50	20.5	2	11.7	0	0.0	0	0.0	0	0.0
6/04	7	27	2	5.4	50	22.0	2	10.9	0	0.0	2	10.9	0	0.0
6/04	7	28	3	5.4	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
6/05	8	29	1	8	50	22.5	0	0.0	0	0.0	0	0.0	0	0.0
6/05	8	30	2	8	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
6/05	8	31	3	5.4	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
6/05	8	32	1	5.4	50	21.0	1	5.7	0	0.0	1	5.7	0	0.0
6/05	9	33	2	8	50	18.0	0	0.0	0	0.0	0	0.0	0	0.0
6/05	9	34	3	8	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/05	9	35	1	5.4	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/05	9	36	2	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/06	10	37	1	8	50	18.5	0	0.0	0	0.0	0	0.0	0	0.0
6/06	10	38	3	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/06	10	39	2	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/06	10	40	3	5.4	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/06	11[a]													
6/07	12	41	1	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/07	12	42	2	8	50	21.0	0	0.0	0	0.0	0	0.0	0	0.0
6/07	12	43	3	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/07	12	44	1	5.4	50	19.5	1	6.2	0	0.0	0	0.0	0	0.0
6/07	13	45	2	8	50	18.0	0	0.0	0	0.0	1	6.7	0	0.0
6/07	13	46	3	8	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/07	13	47	1	5.4	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/07	13	48	2	5.4	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/08	14	49	1	8	50	20.5	3	17.6	0	0.0	0	0.0	0	0.0
6/08	14	50	3	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0

-continued-

Appendix A1.–Page 2 of 9.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
6/08	14	51	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	0	0.0
6/08	14	52	3	5.4	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
6/08	15	53	1	8	50	21.5	1	5.6	0	0.0	0	0.0	0	0.0
6/08	15	54	2	8	50	23.0	0	0.0	0	0.0	0	0.0	0	0.0
6/08	15	55	3	5.4	50	21.5	2	11.2	0	0.0	0	0.0	0	0.0
6/08	15	56	1	5.4	50	23.0	2	10.4	0	0.0	1	5.2	0	0.0
6/09	16	57	2	8	50	21.0	0	0.0	0	0.0	0	0.0	0	0.0
6/09	16	58	3	8	50	22.5	5	26.7	0	0.0	0	0.0	0	0.0
6/09	16	59	1	5.4	50	22.0	4	21.8	0	0.0	2	10.9	0	0.0
6/09	16	60	2	5.4	50	20.0	0	0.0	1	6.0	0	0.0	0	0.0
6/09	17	61	1	8	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/09	17	62	3	8	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
6/09	17	63	2	5.4	50	22.0	2	10.9	1	5.5	1	5.5	0	0.0
6/09	17	64	3	5.4	50	22.5	9	48.0	1	5.3	0	0.0	0	0.0
6/10	18	65	1	8	50	19.0	0	0.0	0	0.0	0	0.0	0	0.0
6/10	18	66	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/10	18	67	3	5.4	50	21.0	1	5.7	1	5.7	0	0.0	0	0.0
6/10	18	68	1	5.4	50	21.0	3	17.1	0	0.0	0	0.0	0	0.0
6/11	19	69	2	8	50	20.5	2	11.7	0	0.0	0	0.0	0	0.0
6/11	19	70	3	8	50	23.5	11	56.2	0	0.0	0	0.0	0	0.0
6/11	19	71	1	5.4	50	22.0	10	54.5	3	16.4	0	0.0	0	0.0
6/11	19	72	2	5.4	50	22.5	5	26.7	1	5.3	1	5.3	0	0.0
6/11	20	73	1	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/11	20	74	3	8	50	22.0	3	16.4	0	0.0	0	0.0	0	0.0
6/11	20	75	2	5.4	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/11	20	76	3	5.4	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/12	21	77	1	8	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/12	21	78	2	8	50	20.5	2	11.7	0	0.0	0	0.0	0	0.0
6/12	21	79	3	5.4	50	26.5	7	31.7	1	4.5	3	13.6	0	0.0
6/12	21	80	1	5.4	50	25.0	8	38.4	0	0.0	1	4.8	0	0.0
6/12	22	81	2	8	50	20.5	2	11.7	0	0.0	0	0.0	0	0.0
6/12	22	82	3	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/12	22	83	1	5.4	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
6/12	22	84	2	5.4	50	24.0	2	10.0	1	5.0	0	0.0	0	0.0
6/13	23	85	1	8	50	19.5	1	6.2	0	0.0	0	0.0	0	0.0
6/13	23	86	3	8	50	20.5	1	5.9	0	0.0	0	0.0	0	0.0
6/13	23	87	2	5.4	50	22.0	4	21.8	4	21.8	3	16.4	0	0.0
6/13	23	88	3	5.4	50	23.0	9	47.0	0	0.0	9	47.0	0	0.0
6/13	24	89	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/13	24	90	2	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/13	24	91	3	5.4	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
6/13	24	92	1	5.4	50	23.5	4	20.4	0	0.0	2	10.2	0	0.0
6/14	25	93	2	8	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
6/14	25	94	3	8	50	26.0	8	36.9	1	4.6	0	0.0	0	0.0
6/14	25	95	1	5.4	50	26.5	12	54.3	0	0.0	7	31.7	0	0.0
6/14	25	96	2	5.4	50	23.5	2	10.2	0	0.0	7	35.7	0	0.0
6/14	26	97	1	8	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
6/14	26	98	3	8	50	23.5	4	20.4	0	0.0	0	0.0	0	0.0
6/14	26	99	2	5.4	50	23.0	6	31.3	1	5.2	1	5.2	0	0.0
6/14	26	100	3	5.4	50	21.5	1	5.6	3	16.7	1	5.6	0	0.0
6/15	27	101	1	8	50	19.5	3	18.5	0	0.0	0	0.0	0	0.0

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Appendix A1.–Page 3 of 9.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
6/15	27	102	2	8	50	17.0	0	0.0	0	0.0	0	0.0	0	0.0
6/15	27	103	3	5.4	50	22.5	7	37.3	3	16.0	2	10.7	0	0.0
6/15	27	104	1	5.4	50	23.5	5	25.5	8	40.9	7	35.7	0	0.0
6/15	28	105	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/15	28	106	3	8	50	23.5	8	40.9	0	0.0	0	0.0	0	0.0
6/15	28	107	1	5.4	50	24.5	8	39.2	0	0.0	1	4.9	0	0.0
6/15	28	108	2	5.4	50	21.0	1	5.7	0	0.0	3	17.1	0	0.0
6/16	29	109	1	8	50	21.0	3	17.1	0	0.0	0	0.0	0	0.0
6/16	29	110	3	8	50	22.0	3	16.4	0	0.0	0	0.0	0	0.0
6/16	29	111	2	5.4	50	24.5	12	58.8	0	0.0	6	29.4	0	0.0
6/16	29	112	3	5.4	50	23.0	5	26.1	0	0.0	5	26.1	0	0.0
6/16	30	113	1	8	50	21.5	2	11.2	0	0.0	0	0.0	0	0.0
6/16	30	114	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/16	30	115	3	5.4	50	25.0	9	43.2	3	14.4	3	14.4	0	0.0
6/16	30	116	1	5.4	50	21.5	7	39.1	3	16.7	0	0.0	0	0.0
6/17	31	117	2	8	50	23.5	8	40.9	0	0.0	0	0.0	0	0.0
6/17	31	118	3	8	50	22.5	3	16.0	1	5.3	0	0.0	0	0.0
6/17	31	119	1	5.4	50	25.5	7	32.9	4	18.8	6	28.2	0	0.0
6/17	31	120	2	5.4	50	22.0	3	16.4	1	5.5	3	16.4	0	0.0
6/17	32	121	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/17	32	122	3	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/17	32	123	2	5.4	50	22.0	5	27.3	1	5.5	6	32.7	0	0.0
6/17	32	124	3	5.4	50	21.0	2	11.4	0	0.0	4	22.9	0	0.0
6/18	33	125	1	8	50	22.0	4	21.8	1	5.5	0	0.0	0	0.0
6/18	33	126	2	8	50	22.0	3	16.4	0	0.0	0	0.0	0	0.0
6/18	33	127	3	5.4	50	26.0	11	50.8	8	36.9	15	69.2	0	0.0
6/18	33	128	1	5.4	50	28.0	20	85.7	12	51.4	14	60.0	0	0.0
6/18	34	129	2	8	50	23.5	2	10.2	0	0.0	0	0.0	0	0.0
6/18	34	130	3	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
6/18	34	131	1	5.4	50	21.5	1	5.6	0	0.0	1	5.6	0	0.0
6/18	34	132	2	5.4	50	22.5	1	5.3	0	0.0	5	26.7	0	0.0
6/19	35	133	1	8	50	21.0	2	11.4	0	0.0	1	5.7	0	0.0
6/19	35	134	3	8	50	20.0	2	12.0	0	0.0	0	0.0	0	0.0
6/19	35	135	2	5.4	50	22.5	6	32.0	3	16.0	7	37.3	0	0.0
6/19	35	136	3	5.4	50	21.5	6	33.5	1	5.6	8	44.7	0	0.0
6/19	36	137	1	8	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
6/19	36	138	2	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
6/19	36	139	3	5.4	50	22.5	2	10.7	2	10.7	4	21.3	0	0.0
6/19	36	140	1	5.4	50	26.5	8	36.2	3	13.6	4	18.1	0	0.0
6/20	37[b]													
6/20	38[b]													
6/21	39	141	2	8	50	26.0	11	50.8	4	18.5	1	4.6	0	0.0
6/21	39	142	3	8	50	28.5	13	54.7	1	4.2	2	8.4	0	0.0
6/21	39	143	1	5.4	50	29.5	22	89.5	24	97.6	11	44.7	0	0.0
6/21	39	144	2	5.4	50	27.5	8	34.9	8	34.9	13	56.7	0	0.0
6/21	40	145	1	8	50	19.5	3	18.5	1	6.2	0	0.0	0	0.0
6/21	40	146	3	8	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
6/21	40	147	2	5.4	50	25.5	5	23.5	4	18.8	8	37.6	0	0.0
6/21	40	148	3	5.4	50	30.0	3	12.0	9	36.0	14	56.0	0	0.0
6/22	41	149	1	8	50	24.0	7	35.0	2	10.0	0	0.0	0	0.0

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Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
6/22	41	150	2	8	50	22.5	1	5.3	1	5.3	1	5.3	0	0.0
6/22	41	151	3	5.4	50	37.5	5	16.0	13	41.6	40	128.0	0	0.0
6/22	41	152	1	5.4	50	25.5	15	70.6	44	207.1	13	61.2	0	0.0
6/22	42	153	2	8	50	24.0	2	10.0	0	0.0	6	30.0	0	0.0
6/22	42	154	3	8	50	22.5	2	10.7	2	10.7	6	32.0	0	0.0
6/22	42	155	1	5.4	50	5.5	1	21.8	1	21.8	0	0.0	0	0.0
6/22	42	156	2	5.4	50	24.0	1	5.0	4	20.0	7	35.0	0	0.0
6/23	43	157	1	8	50	22.5	4	21.3	1	5.3	0	0.0	0	0.0
6/23	43	158	3	8	50	25.5	6	28.2	0	0.0	0	0.0	0	0.0
6/23	43	159	2	5.4	50	34.0	11	38.8	27	95.3	31	109.4	0	0.0
6/23	43	160	3	5.4	50	37.0	6	19.5	4	13.0	78	253.0	0	0.0
6/23	44	161	1	8	50	21.0	1	5.7	3	17.1	0	0.0	0	0.0
6/23	44	162	2	8	50	20.5	1	5.9	0	0.0	1	5.9	0	0.0
6/23	44	163	3	5.4	50	29.5	7	28.5	8	32.5	15	61.0	0	0.0
6/23	44	164	1	5.4	50	32.0	7	26.3	26	97.5	47	176.3	0	0.0
6/24	45	165	2	8	50	22.5	5	26.7	3	16.0	0	0.0	0	0.0
6/24	45	166	3	8	50	22.5	7	37.3	0	0.0	5	26.7	0	0.0
6/24	45	167	1	5.4	50	25.5	10	47.1	43	202.4	14	65.9	0	0.0
6/24	45	168	2	5.4	50	29.0	8	33.1	29	120.0	23	95.2	0	0.0
6/24	46	169	1	8	50	14.5	0	0.0	1	8.3	4	33.1	0	0.0
6/24	46	170	3	8	50	22.5	6	32.0	0	0.0	2	10.7	0	0.0
6/24	46	171	2	5.4	50	25.0	0	0.0	7	33.6	33	158.4	0	0.0
6/24	46	172	3	5.4	50	33.5	4	14.3	15	53.7	79	283.0	0	0.0
6/25	47[b]													
6/25	48[b]													
6/26	49	173	2	8	50	21.5	2	11.2	0	0.0	0	0.0	0	0.0
6/26	49	174	3	8	50	24.0	6	30.0	1	5.0	1	5.0	0	0.0
6/26	49	175	1	5.4	50	38.0	5	15.8	12	37.9	52	164.2	0	0.0
6/26	49	176	2	5.4	50	25.0	4	19.2	3	14.4	16	76.8	0	0.0
6/26	50	177	1	8	50	20.5	3	17.6	0	0.0	1	5.9	0	0.0
6/26	50	178	3	8	50	24.5	11	53.9	1	4.9	1	4.9	0	0.0
6/26	50	179	2	5.4	50	36.5	5	16.4	13	42.7	65	213.7	0	0.0
6/26	50	180	3	5.4	50	31.0	6	23.2	7	27.1	60	232.3	0	0.0
6/27	51[b]													
6/28	52[b]													
6/28	53	181	1	8	50	20.5	6	35.1	1	5.9	0	0.0	0	0.0
6/28	53	182	2	8	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
6/28	53	183	3	5.4	50	24.0	2	10.0	6	30.0	18	90.0	0	0.0
6/28	53	184	1	5.4	50	22.0	1	5.5	5	27.3	4	21.8	0	0.0
6/29	54	185	2	8	50	28.0	7	30.0	5	21.4	5	21.4	0	0.0
6/29	54	186	3	8	50	23.5	6	30.6	2	10.2	3	15.3	0	0.0
6/29	54	187	1	5.4	50	30.0	16	64.0	14	56.0	40	160.0	0	0.0
6/29	54	188	2	5.4	50	29.0	10	41.4	18	74.5	48	198.6	0	0.0
6/29	55	189	1	8	50	24.0	1	5.0	1	5.0	0	0.0	0	0.0
6/29	55	190	3	8	50	20.5	1	5.9	0	0.0	1	5.9	0	0.0
6/29	55	191	2	5.4	50	22.5	1	5.3	5	26.7	8	42.7	0	0.0
6/29	55	192	3	0	50	11.5	0	0.0	2	20.9	8	83.5	0	0.0
6/30	56[b]													
6/30	57[b]													
7/01	58	193	1	8	50	22.5	1	5.3	1	5.3	2	10.7	0	0.0
7/01	58	194	2	8	50	22.5	4	21.3	3	16.0	0	0.0	0	0.0

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Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
7/01	58	195	3	5.4	50	19.5	1	6.2	1	6.2	4	24.6	0	0.0
7/01	58[c]													
7/01	59	196	2	8	50	21.5	3	16.7	0	0.0	0	0.0	0	0.0
7/01	59	197	3	8	50	22.5	1	5.3	1	5.3	0	0.0	0	0.0
7/01	59	198	1	5.4	50	20.5	3	17.6	6	35.1	4	23.4	0	0.0
7/01	59	199	2	5.4	50	22.5	2	10.7	3	16.0	0	0.0	0	0.0
7/02	60[d]													
7/02	61	200	1	8	50	22.0	2	10.9	0	0.0	2	10.9	0	0.0
7/02	61	201	3	8	50	20.0	0	0.0	1	6.0	0	0.0	0	0.0
7/02	61	202	2	5.4	50	21.0	0	0.0	3	17.1	0	0.0	0	0.0
7/02	61	203	3	5.4	50	21.5	2	11.2	2	11.2	1	5.6	0	0.0
7/03	62	204	1	8	50	22.5	4	21.3	4	21.3	0	0.0	0	0.0
7/03	62	205	2	8	50	23.5	2	10.2	2	10.2	1	5.1	0	0.0
7/03	62	206	3	5.4	50	21.5	1	5.6	2	11.2	10	55.8	0	0.0
7/03	62	207	1	5.4	50	24.0	0	0.0	14	70.0	14	70.0	0	0.0
7/03	63	208	2	8	50	19.5	0	0.0	0	0.0	0	0.0	0	0.0
7/03	63	209	3	8	50	21.5	2	11.2	1	5.6	6	33.5	0	0.0
7/03	63	210	1	5.4	50	21.5	0	0.0	4	22.3	5	27.9	0	0.0
7/03	63	211	2	5.4	50	21.0	0	0.0	5	28.6	2	11.4	0	0.0
7/04	64	212	1	8	50	21.0	0	0.0	1	5.7	0	0.0	0	0.0
7/04	64	213	3	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
7/04	64	214	2	5.4	50	27.0	3	13.3	15	66.7	26	115.6	0	0.0
7/04	64	215	3	5.4	50	23.5	0	0.0	2	10.2	15	76.6	0	0.0
7/04	65	216	1	8	50	22.0	2	10.9	0	0.0	1	5.5	0	0.0
7/04	65	217	2	8	50	16.5	0	0.0	0	0.0	0	0.0	0	0.0
7/04	65	218	3	5.4	50	23.0	0	0.0	9	47.0	14	73.0	0	0.0
7/04	65	219	1	5.4	50	22.0	0	0.0	10	54.5	5	27.3	0	0.0
7/05	66	220	2	8	50	21.0	0	0.0	0	0.0	1	5.7	0	0.0
7/05	66	221	3	8	50	21.0	0	0.0	0	0.0	0	0.0	0	0.0
7/05	66	222	1	5.4	50	24.0	1	5.0	19	95.0	8	40.0	0	0.0
7/05	66	223	2	5.4	50	24.0	2	10.0	25	125.0	20	100.0	0	0.0
7/05	67	224	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
7/05	67	225	3	8	50	20.0	1	6.0	0	0.0	0	0.0	0	0.0
7/05	67	226	2	5.4	50	23.0	2	10.4	6	31.3	12	62.6	0	0.0
7/05	67	227	3	5.4	50	21.0	0	0.0	5	28.6	19	108.6	0	0.0
7/06	68[e]													
7/06	69	228	1	8	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
7/06	69	229	2	8	50	20.0	0	0.0	0	0.0	0	0.0	0	0.0
7/06	69	230	3	5.4	50	22.5	0	0.0	6	32.0	1	5.3	1	5.3
7/06	69	231	1	5.4	50	21.5	3	16.7	3	16.7	4	22.3	0	0.0
7/07	70	232	2	8	50	21.5	0	0.0	0	0.0	2	11.2	0	0.0
7/07	70	233	3	8	50	21.0	1	5.7	0	0.0	0	0.0	0	0.0
7/07	70	234	1	5.4	50	26.5	0	0.0	14	63.4	27	122.3	0	0.0
7/07	70	235	2	5.4	50	26.0	3	13.8	9	41.5	23	106.2	0	0.0
7/07	71	236	2	5.4	50	24.5	0	0.0	0	0.0	8	39.2	0	0.0
7/07	71	237	3	5.4	50	21.0	0	0.0	7	40.0	12	68.6	0	0.0
7/08	72	238	3	5.4	50	6.5	0	0.0	2	36.9	0	0.0	0	0.0
7/08	72	239	1	5.4	50	25.5	2	9.4	10	47.1	14	65.9	0	0.0
7/08	73	240	1	5.4	50	26.5	0	0.0	3	13.6	27	122.3	0	0.0
7/08	73	241	2	5.4	50	30.0	1	4.0	19	76.0	36	144.0	0	0.0
7/09	74	242	2	5.4	50	26.5	1	4.5	3	13.6	16	72.5	1	4.5

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Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
7/09	74	243	3	5.4	50	31.0	0	0.0	5	19.4	54	209.0	1	3.9
7/09	75	244	3	5.4	50	35.5	0	0.0	12	40.6	11	37.2	1	3.4
7/09	75	245	1	5.4	50	22.5	3	16.0	6	32.0	5	26.7	1	5.3
7/10	76	246	1	5.4	50	24.5	0	0.0	1	4.9	6	29.4	0	0.0
7/10	76	247	2	5.4	50	24.0	1	5.0	5	25.0	21	105.0	1	5.0
7/11	77	248	2	5.4	50	24.0	1	5.0	9	45.0	14	70.0	1	5.0
7/11	77	249	3	5.4	50	26.5	1	4.5	1	4.5	47	212.8	0	0.0
7/11	78	250	3	5.4	50	20.5	0	0.0	1	5.9	1	5.9	1	5.9
7/11	78	251	1	5.4	50	20.5	0	0.0	1	5.9	0	0.0	0	0.0
7/12	79	252	1	5.4	50	20.5	0	0.0	0	0.0	1	5.9	0	0.0
7/12	79	253	2	5.4	50	21.5	0	0.0	0	0.0	8	44.7	0	0.0
7/12	80	254	2	5.4	50	20.5	1	5.9	1	5.9	3	17.6	0	0.0
7/12	80	255	3	5.4	50	20.5	0	0.0	0	0.0	5	29.3	0	0.0
7/13	81	256	3	5.4	50	21.5	0	0.0	1	5.6	1	5.6	0	0.0
7/13	81	257	1	5.4	50	22.5	2	10.7	1	5.3	7	37.3	0	0.0
7/13	82	258	1	5.4	50	9.5	1	12.6	1	12.6	2	25.3	1	12.6
7/13	82	259	2	5.4	50	19.5	0	0.0	0	0.0	11	67.7	0	0.0
7/14	83[f]													
7/14	84[f]													
7/15	85	260	2	5.4	50	20.5	0	0.0	1	5.9	2	11.7	0	0.0
7/15	85	261	3	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
7/15	86	262	3	5.4	50	22.0	1	5.5	0	0.0	14	76.4	0	0.0
7/15	86	263	1	5.4	50	20.5	0	0.0	0	0.0	3	17.6	1	5.9
7/16	87	264	1	5.4	50	21.0	0	0.0	0	0.0	8	45.7	1	5.7
7/16	87	265	2	5.4	50	20.0	0	0.0	0	0.0	2	12.0	0	0.0
7/16	88	266	2	5.4	50	21.5	0	0.0	0	0.0	8	44.7	0	0.0
7/16	88	267	3	5.4	50	21.0	1	5.7	0	0.0	10	57.1	0	0.0
7/17	89[b]													
7/17	90[b]													
7/18	91[b]													
7/18	92[b]													
7/19	93	268	3	5.4	50	21.5	1	5.6	0	0.0	0	0.0	2	11.2
7/19	93	269	1	5.4	50	24.0	0	0.0	1	5.0	11	55.0	0	0.0
7/19	94	270	1	5.4	50	21.5	0	0.0	2	11.2	1	5.6	8	44.7
7/19	94	271	2	5.4	50	21.5	0	0.0	0	0.0	0	0.0	5	27.9
7/20	95[b]													
7/20	96	272	2	5.4	50	22.5	0	0.0	0	0.0	6	32.0	8	42.7
7/20	96	273	3	5.4	50	24.0	1	5.0	0	0.0	8	40.0	5	25.0
7/21	97	274	3	5.4	50	22.0	0	0.0	0	0.0	4	21.8	7	38.2
7/21	97	275	1	5.4	50	24.5	11	53.9	5	24.5	17	83.3	6	29.4
7/21	98	276	1	5.4	50	7.5	0	0.0	0	0.0	4	64.0	1	16.0
7/21	98	277	2	5.4	50	23.5	1	5.1	0	0.0	17	86.8	5	25.5
7/22	99	278	2	5.4	50	24.5	1	4.9	0	0.0	9	44.1	10	49.0
7/22	99	279	3	5.4	50	22.5	0	0.0	0	0.0	5	26.7	17	90.7
7/22	100	280	3	5.4	50	21.5	0	0.0	0	0.0	14	78.1	8	44.7
7/22	100	281	1	5.4	50	21.5	0	0.0	1	5.6	3	16.7	6	33.5
7/23	101	282	1	5.4	50	20.0	0	0.0	0	0.0	0	0.0	1	6.0
7/23	101	283	2	5.4	50	21.0	0	0.0	0	0.0	3	17.1	1	5.7
7/23	102	284	2	5.4	50	23.5	0	0.0	1	5.1	2	10.2	6	30.6
7/23	102	285	3	5.4	50	22.5	0	0.0	1	5.3	2	10.7	10	53.3
7/24	103	286	3	5.4	50	22.5	0	0.0	2	10.7	0	0.0	14	74.7

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Appendix A1.–Page 7 of 9.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
7/24	103	287	1	5.4	50	21.0	2	11.4	0	0.0	1	5.7	6	34.3
7/24	104	288	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
7/24	104	289	2	5.4	50	14.5	0	0.0	0	0.0	0	0.0	2	16.6
7/25	105	290	2	5.4	50	22.0	0	0.0	0	0.0	3	16.4	4	21.8
7/25	105	291	3	5.4	50	21.5	0	0.0	0	0.0	0	0.0	12	67.0
7/25	106	292	3	5.4	50	21.5	1	5.6	0	0.0	0	0.0	13	72.6
7/25	106	293	1	5.4	50	21.0	0	0.0	0	0.0	1	5.7	4	22.9
7/26	107	294	1	5.4	50	21.0	0	0.0	0	0.0	1	5.7	1	5.7
7/26	107	295	2	5.4	50	20.5	0	0.0	0	0.0	2	11.7	4	23.4
7/26	108	296	2	5.4	50	23.5	0	0.0	2	10.2	5	25.5	10	51.1
7/26	108	297	3	5.4	50	26.5	2	9.1	1	4.5	10	45.3	29	131.3
7/27	109	298	3	5.4	50	22.0	0	0.0	0	0.0	13	70.9	11	60.0
7/27	109	299	1	5.4	50	21.5	0	0.0	0	0.0	1	5.6	6	33.5
7/28	110	300	1	5.4	50	22.5	1	5.3	0	0.0	7	37.3	6	32.0
7/28	110	301	2	5.4	50	25.5	0	0.0	0	0.0	17	80.0	9	42.4
7/28	111[e]													
7/29	112	302	2	5.4	50	23.5	0	0.0	0	0.0	2	10.2	15	76.6
7/29	112	303	3	5.4	50	21.5	0	0.0	0	0.0	9	50.2	27	150.7
7/29	113	304	3	5.4	50	24.0	0	0.0	0	0.0	5	25.0	31	155.0
7/29	113	305	1	5.4	50	24.5	0	0.0	0	0.0	3	14.7	30	146.9
7/30	114[a]													
7/30	115	306	1	5.4	50	24.0	0	0.0	0	0.0	0	0.0	19	95.0
7/30	115	307	2	5.4	50	25.5	0	0.0	0	0.0	3	14.1	10	47.1
7/31	116	308	2	5.4	50	29.5	0	0.0	0	0.0	13	52.9	48	195.3
7/31	116	309	3	5.4	50	24.0	0	0.0	0	0.0	8	40.0	68	340.0
7/31	117	310	3	5.4	50	22.5	0	0.0	0	0.0	1	5.3	17	90.7
7/31	117	311	1	5.4	50	24.0	0	0.0	0	0.0	0	0.0	21	105.0
8/01	118	312	1	5.4	50	24.5	0	0.0	0	0.0	14	68.6	26	127.3
8/01	118	313	2	5.4	50	25.5	1	4.7	0	0.0	6	28.2	57	268.2
8/01	119	314	2	5.4	50	22.5	0	0.0	0	0.0	0	0.0	13	69.3
8/01	119	315	3	5.4	50	29.5	0	0.0	0	0.0	3	12.2	40	162.7
8/02	120	316	3	5.4	50	26.5	0	0.0	0	0.0	2	9.1	40	181.1
8/02	120	317	1	5.4	50	22.0	0	0.0	0	0.0	0	0.0	7	38.2
8/02	121	318	1	5.4	50	22.0	0	0.0	0	0.0	1	5.5	3	16.4
8/02	121	319	2	5.4	50	25.0	0	0.0	0	0.0	5	24.0	9	43.2
8/03	122	320	2	5.4	50	25.0	0	0.0	1	4.8	6	28.8	20	96.0
8/03	122	321	3	5.4	50	28.5	0	0.0	0	0.0	6	25.3	55	231.6
8/03	123	322	3	5.4	50	22.0	0	0.0	1	5.5	0	0.0	7	38.2
8/03	123	323	1	5.4	50	22.0	0	0.0	0	0.0	1	5.5	12	65.5
8/04	124	324	1	5.4	50	22.0	0	0.0	1	5.5	0	0.0	18	98.2
8/04	124	325	2	5.4	50	22.5	0	0.0	0	0.0	2	10.7	27	144.0
8/04	125	326	2	5.4	50	21.5	0	0.0	0	0.0	0	0.0	9	50.2
8/04	125	327	3	5.4	50	26.0	0	0.0	0	0.0	1	4.6	28	129.2
8/05	126[e]													
8/05	127	328	3	5.4	50	22.5	0	0.0	1	5.3	0	0.0	27	144.0
8/05	127	329	1	5.4	50	22.5	0	0.0	0	0.0	1	5.3	20	106.7
8/06	128	330	1	5.4	50	24.0	0	0.0	0	0.0	1	5.0	19	95.0
8/06	128	331	2	5.4	50	21.5	0	0.0	0	0.0	0	0.0	7	39.1
8/06	129	332	2	5.4	50	24.0	0	0.0	0	0.0	0	0.0	11	55.0
8/06	129	333	3	5.4	50	22.0	0	0.0	0	0.0	0	0.0	25	136.4
8/07	130	334	3	5.4	50	21.5	0	0.0	0	0.0	1	5.6	12	67.0

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Appendix A1.–Page 8 of 9.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
8/07	130	335	1	5.4	50	22.5	0	0.0	0	0.0	0	0.0	36	192.0
8/07	131	336	1	5.4	50	16.0	0	0.0	0	0.0	0	0.0	5	37.5
8/07	131	337	2	5.4	50	21.0	0	0.0	0	0.0	3	17.1	44	251.4
8/08	132	338	2	5.4	50	22.0	0	0.0	0	0.0	2	10.9	28	152.7
8/08	132	339	3	5.4	50	22.0	0	0.0	0	0.0	1	5.5	5	27.3
8/08	133[d]													
8/09	134[e]													
8/10	135	340	3	5.4	50	27.0	0	0.0	0	0.0	1	4.4	62	275.6
8/10	135	341	1	5.4	50	34.5	0	0.0	0	0.0	3	10.4	124	431.3
8/10	136	342	1	5.4	50	25.0	0	0.0	0	0.0	0	0.0	49	235.2
8/10	136	343	2	5.4	50	24.5	0	0.0	0	0.0	1	4.9	34	166.5
8/11	137	344	2	5.4	50	26.5	0	0.0	0	0.0	2	9.1	35	158.5
8/11	137	345	3	5.4	50	26.5	0	0.0	0	0.0	0	0.0	39	176.6
8/11	138	346	3	5.4	50	21.5	0	0.0	0	0.0	0	0.0	8	44.7
8/11	138	347	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	7	41.0
8/12	139	348	1	5.4	50	21.5	0	0.0	0	0.0	0	0.0	8	44.7
8/12	139	349	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	9	51.4
8/12	140[d]													
8/13	141[d]													
8/13	142	350	2	5.4	50	25.5	0	0.0	0	0.0	1	4.7	52	244.7
8/13	142	351	3	5.4	50	22.5	0	0.0	0	0.0	2	10.7	44	234.7
8/14	143	352	3	5.4	50	22.0	0	0.0	0	0.0	2	10.9	15	81.8
8/14	143	353	1	5.4	50	25.5	0	0.0	0	0.0	0	0.0	67	315.3
8/14	144	354	1	5.4	50	22.5	0	0.0	0	0.0	1	5.3	6	32.0
8/14	144	355	2	5.4	50	22.5	0	0.0	0	0.0	0	0.0	7	37.3
8/15	145	356	2	5.4	50	29.0	0	0.0	0	0.0	0	0.0	88	364.1
8/15	145	357	3	5.4	50	27.5	0	0.0	0	0.0	2	8.7	72	314.2
8/15	146	358	3	5.4	50	24.0	0	0.0	0	0.0	1	5.0	38	190.0
8/15	146	359	1	5.4	50	21.5	0	0.0	0	0.0	0	0.0	12	67.0
8/16	147[b]													
8/16	148	360	1	5.4	50	20.0	0	0.0	0	0.0	0	0.0	3	18.0
8/16	148	361	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	4	22.9
8/17	149	362	2	5.4	50	24.0	0	0.0	0	0.0	2	10.0	46	230.0
8/17	149	363	3	5.4	50	22.0	0	0.0	0	0.0	1	5.5	15	81.8
8/17	150	364	3	5.4	50	20.5	0	0.0	0	0.0	0	0.0	2	11.7
8/17	150	365	1	5.4	50	21.0	0	0.0	0	0.0	0	0.0	2	11.4
8/18	151	366	1	5.4	50	21.5	0	0.0	0	0.0	0	0.0	15	83.7
8/18	151	367	2	5.4	50	21.5	0	0.0	0	0.0	0	0.0	5	27.9
8/18	152	368	2	5.4	50	20.5	0	0.0	0	0.0	0	0.0	6	35.1
8/18	152	369	3	5.4	50	20.5	0	0.0	0	0.0	0	0.0	2	11.7
8/19	153[e]													
8/19	154	370	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	3	17.1
8/19	154	371	3	5.4	50	22.5	0	0.0	0	0.0	0	0.0	20	106.7
8/20	155	372	3	5.4	50	21.0	0	0.0	0	0.0	0	0.0	7	40.0
8/20	155	373	1	5.4	50	21.5	0	0.0	1	5.6	0	0.0	9	50.2
8/20	156	374	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	1	5.9
8/20	156	375	2	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
8/21	157	376	2	5.4	50	23.0	0	0.0	0	0.0	0	0.0	4	20.9
8/21	157	377	3	5.4	50	21.0	0	0.0	0	0.0	0	0.0	4	22.9
8/21	158	378	3	5.4	50	21.5	0	0.0	0	0.0	1	5.6	14	78.1
8/21	158	379	1	5.4	50	19.5	0	0.0	0	0.0	0	0.0	1	6.2

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Appendix A1.–Page 9 of 9.

Date	Tide No.	Drift No.	Station No.	Mesh Size (in)	Net Length (Fathoms)	Fishing Time (min)	Chinook No. Caught	Chinook CPUE	Sockeye No. Caught	Sockeye CPUE	Chum No. Caught	Chum CPUE	Coho No. Caught	Coho CPUE
8/22	159	380	1	5.4	50	22.5	0	0.0	0	0.0	0	0.0	14	74.7
8/22	159	381	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	2	11.4
8/22	160	382	2	5.4	50	21.0	0	0.0	0	0.0	1	5.7	14	80.0
8/22	160	383	3	5.4	50	21.5	0	0.0	0	0.0	0	0.0	8	44.7
8/23	161[e]													
8/23	162	384	3	5.4	50	21.0	0	0.0	0	0.0	0	0.0	5	28.6
8/23	162	385	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	5	29.3
8/24	163[e]													
8/24	164	386	1	5.4	50	20.5	0	0.0	0	0.0	0	0.0	0	0.0
8/24	164	387	2	5.4	50	21.5	0	0.0	0	0.0	0	0.0	8	44.7
8/25	165	388	2	5.4	50	21.0	0	0.0	0	0.0	1	5.7	8	45.7
8/25	165	389	3	5.4	50	22.0	0	0.0	0	0.0	0	0.0	19	103.6
8/26	166	390	3	5.4	50	21.0	0	0.0	0	0.0	1	5.7	3	17.1
8/26	166	391	1	5.4	50	22.5	0	0.0	0	0.0	0	0.0	24	128.0
8/26	167	392	1	5.4	50	22.0	0	0.0	0	0.0	0	0.0	11	60.0
8/26	167	393	2	5.4	50	25.0	0	0.0	0	0.0	0	0.0	7	33.6
8/27	168	394	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	2	11.4
8/27	168	395	3	5.4	50	21.0	0	0.0	0	0.0	0	0.0	7	40.0
8/27	169[e]													
8/28	170	396	3	5.4	50	21.0	0	0.0	0	0.0	0	0.0	5	28.6
8/28	170	397	1	5.4	50	21.0	0	0.0	0	0.0	0	0.0	3	17.1
8/28	171	398	1	5.4	50	22.0	0	0.0	0	0.0	0	0.0	11	60.0
8/28	171	399	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	4	22.9
8/29	172[e]													
8/29	173	400	2	5.4	50	21.0	0	0.0	0	0.0	0	0.0	7	40.0
8/29	173	401	3	5.4	50	20.5	0	0.0	0	0.0	0	0.0	9	52.7
Totals	**173**	**401**					**691**		**742**		**1,810**		**2,259**	

[a] Tide missed due to mechanical problems, no data.

[b] Tide missed due to budgetary constraints, no data.

[c] Drift missed due to mechanical problems, no data.

[d] Tide missed due to poor weather conditions, no data.

[e] Tide missed due to commercial fishing in Subdistrict W1-A, no data.

[f] Tide missed due to equipment maintenance, no data.

APPENDIX B. HYDROLOGICAL DATA

Appendix B1.–Historic daily surface water temperature of the Kuskokwim River recorded by the Bethel test fishery, 1994–2004.

												1994–2003		
Date	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Mean**	**Min.**	**Max.**
6/01	11	11	13	15				9		13	14	12	9	15
6/02	13	10	11	15	7			9	10	12	12	11	7	15
6/03	14	11	14	14	8			10	16	12	12	12	8	16
6/04	11	11	13	15	9	7		11	11	11	12	11	7	15
6/05	11	12	15	15	8	7	9	11	9	11	13	11	7	15
6/06	14	12	14	15	8	7	10	11	10	11	14	11	7	15
6/07	13	13	13	15	9	9	11	12	10	10	14	11	9	15
6/08	13	12	12	15	9	7	11	11	9	12	14	11	7	15
6/09	12	12	13	14	8	10	13	11	9	12	14	11	8	14
6/10	13	11	10	14	8	10	13	11	7	10	14	11	7	14
6/11	12	10	9	14	8	10	12	10	9	11	13	10	8	14
6/12	14	13	10	14	8	10	13	10	11	12	14	11	8	14
6/13	15	13	10	14	9	10	13	10	10	12	15	11	9	15
6/14	15	13	11	14	9	11	13	10	14	12	15	12	9	15
6/15		12	12	14	9	12	13	10	15	14	14	12	9	15
6/16	14	12	14	14	10	13	13	10	19	14	15	13	10	19
6/17	14	12	13	14	10	15	13	11	16	16	14	13	10	16
6/18	14	12	14	14	11	14	13	13	10	15	15	13	10	15
6/19	14	13	14	14	11	15	13	15	11	15	14	13	11	15
6/20	14	14	14	14	10	14	13	14	10	14		13	10	14
6/21	14	13	14	14	10	14	13	15	12	13	15	13	10	15
6/22	14	14	14	14	10	14	14	16	10	15	20	13	10	16
6/23	13	14	14	14	11	14	15	16	12	15	21	14	11	16
6/24	12	11	14	16	11	13	16	15	15	11	19	13	11	16
6/25	10	11	13	16	11	14	17	14	15	11		13	10	17
6/26	12	11	15	16		14	18	14	15	13	15	14	11	18
6/27	10	12	14		13	13	17	13	15	13		13	10	17
6/28	11	11	13	17	12	14	16	14	15	15	17	14	11	17
6/29	11	13	13	18	13	15	16	14	15	14	17	14	11	18
6/30	11	14	13	18	14	15	15	15	15	15		14	11	18
7/01	12	13	13	18		14	15	13	15	14	18	14	12	18
7/02	13	13	13	18	14	14	16	12	15		18	14	12	18
7/03		13	13	20	14	14	14	13		12	18	14	12	20
7/04	12		14	19	14	13	16	13	14		17	14	12	19
7/05	12		14	20	15	14	16	12		15	17	15	12	20
7/06	11		16	20	15	15	17	12		14		15	11	20
7/07	10		16	20	15	15	16	13		15	16	15	10	20
7/08	11			19	14	15	16	13	13		17	14	11	19
7/09	10		16	18	13	16	16	13	14	15	18	14	10	18
7/10	12		17	17	12	17	16	14	14	15	18	15	12	17
7/11	11		16	17	12	17	15	12	14	15	17	14	11	17
7/12	12		16	16	11	17	16	12	15	15	19	14	11	17
7/13	12		15	16	11	18	17	12	15	17	18	15	11	18
7/14	12			16	11	18	17	13	16	16		15	11	18

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												1994–2003		
Date	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Mean**	**Min.**	**Max.**
7/15	13			16	11	16	16	13	15	17	19	15	11	17
7/16	13			16	13	15	15	13	16	15	19	14	13	16
7/17	13		15	16	12	14	14	12	16	15		14	12	16
7/18	14		14	15	13	14	14	12	16			14	12	16
7/19	15		14	16	14	15	13	12	17		18	14	12	17
7/20	14		14	16	14	13	13	13	16		24	14	13	16
7/21	14	16	15	16	14	13	13	13	17	15	18	15	13	17
7/22	14	16	15	16	14	11	14		17	17	19	15	11	17
7/27	14	15	14	16	13	12			15	14	17	14	12	16
7/28	14	15	14	17	13	12		16	15		17	14	12	17
7/29	14	15	14	16	12	12		15	15	15	14	14	12	16
7/30	14	15	14	17	13	11		14	15		17	14	11	17
7/31	15	15	13	17	13	11			15	15	19	14	11	17
8/01	13	15	12	18		11			16	14	13	14	11	18
8/02	13	14	11	17	12	11			17	13	16	13	11	17
8/03	13	14	11	17	12	13			17	13	12	14	11	17
8/04	13	14	11	17	12	13		13	18	12	16	13	11	18
8/05	14	13	11	17	10	12		14	17	13	16	13	10	17
8/06	13	13	10	17	11	13		13	17	14	16	13	10	17
8/07	13	12		18	11	13		13	15		16	13	11	18
8/08	14	11	11	18	10	13		13			16	13	10	18
8/09	14	11	11	18	11	13			14	15		13	11	18
8/10	13	11	10	16	11	13			15	15		13	10	16
8/11	14	12	11	15	11	13			15	15	16	13	11	15
8/12	13	11	10		11	12			15	15	16	12	10	15
8/13	13	11	11	15	10	12			14	15	16	13	10	15
8/14	13	11	11	14	10	12			14	15	16	12	10	15
8/15	13	11	11	13	10	12			13	14	17	12	10	14
8/16	13	11	11	13	10	12			13	13	18	12	10	13
8/17	12	12	11	13		13			13	12	17	12	11	13
8/18	13	12	12	13	9	13			13	11	17	12	9	13
8/19	12	13	12	13	10	12			12	13	19	12	10	13
8/20	13	11	12	13	10	12			12	11	19	12	10	13
8/21	12	12	12	13	10	12			11		18	12	10	13
8/22	12	11	11	13	9	13			11	12	17	12	9	13
8/23	11	12	14	13	9	13				11	17	12	9	14
8/24	12	12	11	12	8	13				12	17	11	8	13
8/25		13	11	13	8	13					18	12	8	13
8/26	11	13	10	12	8						17	11	8	13
8/27	10	12	10	12							17	11	10	12
8/28	9	13	10	12							15	11	9	13
8/29	9										15	9	9	9
8/30	10											10	10	10
Mean	**13**	**13**	**13**	**16**	**11**	**13**	**14**	**12**	**14**	**14**	**16**	**13**	**11**	**16**
Min.	**9**	**10**	**9**	**12**	**7**	**7**	**9**	**9**	**7**	**10**	**12**	**9**	**7**	**12**
Max.	**15**	**16**	**17**	**20**	**15**	**18**	**18**	**16**	**19**	**17**	**24**	**17**	**15**	**20**

Note: Blanks indicate missing data.

[a] Value entered was lowest value for that day.

Appendix B2.–Historic daily water clarity measurements of the Kuskokwim River recorded by the Bethel test fishery, 1994–2004.

												1994–2003	
Date	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Mean**	**Min.**	**Max.**
6/01	0.4	0.6	0.9					0.3	0.3	0.8	0.5	0.5	0.3	0.9
6/02	0.6	0.6	0.9	1.2	0.3			0.2	0.3	0.9	0.4	0.6	0.2	1.2
6/03	1.0	0.6	0.3	1.1	0.2			0.3	0.2	0.6	0.4	0.5	0.2	1.1
6/04	1.0	0.6	0.8	1.1	0.3	0.5		0.3	0.3	0.4	0.4	0.6	0.3	1.1
6/05	1.0	0.8	1.0	1.6	0.3	0.4	0.9	0.5	0.3	0.6	0.3	0.7	0.3	1.6
6/06	1.0	0.7	1.2	1.6	0.3	0.4	0.7	0.4	0.3	0.3	0.2	0.7	0.3	1.6
6/07	1.0	0.7	1.3	1.6	0.3	0.5	0.8	0.4	0.3	0.5	0.4	0.7	0.3	1.6
6/08	0.9	0.7	1.2	1.6	0.3	0.4	0.9	0.3	0.3	0.6	0.4	0.7	0.3	1.6
6/09	0.9	0.7	1.1	1.8	0.4	0.4	0.8	0.5	0.3	0.6	0.5	0.7	0.3	1.8
6/10	1.0	0.7	1.3	1.6	0.4	0.5	0.7	0.3	0.3	0.5	0.5	0.7	0.3	1.6
6/11	0.8	0.6	1.0	1.5	0.4	0.4	0.7	0.3	0.3	0.7	0.4	0.7	0.3	1.5
6/12	0.8	0.7	1.0	1.3	0.3	0.4	0.5	0.3	0.4	0.4	0.5	0.6	0.3	1.3
6/13	1.0	0.8	1.2	1.3	0.4	0.5	0.7	0.3	0.4	0.7	0.4	0.7	0.3	1.3
6/14	1.0	1.1	0.9	1.3	0.4	0.5	0.8	0.4	0.3	1.0	0.6	0.8	0.3	1.3
6/15	1.0	1.1	0.8	1.6	0.4	0.5	0.7	0.3	0.4	0.8	0.9	0.7	0.3	1.6
6/16	0.8	1.0	0.8	1.5	0.5	0.5	0.6	0.4	0.4	0.7	0.6	0.7	0.4	1.5
6/17	1.0	0.8	0.9	1.4	0.5	0.5	0.6	0.3	0.4	0.7	0.4	0.7	0.3	1.4
6/18	0.7	1.0	1.0	1.2	0.3	0.5	0.7	0.4	0.4	0.6	0.4	0.7	0.3	1.2
6/19	0.9	0.9	1.0	1.1	0.3	0.3	0.6	0.5	0.5	0.5	0.3	0.7	0.3	1.1
6/20	0.9	1.1	0.8	0.8	0.4	0.3	0.6	0.4	0.6	0.5		0.6	0.3	1.1
6/21	0.5	1.1	1.2	0.8	0.3	0.3	0.5	0.4	0.8	0.3	0.4	0.6	0.3	1.2
6/22	0.5	1.0	1.2	0.9	0.5	0.3	0.5	0.4	0.8	0.2	0.6	0.6	0.2	1.2
6/23	0.6	0.7	1.2	0.9	0.6	0.2	0.6	0.4	0.7	0.2	0.6	0.6	0.2	1.2
6/24	0.4	0.6	1.1	0.8	0.5	0.3	0.6	0.4	0.6	0.2	0.6	0.5	0.2	1.1
6/25	0.5	0.4	1.1	1.2	0.5	0.2	0.6	0.4	0.5	0.3		0.6	0.2	1.2
6/26	0.2	0.5	0.8	1.2	0.6	0.2	0.6	0.3	0.5	0.3	0.6	0.5	0.2	1.2
6/27	0.2		0.8	1.5	0.6	0.2	0.6	0.3	0.4	0.3	0.6	0.5	0.2	1.5
6/28	0.5		1.0	1.2	0.5	0.2	0.8	0.3	0.3	0.3		0.6	0.2	1.2
6/29	0.2	0.6	1.0	1.4	0.5	0.2	0.9	0.2	0.3	0.3	0.4	0.5	0.2	1.4
6/30	0.2	0.5	0.9	1.5	0.4	0.2	1.0	0.2	0.2	0.3		0.5	0.2	1.5
7/01	0.2	0.5	1.1	1.7		0.3	1.1	0.2	0.2	0.3	0.3	0.6	0.2	1.7
7/02	0.2	0.6	0.9	1.3	0.4	0.3	1.0	0.2	0.3		0.3	0.6	0.2	1.3
7/03		0.5	0.9	1.0	0.5	0.3	1.0	0.2		0.3	0.2	0.6	0.2	1.0
7/04	0.4	0.6	0.7	0.7	0.6	0.3	1.0	0.2	0.2	0.3	0.2	0.5	0.2	1.0
7/05	0.3	0.6	0.8	0.4	0.5	0.3	0.8	0.2		0.3	0.2	0.5	0.2	0.8
7/06	0.4	0.5	0.8	0.4	0.5	0.4	0.6	0.2		0.2		0.4	0.2	0.8
7/07	0.5	0.5	0.8	0.2	0.4	0.4	0.5	0.2		0.3	0.2	0.4	0.2	0.8
7/08	0.5	0.4		0.2	0.5	0.3	0.5	0.3	0.5		0.2	0.4	0.2	0.5
7/09	0.8	0.6	0.8	0.2	0.4	0.3	0.5	0.2	0.5	0.3	0.1	0.4	0.2	0.8
7/10	0.8	0.3	1.0	0.3	0.3	0.3	0.3	0.2	0.5	0.2	0.1	0.4	0.2	1.0
7/11	0.9	0.4	0.8	0.2	0.1	0.3	0.3	0.2	0.5	0.1	0.2	0.4	0.1	0.9
7/12	0.9	0.5	0.9	0.2	0.1	0.3	0.4	0.3	0.4	0.1	0.2	0.4	0.1	0.9
7/13	0.7	0.5	0.9	0.2	0.1	0.3	0.5	0.2	0.4	0.2	0.2	0.4	0.1	0.9
7/14	0.7	0.4	0.9	0.2	0.3	0.3	0.4	0.2	0.3	0.1		0.4	0.1	0.9
7/15	0.6	0.4	1.1	0.2	0.3	0.3	0.4	0.2	0.3	0.2	0.2	0.4	0.2	1.1
7/16	0.7	0.4	0.9	0.2	0.2	0.3	0.4	0.2	0.3	0.2	0.2	0.4	0.2	0.9
7/17	0.5	0.4	0.8	0.1	0.2	0.2	0.3	0.3	0.3	0.2		0.3	0.1	0.8

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												1994–2003		
Date	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Mean**	**Min.**	**Max.**
7/18	0.7	0.4	0.8	0.2	0.2	0.2	0.2	0.4	0.3	0.2		0.4	0.2	0.8
7/19	0.7	0.3	0.8	0.2	0.2	0.3	0.2	0.3	0.2		0.2	0.3	0.2	0.8
7/20	0.6	0.4	0.7	0.2	0.2	0.2	0.3	0.3	0.2		0.2	0.3	0.2	0.7
7/21	0.4	0.3	0.8	0.2	0.3	0.1	0.2	0.4	0.3	0.2	0.2	0.3	0.1	0.8
7/22	0.7	0.4	0.8	0.2	0.2	0.2	0.2	0.5	0.3	0.1	0.2	0.4	0.1	0.8
7/23	0.4	0.4	0.7	0.2	0.2	0.3	0.2	0.4	0.4	0.2	0.2	0.3	0.2	0.7
7/24	0.6	0.3	0.8	0.2	0.3	0.2	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.8
7/25	0.6	0.4	0.6	0.2	0.2	0.2	0.2	0.5	0.3	0.1	0.2	0.3	0.1	0.6
7/26	0.4	0.4	0.5	0.2	0.3	0.1	0.2	0.5	0.4	0.2	0.2	0.3	0.1	0.5
7/27	0.4	0.4	0.3	0.2	0.2	0.1		0.3	0.3	0.1	0.2	0.3	0.1	0.4
7/28	0.3	0.5	0.5	0.3	0.2	0.2		0.3	0.4		0.3	0.3	0.2	0.5
7/29	0.3	0.4	0.4	0.4	0.2	0.2		0.3	0.3	0.2	0.3	0.3	0.2	0.4
7/30	0.3	0.5	0.3	0.3	0.3	0.2		0.2	0.2		0.3	0.3	0.2	0.5
7/31	0.5	0.5	0.3	0.3	0.3	0.2		0.2	0.3	0.2	0.2	0.3	0.2	0.5
8/01	0.6	0.4	0.2	0.3		0.2		0.1	0.2	0.2	0.3	0.3	0.1	0.6
8/02	0.5	0.4	0.2	0.3	0.2	0.2		0.1	0.3	0.1	0.3	0.3	0.1	0.5
8/03	0.5	0.2	0.2	0.3	0.2	0.2		0.1	0.3	0.1	0.3	0.2	0.1	0.5
8/04	0.4	0.2	0.2	0.3	0.2	0.2		0.1	0.3	0.1	0.2	0.2	0.1	0.4
8/05	0.3	0.2	0.3	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.3
8/06	0.7	0.2	0.3	0.2		0.2		0.2	0.2	0.1	0.3	0.2	0.1	0.7
8/07	0.3	0.2		0.2	0.2	0.2		0.1	0.3		0.3	0.2	0.1	0.3
8/08	0.4	0.3	0.3	0.1	0.2	0.2		0.2			0.2	0.2	0.1	0.4
8/09	0.3	0.3	0.4	0.2	0.2	0.2			0.3	0.2		0.2	0.2	0.4
8/10		0.2	0.3	0.1	0.2	0.2			0.3	0.2		0.2	0.1	0.3
8/11		0.3	0.4	0.1	0.3	0.2			0.3	0.2	0.3	0.3	0.1	0.4
8/12	0.1	0.4	0.4		0.3	0.2			0.2	0.3	0.3	0.3	0.1	0.4
8/13	0.15	0.35	0.4	0.1	0.2	0.2			0.2	0.2	0.3	0.2	0.1	0.4
8/14	0.2	0.4	0.3	0.1	0.3	0.2			0.2	0.1	0.2	0.2	0.1	0.4
8/15	0.1	0.4	0.3	0.1	0.3	0.2			0.2	0.3	0.2	0.2	0.1	0.4
8/16	0.18	0.4	0.3	0.2	0.3	0.2			0.3	0.3	0.2	0.3	0.2	0.4
8/17	0.15	0.4	0.3	0.1		0.2			0.2	0.3	0.2	0.2	0.1	0.4
8/18		0.4	0.4	0.1	0.2	0.1			0.1		0.2	0.2	0.1	0.4
8/19	0.25		0.3	0.2	0.3	0.1			0.2	0.2	0.2	0.2	0.1	0.3
8/20	0.25	0.4	0.35	0.2	0.2	0.2			0.2	0.2	0.2	0.2	0.2	0.4
8/21	0.22	0.45	0.35	0.2	0.3	0.1			0.3		0.2	0.3	0.1	0.5
8/22	0.21		0.4	0.2	0.3	0.1			0.2	0.1	0.2	0.2	0.1	0.4
8/23	0.25	0.5	0.4	0.3	0.2	0.2				0.2	0.2	0.3	0.2	0.5
8/24	0.3	0.5	0.5	0.2	0.2	0.2				0.1	0.2	0.3	0.1	0.5
8/25		0.5	0.3	0.2	0.2	0.1					0.3	0.3	0.1	0.5
8/26	0.18	0.5	0.35	0.2	0.2						0.2	0.3	0.2	0.5
8/27	0.3	0.5	0.4	0.2							0.2	0.3	0.2	0.5
8/28	0.3	0.55	0.3	0.2							0.2	0.3	0.2	0.6
8/29	0.2										0.2	0.2	0.2	0.2
Mean	**23.7**	**23.7**	**23.4**	**23.3**	**24.4**	**24.1**	**38.3**	**28.9**	**25.7**	**26.7**	**25.0**	**0.4**	**0.2**	**0.9**
Min.	**0.1**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.1**	**0.2**
Max.	**1994.0**	**1995.0**	**1996.0**	**1997.0**	**1998.0**	**1999.0**	**2000.0**	**2001.0**	**2002.0**	**2003.0**	**2004.0**	**0.8**	**0.4**	**1.8**

Note: Blank days indicate missing data.

[a] The value entered is the largest value for the day.

Appendix B3.–Historical river stage (in feet) of the Kuskokwim River at Crooked Creek, 1984–2004, at 6:00 a.m.

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
6/01	7.8	18.5[a]	6.6[a]	6.9								8.3	4.1	3.9	9.1	10.2	5.5	10.8	10.0[a]	4.9	9.4
6/02	7.6	19.2[a]	6.4[a]	7.1[a]	10.8[a]	11.5[a]	8.7[a]	10.0[a]	10.4	9.2	7.4	8.0	4.0	3.9	9.2	9.7	5.5	10.5	10.0[a]	5.3	9.4
6/03	7.5[a]	18.5[a]	6.2[a]	7.4	10.8[a]	11.2[a]	8.8[a]	10.0[a]	10.2	9.1	7.2	7.5	3.9	3.7	9.3	9.7	5.6	10.5	10.0[a]	7.4	9.1
6/04	7.3[a]	18.0	6.1[a]	7.8	10.0[a]	11.2[a]	9.1[a]	10.0[a]	10.2	9.0	6.9	7.4	3.9	3.4	9.3	9.6	5.7	10.5	10.0[a]	7.9	8.7
6/05	7.1[a]	17.3	5.9[a]	7.7	10.0[a]	10.8[a]	9.4[a]	9.6[a]	10.2	9.0	6.8	7.4	4.0	3.3	9.4	9.6	5.8	10.5	10.0	8.2	8.5
6/06	7.0[a]	16.9	5.9[a]	7.7	10.0[a]	10.8[a]	9.2	9.6[a]	10.2	8.9	6.7	7.2	3.9	3.3	9.4	9.1	5.8	10.6	9.8	8.0	8.0
6/07	6.9[a]	16.1	5.8[a]	7.8	9.9	10.7	9.6	10.0[a]	10.2	8.7	6.6	7.2	4.0	3.3	9.3	9.0	5.7	10.6	9.6	7.8	7.7
6/08	6.8[a]	15.4	5.8[a]	8.0	9.9	10.4	9.4	10.0[a]	9.2	8.5	6.5	7.2	3.9	3.2	9.3	8.6	5.7	10.9	9.6	7.4	7.4
6/09	6.7[a]	14.6	5.8[a]	8.1	9.9	10.2	9.4	9.6[a]	9.2	8.2	6.4	7.1	4.0	3.4	9.0	8.4	5.8	11.0	9.6	7.1	7.3
6/10	6.6[a]	13.4	5.6	8.1	10.0[a]	10.0	9.3	9.6[a]	9.2	8.0	6.3	7.1	4.1	3.5	9.0	8.5	5.9	10.9	9.5	6.7	7.3
6/11	6.5[a]	11.2	5.2	8.1	10.8[a]	9.8	9.1	9.6[a]	9.2	7.6	6.2	6.1	4.5	3.8	8.9	8.7	6.4	10.8	9.1	6.5	7.4
6/12	6.4[a]	10.5	5.0	7.9	10.8[a]	9.6	8.8	9.2[a]	9.2	7.5	6.1	6.0	5.1	4.0	8.8	8.8	6.5	10.7	8.7	6.7	7.4
6/13	6.3[a]	10.1	5.2	7.6	10.8[a]	9.3	8.6	9.2[a]	9.2	7.4	6.1	5.7	5.5	3.9	8.8	9.2	6.4	10.6	8.5	7.1	7.3
6/14	6.3[a]	9.8	5.0	7.2	12.3[a]	9.1	8.4	9.2[a]	9.8	7.3	6.1	5.6	5.4	3.8	8.8	9.0	6.1	10.5	8.2	7.1	7.1
6/15	6.2[a]	9.8	5.0	6.9	13.1[a]	8.8	8.3	9.2[a]	9.8	7.2	6.1	5.6	5.1	3.8	8.8	9.2	6.0	10.2	7.7	7.0	6.8
6/16	6.2[a]	9.6	5.1	6.5	10.8[a]	8.6	8.3	9.2[a]	9.8	7.2	6.3	5.5	4.8	3.7	8.4	9.0	5.6	9.8	7.2	7.0	6.5
6/17	6.2[a]	9.5	5.0	6.2	10.0[a]	9.0	8.3	9.6[a]	9.8	7.2	6.6	5.6	4.6	3.5	7.7	9.2	5.4	9.5	6.8	7.1	6.4
6/18	6.1[a]	9.5	5.1	5.9	10.8[a]	8.9	8.2	9.6[a]	9.7	7.1	6.8	5.8	4.3	3.6	6.9	8.9	5.2	9.1	6.6	7.3	6.2
6/19	6.1[a]	9.3	5.8	5.6	10.8[a]	8.7	8.1	10.0[a]	9.6	7.1	6.9	5.9	4.1	3.6	6.4	9.6	5.0	8.7	6.5	7.2	6.1
6/20	5.9[a]	8.7	6.1	5.5	10.0[a]	8.8	7.7	10.0[a]	9.6	7.1	6.9	5.8	3.9	3.6	5.9	9.8	5.1	8.2	6.5	7.4	6.2
6/21	5.9[a]	8.2	6.5	5.4	9.6[a]	8.7	7.4	9.6[a]	8.7	7.1	7.1	5.7	3.8	3.5	5.8	9.9	4.7	8.1	6.6	7.1	6.2
6/22	5.8[a]	7.8	6.5	5.3	9.6[a]	8.3	7.1	9.6[a]	8.7	7.1	7.4	5.6[a]	3.8	3.3	6.0	9.8	4.6	8.1	6.6	7.0	6.0
6/23	5.8[a]	7.4	6.4	5.2	9.6[a]	7.9	6.8	9.2[a]	8.7	7.1	7.6	5.6	3.8	3.4	6.3	10.2	4.4	8.1	6.5	6.8	5.9
6/24	6.1[a]	7.0	6.1	5.1	9.2[a]	7.7	6.6	9.2[a]	8.3	7.2	7.9	5.6	3.8	3.5	6.4	9.3	4.2	8.1	6.6	6.7	5.9
6/25	6.3[a]	6.7	5.8	5.3	9.2[a]	7.8	6.5	8.7[a]	8.1	7.2	8.2	5.5	3.7	3.6	6.3	9.0	4.0	8.1	6.7	6.5	5.9
6/26	6.5[a]	6.5	5.5	5.4	9.2[a]	8.2	6.3	8.7[a]	8.0[a]	7.2	8.3[a]	5.2	3.7	3.6	6.1	8.7	3.9	8.1	6.3	6.4	6.2
6/27	6.7[a]	6.2	5.2	5.3	8.7[a]	8.5	6.1	8.3[a]	8.1	7.0	8.2	5.2	3.9	3.6	5.8	8.7	3.8	7.8	6.4	6.2	6.8
6/28	6.8[a]	6.1	5.1[a]	5.2	8.7[a]	8.2	6.0	8.3[a]	8.2	6.9	8.1	5.1	3.9	3.9	5.7	8.6	4.0	7.8	6.3	5.9	7.0
6/29	6.9[a]	6.0	5.1[a]	5.3	8.7[a]	8.0	6.0	7.8[a]	8.2	6.8	7.9	5.0	4.2	4.0	5.5	8.3	4.1	7.5	5.9	5.8	6.9
6/30	6.9[a]	6.0	5.2[a]	5.3	8.3[a]	8.0	5.9	8.3[a]	8.3	6.7	7.6	5.1	4.3	4.1	5.3	8.4	4.4	7.2	5.6	5.6	7.0
7/01	6.9[a]	6.1[a]	5.2[a]	5.5	8.3[a]	8.0	6.0	8.3[a]	8.4	6.7	7.2	5.0	4.3	4.2	5.6	8.9	4.5	7.1	5.4	5.4	7.0
7/02	6.7[a]	6.2[a]	5.2[a]	5.8	8.3[a]	7.8	6.0	7.8[a]	8.6	6.6	6.8	4.9	4.2	4.1	5.7	9.1	4.5	6.9	5.2	5.4	7.1
7/03	6.5[a]	6.3[a]	5.2[a]	6.0	7.8[a]	7.7	6.0	7.8[a]	8.4	6.4	6.4	5.0	4.0	4.1	5.8	8.7	4.5	6.7	5.2	6.3	6.7

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Appendix B3.–Page 2 of 3.

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
7/04	6.3 [a]	6.5 [a]	5.3 [a]	6.1	7.8 [a]	7.7	6.0	7.3 [a]	8.2	6.2	6.2	5.3	3.7	4.1	5.9	8.7	4.5	6.6	5.1	7.7	6.6
7/05	6.1 [a]	6.7 [a]	5.5 [a]	6.1	7.8 [a]	7.7	6.1	6.8 [a]	8.2	6.1	6.0	5.2 [a]	3.6	3.9	6.3	8.5	4.5	6.4	5.0	8.7	6.7
7/06	5.8 [a]	6.8 [a]	5.7 [a]	5.9	7.8 [a]	7.7	6.2	7.3 [a]	8.2	6.0	6.0	5.2	3.4	3.9	6.6	8.2	4.6	6.3	5.1	9.0	6.8
7/07	5.6 [a]	7.0 [a]	5.6 [a]	5.8	7.3 [a]	7.7	6.3	7.3 [a]	8.3	5.9	6.0	5.2	3.3	4.0	6.8	7.9	4.9	6.3	5.0	9.1	7.1
7/08	5.3 [a]	7.1 [a]	5.7 [a]	6.0	7.3 [a]	7.6	6.3	7.8 [a]	8.3	5.7	5.9	5.1	3.2	3.9	7.7	7.8	4.8	6.3	4.9	9.0	6.9
7/09	5.2 [a]	7.2 [a]	5.8 [a]	6.5	7.3 [a]	7.4	6.2	7.8 [a]	8.5 [a]	5.6	5.8	5.1	3.1	3.8	10.4	7.7	4.7	6.0	4.9	8.5	6.7
7/10	5.2	7.3 [a]	6.1 [a]	6.9	7.3 [a]	7.3	6.1	7.3 [a]	8.6	5.5	5.8	5.1	3.1	3.9	13.5	7.5	4.7	5.7	5.0	8.0	6.4
7/11	5.2	7.4 [a]	5.9 [a]	7.2	6.8 [a]	7.2	6.0	7.3 [a]	8.6	5.2	6.1	5.0	3.2	4.0	15.0	7.5	5.0	5.6	4.8	7.7	6.2
7/12	5.2	7.5 [a]	5.8 [a]	7.2	6.8 [a]	7.0	5.8	6.8 [a]	8.7	5.1	6.5	5.0	3.1	3.8	15.1	7.3	5.1	5.6	4.7	7.5	6.0
7/13	5.1	7.6 [a]	5.7 [a]	7.2	6.8 [a]	6.8	5.7	6.8 [a]	8.7	5.1	6.8	5.0	3.1	3.7	14.2	7.0	5.1	5.8	4.8	7.5	5.7
7/14	5.1	7.7 [a]	5.5	7.2	6.3 [a]	6.9	5.6	6.3 [a]	9.0	5.1	7.3	5.0	3.1	3.7	13.2	6.9	5.0	5.9	4.5	7.5	5.5
7/15	5.0	7.7 [a]	5.5	7.2	6.3 [a]	7.2	5.4	6.3 [a]	9.1	5.2	7.5	5.0	3.2	3.7	12.2	6.6	5.1	6.0	4.4	7.4	5.3
7/16	5.0	7.7 [a]	5.3	7.1	6.3 [a]	7.5	5.2	6.6	9.2	5.3	7.3	4.9	3.4	3.6	11.1	6.4	5.4	6.0	4.3	7.3	5.2
7/17	5.0	7.7 [a]	5.1	7.2	5.7 [a]	7.9	5.0	6.4	9.8	5.4	7.0	4.9	3.3	3.4	10.4	6.5	5.7	6.1	4.2	7.2	5.0
7/18	4.8	7.7 [a]	5.1	7.4	5.7 [a]	8.3	4.9	6.3	10.2	5.5	6.9	4.9	3.3	3.4	10.1	6.5	6.0	6.2	4.2	7.2	4.9
7/19	4.6	7.7 [a]	5.0	7.8	5.7 [a]	8.3	4.8	6.4	10.5	5.7	6.7	4.5	3.3	3.3	9.8	6.5	6.8	6.5	4.4	7.4	4.9
7/20	4.6	7.6 [a]	4.9	8.3	5.6 [a]	8.2	4.7	6.5	11.2 [a]	5.9	6.8	4.1	3.5	3.1	9.6	6.6	7.0	6.6	4.0	7.2	4.9
7/21	4.6	7.5 [a]	5.1	8.8	5.7 [a]	8.1	4.6	6.5	11.5 [a]	6.0	6.7	3.7	3.8	3.2	9.5	6.7	6.9	6.7	4.1	7.2	4.9
7/22	4.6	7.5 [a]	5.9	9.7	5.7 [a]	7.9	4.6	6.5	9.8 [a]	6.1	6.6	3.6	3.9	3.2	9.5	6.9	6.7	7.2	4.1	7.2	4.9
7/23	4.6	7.5	6.4	9.6	5.7 [a]	7.6	4.6	6.4	7.5 [a]	6.2	6.6	3.6	4.3	3.0	9.2	7.1	6.8	7.5	4.1	6.8	5.0
7/24	4.7	7.4	7.1	9.6	4.8 [a]	7.4	4.6	6.2	7.2	6.3	6.7	4.6	4.4	3.1	8.8	7.1	6.4	7.8	4.1	6.3	5.0
7/25	4.7	7.2	8.2	9.7	5.1 [a]	7.5	4.7	6.4	7.0	6.3	6.8	4.9	4.5	3.0	8.5	6.8	6.1	8.3	4.1	6.2	4.8
7/26	4.7	7.1	8.8	9.7	5.7 [a]	7.5	4.8	6.4	6.8	6.2	6.6	5.0	4.6	3.2	8.1	6.9	6.2	8.6	4.3	6.2	4.7
7/27	4.9	6.9	8.8	9.6	5.7 [a]	7.3	4.7	6.1	6.5	6.1	6.6	5.4	5.0	3.3	7.9	7.3	6.1	8.7	4.6	6.3	4.8
7/28	4.9	6.6	8.6	9.5	5.1 [a]	7.1	4.6	6.0	6.3	6.0	6.7	5.5	6.0	3.3	8.1	7.8	6.1	8.9	4.7	7.1	4.7
7/29	4.8	6.5	8.3	9.3	5.7 [a]	6.9	4.5	5.9	6.2	5.9	6.6	5.3	6.7	3.3	8.8	7.8	5.7	9.1	4.7	8.5	4.7
7/30	4.9	6.4	7.8	8.6	5.7 [a]	6.9	4.3 [a]	6.1	6.0	5.8	6.6	5.1	7.1	3.4	9.2	7.9	5.7	8.8	4.8	10.1	4.8
7/31	5.2	6.4	7.4	8.5	5.1 [a]	7.0	4.0	6.3	5.9	5.8	6.4	5.0	7.5	3.4	9.2	8.3	5.7	8.8	4.7	11.1	5.0
8/01	5.6	6.5	7.3	8.7	4.8 [a]	7.3	3.8	6.4	5.9	5.7	6.3	4.5	8.0	3.5	9.0	8.9	5.8	8.9	4.8	11.7	4.8
8/02	5.9	6.4	7.5	8.5	4.5 [a]	7.6	3.8	6.8	6.0	5.6	6.3	3.7	8.7	3.5	8.7	8.8	6.1	9.2	4.3	11.7	4.7
8/03	6.2	6.3	7.2	8.4	4.3 [a]	7.7	3.7	7.2	5.9	5.5	6.6	3.8	8.8	3.7	9.0	8.7	6.1	8.9	4.1	11.3	4.7
8/04	6.4	6.2	6.8	8.7	4.5 [a]	7.9	3.6	7.7	5.8	5.4	7.3	5.0	8.7	3.8	9.5	8.7	5.9	8.7	3.9	11.3	4.7
8/05	6.7	6.3	6.5	8.6	4.8 [a]	8.1	3.5	8.2	5.8	5.2	8.1	5.1	8.3	3.8	9.6	8.6	6.1	8.6	3.7	10.4	4.7

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Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
8/06	6.7	6.3	6.3	8.5	4.8 [a]	8.0	3.4	8.4	5.9	5.4	8.4	5.4	8.2	3.8	9.4	8.3	6.6	8.1	3.7	9.9	4.8
8/07	6.6	6.1	6.1 [a]	8.5	4.5 [a]	7.9	3.4	8.6	6.2	5.8	8.4	5.8	8.2	3.8	9.6	8.1	6.4	7.7	3.8	9.3	5.0
8/08	6.6	6.0	6.1 [a]	8.9	4.3 [a]	8.0	3.4	8.7	6.7	7.4	8.3	5.8	8.1	3.8	9.6	7.9	6.6	7.3	4.1	8.8	5.0
8/09	6.6	6.0	5.9 [a]	9.4	4.5 [a]	8.8	3.4	8.6	7.1	7.8	8.0	5.5	8.2	3.8	9.3	8.0	6.6	6.8	4.9	8.6	5.1
8/10	6.5	6.3	5.9 [a]	9.4	5.1 [a]	9.2	3.4	8.2	7.0 [a]	7.6	7.6	5.6	8.2	3.7	9.1	8.2	6.5	6.4	5.6	9.0	4.9
8/11	6.3	6.5	5.8 [a]	9.1	4.8 [a]	9.8	3.4	7.9	6.9	7.4	7.4	5.6	8.7	3.7	8.7	8.3	6.5	6.2	5.6	9.2	4.8
8/12	6.2	6.9	5.9 [a]	8.8	4.3 [a]	10.8	3.4	7.6	7.3	7.4	7.2	5.8	9.1	3.6	8.4	8.2	6.1	5.9	5.6	9.1	4.6
8/13	6.0	7.8	5.9 [a]	8.7	4.5 [a]	11.9	3.5	7.3	7.4	7.5	7.2	5.8 [a]	9.2	3.6	8.3	8.5	5.9	5.7	5.7		4.7
8/14	5.8	10.2	6.1 [a]	8.5	4.3 [a]	12.4	3.6	7.2	7.4	7.7	6.8	5.8	9.1	3.5	7.6	10.0	6.0	5.6	5.6		4.6
8/15	5.6	10.8	6.2 [a]	8.3	4.8 [a]	12.4	3.6	7.0	7.1 [a]	8.7	6.6	5.9	9.1	3.5	7.3	11.2	6.4	5.8	5.5	8.7	4.5
8/16	5.3	10.5	6.3 [a]	8.2	4.3 [a]	11.9	3.6	6.8	6.9	9.8	6.5	6.0	8.8	3.4	7.1	11.1	7.3	6.4	5.3	9.1	4.3
8/17	5.0	11.2	6.4 [a]	8.3	4.0 [a]	11.5 [a]	3.7	6.8	6.6	10.2	6.3	5.8 [a]	8.4	3.4	7.2	10.9	7.1	6.4	4.7	9.5	4.3
8/18	4.9	11.6	6.3 [a]	8.0	3.7 [a]	10.8 [a]	3.8	7.0	6.4 [a]	10.3	6.0	5.5	8.0	3.4	7.3	10.6	7.5	7.7	4.5	9.8	4.2
8/19	5.1	11.2	6.2 [a]	7.9	3.1 [a]	10.0 [a]	4.0	7.3	6.3	9.9	5.7	5.3	7.8	3.3	7.9	10.0	8.0	8.5	4.2	9.7	4.3
8/20	5.9	10.7	6.2	7.6	3.4 [a]	9.6 [a]	4.2	7.6	6.0	9.5	5.7	5.1	7.7	3.2	8.4	9.6	8.0	9.6	4.2	9.3	4.0
8/21	6.7	10.7	6.0	7.4	3.1 [a]	9.6 [a]	4.4	7.4	6.1 [a]	9.2	5.7	4.9 [a]	7.6	3.1	8.7	9.3	7.8	10.6	3.8	9.1	3.9
8/22	6.9	11.1	5.8	7.0	2.8 [a]	9.2 [a]	4.9	7.3	6.1 [a]	9.1	5.6	4.6 [a]	7.4	3.2	9.9	9.0	7.5	11.1	4.0	8.8	3.9
8/23	7.0	11.3	5.9	6.8	2.8 [a]	9.2 [a]	5.4	7.1	6.3 [a]	8.8	5.9	4.4	7.3	3.4	10.6	8.9	7.3	11.0	4.5	8.4	3.9
8/24	7.5	10.8	6.7	6.6	3.4 [a]	9.2 [a]	5.5	6.9	6.7	8.7	5.8	3.9	7.3	3.6	11.4	8.7	6.3	11.1	5.2	7.8	3.8
8/25	8.0	10.4	7.4	6.6	3.1 [a]	9.2 [a]	6.1	6.7	6.6	8.3 [a]	5.7	4.0	7.4	3.5	11.7	8.5	6.2	11.0	5.2	7.4	3.8
8/26	8.7	9.9	8.6	5.9	3.4 [a]	9.2 [a]	6.5	7.0	6.4	8.3 [a]	5.9	3.8	8.0	3.4	11.7	8.1		10.5	5.8	7.1	3.9
8/27	10.2	9.4	9.5	5.3	3.7 [a]	9.2 [a]	7.6	7.4	7.2	7.8 [a]	8.3 [a]	3.7	9.3	3.6	11.9	7.7		9.4	5.8	7.0	3.7
8/28	10.5	8.9	9.6	5.2	4.0 [a]	9.2 [a]	11.1	7.5	6.6	7.7	11.0	3.7	10.0	4.0	11.7	7.4		9.0	5.5	7.0	3.4
8/29	9.9	8.5	9.5	5.0	4.0 [a]	9.2 [a]	12.5	7.2	6.5	6.8	11.7	3.6	9.9	4.0	11.0	7.1		8.7	5.3	7.0	3.3
8/30	9.5	8.3	9.3	4.7	3.4 [a]	9.2 [a]	14.0	7.0	7.6	6.6	12.0	3.7	9.6	4.0	10.7	6.8		8.2	5.1	6.9	3.1
8/31	8.9	8.3	8.9	4.6	3.7 [a]	9.2 [a]	13.6	6.7	7.2	6.6	11.8	3.8	9.3	4.0	10.4	6.6		7.8	4.9	6.8	2.9

Source: U.S. Geological Survey, http://ak.waterdata.usgs.gov/nwis/uv/?site_no=15304000&PARAmeter_cd=00065,00060.

[a] Indicates an estimate.

APPENDIX C. HISTORICAL CHINOOK SALMON DATA

Appendix C1.–Historical daily mean tidal CPUE for Chinook salmon catches in the Bethel test fishery, 1994–2004.

Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9.3**	**10.1**	**11.8**	**19.6**	**Mean**
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45.2**	**40.2**	**40.6**	**N.A.**	**1994–**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0.1**	**0.1**	**0.2**	**2.3**	**2003**
6/01	3	3	3					0	0	1	3	2
6/02	2	3	10	0	0			0	1	11	2	3
6/03	3	1	5	2	0			0	0	17	3	3
6/04	2	1	17	5	6	0		0	0	6	6	4
6/05	11	3	12	4	7	0	1	4	4	9	6	6
6/06	15	2	19	0	7	0	6	1	7	4	4	6
6/07	2	10	19	2	0	0	3	0	3	11	4	5
6/08	5	15	6	7	3	1	0	0	3	11	13	5
6/09	5	2	15	2	2	0	1	0	18	36	30	8
6/10	2	10	20	15	8	0	4	3	15	25	6	10
6/11	0	10	25	3	2	3	11	3	8	16	43	8
6/12	7	17	19	30	2	0	1	1	23	26	29	13
6/13	16	16	33	10	7	2	0	0	19	27	27	13
6/14	52	10	45	1	9	2	1	0	26	22	43	17
6/15	15	3	16	9	13	4	0	3	38	36	42	14
6/16	13	3	26	24	2	7	1	0	16	28	53	12
6/17	14	11	25 [f]	37	11	6	4	11	15	47	36	18
6/18	2	24	8	26	3	3	1	11	21	31	49	13
6/19	22	31	11	49	6	3	3	1	26	28	34	18
6/20	13	8	15 [f]	39	18	0	7	6	5	22	53	13
6/21	20	29	22	48	10	1	4	3	14	27	72	18
6/22	29	11 [f]	6	34	7	4	4	11	1	11	44	12
6/23	12	22	10	21 [f]	21	0	13	8	10	13	44	13
6/24	3 [f]	25	13 [f]	7	25 [f]	4	1	3	11	14	48	11
6/25	10	22	7	20	24	6	2	5	11	15	47	12
6/26	2	35 [f]	6	14	14	4	0	4	13	14	47	11
6/27	11	12	3	12	11	7	1	11	8	7	16	8
6/28	3	5	9	0	20	9	6	6	10	13	47	8
6/29	15	19 [f]	3	1	14 [f]	2	3	1	3	10	46	7
6/30	7	15	4	3	25	0 [f]	1	0	11	19	35 [f]	9
7/01	5	13	0	2	4	4	0	1	5	2	24	4
7/02	3	3	2 [f]	1	14	4	1	3	12	4	16 [f]	5
7/03	5	9 [f]	0	4	9 [f]	3	0	2	4	7	12	4
7/04	3	9	2	3	11	1	0	1	8	8	6	5
7/05	5	7	4 [f]	4	4	3	0 [f]	3	6	10	8	5
7/06	5	0 [f]	4	6	3	3	2	0	5	7	9 [f]	3
7/07	11	3	2	6	6	0	1	3	3	5	5 [f]	4
7/08	2	5	2 [f]	2	4	6	0	1	1	2	7	2
7/09	3	6	2	0	2	3	0	0	1	4	10	2
7/10	0	0 [f]	3	6	6	1	0	2	6	3	3	3
7/11	0	2	2	8	2 [f]	4	2	2	3	1	5	3
7/12	0	0	0 [f]	2	0	2	0	0	0	3	3	1
7/13	0	0	2	0	0	4	0	1	0	4	12	1
7/14	0 [f]	0 [f]	0	0	0	5	0	0	2	6	7	1

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9.3**	**10.1**	**11.8**	**19.6**	
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45.2**	**40.2**	**40.6**	**N.A.**	**Mean**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0.1**	**0.1**	**0.2**	**2.3**	**1994–2003**
7/15	0	0	0	0	0	0	0	0	0	5	3	1
7/16	0	0	0 [f]	0	0	0	0	1	2	3	3	1
7/17	0	0	0	2	0	2	0	2	0	1	3	1
7/18	2	0 [f]	0	0	0	0	2	2	0	3	3	1
7/19	2 [f]	0	0 [f]	0	4	2	0	0	2	3	3	1
7/20	0	2	0	2	0	0	2	0	2	1	17	1
7/21	0	0 [f]	0	2	0	0	0	0	0	0	29	0
7/22	0	0	0 [f]	2	0 [f]	2	0	0	0	0	2	0
7/23	0 [f]	0	0	0	0	0	0	0	0	0	0	0
7/24	0	0	0	2	2	4	0	0	2	0	6	1
7/25	0	0	2 [f]	0	0	2	0	0	0	2	3	1
7/26	0 [f]	0	2	0	0	0	0	0	0	2	5	0
7/27	0	4	0	0	0 [f]	2	0	0	2	3	0	1
7/28	0	0	0	0	0	0	0	0	0	1	3 [f]	0
7/29	0 [f]	0	0 [f]	0	0	0	0	0	0	0	0	0
7/30	0	2	0	0	0	0	0	0	0	0	0 [f]	0
7/31	0	0	2 [f]	0 [f]	0	0	2	2	0	0 [f]	0	1
8/01	0	0	0	0	0 [f]	2	0 [f]	0	0	0 [f]	2	0
8/02	0	0	0	0	0	2	0	0	0 [f]	0	0	0
8/03	0	0	0 [f]	0	0	0	0	0 [f]	0	0	0 [f]	0
8/04	0 [f]	0 [f]	0	0	0	0	0 [f]	0	0	0 [f]	0	0
8/05	0	0	0	0	0	0	0 [f]	0	0 [f]	0 [f]	0 [f]	0
8/06	0	0	0	0 [f]	0 [f]	0	0	0 [f]	0	2	0 [f]	0
8/07	0	0	0 [f]	0	0	0 [f]	0	0	0	0 [f]	0	0
8/08	0	0 [f]	0	0	0	0	0 [f]	0 [f]	0 [f]	1 [f]	0	0
8/09	0 [f]	0	0	0	0	0	0 [f]	0	0 [f]	0	0 [f]	0
8/10	0	0	0 [f]	0	0	0	0	0	0	0	0 [f]	0
8/11	0	0	0	0	0 [f]	0	0	0 [f]	0	0 [f]	0	0
8/12	0 [f]	0 [f]	0	1 [f]	0	0	0 [f]	0	0 [f]	0 [f]	0 [f]	0
8/13	0	0	0 [f]	2	0	0	0	0 [f]	0 [f]	0	0 [f]	0
8/14	0	0	0	0	0	0	0 [f]	0	4	0 [f]	0	0
8/15	0 [f]	0	0	0	0	0	0	0 [f]	0	0 [f]	0	0
8/16	0	0 [f]	0 [f]	0	0	0	0	0	0	0	0 [f]	0
8/17	0	0	0	0	0 [f]	0	0 [f]	0 [f]	0	0	0 [f]	0
8/18	0 [f]	0	0	0 [f]	0	0	0 [f]	0	0	0 [f]	0	0
8/19	0	0 [f]	0	0	0	0	0	0	0	0 [f]	0 [f]	0
8/20	0	0	0 [f]	0	0	0	0	0 [f]	2	0	0 [f]	0
8/21	0	0	0	0	0	0	0 [f]	0	0	0 [f]	0	0
8/22	0 [f]	0 [f]	0	0	0 [f]	0	0 [f]	0 [f]	0	0 [f]	0	0
8/23	0	0	0 [f]	0	0	0	0	0	0	0	0 [f]	0

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9.3**	**10.1**	**11.8**	**19.6**	**Mean**
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45.2**	**40.2**	**40.6**	**N.A.**	**1994–**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0.1**	**0.1**	**0.2**	**2.3**	**2003**
8/24	2	0	0	0	0	0			0	0	0 [f]	0
8/25	0 [f]	0	0	0	0	0	[f]	[f]		[f]	0	0
8/26	0	0 [f]	0 [f]	0	0					[f]	0	0
8/27	0 [f]	0	0	0	0						0 [f]	0
8/28	0	0	0	0						[f]	0	0
8/29	0	0 [f]			[f]					[f]	0	0
8/30	0 [f]										[f]	0
8/31	0											0
9/01		[f]								[f]		
9/02	[f]									[f]	[f]	
9/03										[f]		
9/04											[f]	
9/05												
9/06											[f]	
9/07												
9/08											[f]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Year when the pre-2003 biological escapement goal of 10,000 was not achieved at Kogrukluk River weir.

[c] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[d] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[e] District W-1 commercial harvest in thousands (× 1,000) of fish.

[f] Indicates days when commercial fishing periods occurred in District W-1.

Appendix C2.–Historical cumulative mean tidal CPUE for Chinook salmon catches in the Bethel test fishery, 1994–2004.

Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9**	**10**	**12**	**20**	
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45**	**40**	**41**	**N.A.**	**Mean**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0**	**0**	**0**	**2**	**1994–2003**
6/01	3	3	3					0	0	1	3	2
6/02	5	6	13	0	0			0	1	13	4	5
6/03	7	7	18	2	0			0	1	29	7	8
6/04	9	7	35	7	6	0		0	1	35	13	11
6/05	20	11	47	4	7	0	1	4	6	44	19	14
6/06	35	12	66	4	14	0	7	6	13	48	23	21
6/07	37	23	84	6	14	0	10	6	15	59	27	25
6/08	42	37	90	13	17	1	10	6	18	70	40	31
6/09	47	39	105	15	19	1	12	6	36	106	70	38
6/10	48	49	125	29	26	1	16	8	51	131	75	48
6/11	48	59	150	32	28	4	27	11	59	147	118	56
6/12	55	76	169	62	29	4	29	12	82	172	147	69
6/13	71	92	202	72	36	6	29	12	101	199	174	82
6/14	123	102	247	73	44	7	30	12	127	221	216	99
6/15	138	105	262	82	57	12	30	15	165	258	258	112
6/16	151	108	288	106	59	19	32	15	181	285	311	124
6/17	164	119	313 [f]	143	69	25	36	26	196	332	347	142
6/18	166	143	322	169	72	28	37	37	217	362	396	155
6/19	188	174	333	218	78	31	40	38	243	390	430	173
6/20	201	182	348 [f]	256	96	31	47	44	248	413	483	187
6/21	221	211	370	305	106	32	52	47	262	439	556	204
6/22	251	222 [f]	376	339	113	37	56	58	263	450	599	216
6/23	263	244	386	359 [f]	134	37	69	66	273	463	643	229
6/24	266 [f]	269	399 [f]	367	159 [f]	41	70	69	284	478	691	240
6/25	276	291	406	387	184	47	72	74	295	493	738	252
6/26	278	327 [f]	412	401	198	51	72	78	308	508	785	263
6/27	289	339	415	412	208	58	73	89	316	515	800	271
6/28	292	343	423	412	228	67	79	95	325	527	848	279
6/29	307	362 [f]	426	414	242 [f]	68	82	96	328	537	893	286
6/30	314	377	430	417	267	68 [f]	83	96	339	556	928 [f]	295
7/01	318	390	430	419	272	73	83	98	344	558	951	299
7/02	322	393	432 [f]	420	286	77	85	100	356	563	967 [f]	303
7/03	327	402 [f]	432	423	295 [f]	80	85	102	359	569	979	308
7/04	330	411	434	426	306	82	85	104	368	578	985	312
7/05	334	418	438 [f]	430	310	85	85 [f]	106	374	588	993	317
7/06	339	418 [f]	442	436	313	87	86	106	378	595	1,001 [f]	320
7/07	350	421	444	442	319	87	88	109	381	599	1,006 [f]	324
7/08	352	426	445 [f]	444	323	93	88	110	383	601	1,013	327
7/09	355	432	447	444	325	96	88	110	384	605	1,023	329
7/10	355	432 [f]	450	450	331	98	88	112	390	607	1,026	331
7/11	355	435	452	457	332 [f]	101	90	114	393	609	1,031	334
7/12	355	435	452 [f]	459	332	103	90	114	393	612	1,034	334

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9**	**10**	**12**	**20**	
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45**	**40**	**41**	**N.A.**	**Mean**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0**	**0**	**0**	**2**	**1994–2003**
7/13	355	435	453	459	332	107	90	115	393	616	1,045	336
7/14	355 [f]	435 [f]	453	459	332	112	90	115	395	622	1,052	337
7/15	355	435	453	459	332	112	90	115	395	628	1,055	337
7/16	355	435	453 [f]	459	332	112	90	116	397	631	1,058	338
7/17	355	435	453	461	332	114	90	118	397	632	1,061	339
7/18	357	435 [f]	453	461	332	114	91	120	397	635	1,064	340
7/19	359 [f]	435	453 [f]	461	336	116	91	120	399	638	1,066	341
7/20	359	437	453	463	336	116	93	120	401	639	1,084	342
7/21	359	437 [f]	453	465	336	116	93	120	401	639	1,113	342
7/22	359	437	453 [f]	467	336 [f]	118	93	120	401	639	1,116	342
7/23	359 [f]	437	453	467	336	118	93	120	401	639	1,116	342
7/24	359	437	453	469	338	122	93	120	403	639	1,121	343
7/25	359	437	455 [f]	469	338	124	93	120	403	640	1,124	344
7/26	359 [f]	437	456	469	338	124	93	120	403	642	1,129	344
7/27	359	441	456	469	338 [f]	126	93	120	404	645	1,129	345
7/28	359	441	456	469	338	126	93	120	404	646	1,131 [f]	345
7/29	359 [f]	441	456 [f]	469	338	126	93	120	404	646	1,131	345
7/30	359	443	456	469	338	126	93	120	404	646	1,131 [f]	345
7/31	359	443	458 [f]	469 [f]	338	126	95	122	404	646 [f]	1,131	346
8/01	359	443	458	469	338 [f]	128	95 [f]	122	404	646 [f]	1,134	346
8/02	359	443	458	469	338	130	95	122	404 [f]	646	1,134	346
8/03	359	443	458 [f]	469	338	130	95	122 [f]	404	646	1,134 [f]	346
8/04	359 [f]	443 [f]	458	469	338	130	95 [f]	122	404	646 [f]	1,134	346
8/05	359	443	458	469	338	130	95 [f]	122	404 [f]	646 [f]	1,134 [f]	346
8/06	359	443	458	469 [f]	338 [f]	130	95	122 [f]	404	648	1,134 [f]	347
8/07	359	443	458 [f]	469	338	130 [f]	95	122	404	648 [f]	1,134	347
8/08	359	443 [f]	458	469	338	130	95 [f]	122 [f]	404 [f]	649 [f]	1,134	347
8/09	359 [f]	443	458	469	338	130	95 [f]	122	404 [f]	649	1,134 [f]	347
8/10	359	443	458 [f]	469	338	130	95	122	404	649	1,134 [f]	347
8/11	359	443	458	469	338 [f]	130	95	122 [f]	404	649 [f]	1,134	347
8/12	359 [f]	443 [f]	458	470 [f]	338	130	95 [f]	122	404 [f]	649 [f]	1,134 [f]	347
8/13	359	443	458 [f]	472	338	130	95	122 [f]	404 [f]	649	1,134 [f]	347
8/14	359	443	458	472	338	130	95 [f]	122	408	649 [f]	1,134	347
8/15	359 [f]	443	458	472	338	130	95	122 [f]	408	649 [f]	1,134	347
8/16	359	443 [f]	458 [f]	472	338	130	95	122	408	649	1,134 [f]	347
8/17	359	443	458	472	338 [f]	130	95 [f]	122 [f]	408	649	1,134 [f]	347
8/18	359 [f]	443	458	472 [f]	338	130	95 [f]	122	408	649 [f]	1,134	347
8/19	359	443 [f]	458	472	338	130	95	122	408	649 [f]	1,134 [f]	347
8/20	359	443	458 [f]	472	338	130	95	122 [f]	410	649	1,134 [f]	347
8/21	359	443	458	472	338	130	95 [f]	122	410	649 [f]	1,134	347
8/22	359 [f]	443 [f]	458	472	338 [f]	130	95 [f]	122 [f]	410	649 [f]	1,134	347
8/23	359	443	458 [f]	472	338	130	95	122	410	649	1,134 [f]	347

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**15.2**	**20.6**	**14.2**	**13.3**	**12.1**	**5.6**	**3.3**	**9**	**10**	**12**	**20**	
Subsistence: [d]	**50.7**	**54.2**	**42.2**	**42.2**	**47.0**	**45.4**	**39.3**	**45**	**40**	**41**	**N.A.**	**Mean**
Commercial: [e]	**16.2**	**28.0**	**7.0**	**10.4**	**17.4**	**4.7**	**0.4**	**0**	**0**	**0**	**2**	**1994–2003**
8/24	362	443	458	472	338	130			410	649	1,134 [f]	408
8/25	362 [f]	443	458	472	338	130	[f]	[f]		[f]	1,134	367
8/26	362	443 [f]	458 [f]	472	338					[f]	1,134	414
8/27	362 [f]	443	458	472	338						1,134 [f]	414
8/28	362	443	458	472						[f]	1,134	434
8/29	362	443 [f]	458		[f]					[f]	1,134	421
8/30	[f]										[f]	
8/31												
9/01		[f]								[f]		
9/02	[f]									[f]	[f]	
9/03										[f]		
9/04											[f]	
9/05												
9/06											[f]	
9/07												
9/08											[f]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Year when the pre-2003 biological escapement goal of 10,000 was not achieved at Kogrukluk River weir.

[c] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[d] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[e] District 1 commercial harvest in thousands (× 1,000) of fish.

[f] Indicates days when commercial fishing periods occurred in District 1.

Appendix C3.–Historical percent passage of Chinook salmon in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
6/01	1	1	1	0	0	0	0	0	0	0	0	0
6/02	1	1	3	0	0	0	0	0	0	2	1	1
6/03	2	1	4	1	0	0	0	0	0	5	1	1
6/04	2	2	8	1	2	0	0	0	0	5	2	2
6/05	6	2	10	1	2	0	2	3	1	7	2	3
6/06	10	3	14	1	4	0	8	5	3	7	2	5
6/07	10	5	18	1	4	0	11	5	4	9	4	7
6/08	12	8	20	3	5	1	11	5	4	11	6	8
6/09	13	9	23	3	5	1	12	5	9	16	7	10
6/10	13	11	27	6	8	1	17	7	13	20	10	12
6/11	13	13	33	7	8	3	29	9	14	23	13	15
6/12	15	17	37	13	9	3	30	10	20	27	15	18
6/13	20	21	44	15	11	5	30	10	25	31	19	21
6/14	34	23	54	16	13	6	32	10	31	34	23	25
6/15	38	24	57	17	17	9	32	12	40	40	27	29
6/16	42	24	63	23	17	15	33	12	44	44	31	32
6/17	45	27	68	30	20	19	38	22	48	51	35	37
6/18	46	32	70	36	21	21	39	30	53	56	38	41
6/19	52	39	73	46	23	24	42	31	59	60	43	45
6/20	56	41	76	54	28	24	50	36	61	64	49	49
6/21	61	48	81	65	31	25	54	38	64	68	53	53
6/22	69	50	82	72	33	28	59	47	64	69	57	57
6/23	73	55	84	76	40	28	72	54	67	71	61	62
6/24	73	61	87	78	47	31	74	56	69	74	65	65
6/25	76	66	89	82	54	36	75	61	72	76	69	69
6/26	77	74	90	85	58	39	75	64	75	78	71	72
6/27	80	76	91	87	62	45	77	73	77	79	75	75
6/28	81	77	92	87	67	52	83	78	79	81	79	78
6/29	85	82	93	88	72	53	86	79	80	83	82	80
6/30	87	85	94	88	79	53	87	79	83	86	84	82
7/01	88	88	94	89	80	56	87	80	84	86	85	83
7/02	89	89	94	89	85	60	89	82	87	87	86	85
7/03	90	91	94	90	87	62	89	84	88	88	87	86
7/04	91	93	95	90	91	63	89	85	90	89	88	88
7/05	92	94	96	91	92	65	89	87	91	91	88	89
7/06	94	94	97	93	93	67	91	87	92	92	89	90
7/07	97	95	97	94	94	67	92	89	93	92	89	91
7/08	97	96	97	94	96	72	92	91	93	93	90	92
7/09	98	98	98	94	96	74	92	91	94	93	90	93
7/10	98	98	98	95	98	75	92	92	95	94	91	94
7/11	98	98	99	97	98	78	94	94	96	94	91	95
7/12	98	98	99	97	98	80	94	94	96	94	92	95
7/13	98	98	99	97	98	83	94	95	96	95	93	95
7/14	98	98	99	97	98	87	94	95	96	96	93	96

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Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
7/15	98	98	99	97	98	87	94	95	96	97	93	96
7/16	98	98	99	97	98	87	94	95	97	97	94	96
7/17	98	98	99	98	98	88	94	97	97	97	94	96
7/18	99	98	99	98	98	88	96	98	97	98	94	97
7/19	99	98	99	98	99	89	96	98	97	98	96	97
7/20	99	99	99	98	99	89	98	98	98	98	98	98
7/21	99	99	99	99	99	89	98	98	98	98	98	98
7/22	99	99	99	99	99	91	98	98	98	98	98	98
7/23	99	99	99	99	99	91	98	98	98	98	99	98
7/24	99	99	99	99	100	94	98	98	98	98	99	98
7/25	99	99	99	99	100	95	98	98	98	99	100	99
7/26	99	99	100	99	100	95	98	98	98	99	100	99
7/27	99	100	100	99	100	97	98	98	99	99	100	99
7/28	99	100	100	99	100	97	98	98	99	100	100	99
7/29	99	100	100	99	100	97	98	98	99	100	100	99
7/30	99	100	100	99	100	97	98	98	99	100	100	99
7/31	99	100	100	99	100	97	100	100	99	100	100	99
8/01	99	100	100	99	100	98	100	100	99	100	100	100
8/02	99	100	100	99	100	100	100	100	99	100	100	100
8/03	99	100	100	99	100	100	100	100	99	100	100	100
8/04	99	100	100	99	100	100	100	100	99	100	100	100
8/05	99	100	100	99	100	100	100	100	99	100	100	100
8/06	99	100	100	99	100	100	100	100	99	100	100	100
8/07	99	100	100	99	100	100	100	100	99	100	100	100
8/08	99	100	100	99	100	100	100	100	99	100	100	100
809	99	100	100	99	100	100	100	100	99	100	100	100
8/10	99	100	100	99	100	100	100	100	99	100	100	100
8/11	99	100	100	99	100	100	100	100	99	100	100	100
8/12	99	100	100	100	100	100	100	100	99	100	100	100
8/13	99	100	100	100	100	100	100	100	99	100	100	100
8/14	99	100	100	100	100	100	100	100	100	100	100	100
8/15	99	100	100	100	100	100	100	100	100	100	100	100
8/16	99	100	100	100	100	100	100	100	100	100	100	100
8/17	99	100	100	100	100	100	100	100	100	100	100	100
8/18	99	100	100	100	100	100	100	100	100	100	100	100
8/19	99	100	100	100	100	100	100	100	100	100	100	100
8/20	99	100	100	100	100	100	100	100	100	100	100	100
8/21	99	100	100	100	100	100	100	100	100	100	100	100
8/22	99	100	100	100	100	100	100	100	100	100	100	100
8/23	99	100	100	100	100	100	100	100	100	100	100	100
8/24	100	100	100	100	100	100			100	100	100	100

Note: The boxes represent the central 50% of the run and the shaded cells represent the median passage date of the run.

APPENDIX D. HISTORICAL SOCKEYE SALMON DATA

Appendix D1.–Historical daily mean tidal CPUE for sockeye salmon catches in the Bethel test fishery, 1994–2004.

Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
6/01	0	0	0					0	0	0	0	0
6/02	0	0	0	0	0			0	0	0	0	0
6/03	0	0	0	0	0			0	0	0	0	0
6/04	0	0	0	0	0	0		0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0
6/06	0	0	3	3	0	0	0	9	0	0	0	1
6/07	0	0	0	0	0	0	0	0	0	0	0	0
6/08	0	0	3	0	0	0	0	0	0	0	0	0
6/09	0	0	9	3	0	0	3	0	3	5	8	2
6/10	0	0	40	0	0	0	3	2	5	18	3	7
6/11	0	0	50	6	0	0	14	0	10	14	11	9
6/12	0	3	20	3	0	0	11	6	17	9	5	7
6/13	0	3	43	6	5	3	6	7	26	8	11	11
6/14	3	7	67	6	6	3	9	0	6	14	11	12
6/15	3	13	53	12	6	0	3	3	25	29	28	15
6/16	0	16	68	61	3	12	3	12	46	79	53	30
6/17	10	3	22 [f]	9	14	12	6	62	21	103	15	26
6/18	0	19	33	60	0	9	14	23	16	56	44	23
6/19	55	28	107	31	12	15	20	29	22	111	23	43
6/20	10	6	103 [f]	61	15	0	17	14	44	72	58	34
6/21	76	66	136	174	17	12	38	53	32	67	94	67
6/22	29	49 [f]	29	147	40	6	26	30	18	61	145	44
6/23	73	22	88	24 [f]	138	3	224	216	35	24	119	85
6/24	109 [f]	31	124 [f]	8	92 [f]	59	66	241	21	48	205	80
6/25	36	134	126	86	17	17	38	48	7	53	133	56
6/26	40	74 [f]	122	60	45	29	6	82	15	22	61	49
6/27	26	28	95	50	38	81	31	82	18	43	27	49
6/28	23	131	65	7	36	43	69	45	22	158	79	60
6/29	189	61 [f]	77	188	98 [f]	18	17	23	16	214	89	90
6/30	20	64	20	38	83	14 [f]	38	12	22	89	60 [f]	40
7/01	13	88	11	40	47	63	64	22	18	100	32	47
7/02	29	69	17 [f]	47	137	34	58	29	18	66	38 [f]	50
7/03	190	108 [f]	62	9	131 [f]	29	35	47	5	33	66	65
7/04	93	66	34	20	128	15	28	19	10	33	89	45
7/05	73	128	11 [f]	32	42	82	5 [f]	8	12	32	140	42
7/06	160	32 [f]	9	6	45	68	14	9	11	26	106 [f]	38
7/07	35	45	23	56	62	14	23	5	10	14	72 [f]	29
7/08	44	30	12 [f]	45	120	55	75	26	13	8	87	43
7/09	86	13	46	20	36	55	36	8	5	13	53	32
7/10	29	0 [f]	11	23	11	100	14	8	0	12	15	21
7/11	6	7	6	21	3 [f]	45	13	5	2	13	31	12
7/12	4	2	8 [f]	8	3	59	8	8	2	7	3	11
7/13	0	4	11	4	6	25	0	4	0	16	12	7
7/14	2 [f]	2 [f]	10	2	4	62	2	4	0	20	7	11

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
7/15	0	0	2	6	0	121	0	2	0	10	3	14
7/16	0	0	9 [f]	4	2	50	0	3	0	2	0	7
7/17	2	0	2	2	4	12	4	2	0	0	4	3
7/18	2	0 [f]	0	2	0	2	0	0	0	0	4	1
7/19	0 [f]	0	0 [f]	8	0	2	0	0	0	0	8	1
7/20	0	4	2	4	2	6	0	0	4	4	7	3
7/21	1	0 [f]	0	8	0	4	0	0	0	4	12	2
7/22	2	0	4 [f]	0	0 [f]	2	0	0	2	0	3	1
7/23	0 [f]	2	0	2	0	5	0	0	0	1	5	1
7/24	2	0	0	2	0	2	0	0	0	5	5	1
7/25	0	0	2 [f]	2	0	0	2	0	0	2	0	1
7/26	0 [f]	0	2	4	2	0	2	0	2	0	7	1
7/27	0	0	0	0	2 [f]	0	2	0	0	0	0	0
7/28	0	2	0	0	0	0	0	0	1	0	0 [f]	0
7/15	0	0	2	6	0	121	0	2	0	10	3	14
7/16	0	0	9 [f]	4	2	50	0	3	0	2	0	7
7/17	2	0	2	2	4	12	4	2	0	0	4	3
7/18	2	0 [f]	0	2	0	2	0	0	0	0	4	1
7/19	0 [f]	0	0 [f]	8	0	2	0	0	0	0	8	1
7/20	0	4	2	4	2	6	0	0	4	4	7	3
7/21	1	0 [f]	0	8	0	4	0	0	0	4	12	2
7/22	2	0	4 [f]	0	0 [f]	2	0	0	2	0	3	1
7/23	0 [f]	2	0	2	0	5	0	0	0	1	5	1
7/24	2	0	0	2	0	2	0	0	0	5	5	1
7/25	0	0	2 [f]	2	0	0	2	0	0	2	0	1
7/26	0 [f]	0	2	4	2	0	2	0	2	0	7	1
7/27	0	0	0	0	2 [f]	0	2	0	0	0	0	0
7/28	0	2	0	0	0	0	0	0	1	0	0 [f]	0
7/29	0 [f]	0	0 [f]	0	0	0	0	0	3	0	0	0
7/30	0	0	0	2	4	0	0	0	2	2	0 [f]	1
7/31	0	0	0 [f]	0 [f]	0	0	2	0	0	2 [f]	0	0
8/01	0	2	0	0	0 [f]	0	0 [f]	0	2	0 [f]	0	0
8/02	0	0	0	0	0	0	0	0	0 [f]	0	0	0
8/03	0	2	0 [f]	0	0	0	1	0 [f]	0	0	5 [f]	0
8/04	0 [f]	0 [f]	0	4	0	0	2 [f]	0	0	0 [f]	3	1
8/05	0	0	0	0	0	0	0 [f]	0	0 [f]	0 [f]	4 [f]	0
8/06	0	0	0	0 [f]	0 [f]	0	0	2 [f]	0	0	0 [f]	0
8/07	0	2	0 [f]	0	0	0 [f]	0	0	0	0 [f]	0	0
8/08	0	0 [f]	0	0	0	0	0 [f]	0 [f]	0 [f]	0 [f]	0	0
8/09	0 [f]	0	0	2	0	0	0 [f]	0	0 [f]	0	0 [f]	0
8/10	2	0	0 [f]	0	0	0	0	0	0	0	0 [f]	0
8/11	0	0	0	0	0 [f]	0	0	0 [f]	0	0 [f]	0	0
8/12	0 [f]	0 [f]	0	0 [f]	0	0	0 [f]	0	0 [f]	0 [f]	0 [f]	0
8/13	0	0	0 [f]	0	0	0	0	0 [f]	0 [f]	0	0 [f]	0
8/14	0	0	0	0	0	0	0 [f]	0	0	0 [f]	0	0
8/15	0 [f]	0	0	0	0	0	0	0 [f]	0	0 [f]	0	0

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
8/16	0	0 [f]	0 [f]	0	0	0	0	0	0	0	0 [f]	0
8/17	0	0	0	0	0 [f]	0	0 [f]	0 [f]	0	0	0 [f]	0
8/18	0 [f]	0	0	0 [f]	0	0	0 [f]	0	0	0 [f]	0	0
8/19	0	0 [f]	0	0	0	0	0	0	0	0 [f]	1 [f]	0
8/20	0	0	0 [f]	0	0	0	0	0 [f]	0	0	3 [f]	0
8/21	0	0	0	0	0	0	0 [f]	2	0	0 [f]	0	0
8/22	0 [f]	0 [f]	0	0	0 [f]	0	0 [f]	0 [f]	0	0 [f]	0	0
8/23	0	0	0 [f]	0	0	0	0		0	0	0 [f]	0
8/24	0	0	0	0	0	0			0	0	0 [f]	0
8/25	0 [f]	0	0	0	0	0	[f]	[f]		[f]	0	0
8/26	0	0 [f]	0 [f]	0	0					[f]	0	0
8/27	0 [f]	0	0	0	0						0 [f]	0
8/28	0	0	0	0						[f]	0	0
8/29	0	0 [f]			[f]					[f]	0	0
8/30	0 [f]										[f]	
8/31	0											
9/01		[f]								[f]		
9/02	[f]									[f]	[f]	
9/03										[f]		
9/04											[f]	
9/05												
9/06											[f]	
9/07												
9/08											[f]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Beginning in 1988, subsistence harvest estimates were based on new formula, data not comparable to previous years.

[c] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[d] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[e] District W-1 commercial harvest in thousands (× 1,000) of fish.

[f] Indicates days when commercial fishing periods occurred in District W-1.

Appendix D2.–Historical cumulative mean tidal CPUE for sockeye salmon catches in the Bethel test fishery, 1994–2004.

Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
6/01	0	0	0					0	0	0	0	0
6/02	0	0	0	0	0			0	0	0	0	0
6/03	0	0	0	0	0			0	0	0	0	0
6/04	0	0	0	0	0	0		0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0
6/06	0	0	3	3	0	0	0	9	0	0	0	1
6/07	0	0	3	3	0	0	0	9	0	0	0	1
6/08	0	0	6	3	0	0	0	9	0	0	0	2
6/09	0	0	15	6	0	0	3	9	3	5	8	4
6/10	0	0	55	6	0	0	6	11	8	24	11	11
6/11	0	0	105	12	0	0	20	11	18	38	22	20
6/12	0	3	125	15	0	0	31	17	35	46	27	27
6/13	0	6	167	20	5	3	37	23	61	54	38	38
6/14	3	13	234	26	11	6	45	23	67	67	49	50
6/15	6	26	287	38	17	6	48	26	92	97	77	64
6/16	6	42	355	98	20	18	51	38	138	176	130	94
6/17	16	45	377 [f]	107	34	29	57	100	158	279	145	120
6/18	16	64	411	167	34	38	71	123	174	335	189	143
6/19	71	92	518	198	46	53	91	152	196	446	212	186
6/20	80	98	621 [f]	258	60	53	108	166	240	518	270	220
6/21	156	164	757	432	77	64	146	219	272	585	364	287
6/22	185	213 [f]	785	580	117	70	172	249	290	646	509	331
6/23	258	235	873	604 [f]	256	73	395	465	325	670	628	415
6/24	368 [f]	266	997 [f]	612	348 [f]	133	461	706	346	718	833	495
6/25	404	400	1,123	698	365	150	499	754	353	771	966	552
6/26	443	475 [f]	1,245	758	410	179	505	836	368	793	1,027	601
6/27	469	502	1,341	808	448	259	536	918	385	836	1,055	650
6/28	492	633	1,405	814	484	303	605	963	407	994	1,133	710
6/29	681	694 [f]	1,482	1,002	582 [f]	320	622	986	424	1,207	1,222	800
6/30	701	758	1,502	1,040	665	335 [f]	660	998	446	1,296	1,283 [f]	840
7/01	714	846	1,513	1,080	712	398	724	1,020	464	1,395	1,315	887
7/02	742	915	1,530 [f]	1,127	849	432	782	1,048	482	1,462	1,352 [f]	937
7/03	932	1,023 [f]	1,592	1,136	980 [f]	461	817	1,096	486	1,495	1,418	1,002
7/04	1,025	1,089	1,626	1,156	1,108	476	845	1,115	496	1,528	1,507	1,046
7/05	1,097	1,217	1,637 [f]	1,188	1,150	558	850 [f]	1,123	508	1,560	1,647	1,089
7/06	1,257	1,249 [f]	1,646	1,194	1,195	626	865	1,132	518	1,586	1,753 [f]	1,127
7/07	1,292	1,294	1,669	1,250	1,257	640	887	1,137	528	1,600	1,825 [f]	1,155
7/08	1,336	1,324	1,681 [f]	1,295	1,377	696	962	1,163	542	1,608	1,912	1,198
7/09	1,422	1,337	1,726	1,315	1,413	751	998	1,171	546	1,621	1,965	1,230
7/10	1,451	1,337 [f]	1,738	1,339	1,424	851	1,012	1,179	546	1,633	1,980	1,251
7/11	1,457	1,343	1,743	1,360	1,427 [f]	896	1,025	1,184	548	1,646	2,010	1,263
7/12	1,461	1,346	1,751 [f]	1,368	1,430	954	1,033	1,192	550	1,652	2,013	1,274
7/13	1,461	1,350	1,763	1,372	1,436	980	1,033	1,197	550	1,668	2,025	1,281
7/14	1,463 [f]	1,352 [f]	1,772	1,374	1,440	1,041	1,035	1,201	550	1,688	2,032	1,292
7/15	1,463	1,352	1,774	1,380	1,440	1,163	1,035	1,203	550	1,699	2,035	1,306

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
7/16	1,463	1,352	1,783 [f]	1,383	1,442	1,213	1,035	1,206	550	1,700	2,035	1,313
7/17	1,465	1,352	1,784	1,385	1,446	1,225	1,039	1,208	550	1,700	2,039	1,315
7/18	1,468	1,352 [f]	1,784	1,387	1,446	1,227	1,039	1,208	550	1,700	2,043	1,316
7/19	1,468 [f]	1,352	1,784 [f]	1,395	1,446	1,228	1,039	1,208	550	1,700	2,052	1,317
7/20	1,468	1,357	1,786	1,399	1,448	1,234	1,039	1,208	554	1,704	2,059	1,320
7/21	1,469	1,357 [f]	1,786	1,406	1,448	1,238	1,039	1,208	554	1,708	2,071	1,321
7/22	1,471	1,357	1,790 [f]	1,406	1,448 [f]	1,240	1,039	1,208	556	1,708	2,074	1,322
7/23	1,471 [f]	1,359	1,790	1,408	1,448	1,245	1,039	1,208	556	1,709	2,079	1,323
7/24	1,473	1,359	1,790	1,410	1,448	1,247	1,039	1,208	556	1,713	2,084	1,324
7/25	1,473	1,359	1,792 [f]	1,412	1,448	1,247	1,041	1,208	556	1,715	2,084	1,325
7/26	1,473 [f]	1,359	1,794	1,416	1,450	1,247	1,042	1,208	558	1,715	2,092	1,326
7/27	1,473	1,359	1,794	1,416	1,452 [f]	1,247	1,044	1,208	558	1,715	2,092	1,326
7/28	1,473	1,361	1,794	1,416	1,452	1,247	1,044	1,208	559	1,715	2,092 [f]	1,327
7/29	1,473 [f]	1,361	1,794 [f]	1,416	1,452	1,247	1,044	1,208	562	1,715	2,092	1,327
7/30	1,473	1,361	1,794	1,418	1,456	1,247	1,044	1,208	564	1,716	2,092 [f]	1,328
7/31	1,473	1,361	1,794 [f]	1,418 [f]	1,456	1,247	1,046	1,208	564	1,718 [f]	2,092	1,328
8/01	1,473	1,363	1,794	1,418	1,456 [f]	1,247	1,046 [f]	1,208	566	1,718 [f]	2,092	1,329
8/02	1,473	1,363	1,794	1,418	1,456	1,247	1,046	1,208	566 [f]	1,718	2,092	1,329
8/03	1,473	1,365	1,794 [f]	1,418	1,456	1,247	1,047	1,208 [f]	566	1,718	2,097 [f]	1,329
8/04	1,473 [f]	1,365 [f]	1,794	1,422	1,456	1,247	1,048 [f]	1,208	566	1,718 [f]	2,100	1,330
8/05	1,473	1,365	1,794	1,422	1,456	1,247	1,048 [f]	1,208	566 [f]	1,718 [f]	2,104 [f]	1,330
8/06	1,473	1,365	1,794	1,422 [f]	1,456 [f]	1,247	1,048	1,209 [f]	566	1,718	2,104 [f]	1,330
8/07	1,473	1,367	1,794 [f]	1,422	1,456	1,247 [f]	1,048	1,209	566	1,718 [f]	2,104	1,330
8/08	1,473	1,367 [f]	1,794	1,422	1,456	1,247	1,048 [f]	1,209 [f]	566 [f]	1,718 [f]	2,104	1,330
8/09	1,473 [f]	1,367	1,794	1,424	1,456	1,247	1,048 [f]	1,209	566 [f]	1,718	2,104 [f]	1,330
8/10	1,475	1,367	1,794 [f]	1,424	1,456	1,247	1,048	1,209	566	1,718	2,104 [f]	1,330
8/11	1,475	1,367	1,794	1,424	1,456 [f]	1,247	1,048	1,209 [f]	566	1,718 [f]	2,104	1,330
8/12	1,475 [f]	1,367 [f]	1,794	1,424 [f]	1,456	1,247	1,048 [f]	1,209	566 [f]	1,718 [f]	2,104 [f]	1,330
8/13	1,475	1,367	1,794 [f]	1,424	1,456	1,247	1,048	1,209 [f]	566 [f]	1,718	2,104 [f]	1,330
8/14	1,475	1,367	1,794	1,424	1,456	1,247	1,048 [f]	1,209	566	1,718 [f]	2,104	1,330
8/15	1,475 [f]	1,367	1,794	1,424	1,456	1,247	1,048	1,209 [f]	566	1,718 [f]	2,104	1,330
8/16	1,475	1,367 [f]	1,794 [f]	1,424	1,456	1,247	1,048	1,209	566	1,718	2,104 [f]	1,330
8/17	1,475	1,367	1,794	1,424	1,456 [f]	1,247	1,048 [f]	1,209 [f]	566	1,718	2,104 [f]	1,330
8/18	1,475 [f]	1,367	1,794	1,424 [f]	1,456	1,247	1,048 [f]	1,209	566	1,718 [f]	2,104	1,330
8/19	1,475	1,367 [f]	1,794	1,424	1,456	1,247	1,048	1,209	566	1,718 [f]	2,105 [f]	1,330
8/20	1,475	1,367	1,794 [f]	1,424	1,456	1,247	1,048	1,209 [f]	566	1,718	2,108 [f]	1,330
8/21	1,475	1,367	1,794	1,424	1,456	1,247	1,048 [f]	1,211	566	1,718 [f]	2,108	1,331
8/22	1,475 [f]	1,367 [f]	1,794	1,424	1,456 [f]	1,247	1,048 [f]	1,211 [f]	566	1,718 [f]	2,108	1,331
8/23	1,475	1,367	1,794 [f]	1,424	1,456	1,247	1,048	1,211	566	1,718	2,108 [f]	1,331
8/24	1,475	1,367	1,794	1,424	1,456	1,247	1,048	1,211	566	1,718	2,108 [f]	1,331
8/25	1,475 [f]	1,367	1,794	1,424	1,456	1,247	[f]	1,211 [f]	566	[f]	2,108	1,317
8/26	1,475	1,367 [f]	1,794 [f]	1,424	1,456			1,211	566	[f]	2,108	1,327
8/27	1,475 [f]	1,367	1,794	1,424	1,456	1,250		1,211	566		2,108 [f]	1,318
8/28	1,475	1,367	1,794	1,424				1,211	566	[f]	2,108	1,306
8/29	1,475	1,367 [f]			[f]			1,211	566	[f]	2,108	1,155
8/30	1,475 [f]							1,211	566		[f]	

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Date	1994 [a]	1995 [a]	1996	1997	1998 [a]	1999 [b]	2000 [b]	2001 [b]	2002 [a]	2003	2004	
Kogrukluk: [c]	**14.2**	**11.0**	**15.4**	**13.1**	**16.8**	**5.9**	**2.9**	**8.8**	**4.0**	**9.1**	**6.8**	
Subsistence: [d]	**18.7**	**14.7**	**16.6**	**20.9**	**16.8**	**27.7**	**23.6**	**29.1**	**14.9**	**20.8**	**N.A.**	**Mean**
Commercial: [e]	**49.4**	**90.0**	**33.4**	**22.0**	**60.9**	**17.0**	**4.1**	**0.1**	**0.1**	**0.3**	**9.7**	**1994–2003**
8/31	1,475											
9/01		[f]								[f]		
9/02	[f]									[f]	[f]	
9/03										[f]		
9/04											[f]	
9/05												
9/06											[f]	
9/07												
9/08											[f]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Beginning in 1988, subsistence harvest estimates were based on new formula, data not comparable to previous years.

[c] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[d] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[e] District W-1 commercial harvest in thousands (× 1,000) of fish.

[f] Indicates days when commercial fishing periods occurred in District W-1.

Appendix D3.–Historical percent passage of sockeye salmon in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
6/01	0	0	0					0	0	0	0	0
6/02	0	0	0	0	0			0	0	0	0	0
6/03	0	0	0	0	0			0	0	0	0	0
6/04	0	0	0	0	0	0		0	0	0	0	0
6/05	0	0	0	0	0	0		0	0	0	0	0
6/06	0	0	0	0	0	0		1	0	0	0	0
6/07	0	0	0	0	0	0		1	0	0	0	0
6/08	0	0	0	0	0	0		1	0	0	0	0
6/09	0	0	1	0	0	0		1	1	0	0	0
6/10	0	0	3	0	0	0		1	1	1	1	1
6/11	0	0	6	1	0	0		1	3	2	1	1
6/12	0	0	7	1	0	0		1	6	3	1	2
6/13	0	0	9	1	0	0		2	11	3	2	3
6/14	0	1	13	2	1	0		2	12	4	2	4
6/15	0	2	16	3	1	0	5	2	16	6	4	5
6/16	0	3	20	7	1	1	5	3	24	10	6	8
6/17	1	3	21	8	2	2	5	8	28	16	7	10
6/18	1	5	23	12	2	3	7	10	31	20	9	11
6/19	5	7	29	14	3	4	9	13	35	26	10	14
6/20	5	7	35	18	4	4	10	14	42	30	13	17
6/21	11	12	42	30	5	5	14	18	48	34	17	22
6/22	13	16	44	41	8	6	16	21	51	38	24	25
6/23	18	17	49	42	18	6	38	38	57	39	30	32
6/24	25	19	56	43	24	11	44	58	61	42	40	38
6/25	27	29	63	49	25	12	48	62	62	45	46	42
6/26	30	35	69	53	28	14	48	69	65	46	49	46
6/27	32	37	75	57	31	21	51	76	68	49	50	50
6/28	33	46	78	57	33	24	58	80	72	58	54	54
6/29	46	51	83	70	40	26	59	81	75	70	58	60
6/30	47	55	84	73	46	27	63	82	79	75	61	63
7/01	48	62	84	76	49	32	69	84	82	81	62	67
7/02	50	67	85	79	58	35	75	87	85	85	64	71
7/03	63	75	89	80	67	37	78	90	86	87	67	75
7/04	69	80	91	81	76	38	81	92	88	89	72	78
7/05	74	89	91	83	79	45	81	93	90	91	78	82
7/06	85	91	92	84	82	50	82	93	92	92	83	84
7/07	88	95	93	88	86	51	85	94	93	93	87	87
7/08	91	97	94	91	95	56	92	96	96	94	91	90
7/09	96	98	96	92	97	60	95	97	97	94	93	92
7/10	98	98	97	94	98	68	97	97	97	95	94	94
7/11	99	98	97	96	98	72	98	98	97	96	96	95
7/12	99	98	98	96	98	77	99	98	97	96	96	96
7/13	99	99	98	96	99	79	99	99	97	97	96	96
7/14	99	99	99	96	99	84	99	99	97	98	97	97
7/15	99	99	99	97	99	93	99	99	97	99	97	98
7/16	99	99	99	97	99	97	99	100	97	99	97	99
7/17	99	99	99	97	99	98	99	100	97	99	97	99
7/18	99	99	99	97	99	98	99	100	97	99	97	99
7/19	99	99	99	98	99	98	99	100	97	99	98	99
7/20	99	99	100	98	99	99	99	100	98	99	98	99
7/21	100	99	100	99	99	99	99	100	98	99	98	99

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Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
7/22	100	99	100	99	99	99	99	100	98	99	99	99
7/23	100	99	100	99	99	100	99	100	98	99	99	99
7/24	100	99	100	99	99	100	99	100	98	100	99	99
7/25	100	99	100	99	99	100	99	100	98	100	99	99
7/26	100	99	100	99	100	100	99	100	99	100	99	100
7/27	100	99	100	99	100	100	100	100	99	100	99	100
7/28	100	100	100	99	100	100	100	100	99	100	99	100
7/29	100	100	100	99	100	100	100	100	99	100	99	100
7/30	100	100	100	100	100	100	100	100	100	100	99	100
7/31	100	100	100	100	100	100	100	100	100	100	99	100
8/01	100	100	100	100	100	100	100	100	100	100	99	100
8/02	100	100	100	100	100	100	100	100	100	100	99	100
8/03	100	100	100	100	100	100	100	100	100	100	100	100

Note: The boxes represent the central 50% of the run and the shaded cells represent the median passage date of the run.

APPENDIX E. HISTORICAL CHUM SALMON DATA

Appendix E1.–Historical daily mean tidal CPUE for chum salmon catches in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996	1997 [a]	1998 [b]	1999 [a,b,c,d]	2000 [a,c,d]	2001 [b,c,d]	2002 [b]	2003 [a]	2004	
Kogrukluk: [e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak: [f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence: [g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994–**
Commercial: [h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
6/01	0	0	0					0	0	0	0	0
6/02	10	0	0	0	0			0	0	0	3	1
6/03	8	0	0	0	0			0	0	0	0	1
6/04	3	0	0	3	0	0		0	0	0	5	1
6/05	0	0	15	0	0	0	3	3	0	0	3	2
6/06	7	0	29	0	0	3	6	0	8	0	0	5
6/07	3	0	12	0	0	0	0	0	0	0	0	2
6/08	0	0	23	0	0	0	3	0	3	0	3	3
6/09	10	0	35	0	6	3	3	0	30	0	8	9
6/10	0	0	54	0	0	0	3	0	9	6	0	7
6/11	3	6	67	0	0	0	0	0	53	3	3	13
6/12	13	0	65	5	3	0	0	0	43	3	9	13
6/13	28	3	175	0	8	0	0	6	34	5	37	26
6/14	56	6	321	0	3	3	0	0	22	14	39	42
6/15	143	26	204	9	6	0	0	0	84	19	34	49
6/16	59	48	168	17	9	3	0	3	13	28	35	35
6/17	52	51	171 [i]	12	3	3	3	6	40	25	50	36
6/18	20	63	187	34	0	3	9	36	214	5	81	57
6/19	263	36	594	14	0	0	14	14	113	40	61	109
6/20	26	80	742 [i]	26	0	0	43	6	136	50	79	111
6/21	278	153	820	119	18	12	38	0	35	29	98	150
6/22	125	94 [i]	357	53	26	6	31	5	67	8	112	77
6/23	190	111	498	20 [i]	190	3	69	20	143	36	300	128
6/24	112 [i]	51	665 [i]	48	164 [i]	11	26	85	134	20	301	132
6/25	10	219	513	59	23	6	74	163	148	21	322	124
6/26	17	157 [i]	325	111	39	0	39	211	137	37	343	107
6/27	16	25	90	32	110	8	71	62	156	26	88	60
6/28	7	59	80	0	110	0	140	17	276	121	257	81
6/29	111	146 [i]	93	83	296 [i]	6	102	14	150	295	242	130
6/30	7	111	63	23	91	3 [i]	51	3	88	268	139 [i]	71
7/01	10	164	92	50	82	12	182	22	163	328	36	110
7/02	19	144	114 [i]	20	230	17	314	69	361	324	47 [i]	161
7/03	192	291 [i]	67	59	98 [i]	12	253	156	108	320	83	155
7/04	141	168	112	20	70	6	319	248	379	382	146	185
7/05	88	214	149 [i]	78	53	17	85 [i]	79	333	444	156	154
7/06	383	58 [i]	128	41	65	8	23	39	320	270	106 [i]	133
7/07	245	274	41	129	141	20	40	61	307	225	168 [i]	148
7/08	732	271	23 [i]	110	234	20	67	70	261	95	166	188
7/09	394	219	32	76	84	9	55	25	328	57	173	128
7/10	253	27 [i]	133	33	42	41	22	146	150	54	67	90
7/11	69	98	31	42	11 [i]	12	77	295	99	61	144	80
7/12	33	73	37 [i]	54	3	13	31	278	123	45	49	69
7/13	108	49	82	45	4	8	75	357	96	43	68	87
7/14	57 [i]	66 [i]	52	20	1	10	66	169	323	66	60	83

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Appendix E1.–Page 2 of 3.

Date	1994	1995	1996	1997 [a]	1998 [b]	1999 [a,b,c,d]	2000 [a,c,d]	2001 [b,c,d]	2002 [b]	2003 [a]	2004	
Kogrukluk: [e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak: [f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence: [g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994–**
Commercial: [h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
7/15	38	30	121	64	0	24	26	15	270	66	53	65
7/16	32	17	113 [i]	52	4	38	25	235	178	35	80	73
7/17	15	15	81	20	0	46	92	161	204	19	55	65
7/18	48	21 [i]	42	53	4	34	15	58	47	80	55	40
7/19	26 [i]	8	96 [i]	33	10	28	4	50	19	80	30	35
7/20	9	38	52	33	14	21	10	40	33	68	76	32
7/21	0	35 [i]	57	36	14	14	11	17	36	87	128	31
7/22	82	42	68 [i]	15	7 [i]	22	17	11	29	31	83	32
7/23	38 [i]	43	19	14	4	12	4	17	41	71	19	26
7/24	55	27	42	44	4	10	0	17	41	107	3	35
7/25	26	16	25 [i]	34	6	0	8	15	60	101	11	29
7/26	9 [i]	27	24	20	7	8	2	8	61	75	44	24
7/27	9	17	19	6	6 [i]	2	6	14	25	38	38	14
7/28	18	24	6	6	0	6	4	4	59	33	88 [i]	16
7/29	11 [i]	9	8 [i]	16	2	0	3	11	33	29	50	12
7/30	6	2	11	2	12	2	4	2	28	27	45 [i]	10
7/31	14	10	2 [i]	2 [i]	0	2	6	6	46	31 [i]	49	12
8/01	16	8	4	8	0 [i]	0	1 [i]	0	20	5 [i]	55	6
8/02	10	2	5	10	0	0	5	5	2 [i]	5	19 [i]	4
8/03	2	12	0 [i]	18	4	0	5	0 [i]	21	0	30 [i]	6
8/04	2 [i]	6 [i]	0	14	6	2	5 [i]	0	9	4 [i]	8	5
8/05	2	2	0	0	0	0	2 [i]	5	2 [i]	0 [i]	7 [i]	1
8/06	0	4	0	0 [i]	0 [i]	0	0	3 [i]	5	0	3 [i]	1
8/07	4	4	0 [i]	2	0	0 [i]	2	5	5	0 [i]	11	2
8/08	9	0 [i]	0	2	2	0	1 [i]	7 [i]	8 [i]	2 [i]	16	3
8/09	7 [i]	0	0	4	0	0	0 [i]	3	12 [i]	2	5 [i]	3
8/10	2	0	2 [i]	2	2	0	0	8	2	2	10 [i]	2
8/11	4	2	0	4	0 [i]	0	0	4 [i]	2	4 [i]	5	2
8/12	2 [i]	0 [i]	0	0 [i]	0	0	0 [i]	0	6 [i]	4 [i]	4 [i]	1
8/13	0	0	0 [i]	0	4	0	0	0 [i]	0 [i]	4	10 [i]	1
8/14	0	2	0	0	0	0	0 [i]	2	2	4 [i]	8	1
8/15	0 [i]	0	0	0	0	0	0	1 [i]	2	4 [i]	7	1
8/16	2	0 [i]	0 [i]	0	0	0	2	0	0	4	6 [i]	1
8/17	0	0	0	0	0 [i]	0	0 [i]	0 [i]	0	3	8 [i]	0
8/18	2 [i]	0	0	0 [i]	0	0	0 [i]	0	0	3 [i]	0	1
8/19	0	0 [i]	0	0	0	0	0	0	0	3 [i]	0 [i]	0
8/20	0	0	0 [i]	2	2	0	0	4 [i]	0	3	0 [i]	1
8/21	0	0	0	2	0	0	0 [i]	0	0	3 [i]	3	1
8/22	0 [i]	2 [i]	0	0	0 [i]	0	0 [i]	0 [i]	1	3 [i]	3	1
8/23	0	0	0 [i]	2	0	0	2		2	3	1 [i]	1
8/24	0	0	0	0	0	0			0	3	1 [i]	0
8/25	0 [i]	0	0	0	0	0	[i]	[i]		[i]	3	0
8/26	0	0 [i]	0 [i]	0	0					[i]	3	0
8/27	0 [i]	0	0	0	0						0 [i]	0
8/28	0	0	0	0						[i]	0	0

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Appendix E1.–Page 3 of 3.

Date	1994	1995	1996	1997 [a]	1998 [b]	1999 [a,b,c,d]	2000 [a,c,d]	2001 [b,c,d]	2002 [b]	2003 [a]	2004	
Kogrukluk: [e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak: [f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence: [g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994–**
Commercial: [h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
8/29	0	0 [I]			[I]					[I]	0	0
8/30	0 [I]										[I]	
8/31												
9/01		[I]								[I]		
9/02	[I]									[I]	[I]	
9/03										[I]		
9/04											[I]	
9/05												
9/06											[I]	
9/07												
9/08											[I]	

Note: Days with no data indicated days when the project was not operational.

[a] Year when the pre-2003 biological escapement goal of 30,000 fish was not achieved at Kogrukluk River weir.

[b] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[c] Beginning in 1988, subsistence harvest estimates were based on new formula, data not comparable to previous years.

[d] Year when the pre-2003 biological escapement goal of 250,000 fish was not achieved at Aniak River sonar.

[e] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[f] Escapement at the Aniak River sonar in thousands (× 1,000) of fish.

[g] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[h] District W-1 commercial harvest in thousands (× 1,000) of fish.

[I] Indicates days when commercial fishing periods occurred in District W-1.

Appendix E2.–Historical cumulative mean tidal CPUE for chum salmon catches in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996	1997[a]	1998[b]	1999[a,b,c,d]	2000[a,c,d]	2001[b,c,d]	2002[b]	2003[a]	2004	
Kogrukluk:[e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak:[f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence:[g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994-**
Commercial:[h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
6/01												-
6/02	10										3	1
6/03	18										3	2
6/04	21			3		-					8	3
6/05			15			-	3	3			11	2
6/06	7		45			3	9	3	8		11	7
6/07	10		56			3	9	3	8		11	9
6/08	10		80			3	12	3	11		14	12
6/09	20		115		6	6	15	3	41		22	20
6/10	20		169		6	6	18	3	50	6	22	28
6/11	23	6	237		6	6	18	3	103	8	25	41
6/12	36	6	301	5	9	6	18	3	146	11	34	54
6/13	65	10	476	5	17	6	18	9	180	17	71	80
6/14	121	16	797	5	20	9	18	9	202	30	110	123
6/15	264	42	1,001	14	26	9	18	9	285	49	144	172
6/16	322	90	1,170	31	34	12	18	11	299	77	179	206
6/17	374	141	1,340[i]	42	37	15	20	17	338	103	229	243
6/18	394	204	1,527	76	37	18	29	53	552	108	310	300
6/19	657	240	2,121	90	37	18	43	67	665	148	371	409
6/20	684	320	2,864[i]	116	37	18	86	73	801	198	450	520
6/21	961	473	3,684	235	55	30	124	73	836	226	547	670
6/22	1,086	567[i]	4,041	287	80	36	155	78	903	235	659	747
6/23	1,275	678	4,539	307[i]	271	39	224	98	1,047	270	959	875
6/24	1,387[i]	729	5,204[i]	355	434[i]	50	250	183	1,181	291	1,260	1,006
6/25	1,397	948	5,717	414	457	56	324	346	1,329	312	1,583	1,130
6/26	1,414	1,105[i]	6,042	525	496	56	363	557	1,466	349	1,926	1,237
6/27	1,430	1,130	6,132	557	606	64	435	619	1,622	375	2,014	1,297
6/28	1,437	1,190	6,211	557	716	64	574	637	1,897	496	2,271	1,378
6/29	1,547	1,335[i]	6,305	640	1,013[i]	70	676	651	2,048	791	2,514	1,507
6/30	1,554	1,447	6,368	663	1,104	73[i]	727	654	2,136	1,059	2,653[i]	1,578

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Appendix E2.–Page 2 of 4.

Date	1994	1995	1996	1997[a]	1998[b]	1999[a,b,c,d]	2000[a,c,d]	2001[b,c,d]	2002[b]	2003[a]	2004	
Kogrukluk:[e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak:[f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence:[g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994-**
Commercial:[h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
7/01	1,564	1,610	6,459	713	1,185	84	908	676	2,299	1,387	2,690	1,689
7/02	1,583	1,755	6,573[i]	733	1,415	102	1,222	744	2,660	1,711	2,736[i]	1,850
7/03	1,775	2,045[i]	6,641	791	1,513[i]	113	1,475	900	2,768	2,031	2,819	2,005
7/04	1,915	2,213	6,753	812	1,583	119	1,794	1,148	3,147	2,413	2,965	2,190
7/05	2,003	2,427	6,902[i]	889	1,636	136	1,879[i]	1,227	3,480	2,857	3,120	2,344
7/06	2,387	2,485[i]	7,029	930	1,701	145	1,901	1,267	3,800	3,127	3,226[i]	2,477
7/07	2,632	2,759	7,070	1,058	1,842	165	1,941	1,328	4,107	3,352	3,395[i]	2,625
7/08	3,364	3,029	7,093[i]	1,168	2,076	185	2,008	1,397	4,367	3,447	3,561	2,813
7/09	3,757	3,248	7,125	1,244	2,159	194	2,063	1,423	4,696	3,503	3,733	2,941
7/10	4,010	3,275[i]	7,258	1,277	2,202	235	2,085	1,568	4,846	3,558	3,800	3,031
7/11	4,079	3,373	7,289	1,320	2,213[i]	246	2,162	1,863	4,945	3,618	3,945	3,111
7/12	4,112	3,446	7,326[i]	1,374	2,215	260	2,193	2,141	5,068	3,663	3,993	3,180
7/13	4,220	3,495	7,408	1,418	2,220	268	2,268	2,498	5,165	3,706	4,061	3,266
7/14	4,277[i]	3,561[i]	7,459	1,438	2,220	278	2,334	2,667	5,488	3,772	4,122	3,349
7/15	4,315	3,591	7,581	1,501	2,220	302	2,360	2,682	5,758	3,838	4,175	3,415
7/16	4,347	3,608	7,694[i]	1,553	2,224	340	2,385	2,917	5,936	3,873	4,254	3,488
7/17	4,362	3,623	7,775	1,573	2,224	386	2,477	3,078	6,140	3,893	4,309	3,553
7/18	4,409	3,645[i]	7,817	1,627	2,228	420	2,492	3,136	6,187	3,973	4,364	3,593
7/19	4,435[i]	3,653	7,913[i]	1,659	2,238	448	2,496	3,185	6,206	4,052	4,395	3,629
7/20	4,444	3,690	7,965	1,692	2,252	470	2,506	3,225	6,238	4,120	4,471	3,660
7/21	4,444	3,725[i]	8,022	1,729	2,266	483	2,517	3,242	6,274	4,207	4,599	3,691
7/22	4,526	3,767	8,090[i]	1,744	2,273[i]	505	2,534	3,254	6,302	4,238	4,681	3,723
7/23	4,564[i]	3,810	8,109	1,758	2,277	517	2,538	3,271	6,343	4,309	4,700	3,750
7/24	4,620	3,837	8,151	1,802	2,281	526	2,538	3,288	6,384	4,416	4,703	3,784
7/25	4,645	3,853	8,176[i]	1,836	2,286	526	2,546	3,303	6,444	4,516	4,714	3,813

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Appendix E2.–Page 3 of 4.

Date	1994	1995	1996	1997[a]	1998[b]	1999[a,b,c,d]	2000[a,c,d]	2001[b,c,d]	2002[b]	2003[a]	2004	
Kogrukluk:[e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak:[f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence:[g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994-**
Commercial:[h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
7/26	4,654[i]	3,879	8,200	1,855	2,293	534	2,548	3,312	6,506	4,592	4,758	3,837
7/27	4,663	3,897	8,219	1,861	2,299[i]	536	2,554	3,326	6,530	4,630	4,797	3,851
7/28	4,680	3,920	8,224	1,867	2,299	542	2,557	3,330	6,590	4,663	4,884[i]	3,867
7/29	4,691[i]	3,929	8,232[i]	1,883	2,301	542	2,560	3,340	6,623	4,692	4,935	3,879
7/30	4,698	3,931	8,243	1,885	2,313	544	2,564	3,342	6,651	4,719	4,980[i]	3,889
7/31	4,711	3,942	8,244[i]	1,887[i]	2,313	546	2,570	3,348	6,697	4,750[i]	5,029	3,901
8/01	4,727	3,950	8,248	1,895	2,313[i]	546	2,571[i]	3,348	6,717	4,755[i]	5,084	3,907
8/02	4,737	3,952	8,253	1,904	2,313	546	2,576	3,353	6,719[i]	4,760	5,103[i]	3,911
8/03	4,739	3,964	8,253[i]	1,922	2,317	546	2,581	3,353[i]	6,740	4,760	5,133[i]	3,917
8/04	4,742[i]	3,970[i]	8,253	1,936	2,322	548	2,586[i]	3,353	6,748	4,764[i]	5,140	3,922
8/05	4,744	3,972	8,253	1,936	2,322	548	2,588[i]	3,358	6,751[i]	4,764[i]	5,147[i]	3,924
8/06	4,744	3,977	8,253	1,936[i]	2,322[i]	548	2,588	3,361[i]	6,755	4,764	5,149[i]	3,925
8/07	4,748	3,981	8,253[i]	1,938	2,322	548[i]	2,590	3,367	6,760	4,764[i]	5,161	3,927
8/08	4,757	3,981[i]	8,253	1,940	2,324	548	2,590[i]	3,373[i]	6,769[i]	4,765[i]	5,177	3,930
8/09	4,763[i]	3,981	8,253	1,944	2,324	548	2,590[i]	3,376	6,781[i]	4,767	5,182[i]	3,933
8/10	4,766	3,981	8,255[i]	1,946	2,326	548	2,590	3,384	6,783	4,769	5,192[i]	3,935
8/11	4,770	3,983	8,255	1,950	2,326[i]	548	2,590	3,388[i]	6,784	4,772[i]	5,197	3,937
8/12	4,772[i]	3,983[i]	8,255	1,950[i]	2,326	548	2,590[i]	3,388	6,791[i]	4,776[i]	5,200[i]	3,938
8/13	4,772	3,983	8,255[i]	1,950	2,330	548	2,590	3,388[i]	6,791[i]	4,779	5,211[i]	3,939
8/14	4,772	3,985	8,255	1,950	2,330	548	2,590[i]	3,390	6,792	4,783[i]	5,219	3,940
8/15	4,772[i]	3,985	8,255	1,950	2,330	548	2,590	3,391[i]	6,794	4,786[i]	5,226	3,940
8/16	4,774	3,985[i]	8,255[i]	1,950	2,330	548	2,592	3,391	6,794	4,790	5,232[i]	3,941
8/17	4,774	3,985	8,255	1,950	2,330[i]	548	2,592[i]	3,391[i]	6,794	4,793	5,240[i]	3,941
8/18	4,776[i]	3,985	8,255	1,950[i]	2,330	548	2,592[i]	3,391	6,794	4,796[i]	5,240	3,942
8/19	4,776	3,985[i]	8,255	1,950	2,330	548	2,592	3,391	6,794	4,800[i]	5,240[i]	3,942
8/20	4,776	3,985	8,255[i]	1,952	2,332	548	2,592	3,395[i]	6,794	4,803	5,240[i]	3,943
8/21	4,776	3,985	8,255	1,954	2,332	548	2,592[i]	3,395	6,794	4,806[i]	5,242	3,944
8/22	4,776[i]	3,987[i]	8,255	1,954	2,332[i]	548	2,592[i]	3,395[i]	6,795	4,809[i]	5,245	3,944
8/23	4,776	3,987	8,255[i]	1,956	2,332	548	2,594	3,395	6,796	4,812	5,247[i]	3,945

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Date	1994	1995	1996	1997[a]	1998[b]	1999[a,b,c,d]	2000[a,c,d]	2001[b,c,d]	2002[b]	2003[a]	2004	
Kogrukluk:[e]	**46.6**	**31.3**	**48.5**	**8.0**	**36.4**	**13.8**	**11.5**	**30.6**	**51.6**	**23.4**	**24.2**	
Aniak:[f]	**388.2**	**N.A.**	**302.1**	**262.5**	**279.4**	**178.1**	**144.2**	**222.2**	**362.1**	**363.4**	**672.9**	**Mean**
Subsistence:[g]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.9**	**20.9**	**N.A.**	**1994-**
Commercial:[h]	**269.4**	**588.2**	**202.8**	**17.0**	**207.7**	**23.0**	**11.6**	**1.3**	**1.9**	**2.8**	**20.4**	**2003**
8/24	4,776	3,987	8,255	1,956	2,332	548	2,594	3,395	6,796	4,815	5,248[i]	3,946
8/25	4,776[i]	3,987	8,255	1,956	2,332	548	[i]	3,395[i]	6,796	[i]	5,251	4,006
8/26	4,776	3,987[i]	8,255[i]	1,956	2,332			3,395	6,796	[i]	5,254	4,500
8/27	4,776[i]	3,987	8,255	1,956	2,332			3,395	6,796		5,254[i]	4,500
8/28	4,776	3,987	8,255	1,956				3,395	6,796	[i]	5,254	4,861
8/29	4,776	3,987[i]			[i]			3,395	6,796	[i]	5,254	4,739
8/30	4,776[i]							3,395	6,796		[i]	4,989
8/31								3,395	6,796			5,096
9/01		[i]						3,395	6,796	[i]		5,096
9/02	[i]							3,395	6,796	[i]	[i]	5,096
9/03								3,395	6,796	[i]		5,096
9/04								3,395	6,796		[i]	5,096
9/05								3,395	6,796			5,096
9/06								3,395	6,796		[i]	5,096
9/07								3,395	6,796			5,096
9/08											[i]	

Note: Days with no data indicated days when the project was not operational.

[a] Year when the pre-2003 biological escapement goal of 30,000 fish was not achieved at Kogrukluk River weir.

[b] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[c] Beginning in 1988, subsistence harvest estimates were based on new formula, data not comparable to previous years.

[d] Year when the pre-2003 biological escapement goal of 250,000 fish was not achieved at Aniak River sonar.

[e] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[f] Escapement at the Aniak River sonar in thousands (× 1,000) of fish.

[g] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[h] District W-1 commercial harvest in thousands (× 1,000) of fish.

[I] Indicates days when commercial fishing periods occurred in District W-1.

Appendix E3.–Historical percent passage of chum salmon in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
6/01	0	0	0						0	0	0	0
6/02	0	0	0	0	0			0	0	0	0	0
6/03	0	0	0	0	0			0	0	0	0	0
6/04	0	0	0	0	0	0		0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0
6/06	0	0	1	0	0	1	0	0	0	0	0	0
6/07	0	0	1	0	0	1	0	0	0	0	0	0
6/08	0	0	1	0	0	1	0	0	0	0	0	0
6/09	0	0	1	0	0	1	1	0	1	0	0	0
6/10	0	0	2	0	0	1	1	0	1	0	0	1
6/11	0	0	3	0	0	1	1	0	2	0	0	1
6/12	1	0	4	0	0	1	1	0	2	0	1	1
6/13	1	0	6	0	1	1	1	0	3	0	1	1
6/14	3	0	10	0	1	2	1	0	3	1	2	2
6/15	6	1	12	1	1	2	1	0	4	1	3	3
6/16	7	2	14	2	1	2	1	0	4	2	3	4
6/17	8	4	16	2	2	3	1	0	5	2	4	4
6/18	8	5	18	4	2	3	1	2	8	2	6	5
6/19	14	6	26	5	2	3	2	2	10	3	7	7
6/20	14	8	35	6	2	3	3	2	12	4	9	9
6/21	20	12	45	12	2	5	5	2	12	5	10	12
6/22	23	14	49	15	3	7	6	2	13	5	13	14
6/23	27	17	55	16	12	7	9	3	15	6	18	17
6/24	29	18	63	18	19	9	10	5	17	6	24	19
6/25	29	24	69	21	20	10	13	10	20	6	30	22
6/26	30	28	73	27	21	10	14	16	22	7	37	25
6/27	30	28	74	28	26	12	17	18	24	8	38	27
6/28	30	30	75	28	31	12	22	19	28	10	43	29
6/29	32	33	76	33	43	13	26	19	30	16	48	32
6/30	33	36	77	34	47	13	28	19	31	22	51	34
7/01	33	40	78	36	51	15	35	20	34	29	51	37
7/02	33	44	80	37	61	19	47	22	39	36	52	42
7/03	37	51	80	40	65	21	57	27	41	42	54	46
7/04	40	56	82	41	68	22	69	34	46	50	56	51
7/05	42	61	84	45	70	25	72	36	51	59	59	55
7/06	50	62	85	48	73	26	73	37	56	65	61	58
7/07	55	69	86	54	79	30	75	39	60	70	65	62
7/08	70	76	86	60	89	34	77	41	64	72	68	67
7/09	79	81	86	64	93	35	80	42	69	73	71	70
7/10	84	82	88	65	94	43	80	46	71	74	72	73
7/11	85	85	88	67	95	45	83	55	73	75	75	75
7/12	86	86	89	70	95	47	85	63	75	76	76	77
7/13	88	88	90	73	95	49	87	74	76	77	77	80
7/14	90	89	90	74	95	51	90	79	81	78	78	82
7/15	90	90	92	77	95	55	91	79	85	80	79	83
7/16	91	90	93	79	95	62	92	86	87	80	81	86
7/17	91	91	94	80	95	70	96	91	90	81	82	88
7/18	92	91	95	83	96	77	96	92	91	83	83	90

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Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
7/19	93	92	96	85	96	82	96	94	91	84	84	91
7/20	93	93	96	87	97	86	97	95	92	86	85	92
7/21	93	93	97	88	97	88	97	95	92	87	88	93
7/22	95	94	98	89	97	92	98	96	93	88	89	94
7/23	96	96	98	90	98	94	98	96	93	89	89	95
7/24	97	96	99	92	98	96	98	97	94	92	90	96
7/25	97	97	99	94	98	96	98	97	95	94	90	97
7/26	97	97	99	95	98	98	98	98	96	95	91	97
7/27	98	98	100	95	99	98	99	98	96	96	91	98
7/28	98	98	100	95	99	99	99	98	97	97	93	98
7/29	98	99	100	96	99	99	99	98	97	97	94	98
7/30	98	99	100	96	99	99	99	98	98	98	95	98
7/31	99	99	100	96	99	100	99	99	99	99	96	99
8/01	99	99	100	97	99	100	99	99	99	99	97	99
8/02	99	99	100	97	99	100	99	99	99	99	97	99
8/03	99	99	100	98	99	100	100	99	99	99	98	99
8/04	99	100	100	99	100	100	100	99	99	99	98	99
8/05	99	100	100	99	100	100	100	99	99	99	98	99
8/06	99	100	100	99	100	100	100	99	99	99	98	99
8/07	99	100	100	99	100	100	100	99	99	99	98	100
8/08	100	100	100	99	100	100	100	99	100	99	99	100
8/09	100	100	100	99	100	100	100	99	100	99	99	100
8/10	100	100	100	99	100	100	100	100	100	99	99	100
8/11	100	100	100	100	100	100	100	100	100	99	99	100
8/12	100	100	100	100	100	100	100	100	100	99	99	100
8/13	100	100	100	100	100	100	100	100	100	99	99	100
8/14	100	100	100	100	100	100	100	100	100	99	99	100
8/15	100	100	100	100	100	100	100	100	100	99	99	100
8/16	100	100	100	100	100	100	100	100	100	99	100	100
8/17	100	100	100	100	100	100	100	100	100	100	100	100

Note: The boxes represent the central 50% of the run and the shaded cells represent the median passage date of the run.

APPENDIX F. HISTORICAL COHO SALMON DATA

Appendix F1.–Historic daily mean CPUE for coho salmon catches in the Bethel test fishery, 1994–2004.

Date	1994	1995	1996 [a]	1997 [b]	1998 [a,b]	1999 [a,b,c]	2000 [c]	2001 [a,b,c]	2002 [b]	2003	2004	
Kogrukluk: [d]	**34.7**	**27.9**	**50.6**	**12.3**	**24.3**	**10.1**	**33.1**	**19.4**	**14.5**	**74.0**	**27.0**	**Mean**
Subsistence: [e]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.8**	**20.9**	**N.A.**	**1994–**
Commercial: [f]	**690.4**	**455.3**	**930.1**	**129.6**	**210.2**	**23.6**	**259.7**	**193.0**	**83.5**	**284.1**	**433.8**	**2003**
7/08	3	0	0 [g]	0	0	0	3	0	0	1	0	1
7/09	3	0	0	0	0	0	2	0	0	2	9	1
7/10	0	0 [g]	0	0	0	0	0	0	2	0	3	0
7/11	0	0	2	0	0 [g]	0	0	1	0	3	5	1
7/12	0	0	8 [g]	0	0	0	2	6	0	5	0	2
7/13	0	0	8	0	0	0	0	0	1	5	6	1
7/14	0 [g]	0 [g]	10	0	0	0	2	0	1	25	5	4
7/15	2	0	8	0	0	0	4	0	1	38	3	5
7/16	2	0	17 [g]	2	0	0	21	7	2	21	3	7
7/17	0	0	35	0	0	2	41	4	2	17	22	10
7/18	2	0 [g]	17	0	0	0	13	4	2	50	22	9
7/19	9 [g]	0	122 [g]	6	0	1	6	3	0	50	42	20
7/20	0	4	108	8	2	4	4	4	0	100	54	23
7/21	0	0 [g]	194	12	0	0	37	0	2	113	55	36
7/22	22	0	120 [g]	6	0 [g]	0	46	8	8	44	109	25
7/23	6 [g]	6	97	10	0	3	72	10	11	61	48	28
7/24	48	2	240	36	4	2	110	9	17	82	63	55
7/25	38	18	675 [g]	57	12	0	47	4	46	225	92	112
7/26	11 [g]	8	615	31	14	6	41	8	54	160	106	95
7/27	13	11	256	20	8 [g]	4	136	65	96	228	47	84
7/28	27	15	170	6	14	0	224	0	107	160	136 [g]	72
7/29	26 [g]	4	517 [g]	31	4	2	153	65	127	91	265	102
7/30	66	22	598	16	27	16	108	23	127	116	262 [g]	112
7/31	101	25	482 [g]	12 [g]	4	12	324	86	189	242 [g]	365	148
8/01	75	36	186	58	39 [g]	11	516 [g]	31	335	98 [g]	314	138
8/02	33	30	322	85	53	6	228	46	63 [g]	65	139 [g]	93
8/03	21	337	38 [g]	340	111	8	373	11 [g]	213	66	216 [g]	152
8/04	13 [g]	150 [g]	35	276	31	12	519 [g]	29	78	45 [g]	211	119
8/05	2	102	79	54	44	10	413 [g]	110	89 [g]	35 [g]	219 [g]	94
8/06	24	131	26	92 [g]	24 [g]	6	161	194 [g]	196	50	163 [g]	90
8/07	178	145	27 [g]	14	18	30 [g]	259	160	191	75 [g]	274	110
8/08	230	32 [g]	25	22	22	4	65 [g]	298 [g]	256 [g]	211 [g]	339	116
8/09	156 [g]	109	120	58	23	8	134 [g]	456	274 [g]	228	145 [g]	157
8/10	190	69	94 [g]	44	43	15	49	328	63	71	554 [g]	97
8/11	392	69	38	150	15 [g]	2	417	326 [g]	278	95 [g]	210	178
8/12	137 [g]	35 [g]	39	46 [g]	39	16	142 [g]	207	376 [g]	197 [g]	189 [g]	123
8/13	64	75	63 [g]	67	170	4	182	36 [g]	144 [g]	301	363 [g]	111
8/14	93	186	44	23	188	8	64 [g]	61	53	206 [g]	233	93
8/15	66 [g]	29	56	54	43	55	21	186 [g]	182	229 [g]	468	92
8/16	72	28 [g]	27 [g]	49	154	49	100	42	20	202	268 [g]	74
8/17	307	44	2	18	68 [g]	7	83 [g]	36 [g]	100	254	167 [g]	92
8/18	188 [g]	45	19	31 [g]	16	9	28 [g]	8	220	115 [g]	79	68
8/19	22	8 [g]	35	16	32	14	19	16	59	215 [g]	112 [g]	44
8/20	60	13	25 [g]	70	52	36	35	13 [g]	60	68	48 [g]	43

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Date	1994	1995	1996 [a]	1997 [b]	1998 [a,b]	1999 [a,b,c]	2000 [c]	2001 [a,b,c]	2002 [b]	2003	2004	
Kogrukluk: [d]	**34.7**	**27.9**	**50.6**	**12.3**	**24.3**	**10.1**	**33.1**	**19.4**	**14.5**	**74.0**	**27.0**	**Mean**
Subsistence: [e]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.8**	**20.9**	**N.A.**	**1994–**
Commercial: [f]	**690.4**	**455.3**	**930.1**	**129.6**	**210.2**	**23.6**	**259.7**	**193.0**	**83.5**	**284.1**	**433.8**	**2003**
8/21	64	31	6	117	27	19	13 [g]	8	78	18 [g]	64	38
8/22	19 [g]	54 [g]	4	71	0 [g]	29	13 [g]	8 [g]	76	52 [g]	105	33
8/23	13	26	8 [g]	25	14	3	8		53	34	88 [g]	20
8/24	141	12	14	48	14	4			38	51	81 [g]	40
8/25	81 [g]	43	57	35	2	6	[g]	[g]		[g]	75	37
8/26	42	27 [g]	12 [g]	12	0					[g]	119	18
8/27	59 [g]	2	0	0							70 [g]	15
8/28	19	11	0	4						[g]	64	8
8/29	2	4 [g]			[g]					[g]	81	3
8/30	9 [g]										[g]	9
8/31												
9/01		[g]								[g]		
9/02	[g]									[g]	[g]	
9/03										[g]		
9/04											[g]	
9/05												
9/06											[g]	
9/07												
9/08											[g]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Year when the pre-2003 biological escapement goal of 10,000 was not achieved at Kogrukluk River weir.

[c] Beginning in 1988, estimate based on new formula, data not comparable to previous years.

[d] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[e] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[f] District 1 commercial harvest in thousands (× 1,000) of fish.

[g] Indicates days when commercial fishing periods occurred in District 1.

Appendix F2.–Historic cumulative daily mean CPUE for coho salmon catches in the Bethel test fish, 1994–2004.

Date	1994	1995	1996 [a]	1997 [b]	1998 [a,b]	1999 [a,b,c]	2000 [c]	2001 [a,b,c]	2002 [b]	2003	2004	
Kogrukluk: [d]	**34.7**	**27.9**	**50.6**	**12.3**	**24.3**	**10.1**	**33.1**	**19.4**	**14.5**	**74.0**	**27.0**	**Mean**
Subsistence: [e]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.8**	**20.9**	**N.A.**	**1994–**
Commercial: [f]	**690.4**	**455.3**	**930.1**	**129.6**	**210.2**	**23.6**	**259.7**	**193.0**	**83.5**	**284.1**	**433.8**	**2003**
7/08	3	0	0	0	0	0	3	0	0	1	3	1
7/09	3	0	0	0	0	0	5	0	0	2	11	1
7/10	3	0 [g]	0	0	0	0	5	0	2	2	14	1
7/11	3	0	2	0	0 [g]	0	5	1	2	5	19	2
7/12	3	0	10 [g]	0	0	0	6	7	2	11	19	4
7/13	3	0	17	0	0	0	6	7	3	16	25	5
7/14	3 [g]	0 [g]	27	0	0	0	8	7	4	41	30	9
7/15	5	0	34	0	0	0	12	7	5	78	33	14
7/16	8	0	52 [g]	2	0	0	33	14	7	99	36	21
7/17	8	0	86	2	0	2	74	17	9	116	58	31
7/18	10	0 [g]	104	2	0	2	87	21	9	166	81	40
7/19	18 [g]	0	226 [g]	8	0	3	93	24	9	217	122	60
7/20	18	4	334	16	2	7	97	28	9	316	176	83
7/21	18	4 [g]	528	27	2	7	134	28	11	429	231	119
7/22	40	4	647 [g]	33	2 [g]	7	180	36	19	473	339	144
7/23	46 [g]	11	745	43	2	10	251	46	30	534	387	172
7/24	95	13	984	79	6	12	362	55	47	616	450	227
7/25	133	31	1,660 [g]	136	17	12	409	59	93	841	542	339
7/26	144 [g]	39	2,275	167	31	18	450	67	147	1,001	648	434
7/27	157	50	2,531	187	39 [g]	22	585	131	242	1,229	695	517
7/28	184	65	2,701	193	53	22	809	131	350	1,389	831 [g]	590
7/29	210 [g]	69	3,219 [g]	224	56	24	962	196	477	1,479	1,095	692
7/30	276	91	3,817	240	83	40	1,070	219	603	1,596	1,357 [g]	803
7/31	377	116	4,298 [g]	251 [g]	87	51	1,395	305	792	1,838 [g]	1,722	951
8/01	452	151	4,484	309	126 [g]	63	1,910 [g]	336	1,128	1,936 [g]	2,036	1,089
8/02	486	181	4,806	394	179	69	2,138	382	1,191 [g]	2,001	2,176 [g]	1,182
8/03	507	517	4,844 [g]	734	289	77	2,512	393 [g]	1,404	2,067	2,391 [g]	1,334
8/04	520 [g]	668 [g]	4,879	1,011	321	88	3,031 [g]	422	1,481	2,112 [g]	2,602	1,453
8/05	522	769	4,958	1,065	365	98	3,444 [g]	532	1,570 [g]	2,147 [g]	2,821 [g]	1,547
8/06	546	900	4,984	1,157 [g]	389 [g]	104	3,605	726 [g]	1,766	2,197	2,984 [g]	1,637
8/07	723	1,045	5,011 [g]	1,170	407	134 [g]	3,864	887	1,957	2,272 [g]	3,258	1,747
8/08	953	1,077 [g]	5,037	1,192	428	138	3,929 [g]	1,184 [g]	2,213 [g]	2,483 [g]	3,597	1,863
8/09	1,110 [g]	1,186	5,157	1,250	452	146	4,063 [g]	1,640	2,488 [g]	2,711	3,743 [g]	2,020
8/10	1,300	1,255	5,251 [g]	1,294	495	161	4,112	1,968	2,551	2,782	4,297 [g]	2,117
8/11	1,691	1,324	5,289	1,444	510 [g]	163	4,528	2,294 [g]	2,829	2,877 [g]	4,507	2,295
8/12	1,828 [g]	1,359 [g]	5,328	1,491 [g]	549	179	4,670 [g]	2,501	3,205 [g]	3,074 [g]	4,696 [g]	2,418
8/13	1,892	1,434	5,391 [g]	1,558	719	183	4,852	2,537 [g]	3,349 [g]	3,375	5,059 [g]	2,529
8/14	1,985	1,620	5,435	1,581	907	190	4,916 [g]	2,598	3,402	3,581 [g]	5,293	2,622
8/15	2,051 [g]	1,649	5,491	1,635	950	246	4,937	2,784 [g]	3,584	3,810 [g]	5,760	2,714
8/16	2,123	1,677 [g]	5,518 [g]	1,685	1,104	295	5,037	2,826	3,603	4,012	6,028 [g]	2,788
8/17	2,430	1,721	5,520	1,702	1,172 [g]	302	5,120 [g]	2,862 [g]	3,703	4,266	6,196 [g]	2,880
8/18	2,619 [g]	1,766	5,539	1,733 [g]	1,188	311	5,148 [g]	2,870	3,923	4,380 [g]	6,275	2,948
8/19	2,640	1,775 [g]	5,574	1,749	1,220	325	5,167	2,887	3,983	4,596 [g]	6,387 [g]	2,991
8/20	2,700	1,788	5,599 [g]	1,818	1,272	361	5,203	2,899 [g]	4,042	4,663	6,435 [g]	3,035

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Date	1994	1995	1996 [a]	1997 [b]	1998 [a,b]	1999 [a,b,c]	2000 [c]	2001 [a,b,c]	2002 [b]	2003	2004	
Kogrukluk: [d]	**34.7**	**27.9**	**50.6**	**12.3**	**24.3**	**10.1**	**33.1**	**19.4**	**14.5**	**74.0**	**27.0**	**Mean**
Subsistence: [e]	**17.7**	**23.3**	**17.9**	**18.7**	**14.8**	**15.5**	**21.4**	**17.7**	**18.8**	**20.9**	**N.A.**	**1994–**
Commercial: [f]	**690.4**	**455.3**	**930.1**	**129.6**	**210.2**	**23.6**	**259.7**	**193.0**	**83.5**	**284.1**	**433.8**	**2003**
8/21	2,765	1,819	5,605	1,936	1,299	380	5,215 [g]	2,907	4,121	4,682 [g]	6,499	3,073
8/22	2,784 [g]	1,873 [g]	5,609	2,006	1,299 [g]	409	5,229 [g]	2,914 [g]	4,196	4,734 [g]	6,605	3,105
8/23	2,797	1,899	5,616 [g]	2,031	1,313	412	5,236		4,249	4,768	6,693 [g]	3,147
8/24	2,938	1,911	5,630	2,080	1,326	416	5,236		4,288	4,819	6,774 [g]	3,183
8/25	3,019 [g]	1,954	5,687	2,114	1,328	422	[g]	[g]		[g]	6,848	2,421
8/26	3,061	1,981 [g]	5,699 [g]	2,126	1,328					[g]	6,968	2,839
8/27	3,119 [g]	1,983	5,699	2,126							7,038 [g]	3,232
8/28	3,138	1,994	5,699	2,130						[g]	7,102	3,240
8/29	3,141	1,998 [g]			[g]					[g]	7,183	2,569
8/30	3,150 [g]										[g]	
8/31	3,150											
9/01		[g]								[g]		
9/02	[g]									[g]	[g]	
9/03										[g]		
9/04											[g]	
9/05												
9/06											[g]	
9/07												
9/08											[g]	

Note: Days with no data indicated days when the project was not operational.

[a] Water level considered similar to present year based on the USGS gauging station at Crooked Creek.

[b] Year when the pre-2003 biological escapement goal of 10,000 was not achieved at Kogrukluk River weir.

[c] Beginning in 1988, estimate based on new formula, data not comparable to previous years.

[d] Escapement at the Kogrukluk River weir in thousands (× 1,000) of fish.

[e] Subsistence harvest from the communities of Bethel and downstream in thousands (× 1,000) of fish.

[f] District 1 commercial harvest in thousands (× 1,000) of fish.

[g] Indicates days when commercial fishing periods occurred in District 1.

Appendix F3.–Historic percent passage for coho salmon catches in the Bethel test fishery through August, 1994–2004.

Date	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Mean 94–03
7/08	0	0	0	0	0	0	0	0	0	0	0	0
7/09	0	0	0	0	0	0	0	0	0	0	0	0
7/10	0	0	0	0	0	0	0	0	0	0	0	0
7/11	0	0	0	0	0	0	0	0	0	0	0	0
7/12	0	0	0	0	0	0	0	0	0	0	0	0
7/13	0	0	0	0	0	0	0	0	0	0	0	0
7/14	0	0	0	0	0	0	0	0	0	1	0	0
7/15	0	0	1	0	0	0	0	0	0	2	0	0
7/16	0	0	1	0	0	0	1	0	0	2	0	0
7/17	0	0	2	0	0	0	1	1	0	2	1	1
7/18	0	0	2	0	0	0	2	1	0	3	1	1
7/19	1	0	4	0	0	1	2	1	0	4	2	1
7/20	1	0	6	1	0	2	2	1	0	7	2	2
7/21	1	0	9	1	0	2	3	1	0	9	3	3
7/22	1	0	11	2	0	2	3	1	0	10	5	3
7/23	1	1	13	2	0	2	5	2	1	11	5	4
7/24	3	1	17	4	0	3	7	2	1	13	6	5
7/25	4	2	29	6	1	3	8	2	2	17	8	7
7/26	5	2	40	8	2	4	9	2	3	21	9	10
7/27	5	2	44	9	3	5	11	5	6	26	10	12
7/28	6	3	47	9	4	5	15	5	8	29	12	13
7/29	7	3	56	11	4	6	18	7	11	31	15	15
7/30	9	5	67	11	6	9	20	8	14	33	19	18
7/31	12	6	75	12	7	12	27	10	18	38	24	22
8/01	14	8	79	15	9	15	36	12	26	40	28	25
8/02	15	9	84	19	13	16	41	13	28	42	30	28
8/03	16	26	85	34	22	18	48	13	33	43	33	34
8/04	17	33	86	47	24	21	58	14	35	44	36	38
8/05	17	38	87	50	27	23	66	18	37	45	39	41
8/06	17	45	87	54	29	25	69	25	41	46	42	44
8/07	23	52	88	55	31	32	74	30	46	47	45	48
8/08	30	54	88	56	32	33	75	41	52	52	50	51
8/09	35	59	90	59	34	35	78	56	58	56	52	56
8/10	41	63	92	61	37	38	79	68	59	58	60	60
8/11	54	66	93	68	38	39	86	79	66	60	63	65
8/12	58	68	93	70	41	42	89	86	75	64	65	69
8/13	60	72	95	73	54	43	93	87	78	70	70	72
8/14	63	81	95	74	68	45	94	89	79	74	74	76
8/15	65	83	96	77	71	58	94	96	84	79	80	80
8/16	67	84	97	79	83	70	96	97	84	83	84	84
8/17	77	86	97	80	88	72	98	98	86	89	86	87
8/18	83	88	97	81	89	74	98	98	92	91	87	89
8/19	84	89	98	82	92	77	99	99	93	95	89	91
8/20	86	89	98	85	96	86	99	99	94	97	90	93
8/21	88	91	98	91	98	90	100	100	96	97	90	95
8/22	88	94	98	94	98	97	100	100	98	98	92	97
8/23	89	95	99	95	99	98	100		99	99	93	97
8/24	93	96	99	98	100	99			100	100	94	98
8/25	96	98	100	99	100	100					95	99
8/26	97	99	100	100	100						97	99
8/27	99	99	100	100							98	100
8/28	100	100	100	100							99	100
8/29	100	100									100	100
8/30	100											100

Note: The boxes represent the central 50% of the run and the shaded cells represent the median passage date of the run.

APPENDIX G. AGE, SEX, AND LENGTH DATA

Appendix G1.–Age composition of Chinook salmon caught in the Bethel test fishery by age class, sex and mesh size, 2001–2004.

				Age Class																	
	Sample	Sample		1.1		1.2		2.1		1.3		2.2		1.4		2.3		1.5		2.4		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2001	Season	29	M	0	0.0	1	3.4	0	0.0	8	27.6	0	0.0	10	34.5	0	0.0	1	3.5	0	0.0	20	69.0
8-in			F	0	0.0	0	0.0	0	0.0	1	3.4	0	0.0	5	17.2	0	0.0	3	10.3	0	0.0	9	31.0
(20.3-cm)			Total	0	0.0	1	3.4	0	0.0	9	31.0	0	0.0	15	51.7	0	0.0	4	13.8	0	0.0	29	100.0
2001	Season	46	M	0	0.0	20	44.0	0	0.0	11	23.9	0	0.0	5	10.9	0	0.0	0	0.0	1	2.2	37	80.4
5 3/8-in			F	0	0.0	2	4.0	0	0.0	0	0.0	0	0.0	5	10.9	0	0.0	1	2.2	1	2.1	9	19.6
(13.7-cm)			Total	0	0.0	22	48.0	0	0.0	11	23.9	0	0.0	10	21.7	0	0.0	1	2.2	2	4.3	46	100.0
2001	Season	75	M	0	0.0	21	28.0	0	0.0	19	25.3	0	0.0	15	20.0	0	0.0	1	1.3	1	1.3	57	76.0
Combined			F	0	0.0	2	2.7	0	0.0	1	1.3	0	0.0	10	13.3	0	0.0	4	5.3	1	1.3	18	24.0
			Total	0	0.0	23	30.7	0	0.0	20	26.7	0	0.0	25	33.3	0	0.0	5	6.7	2	2.7	75	100.0
2002	Season	71	M	0	0.0	5	7.1	0	0.0	20	28.2	0	0.0	24	33.8	0	0.0	0	0.0	0	0.0	49	69.0
8-in			F	0	0.0	1	1.4	0	0.0	2	2.8	0	0.0	19	26.8	0	0.0	0	0.0	0	0.0	22	31.0
(20.3-cm)			Total	0	0.0	6	8.5	0	0.0	22	31.0	0	0.0	43	60.6	0	0.0	0	0.0	0	0.0	71	100.0
2002	Season	126	M	0	0.0	57	45.2	0	0.0	42	33.3	3	2.4	14	11.1	0	0.0	1	0.8	0	0.0	117	92.9
5 3/8-in			F	0	0.0	0	0.0	0	0.0	1	0.8	0	0.0	8	6.4	0	0.0	0	0.0	0	0.0	9	7.1
(13.7-cm)			Total	0	0.0	57	45.2	0	0.0	43	34.1	3	2.4	22	17.5	0	0.0	1	0.8	0	0.0	126	100.0
2002	Season	197	M	0	0.0	62	31.5	0	0.0	62	31.5	3	1.5	38	19.3	0	0.0	1	0.5	0	0.0	166	84.3
Combined			F	0	0.0	1	0.5	0	0.0	3	1.5	0	0.0	27	13.7	0	0.0	0	0.0	0	0.0	31	15.7
			Total	0	0.0	63	32.0	0	0.0	65	33.0	3	1.5	65	33.0	0	0.0	1	0.5	0	0.0	197	100.0
2003	Season	94	M	1	1.1	1	1.1	0	0.0	42	44.7	0	0.0	20	21.3	0	0.0	2	2.1	0	0.0	66	70.2
8-in			F	0	0.0	0	0.0	0	0.0	4	4.2	0	0.0	19	20.2	0	0.0	5	5.3	0	0.0	28	29.8
(20.3-cm)			Total	1	1.1	1	1.1	0	0.0	46	48.9	0	0.0	39	41.5	0	0.0	7	7.4	0	0.0	94	100.0
2003	Season	216	M	0	0.0	111	51.4	0	0.0	71	32.8	0	0.0	17	7.8	0	0.0	1	0.5	0	0.0	200	92.6
5 3/8-in			F	0	0.0	0	0.0	0	0.0	6	2.8	0	0.0	6	2.8	0	0.0	4	1.8	0	0.0	16	7.4
(13.7-cm)			Total	0	0.0	111	51.4	0	0.0	77	35.6	0	0.0	23	10.6	0	0.0	5	2.3	0	0.0	216	100.0

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Appendix G1.–Page 2 of 2.

				Age Class																	
	Sample	Sample		1.1		1.2		2.1		1.3		2.2		1.4		2.3		1.5		2.4		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2003	Season	310	M	1	0.3	112	36.1	0	0.0	113	36.5	0	0.0	37	11.9	0	0.0	3	1.0	0	0.0	266	85.8
Combined			F	0	0.0	0	0.0	0	0.0	10	3.2	0	0.0	25	8.1	0	0.0	9	2.9	0	0.0	44	14.2
			Total	1	0.3	112	36.1	0	0.0	123	39.7	0	0.0	62	20.0	0	0.0	12	3.9	0	0.0	310	100.0
2004	Season	168	M	0	0.0	28	16.7	0	0.0	69	41.0	1	0.6	29	17.3	0	0.0	2	1.2	0	0.0	129	76.8
8-in			F	0	0.0	0	0.0	0	0.0	6	3.6	0	0.0	29	17.2	0	0.0	4	2.4	0	0.0	39	23.2
(20.3-cm)			Total	0	0.0	28	16.7	0	0.0	75	44.6	1	0.6	58	34.5	0	0.0	6	3.6	0	0.0	168	100.0
2004	Season	154	M	0	0.0	76	49.4	0	0.0	61	39.6	0	0.0	6	3.9	0	0.0	0	0.0	0	0.0	144	93.5
5 3/8-in			F	0	0.0	0	0.0	0	0.0	1	0.7	1	0.6	8	5.2	0	0.0	1	0.6	0	0.0	10	6.5
(13.7-cm)			Total	0	0.0	76	49.4	0	0.0	62	40.3	1	0.6	14	9.1	0	0.0	1	0.6	0	0.0	154	100.0
2004	Season	322	M	0	0.0	104	32.3	0	0.0	130	40.4	1	0.3	35	10.9	0	0.0	2	0.6	0	0.0	273	84.8
Combined			F	0	0.0	0	0.0	0	0.0	7	2.2	1	0.3	37	11.5	0	0.0	5	1.6	0	0.0	49	15.2
			Total	0	0.0	104	32.3	0	0.0	137	42.5	2	0.6	72	22.4	0	0.0	7	2.2	0	0.0	322	100.0

Appendix G2.–Mean lengths (mm) of Chinook salmon by age class and mesh size from the Bethel test fishery, 2001–2004.

Year	Sample Dates	Sample Size	Sex		Age Class 0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5
2001	Season	29	M	Mean Length			691		739		776		705			
8-in				Range			691-691		686-815		691-857		705-705			
(20.7 cm)				Sample Size	0	0	1	0	8	0	10	0	1	0	0	0
			F	Mean Length					845		872		873			
				Range					845-845		810-901		845-898			
				Sample Size	0		0	0	1	0	5	0	3	0	0	0
2001	Season	46	M	Mean Length			525		658		812			729		
5 3/8-in				Range			430-574		580-730		752-890			729-729		
(13.7 cm)				Sample Size	0	0	20	0	11	0	5	0	0	1	0	0
			F	Mean Length			515				884		999	915		
				Range			440-590				840-952		999-999	915-915		
				Sample Size	0	0	2	0	0	0	5	0	1	1	0	0
2001	Season	75	M	Mean Length			608		699		794		705	729		
Combined				Range			430-691		580-815		691-890		705-705	729-729		
				Sample Size	0	0	21	0	19	0	15	0	1	1	0	0
			F	Mean Length			515		845		878		936	915		
				Range			440-590		845-845		810-952		845-999	915-915		
				Sample Size	0	0	2	0	1	0	10	0	4	1	0	0
2002	Season	71	M	Mean Length			622		742		809					
8-in				Range			588-707		693-808		554-1023					
(20.7 cm)				Sample Size	0	0	5	0	20	0	24	0	0	0	0	0
			F	Mean Length			559		800		838					
				Range			559-559		755-845		748-920					
				Sample Size	0	0	1	0	2	0	19	0	0	0	0	0
2002	Season	126	M	Mean Length			554		647	565	780		778			
5 3/8-in				Range			470-639		466-811	502-597	695-943		778-778			
(13.7 cm)				Sample Size	0	0	57	0	42	3	14	0	1	0	0	0
			F	Mean Length					653		856					
				Range					653-653		750-906					
				Sample Size	0	0	0	0	1	0	8	0	0	0	0	0

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Year	Sample Dates	Sample Size	Sex		Age Class 0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5
2002	Season		M	Mean Length			588		695	565	795		778			
Combined				Range			470-707		466-811	502-597	554-1023		778-778			
				Sample Size	0	0	62	0	62	3	38	0	1	0	0	0
			F	Mean Length			559		727		847					
				Range			559-559		653-845		748-920					
				Sample Size	0	0	1	0	3	0	27	0	0	0	0	0
2003	Season	94	M	Mean Length		395	545		738		812		884			
8-in				Range		395-395	545-545		631-832		690-920		825-943			
(20.7 cm)				Sample Size	0	1	1	0	42	0	20	0	2	0	0	0
			F	Mean Length					819		861.0		846			
				Range					781-869		729-933		776-893			
				Sample Size	0	0	0	0	4	0	19.0	0	5	0	0	0
2003	Season	216	M	Mean Length			550		660		813		841			
5 3/8-in				Range			425-768		465-860		700-983		841-841			
(13.7 cm)				Sample Size	0	0	111	0	71	0	17	0	1	0	0	0
			F	Mean Length					786		852		878			
				Range					693-869		816-923		826-936			
				Sample Size	0	0	0	0	6	0	6	0	4	0	0	0
2003	Season	310	M	Mean Length		395	548		699		813		863			
Combined				Range		395-395	425-768		465-860		690-983		825-943			
				Sample Size	0	1	112	0	113	0	37	0	3	0	0	0
			F	Mean Length					803		857		862			
				Range					693-869		729-933		776-936			
				Sample Size	0	0	0	0	10	0	25	0	9	0	0	0
2004	Season	168	M	Mean Length			621		700	613	805		834			
8-in				Range			517-683		420-790	613-613	620-967		778-890			
(20.7 cm)				Sample Size	0	0	28	0	69	1	29	0	2	0	0	0
			F	Mean Length					814		861.0		819			
				Range					724-893		746-1020		778-890			
				Sample Size	0	0	0	0	6	0	29.0	0	4	0	0	0

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Year	Sample Dates	Sample Size	Sex		Age Class 0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5
2004	Season	154	M	Mean Length			580		637	620	840					
5 3/8-in				Range			500-698		495-850	620-620	700-988					
(13.7 cm)				Sample Size	0	0	76	0	61	1	6	0	0	0	0	0
			F	Mean Length					808		834		887			
				Range					808-808		714-930		887-887			
				Sample Size	0	0	0	0	1	0	8	0	1	0	0	0
2004	Season	322	M	Mean Length			601		669	617	823		834			
Combined				Range			55-698		420-850	613-620	620-988		778-890			
				Sample Size	0	0	104	0	130	2	35	0	2	0	0	0
			F	Mean Length					811		848		853			
				Range					724-893		714-1020		778-890			
				Sample Size	0	0	0	0	7	0	37	0	5	0	0	0

Appendix G3.–Age composition of sockeye salmon caught in the Bethel test fishery by age class, sex and mesh size, 2002–2004.

				Age Class															
	Sample	Sample		0.3		1.2		0.4		1.3		2.2		1.4		2.3		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2002	Season	6	M	0	0.0	2	18.2	0	0.0	3	27.3	2	18.2	2	18.2	2	18.2	11	100.0
8-in			F	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
(20.3 cm)			Total	0	0.0	2	18.2	0	0.0	3	27.3	2	18.2	2	18.2	2	18.2	11	100.0
2002	Season	127	M	1	1.1	4	4.6	0	0.0	15	17.2	4	4.6	5	5.7	3	3.4	32	36.8
5 3/8-in			F	0	0.0	5	5.7	0	0.0	32	36.8	6	6.9	8	9.2	4	4.6	55	63.2
(13.7 cm)			Total	1	1.1	9	10	0	0.0	47	54.0	10	11.5	13	14.9	7	8.0	87	100.0
2002	Season	133	M	1	1.1	6	6.1	0	0.0	18	18.4	6	6.1	7	7.1	5	5.1	43	43.9
Combined			F	0	0.0	5	5.1	0	0.0	32	32.6	6	6.1	8	8.2	4	4.1	55	56.1
			Total	1	1.1	11	11	0	0.0	50	51.0	12	12.2	15	15.3	9	9.2	98	100.0
2003	Season	6	M	0	0.0	0	0	0	0.0	2	33.3	0	0.0	2	33.3	0	0.0	4	66.7
8-in			F	0	0.0	1	17	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	2	33.3
(20.3 cm)			Total	0	0.0	1	17	0	0.0	3	50.0	0	0.0	2	33.3	0	0.0	6	100.0
2003	Season	127	M	0	0.0	6	4.7	0	0.0	38	29.9	3	2.3	3	2.3	4	3.2	54	42.5
5 3/8-in			F	0	0.0	4	3.2	0	0.0	59	46.5	2	1.6	1	0.8	7	5.5	73	57.5
(13.7 cm)			Total	0	0.0	10	7.9	0	0.0	97	76.4	5	3.9	4	3.1	11	8.7	127	100.0
2003	Season	133	M	0	0.0	6	4.5	0	0.0	40	30.1	3	2.3	5	3.8	4	3.0	58	43.6
Combined			F	0	0.0	5	3.8	0	0.0	60	45.1	2	1.5	1	0.7	7	5.3	75	56.4
			Total	0	0.0	11	8.3	0	0.0	100	75.2	5	3.8	6	4.5	11	8.3	133	100.0
2004	Season	24	M	0	0.0	4	17	0	0	10	42	2	8.3	0	0	0	0	16	66.7
8-in			F	0	0.0	4	17	0	0	4	17	0	0	0	0	0	0	8	33.3
(20.3 cm)			Total	0	0.0	8	33	0	0	14	58	2	8.3	0	0	0	0	24	100.0
2004	Season	131	M	0	0.0	20	15	0	0	28	21	2	1.5	0	0.0	4	3.0	54	41.2
5 3/8-in			F	0	0.0	18	14	0	0	47	36	6	4.6	3	2.3	3	2.3	77	58.8
(13.7 cm)			Total	0	0.0	38	29	0	0	75	57	8	6.1	3	2.3	7	5.3	131	100.0
2004	Season	155	M	0	0.0	24	16	0	0	38	25	4	2.6	0	0	4	2.6	70	45.2
Combined			F	0	0.0	22	14	0	0	51	33	6	3.9	3	1.9	3	1.9	85	54.8
			Total	0	0.0	46	30	0	0	89	57	10	6.5	3	1.9	7	4.5	155	100.0

Appendix G4.–Mean lengths (mm) of sockeye salmon by age class and mesh size from the Bethel test fishery, 2002–2004.

Year	Sample Dates	Sample Size	Sex		Age Class 0.3	1.2	0	1.3	2.2	1.4	2.3
2002	Season	11	M	Mean Length		509		527	531	643	565
8-in				Range		483-535		471-557	528-533	599-686	556-573
(20.3 cm)				Sample Size	0	2	0	3	2	2	2
			F	Mean Length							
				Range							
				Sample Size	0	0	0	0	0	0	0
2002	Season	87	M	Mean Length	629	550		594	548	653	599
5 3/8-in				Range	629-629	535-568		535-640	526-568	628-688	567-622
(13.7 cm)				Sample Size	1	4	0	15	4	5	3
			F	Mean Length		516		560	532	585	583
				Range		500-526		502-601	517-563	574-620	562-615
				Sample Size	0	5	0	32	6	8	4
2002	Season	98	M	Mean Length	629	536		583	542	650	585
Combined				Range	629-629	483-568		471-640	526-568	599-688	556-622
				Sample Size	1	6	0	18	6	7	5
			F	Mean Length		516		560	532	585	583
				Range		500-526		502-601	517-563	574-620	562-615
				Sample Size	0	5	0	32	6	8	4
2003	Season	6	M	Mean Length				645		570	
8.0-in				Range				632-658		550-590	
(20.3 cm)				Sample Size	0	0	0	2	0	2	0
			F	Mean Length		514		588			
				Range		514-514		588-588			
				Sample Size	0	1	0	1	0	0	0
2003	Season	127	M	Mean Length		507		605	576	625	598
5 3/8-in				Range		455-557		538-645	560-592	615-632	564-627
(13.7 cm)				Sample Size	0	6	0	38	3	3	4
			F	Mean Length		514		568	513	559	587
				Range		490-539		509-649	500-525	559-559	572-600
				Sample Size	0	4	0	59	2	1	7
2003	Season	133	M	Mean Length		507		607	576	603	598
Combined				Range		455-557		538-658	560-592	550-632	564-627
				Sample Size	0	6	0	40	3	5	4
			F	Mean Length		514		569	513	559	587
				Range		490-539		509-649	500-525	559-559	572-600
				Sample Size	0	5	0	60	2	1	7

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Year	Sample Dates	Sample Size	Sex		Age Class 0.3	1.2	0	1.3	2.2	1.4	2.3
2004	Season	131	M	Mean Length		545		587	551		608
5 3/8-in				Range		498-606		525-642	545-556		593-623
(13.7 cm)				Sample Size	0	20	0	28	2	0	4
			F	Mean Length		519		559	531	570	592
				Range		496-563		498-604	505-568	560-577	569-627
				Sample Size	0	18	0	47	6	3	3
2004	Season	155	M	Mean Length		561		604	568		608
Combined				Range		482-646		525-670	505-663		593-623
				Sample Size	0	24	0	38	4	0	4
			F	Mean Length		519		571	531	570	592
				Range		496-543		498-614	505-568	560-577	569-627
				Sample Size	0	22	0	51	6	3	3

Appendix G5.–Age composition of chum salmon caught in the Bethel test fishery by age class, sex and mesh size, 1994, 1995, 2000–2004.

				Age Class									
				0.2		0.3		0.4		0.5		Total	
Year	Sample Dates	Sample Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
1994	6/2-15	86	M	0	0.0	8	9.3	25	29.1	3	3.5	36	41.9
			F	0	0.0	11	12.8	38	44.2	1	1.2	5	58.1
			Subtotal	0	0.0	19	22.1	63	73.3	4	4.7	86	100.0
	6/16-20	142	M	0	0.0	20	14.1	41	28.9	2	1.4	63	44.4
			F	0	0.0	23	16.2	55	38.7	1	0.7	79	55.6
			Subtotal	0	0.0	43	30.3	96	67.6	3	2.1	142	100.0
	6/21-28	216	M	0	0.0	60	27.8	58	26.8	3	1.4	121	56.0
			F	0	0.0	50	23.1	44	20.4	1	0.5	95	44.0
			Subtotal	0	0.0	110	50.9	102	47.2	4	1.9	216	100.0
	6/29-7/3	109	M	0	0.0	27	24.8	10	9.2	1	0.9	38	34.9
			F	0	0.0	47	43.1	24	22.0	0	0.0	71	65.1
			Subtotal	0	0.0	74	67.9	34	31.2	1	0.9	109	100.0
	7/4-6	258	M	3	1.2	62	24.0	27	10.4	0	0.0	92	35.7
			F	0	0.0	132	51.2	34	13.2	0	0.0	166	64.3
			Subtotal	3	1.2	194	75.2	61	23.6	0	0.0	258	100.0
	7/7-9	410	M	3	0.7	116	28.3	26	6.4	2	0.5	147	35.9
			F	2	0.5	201	49.0	60	14.6	0	0.0	263	64.1
			Subtotal	5	1.2	317	77.3	86	21.0	2	0.5	410	100.0
	7/10-12	133	M	0	0.0	40	30.1	10	7.5	0	0.0	50	37.6
			F	0	0.0	68	51.1	15	11.3	0	0.0	83	62.4
			Subtotal	0	0.0	108	81.2	25	18.8	0	0.0	133	100.0
	7/13-18	126	M	1	0.8	28	22.2	5	4.0	0	0.0	34	27.0
			F	1	0.8	73	58.0	18	14.3	0	0.0	92	73.0
			Subtotal	2	1.6	101	80.2	23	18.3	0	0.0	126	100.0
	7/19-24	98	M	0	0.0	34	34.7	6	6.1	0	0.0	40	40.8
			F	0	0.0	49	50.0	9	9.2	0	0.0	58	59.2
			Subtotal	0	0.0	83	84.7	15	15.3	0	0.0	98	100.0
	7/25-8/16	62	M	0	0.0	7	11.3	4	6.5	0	0.0	11	17.7
			F	0	0.0	41	66.1	10	16.1	0	0.0	51	82.3
			Subtotal	0	0.0	48	77.4	14	22.6	0	0.0	62	100.0
	Season	1640	M	7	0.4	402	24.5	212	12.9	11	0.7	632	38.5
			F	3	0.2	695	42.4	307	18.7	3	0.2	1008	61.5
			Subtotal	10	0.6	1097	66.9	519	31.6	14	0.9	1640	100.0
1995	6/11-17	47	M	0	0.0	5	10.6	10	21.3	1	2.2	16	34.0
			F	2	4.3	6	12.8	22	46.8	1	2.1	31	66.0
			Subtotal	2	4.3	11	23.4	32	68.1	2	4.3	47	100.0
	6/18-21	119	M	1	0.8	27	22.7	36	30.3	0	0.0	64	53.8
			F	0	0.0	24	20.2	31	26.0	0	0.0	55	46.2
			Subtotal	1	0.8	51	42.9	67	56.3	0	0.0	119	100.0
	6/22-25	174	M	3	1.7	30	17.3	44	25.3	3	1.7	80	46.0
			F	0	0.0	46	26.4	47	27.0	1	0.6	94	54.0
			Subtotal	3	1.7	76	43.7	91	52.3	4	2.3	174	100.0
	6/26-30	153	M	0	0.0	37	24.2	20	13.1	0	0.0	57	37.3
			F	2	1.3	60	39.2	34	22.2	0	0.0	96	62.7
			Subtotal	2	1.3	97	63.4	54	35.3	0	0.0	153	100.0

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Year	Sample Dates	Sample Size	Sex	Age Class 0.2 Catch	0.2 %	0.3 Catch	0.3 %	0.4 Catch	0.4 %	0.5 Catch	0.5 %	Total Catch	Total %
1995	7/1-4	213	M	7	3.3	39	18.3	33	15.5	0	0.0	79	37.1
			F	5	2.3	82	38.5	46	21.6	1	0.5	134	62.9
			Subtotal	12	5.6	121	56.8	79	34.1	1	0.5	213	100.0
	7/5-8	168	M	5	3.0	33	19.7	27	16.1	1	0.6	66	39.3
			F	5	3.0	54	32.1	42	25.0	1	0.6	102	60.7
			Subtotal	10	6.0	87	51.8	69	41.1	2	1.2	168	100.0
	7/9-12	166	M	9	5.4	41	24.7	12	7.2	0	0.0	62	37.3
			F	5	3.0	59	35.5	38	22.9	2	1.2	104	62.7
			Subtotal	14	8.4	100	60.2	50	30.1	2	1.2	166	100.0
	7/13-18	81	M	1	1.2	20	24.7	15	18.5	0	0.0	36	44.4
			F	4	5.0	26	32.1	14	17.3	1	1.2	45	55.6
			Subtotal	5	6.2	46	56.8	29	35.8	1	1.2	81	100.0
	7/19-24	70	M	2	2.9	12	17.1	5	7.2	0	0.0	19	27.1
			F	7	10.0	24	34.3	19	27.1	1	1.4	51	72.9
			Subtotal	9	12.9	36	51.4	24	34.3	1	1.4	70	100.0
	7/25-8/6	57	M	2	3.5	11	19.3	9	15.8	0	0.0	22	38.6
			F	4	7.0	19	33.3	12	21.0	0	0.0	35	61.4
			Subtotal	6	10.5	30	52.6	21	36.8	0	0.0	57	100.0
	Season	1248	M	30	2.4	255	20.4	211	16.9	5	0.4	501	40.1
			F	34	2.7	400	32.1	305	24.4	8	0.6	747	59.9
			Subtotal	64	5.1	655	52.5	516	41.3	13	1.0	1248	100.0
2000	6/20-23	46	M	0	0.0	5	10.9	7	15.2	0	0.0	12	26.1
			F	0	0.0	15	32.6	17	37.0	2	4.3	34	73.9
			Subtotal	0	0.0	20	43.5	24	52.2	2	4.3	46	100.0
	6/24-27	62	M	0	0.0	12	19.3	8	12.9	0	0.0	20	32.3
			F	0	0.0	28	45.2	14	22.6	0	0.0	42	67.7
			Subtotal	0	0.0	40	64.5	22	35.5	0	0.0	62	100.0
	6/28-30	76	M	0	0.0	26	34.2	6	7.9	0	0.0	32	42.1
			F	0	0.0	28	36.9	15	19.7	1	1.3	44	57.9
			Subtotal	0	0.0	54	71.1	21	27.6	1	1.3	76	100.0
	7/1-2	133	M	0	0.0	42	31.6	8	6.0	1	0.8	51	38.3
			F	0	0.0	55	41.3	26	19.6	1	0.7	82	61.7
			Subtotal	0	0.0	97	72.9	34	25.6	2	1.5	133	100.0
	7/3-4	127	M	1	0.8	41	32.3	12	9.4	1	0.8	55	43.3
			F	1	0.8	45	35.4	26	20.5	0	0.0	72	56.7
			Subtotal	2	1.6	86	67.7	38	29.9	1	0.8	127	100.0
	7/5-7	117	M	2	1.7	31	26.5	13	11.1	0	0.0	46	39.3
			F	2	1.7	56	47.9	13	11.1	0	0.0	71	60.7
			Subtotal	4	3.4	87	74.4	26	22.2	0	0.0	117	100.0
	7/8-12	78	M	2	2.6	12	15.4	3	3.8	1	1.3	18	23.1
			F	0	0.0	46	59.0	14	18.0	0	0.0	60	76.9
			Subtotal	2	2.6	58	74.4	17	21.8	1	1.3	78	100.0
	7/13-15	50	M	2	4.0	11	22.0	5	10.0	0	0.0	18	36.0
			F	3	6.0	20	40.0	9	18.0	0	0.0	32	64.0
			Subtotal	5	10.0	31	62.0	14	28.0	0	0.0	50	100.0

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Year	Sample Dates	Sample Size	Sex	Age Class 0.2 Catch	0.2 %	0.3 Catch	0.3 %	0.4 Catch	0.4 %	0.5 Catch	0.5 %	Total Catch	Total %
2000	7/17-20	19	M	1	5.3	5	26.3	1	5.3	0	0.0	7	36.8
			F	2	10.5	10	52.6	0	0.0	0	0.0	12	63.2
			Subtotal	3	15.8	15	78.9	1	5.3	0	0.0	19	100.0
	7/21-31	26	M	0	0.0	8	30.8	1	3.9	0	0.0	10	38.5
			F	5	19.2	8	30.7	1	3.8	0	0.0	16	61.5
			Subtotal	5	19.2	16	61.5	2	7.7	0	0.0	26	100.0
	Season	734	M	8	1.1	193	26.3	64	8.7	3	0.4	269	36.6
			F	13	1.8	311	42.4	135	18.4	4	0.6	465	63.4
			Subtotal	21	2.9	504	68.7	199	27.1	7	1.0	734	100.0
2001	6/5, 13, 18, 20	20	M	0	0.0	1	5.0	4	20.0	0	0.0	5	25.0
			F	0	0.0	7	35.0	8	40.0	0	0.0	15	75.0
			Subtotal	0	0.0	8	40.0	12	60.0	0	0.0	20	100.0
	6/23, 28	196	M	0	0.0	42	21.4	25	12.8	0	0.0	67	34.2
			F	1	0.5	67	34.2	61	31.1	0	0.0	129	65.8
			Subtotal	1	0.5	109	55.6	86	43.9	0	0.0	196	100.0
	7/1-5	147	M	0	0.0	37	25.2	14	9.5	0	0.0	51	34.7
			F	0	0.0	68	46.2	28	19.1	0	0.0	96	65.3
			Subtotal	0	0.0	105	71.4	42	28.6	0	0.0	147	100.0
	7/6-11	228	M	1	0.5	72	31.6	11	4.8	1	0.6	84	36.8
			F	1	0.4	118	51.7	25	11.0	0	0.0	144	63.2
			Subtotal	2	0.9	190	83.3	36	15.8	1	0.6	228	100.0
	7/16-22	163	M	2	1.3	55	33.7	10	6.1	0	0.0	68	41.7
			F	2	1.2	85	52.2	8	4.9	1	1.9	95	58.3
			Subtotal	4	2.5	140	85.9	18	11.0	1	1.9	163	100.0
	7/24-8/7	54	M	0	0.0	12	22.2	1	1.9	1	0.1	13	24.1
			F	2	3.7	34	63.0	4	7.4	1	0.1	41	75.9
			Subtotal	2	3.7	46	85.2	5	9.3	2	0.2	54	100.0
	Season	808	M	3	0.4	219	27.1	65	8.0	2	3.7	288	35.6
			F	6	0.7	379	46.9	134	16.6	1	1.8	520	64.4
			Subtotal	9	1.1	598	74.0	199	24.6	3	5.5	808	100.0
2002	6/6-14	55	M	0	0.0	14	25.4	6	10.9	2	3.7	22	40.0
			F	0	0.0	16	29.1	16	29.1	1	1.8	33	60.0
			Subtotal	0	0.0	30	54.5	22	40.0	3	5.5	55	100.0
	6/15-18	70	M	0	0.0	16	22.9	15	21.4	0	0.0	31	44.3
			F	0	0.0	26	37.1	13	18.6	0	0.0	39	55.7
			Subtotal	0	0.0	42	60.0	28	40.0	0	0.0	70	100.0
	6/19-21	90	M	0	0.0	27	30.0	9	10.0	1	1.1	37	41.1
			F	0	0.0	35	38.9	18	20.0	0	0.0	53	58.9
			Subtotal	0	0.0	62	68.9	27	30.0	1	1.1	90	100.0
	6/22-24	96	M	1	1.0	31	32.3	9	9.4	1	1.0	42	43.8
			F	0	0.0	39	40.6	15	15.6	0	0.0	54	56.2
			Subtotal	1	1.0	70	72.9	24	25.0	1	1.0	96	100.0
	6/25-27	110	M	1	0.9	27	24.5	12	10.9	0	0.0	40	36.4
			F	1	0.9	49	44.6	20	18.2	0	0.0	70	63.6
			Subtotal	2	1.8	76	69.1	32	29.1	0	0.0	110	100.0

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Year	Sample Dates	Sample Size	Sex	Age Class 0.2 Catch	0.2 %	0.3 Catch	0.3 %	0.4 Catch	0.4 %	0.5 Catch	0.5 %	Total Catch	Total %
2002	6/29-7/1	78	M	0	0.0	25	32.1	4	5.1	0	0.0	29	37.2
			F	0	0.0	38	48.7	11	14.1	0	0.0	49	62.8
			Subtotal	0	0.0	63	80.8	15	19.2	0	0.0	78	100.0
	7/8-9	98	M	1	1.0	20	20.4	3	3.0	0	0.0	24	24.5
			F	1	1.0	65	66.3	8	8.2	0	0.0	74	75.5
			Subtotal	2	2.0	85	86.7	11	11.2	0	0.0	98	100.0
	7/10-12	109	M	2	1.9	37	33.9	4	3.7	1	0.9	44	40.4
			F	2	1.8	56	51.4	7	6.4	0	0.0	65	59.6
			Subtotal	4	3.7	93	85.3	11	10.1	1	0.9	109	100.0
	7/15-17	189	M	10	5.3	50	26.4	9	4.8	0	0.0	69	36.5
			F	15	7.9	95	50.3	10	5.3	0	0.0	120	63.5
			Subtotal	25	13.2	145	76.7	19	10.1	0	0.0	189	100.0
	7/23-30	99	M	9	9.1	27	27.2	3	3.0	1	1.0	40	40.4
			F	11	11.1	47	47.5	1	1.0	0	0.0	59	59.6
			Subtotal	20	20.2	74	74.7	4	4.0	1	1.0	99	100.0
	Season	994	M	24	2.4	274	27.5	74	7.4	6	0.6	378	38.0
			F	30	3.0	466	46.9	119	12.0	1	0.1	616	62.0
			Subtotal	54	5.4	740	74.4	193	19.4	7	0.7	994	100.0
2003	6/11-18	40	M	1	2.5	10	25.0	14	35.0	1	2.5	26	65.0
			F	0	0.0	7	17.5	7	17.5	0	0.0	14	35.0
			Subtotal	1	2.5	17	42.5	21	52.5	1	2.5	40	100.0
	6/19	81	M	0	0.0	19	23.5	7	8.6	0	0.0	26	32.1
			F	0	0.0	39	48.1	16	19.8	0	0.0	55	67.9
			Subtotal	0	0.0	58	71.6	23	28.4	0	0.0	81	100.0
	6/20- 7	72	M	0	0.0	20	27.8	11	15.3	1	1.4	32	44.4
			F	0	0.0	24	33.3	16	22.2	0	0.0	40	55.6
			Subtotal	0	0.0	44	61.1	27	37.5	1	1.4	72	100.0
	6/28-29	46	M	0	0.0	12	26.1	1	2.2	0	0.0	13	28.3
			F	0	0.0	28	60.9	4	8.7	1	2.2	33	71.7
			Subtotal	0	0.0	40	87.0	5	10.9	1	2.2	46	100.0
	6/30	85	M	0	0.0	28	32.9	7	8.2	0	0.0	35	41.2
			F	0	0.0	44	51.8	6	7.1	0	0.0	50	58.8
			Subtotal	0	0.0	72	84.7	13	15.3	0	0.0	85	100.0
	7/1-2	49	M	0	0.0	12	24.5	3	6.1	1	2.0	16	32.7
			F	0	0.0	29	59.2	4	8.2	0	0.0	33	67.3
			Subtotal	0	0.0	41	83.7	7	14.3	1	2.0	49	100.0
	7/3-4	114	M	0	0.0	50	43.8	3	2.6	0	0.0	53	46.5
			F	0	0.0	54	47.4	6	5.3	1	0.9	61	53.5
			Subtotal	0	0.0	104	91.2	9	7.9	1	0.9	114	100.0
	7/5-7	97	M	0	0.0	31	32.0	3	3.1	0	0.0	34	35.1
			F	2	2.1	53	54.6	8	8.2	0	0.0	63	64.9
			Subtotal	2	2.1	84	86.6	11	11.3	0	0.0	97	100.0
	7/8-17	67	M	0	0.0	23	34.3	5	7.4	0	0.0	28	41.8
			F	0	0.0	36	53.8	3	4.5	0	0.0	39	58.2
			Subtotal	0	0.0	59	88.1	8	11.9	0	0.0	67	100.0

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				Age Class									
	Sample	Sample		0.2		0.3		0.4		0.5		Total	
Year	Dates	Size	Sex	Catch	%	Catch	%	Catch	%	Catch	%	Catch	%
2003	7/18-24	95	M	0	0.0	30	31.6	1	1.1	0	0.0	31	32.6
			F	0	0.0	63	66.3	1	1.0	0	0.0	64	67.4
			Subtotal	0	0.0	93	97.9	2	2.1	0	0.0	95	100.0
	Season	746	M	1	0.1	235	31.5	55	7.4	3	0.4	294	39.4
			F	2	0.3	377	50.5	71	9.5	2	0.3	452	60.6
			Subtotal	3	0.4	612	82.0	126	16.9	5	0.7	746	100.0
2004	6/2-17	59	M	0	0.0	11	18.6	14	23.7	0	0.0	25	42.4
			F	0	0.0	6	10.2	28	47.5	0	0.0	34	57.6
			Subtotal	0	0.0	17	28.8	42	71.2	0	0.0	59	100.0
	6/19	18	M	0	0.0	4	22.2	2	11.1	0	0.0	6	33.3
			F	1	5.6	4	22.2	7	38.9	0	0.0	12	66.7
			Subtotal	1	5.6	8	44.4	9	50.0	0	0.0	18	100.0
	6/22-24	69	M	4	5.8	12	17.4	17	24.7	0	0.0	33	47.8
			F	1	1.4	10	14.5	25	36.2	0	0.0	36	52.2
			Subtotal	5	7.2	22	31.9	42	60.9	0	0.0	69	100.0
	6/26	46	M	4	8.7	12	26.1	11	23.9	0	0.0	27	58.7
			F	5	10.9	7	15.2	7	15.2	0	0.0	19	41.3
			Subtotal	9	19.6	19	41.3	18	39.1	0	0.0	46	100.0
	6/28-29	27	M	5	18.5	9	33.3	3	11.1	0	0.0	17	63.0
			F	2	7.4	4	14.8	4	14.8	0	0.0	10	37.0
			Subtotal	7	25.9	13	48.1	7	25.9	0	0.0	27	100.0
	7/1-5	51	M	8	15.7	9	17.6	9	17.7	0	0.0	26	51.0
			F	2	3.9	13	25.5	10	19.6	0	0.0	25	49.0
			Subtotal	10	19.6	22	43.1	19	37.3	0	0.0	51	100.0
	7/8-13	90	M	22	24.4	12	13.4	10	11.1	0	0.0	44	48.9
			F	16	17.8	20	22.2	10	11.1	0	0.0	46	51.1
			Subtotal	38	42.2	32	35.6	20	22.2	0	0.0	90	100.0
	7/15-26	79	M	17	21.5	11	13.9	5	6.4	0	0.0	33	41.8
			F	16	20.3	19	24.1	11	13.9	0	0.0	46	58.2
			Subtotal	33	41.8	30	38.0	16	20.3	0	0.0	79	100.0
	7/28-29, 8/8-17	32	M	6	18.8	2	6.3	1	3.2	0	0.0	9	28.1
			F	16	50.0	6	18.7	1	3.1	0	0.0	23	71.9
			Subtotal	22	68.8	8	25.0	2	6.3	0	0.0	32	100.0
	Season	471	M	66	14.0	82	17.4	72	15.3	0	0.0	220	46.7
			F	59	12.5	89	18.9	103	21.9	0	0.0	251	53.3
			Subtotal	125	26.5	171	36.3	175	37.2	0	0.0	471	100.0

Appendix G6.–Mean lengths (mm) of chum salmon by age class and mesh size from the Bethel test fishery, 1994–2004.

Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
1994	6/2 - 15	M	Mean Length		580	590	624
			Std. Error		6	6	11
			Range		560-605	514-665	607-644
			Sample Size	0	8	25	3
		F	Mean Length		582	578	573
			Std. Error		10	3	-
			Range		525-645	536-625	573-573
			Sample Size	0	11	38	1
	6/16 - 20	M	Mean Length		583	592	617
			Std. Error		7	4	34
			Range		536-650	547-645	583-651
			Sample Size	0	20	41	2
		F	Mean Length		569	566	560
			Std. Error		4	3	-
			Range		539-601	513-607	560-560
			Sample Size	0	23	54	1
	6/21 - 28	M	Mean Length		594	588	570
			Std. Error		4	4	23
			Range		537-679	512-634	531-612
			Sample Size	0	60	58	3
		F	Mean Length		558	563	536
			Std. Error		4	4	-
			Range		505-663	512-615	536-536
			Sample Size	0	50	44	1
	6/29 - 7/3	M	Mean Length		558	567	604
			Std. Error		5	11	-
			Range		500-607	503-619	604-604
			Sample Size	0	27	10	1
		F	Mean Length		536	548	
			Std. Error		5	5	
			Range		484-620	495-615	
			Sample Size	0	47	24	0
	7/4 - 6	M	Mean Length	547	566	568	
			Std. Error	18	4	5	
			Range	511-569	509-630	495-621	
			Sample Size	3	62	27	0
		F	Mean Length		536	545	
			Std. Error		2	5	
			Range		467-599	490-609	
			Sample Size	0	132	34	0
	7/7 - 9	M	Mean Length	537	550	552	573
			Std. Error	31	3	6	17
			Range	483-592	490-634	493-608	556-590
			Sample Size	3	116	26	2
		F	Mean Length	505	533	532	
			Std. Error	13	2	3	
			Range	492-518	474-607	490-615	
			Sample Size	2	201	60	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
1994	7/10 - 12	M	Mean Length		549	566	
			Std. Error		4	10	
			Range		507-606	517-624	
			Sample Size	0	40	10	0
		F	Mean Length		529	532	
			Std. Error		3	7	
			Range		487-604	481-571	
			Sample Size	0	68	15	0
	7/13 - 18	M	Mean Length	494	552	536	
			Std. Error	-	4	5	
			Range	494-494	496-604	521-551	
			Sample Size	1	28	5	0
		F	Mean Length	537	530	535	
			Std. Error	-	3	6	
			Range	537-537	492-601	512-597	
			Sample Size	1	73	18	0
	7/19 - 24	M	Mean Length		560	565	
			Std. Error		4	9	
			Range		514-615	534-597	
			Sample Size	0	34	6	0
		F	Mean Length		542	563	
			Std. Error		4	6	
			Range		437-592	536-595	
			Sample Size	0	49	9	0
	7/25 - 8/16	M	Mean Length		548	586	
			Std. Error		5	22	
			Range		533-573	555-651	
			Sample Size	0	7	4	0
		F	Mean Length		538	544	
			Std. Error		4	9	
			Range		496-592	503-585	
			Sample Size	0	41	10	0
	Season	M	Mean Length	535	563	578	597
			Range	483-592	490-679	493-665	531-651
			Sample Size	7	402	212	11
		F	Mean Length	516	538	552	556
			Range	492-537	437-663	481-625	536-573
			Sample Size	3	695	306	3
1995	6/2 - 15	M	Mean Length		578	588	581
			Std. Error		8	9	-
			Range		559-600	543-629	581-581
			Sample Size	0	5	10	1
		F	Mean Length	520	576	577	578
			Std. Error	13	10	6	-
			Range	507-533	562-625	519-635	578-578
			Sample Size	2	6	22	1
	6/2 - 15	M	Mean Length	520	589	596	
			Std. Error	-	7	5	
			Range	520-520	545-689	547-661	
			Sample Size	1	27	36	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
1995	6/2 - 15	F	Mean Length		563	566	
			Std. Error		5	5	
			Range		517-650	510-640	
			Sample Size	0	24	31	0
	6/2 - 15	M	Mean Length	562	587	586	599
			Std. Error	9	5	4	9
			Range	551-581	534-632	529-648	582-610
			Sample Size	3	30	44	3
		F	Mean Length		553	560	535
			Std. Error		3	4	-
			Range		507-610	499-624	535-535
			Sample Size	0	46	47	1
	6/2 - 15	M	Mean Length		578	577	
			Std. Error		5	7	
			Range		534-656	542-659	
			Sample Size	0	37	20	0
		F	Mean Length	528	546	545	
			Std. Error	9	3	3	
			Range	519-536	501-628	521-585	
			Sample Size	2	60	34	0
	7/1 - 4	M	Mean Length	534	582	594	
			Std. Error	10	4	6	
			Range	501-570	530-633	501-681	
			Sample Size	7	39	33	0
		F	Mean Length	539	551	562	572
			Std. Error	14	3	4	-
			Range	495-577	422-609	490-634	572-572
			Sample Size	5	82	46	1
	7/5 - 8	M	Mean Length	554	576	567	560
			Std. Error	10	5	6	-
			Range	527-574	523-647	509-639	560-560
			Sample Size	5	33	27	1
		F	Mean Length	545	550	557	569
			Std. Error	10	3	4	-
			Range	514-567	504-601	509-618	569-569
			Sample Size	5	54	42	1
	7/9 - 12	M	Mean Length	549	570	576	
			Std. Error	12	4	12	
			Range	509-626	502-652	525-658	
			Sample Size	9	41	12	0
		F	Mean Length	530	548	566	577
			Std. Error	11	3	5	14
			Range	489-549	584-597	502-641	563-590
			Sample Size	5	59	38	2
	7/13 - 18	M	Mean Length	517	578	586	
			Std. Error	-	7	11	
			Range	517-517	531-641	525-687	
			Sample Size	1	20	15	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
1995	7/13 - 18	F	Mean Length	513	547	551	580
			Std. Error	5	4	7	-
			Range	500-522	505-596	486-579	580-580
			Sample Size	4	26	14	1
	7/19 - 24	M	Mean Length	530	566	576	
			Std. Error	4	8	13	
			Range	526-533	535-639	535-601	
			Sample Size	2	12	5	0
		F	Mean Length	524	536	546	531
			Std. Error	9	5	7	-
			Range	490-558	483-564	483-590	531-531
			Sample Size	7	24	19	1
	7/25 - 8/6	M	Mean Length	537	547	569	
			Std. Error	12	9	11	
			Range	525-549	489-601	525-616	
			Sample Size	2	11	9	0
		F	Mean Length	529	541	562	
			Std. Error	20	5	6	
			Range	509-589	500-574	531-597	
			Sample Size	4	19	12	0
	Season	M	Mean Length	544	577	584	588
			Range	501-626	489-689	501-687	560-610
			Sample Size	30	255	211	5
		F	Mean Length	529	549	560	565
			Range	489-589	422-650	483-641	531-590
			Sample Size	34	400	305	8
2000	6/20 - 23	M	Mean Length		589	621	
			Std. Error		3	17	
			Range		583-600	558-691	
			Sample Size	0	5	7	0
		F	Mean Length		557	591	577
			Std. Error		7	6	22
			Range		522-622	548-634	555-599
			Sample Size	0	15	17	2
	6/24 - 27	M	Mean Length		591	611	
			Std. Error		5	11	
			Range		564-624	571-671	
			Sample Size	0	12	8	0
		F	Mean Length		558	572	
			Std. Error		5	6	
			Range		500-610	540-615	
			Sample Size	0	28	14	0
	6/28 - 30	M	Mean Length		576	602	
			Std. Error		4	12	
			Range		540-611	561-639	
			Sample Size	0	26	6	0
		F	Mean Length		555	567	537
			Std. Error		3	6	-
			Range		504-579	515-614	537-537
			Sample Size	0	28	15	1

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2000	7/1 - 2	M	Mean Length		578	589	553
			Std. Error		4	12	-
			Range		531-619	555-655	553-553
			Sample Size	0	42	8	1
		F	Mean Length		553	569	556
			Std. Error		3	5	-
			Range		517-603	527-620	556-556
			Sample Size	0	55	26	1
	7/3 - 4	M	Mean Length	557	588	604	564
			Std. Error	-	4	9	-
			Range	557-557	542-630	553-649	564-564
			Sample Size	1	41	12	1
		F	Mean Length	564	563	566	
			Std. Error	-	4	4	
			Range	564-564	507-616	534-616	
			Sample Size	1	45	26	0
	7/5 - 7	M	Mean Length	564	587	600	
			Std. Error	14	5	12	
			Range	550-578	533-634	517-690	
			Sample Size	2	31	13	0
		F	Mean Length	542	561	576	
			Std. Error	9	3	7	
			Range	533-550	513-607	540-630	
			Sample Size	2	56	13	0
	7/8 - 12	M	Mean Length	541	566	595	661
			Std. Error	20	7	12	-
			Range	521-561	508-600	570-607	661-661
			Sample Size	2	12	3	1
		F	Mean Length		545	577	
			Std. Error		4	5	
			Range		500-632	542-613	
			Sample Size	0	46	14	0
	7/13 - 15	M	Mean Length	552	579	588	
			Std. Error	52	7	11	
			Range	500-603	535-609	557-626	
			Sample Size	2	11	5	0
		F	Mean Length	555	546	566	
			Std. Error	13	5	6	
			Range	532-575	509-595	540-603	
			Sample Size	3	20	9	0
	7/17 - 20	M	Mean Length	519	575	545	
			Std. Error	-	12	-	
			Range	519-519	552-614	545-545	
			Sample Size	1	5	1	0
		F	Mean Length	530	547		
			Std. Error	7	6		
			Range	523-537	521-574		
			Sample Size	2	10	0	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2000	7/21 - 31	M	Mean Length		588	625	
			Std. Error		7	-	
			Range		559-617	625-625	
			Sample Size	0	8	1	0
		F	Mean Length	527	541	565	
			Std. Error	15	6	-	
			Range	486-572	516-563	565-565	
			Sample Size	5	8	1	0
	Season	M	Mean Length	549	582	601	593
			Range	500-603	508-634	517-691	553-661
			Sample Size	8	193	64	3
		F	Mean Length	539	555	572	562
			Range	486-575	500-632	515-634	537-599
			Sample Size	13	311	135	4
2001	6/5, 13, 18, 20	M	Mean Length		622	612	
			Std. Error		-	8	
			Range		622-622	590-627	
			Sample Size	0	1	4	0
		F	Mean Length		570	592	
			Std. Error		11	11	
			Range		526-620	549-657	
			Sample Size	0	7	8	0
	6/23, 28	M	Mean Length		596	606	
			Std. Error		4	4	
			Range		545-659	575-644	
			Sample Size	0	42	25	0
		F	Mean Length	554	568	574	
			Std. Error	-	3	3	
			Range	554-554	506-637	512-633	
			Sample Size	1	67	61	0
	7/1 - 5	M	Mean Length		587	600	
			Std. Error		5	10	
			Range		530-655	550-660	
			Sample Size	0	37	14	0
		F	Mean Length		562	570	
			Std. Error		3	4	
			Range		520-645	520-620	
			Sample Size	0	68	28	0
	7/6 - 11	M	Mean Length	542	575	592	
			Std. Error	-	3	10	
			Range	542-542	500-627	532-640	
			Sample Size	1	72	11	0
		F	Mean Length	505	556	572	
			Std. Error	-	2	4	
			Range	505-505	494-631	537-618	
			Sample Size	1	118	25	0
	7/16 - 22	M	Mean Length	559	577	585	533
			Std. Error	7	4	10	-
			Range	552-566	515-662	530-639	533-533
			Sample Size	2	55	10	1

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2001	7/16 - 22	F	Mean Length	524	550	547	
			Std. Error	9	3	10	
			Range	515-532	409-637	498-583	
			Sample Size	2	85	8	0
	7/24 - 8/7	M	Mean Length		583	575	
			Std. Error		7	-	
			Range		529-627	575-575	
			Sample Size	0	12	1	0
		F	Mean Length	547	546	553	585
			Std. Error	9	5	7	-
			Range	538-556	421-594	533-564	585-585
			Sample Size	2	34	4	1
	Season	M	Mean Length	553	582	599	533
			Range	542-566	500-662	530-660	533-533
			Sample Size	3	219	65	1
		F	Mean Length	533	557	572	585
			Range	505-556	409-645	498-657	585-585
			Sample Size	6	379	134	1
2002	6/6 - 14	M	Mean Length		616	631	656
			Std. Error		6	19	6
			Range		567-662	558-698	650-662
			Sample Size	0	14	6	2
		F	Mean Length		576	591	594
			Std. Error		5	5	-
			Range		550-614	565-647	594-594
			Sample Size	0	16	16	1
	6/15 - 18	M	Mean Length		597	614	
			Std. Error		8	7	
			Range		543-643	576-660	
			Sample Size	0	16	15	0
		F	Mean Length		576	570	
			Std. Error		4	7	
			Range		540-608	500-604	
			Sample Size	0	26	13	0
	6/19 - 21	M	Mean Length		599	626	659
			Std. Error		4	11	-
			Range		537-633	568-677	659-659
			Sample Size	0	27	9	1
		F	Mean Length		572	583	
			Std. Error		3	5	
			Range		538-619	545-619	
			Sample Size	0	35	18	0
	6/22 - 24	M	Mean Length	576	581	628	604
			Std. Error	-	20	11	-
			Range	576-576	.-654	567-686	604-604
			Sample Size	1	31	9	1
		F	Mean Length		578	588	
			Std. Error		3	4	
			Range		544-625	563-618	
			Sample Size	0	39	15	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2002	6/25 - 27	M	Mean Length	615	597	599	
			Std. Error	-	6	10	
			Range	615-615	532-693	521-634	
			Sample Size	1	27	12	0
		F	Mean Length	585	572	574	
			Std. Error	-	3	5	
			Range	585-585	512-630	547-618	
			Sample Size	1	49	20	0
	6/29 - 7/1	M	Mean Length		596	598	
			Std. Error		5	8	
			Range		555-657	574-609	
			Sample Size	0	25	4	0
		F	Mean Length		578	593	
			Std. Error		3	8	
			Range		540-613	532-623	
			Sample Size	0	38	11	0
	7/8 - 9	M	Mean Length	534	595	583	
			Std. Error	-	6	29	
			Range	534-534	555-650	526-624	
			Sample Size	1	20	3	0
		F	Mean Length	555	567	573	
			Std. Error	-	3	10	
			Range	555-555	524-603	531-607	
			Sample Size	1	65	8	0
	7/10 - 12	M	Mean Length	563	592	610	569
			Std. Error	29	4	13	-
			Range	534-592	550-641	575-634	569-569
			Sample Size	2	37	4	1
		F	Mean Length	532	569	568	
			Std. Error	8	3	6	
			Range	524-539	503-612	546-584	
			Sample Size	2	56	7	0
	7/15 - 17	M	Mean Length	563	595	594	
			Std. Error	7	4	14	
			Range	525-605	512-675	550-668	
			Sample Size	10	50	9	0
		F	Mean Length	549	567	561	
			Std. Error	4	2	4	
			Range	521-575	516-629	541-587	
			Sample Size	15	95	10	0
	7/23 - 30	M	Mean Length	562	588	575	564
			Std. Error	7	5	18	-
			Range	526-588	524-644	542-605	564-564
			Sample Size	9	27	3	1
		F	Mean Length	535	547	520	
			Std. Error	5	3	-	
			Range	504-560	504-588	520-520	
			Sample Size	11	47	1	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2002	Season	M	Mean Length	564	594	610	618
			Range	525-615	512-693	521-698	564-662
			Sample Size	24	274	74	6
		F	Mean Length	544	569	579	594
			Range	504-585	503-630	500-647	594-594
			Sample Size	30	466	119	1
2003	6/11 - 6/18	M	Mean Length	559	595	603	592
			Std. Error	-	21	5	-
			Range	559-559	527-752	578-646	592-592
			Sample Size	1	10	14	1
		F	Mean Length		573	594	
			Std. Error		12	8	
			Range		546-626	567-627	
			Sample Size	0	7	7	0
	6/19	M	Mean Length		568	613	
			Std. Error		7	11	
			Range		524-621	564-642	
			Sample Size	0	19	7	0
		F	Mean Length		561	562	
			Std. Error		3	8	
			Range		522-616	524-643	
			Sample Size	0	39	16	0
	6/20 - 27	M	Mean Length		583	613	627
			Std. Error		6	11	-
			Range		537-625	566-688	627-627
			Sample Size	0	20	11	1
		F	Mean Length		563	579	
			Std. Error		5	8	
			Range		524-645	534-657	
			Sample Size	0	24	16	0
	6/28 - 29	M	Mean Length		567	565	
			Std. Error		7	-	
			Range		520-595	565-565	
			Sample Size	0	12	1	0
		F	Mean Length		563	572	595
			Std. Error		5	11	-
			Range		520-607	548-600	595-595
			Sample Size	0	28	4	1
	6/30	M	Mean Length		576	595	
			Std. Error		4	11	
			Range		532-615	551-639	
			Sample Size	0	28	7	0
		F	Mean Length		557	559	
			Std. Error		4	7	
			Range		504-597	542-594	
			Sample Size	0	44	6	0
	7/1	M	Mean Length		571	610	623
			Std. Error		8	29	-
			Range		531-622	571-667	623-623
			Sample Size	0	12	3	1

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2003	7/1	F	Mean Length		552	560	
			Std. Error		5	17	
			Range		505-621	531-609	
			Sample Size	0	29	4	0
	7/3	M	Mean Length		576	581	
			Std. Error		4	3	
			Range		516-626	576-586	
			Sample Size	0	50	3	0
		F	Mean Length		552	583	560
			Std. Error		3	11	-
			Range		523-598	550-616	560-560
			Sample Size	0	54	6	1
	7/5	M	Mean Length		571	609	
			Std. Error		4	36	
			Range		511-617	554-676	
			Sample Size	0	31	3	0
		F	Mean Length	546	545	564	
			Std. Error	20	4	11	
			Range	526-565	446-617	532-616	
			Sample Size	2	53	8	0
	7/8 - 17	M	Mean Length		574	546	
			Std. Error		8	17	
			Range		527-693	502-598	
			Sample Size	0	23	5	0
		F	Mean Length		549	538	
			Std. Error		5	21	
			Range		506-612	503-576	
			Sample Size	0	36	3	0
	7/18 - 24	M	Mean Length		561	584	
			Std. Error		6	-	
			Range		497-615	584-584	
			Sample Size	0	30	1	0
		F	Mean Length		535	564	
			Std. Error		3	-	
			Range		488-615	564-564	
			Sample Size	0	63	1	0
	Season	M	Mean Length	559	573	599	614
			Range	559-559	497-752	502-688	592-627
			Sample Size	1	235	55	3
		F	Mean Length	546	551	570	578
			Range	526-565	446-645	503-657	560-595
			Sample Size	2	377	71	2
2004	6/2 - 17	M	Mean Length		574	612	
			Std. Error		4	6	
			Range		548-593	564-645	
			Sample Size	0	11	14	0
		F	Mean Length		579	577	
			Std. Error		10	5	
			Range		551-607	517-638	
			Sample Size	0	6	28	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2004	6/19	M	Mean Length		573	634	
			Std. Error		22	38	
			Range		519-624	596-671	
			Sample Size	0	4	2	0
		F	Mean Length	515	559	570	
			Std. Error	-	8	7	
			Range	515-515	540-577	540-596	
			Sample Size	1	4	7	0
	6/22 - 24	M	Mean Length	547	587	596	
			Std. Error	14	9	7	
			Range	520-579	524-630	538-640	
			Sample Size	4	12	17	0
		F	Mean Length	563	556	574	
			Std. Error	-	7	7	
			Range	563-563	517-589	425-620	
			Sample Size	1	10	25	0
	6/26	M	Mean Length	536	584	608	
			Std. Error	7	7	5	
			Range	524-550	558-639	579-625	
			Sample Size	4	12	11	0
		F	Mean Length	544	556	571	
			Std. Error	10	6	5	
			Range	529-583	528-575	558-592	
			Sample Size	5	7	7	0
	6/28 - 29	M	Mean Length	546	584	560	
			Std. Error	11	6	13	
			Range	515-581	547-615	543-586	
			Sample Size	5	9	3	0
		F	Mean Length	539	566	577	
			Std. Error	4	8	7	
			Range	535-543	544-583	565-593	
			Sample Size	2	4	4	0
	7/1 - 5	M	Mean Length	535	572	595	
			Std. Error	9	10	10	
			Range	504-586	530-621	549-633	
			Sample Size	8	9	9	0
		F	Mean Length	515	549	565	
			Std. Error	14	5	15	
			Range	500-529	517-583	530-693	
			Sample Size	2	13	10	0
	7/8 - 13	M	Mean Length	558	561	589	
			Std. Error	5	5	11	
			Range	509-601	537-586	537-644	
			Sample Size	22	12	10	0
		F	Mean Length	529	548	566	
			Std. Error	4	5	8	
			Range	501-562	513-590	542-613	
			Sample Size	16	20	10	0

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Year	Sample Dates (Stratum Dates)	Sex		Age Class 0.2	0.3	0.4	0.5
2004	7/15 - 26	M	Mean Length	544	563	602	
			Std. Error	6	7	18	
			Range	496-578	523-596	557-651	
			Sample Size	17	11	5	0
		F	Mean Length	532	549	548	
			Std. Error	4	5	8	
			Range	510-562	511-586	519-600	
			Sample Size	16	19	11	0
	7/28 - 29, 8/8 - 17	M	Mean Length	549	577	550	
			Std. Error	20	7	-	
			Range	484-627	570-584	550-550	
			Sample Size	6	2	1	0
		F	Mean Length	537	535	557	
			Std. Error	4	21	-	
			Range	517-558	434-585	557-557	
			Sample Size	16	6	1	0
	Season	M	Mean Length	548	575	599	
			Range	484-627	519-639	537-671	
			Sample Size	66	82	72	0
		F	Mean Length	533	552	570	
			Range	500-583	434-607	425-693	
			Sample Size	59	89	103	0

APPENDIX H. KUSKOKWIM RIVER DISTANCES

Appendix H1.–Distance to selected locations in the Kuskokwim River drainage.

Location [a]	Distance From River Mouth [b]		Distance from Bethel	
	Kilometer	Miles	Kilometer	Miles
Popokamiut (Downstream boundary District 1)	(3)	(2)	(109)	(68)
Kuskokwim River Mouth [b]	0	0	(106)	(66)
Apokak Slough (Downstream boundary District 1)	5	0	(106)	(66)
Eek River	13	8	(93)	(58)
Eek (community)	46	29	(60)	(37)
Kwegooyuk	22	13	(85)	(53)
Kinak River	32	20	(74)	(46)
Tuntutuliak (community)	45	28	(61)	(38)
Kialik River	50	31	(56)	(35)
Fowler Island	68	42	(39)	(24)
Johnson River	77	48	(29)	(18)
Napakiak (community)	87	54	(19)	(12)
Napaskiak (community)	97	60	(10)	(6)
Oscarville (community)	97	60	(10)	(6)
Bethel (community)	106	66	0	0
Gweek River	135	84	29	18
Kwethluk River	131	82	25	16
Kwethluk (community)	132	82	26	16
Kwethluk River Weir	216	134	109	68
Akiachak (community)	143	89	37	23
Kasigluk River	150	93	43	27
Kisaralik River	151	94	45	28
Akiak (community)	161	100	55	34
Mishevik Slough,	183	114	77	48
Tuluksak River	192	119	85	53
Tuluksak (community)	192	120	86	54
Tuluksak River Weir	248	154	142	88
Nelson Island	190	118	84	52
Bogus Creek (Upstream Boundary District 1)	203	126	97	60
High Bluffs	233	145	127	79
Downstream Boundary District 2	262	163	156	97
Mud Creek Slough	267	166	161	100
Lower Kalskag	259	161	153	95
Kalskag (community)	263	163	157	97
Lower Kalskag Fishwheel (2004)	249	155	143	89

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Location [a]	Distance From River Mouth [b]		Distance from Bethel	
	Kilometer	Miles	Kilometer	Miles
Kalskag Fishwheel (2002, 2003, and 2005)	270	168	163	102
Birchtree Fishwheel (2001 to 2004)	294	183	187	117
Aniak River	307	191	201	125
Aniak (community)	307	191	201	125
Aniak Receiver Site (upper)	310	191	201	125
Aniak Receiver Site (lower)	306	191	201	125
Aniak Sonar Site	323	201	217	135
Aniak Sonar Receiver Site	323	201	217	135
Chuathbaluk (community)	323	201	217	135
Upstream Boundary District 2	322	200	216	134
Kolmakof River	344	214	238	148
Napaimiut (community)	359	223	253	157
Holokuk River	362	225	256	159
Sue Creek	381	237	275	171
Oskawalik River	398	247	291	181
Crooked Creek (community)	417	259	311	193
Georgetown (community)	446	277	340	211
George River	446	277	340	211
George River Weir	453	281	347	215
George Receiver Site	453	281	347	215
Red Devil (community)	472	293	365	227
Red Devil Receiver Site	472	293	365	227
Sleetmute (community)	488	303	381	237
Holitna River	491	305	385	239
Hoholitna River	538	334	432	268
Chukowan River	709	441	603	375
Kogrukluk River	709	441	603	375
Kogrukluk River Weir	710	441	604	375
Kogrukluk Receiver Site	710	441	604	375
Stony River (community)	534	332	428	266
Stony River	536	333	430	267
Lime Village (community)	644	400	538	334
Telaquana River	727	452	621	386
Telaquana Lake (outlet)	756	470	650	404
Swift River	560	348	454	282

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Location [a]	Distance From River Mouth [b]		Distance from Bethel	
	Kilometer	Miles	Kilometer	Miles
Tatlawiksuk River	563	350	457	284
Tatlawiksuk River Weir	568	353	462	287
Tatlawiksuk Receiver Site	568	353	462	287
Devil's Elbow	599	372	492	306
Vinasale (abandoned community)	665	413	558	347
Takotna River	752	467	645	401
Takotna (community)	832	517	726	451
Takotna River Weir	835	519	729	453
Takotna Receiver Site	835	519	729	453
McGrath (community)	753	468	647	402
McGrath Receiver Site	753	468	647	402
Middle Fork	806	501	700	435
Big River	827	514	721	448
Pitka Fork	845	525	739	459
Medfra (community)	863	536	756	470
South Fork	869	540	763	474
East Fork	882	548	776	482
North Fork	884	549	777	483
Nikolai (community)	941	585	835	519
Swift Fork	1,078	670	972	604
Telida (community)	1,128	701	1,022	635
Highpower Creek	1,151	715	1,044	649
Fish Creek	1,234	767	1,128	701
Headwaters South Fork	1,292	803	1,186	737
Headwaters North Fork	1,548	962	1,442	896

*Note***:** Note: Distances listed in parenthesis are 'negative' and are defined as the distance downstream from specific locations. Distances are determined using a computer version (Garmin Topo MapSource) of U.S. Geological Survey 1:100,000 scale maps. Routing is as if traveling by boat. Distances to radiotelemetry tracking stations are approximate.

[a] Locations not on the mainstem of the Kuskokwim River are listed as subordinate to the point of departure from the mainstem.

[b] The "mouth" of the Kuskokwim River is defined as the southern most tip of Eek Island (latitude N 60o 05.569, longitude W 162o 19.054), and is one of three points that define the downstream boundary of District 1.