Fishery Management Report No. 10-55

2009 Prince William Sound Area Finfish Management Report

by

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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)

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

FISHERY MANAGEMENT REPORT NO. 10-55

2009 PRINCE WILLIAM SOUND AREA FINFISH MANAGEMENT REPORT

by

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Division of Sport Fish, Research and Technical Services
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ABSTRACT

The 2009 Prince William Sound (PWS) management area (all coastal waters and inland drainages entering the north central Gulf of Alaska between Cape Suckling and Cape Fairfield) commercial salmon harvest was 24.5 million fish. The harvest was comprised of 19.1 million pink *Oncorhynchus gorbuscha*, 1.9 million sockeye *O. nerka*, 3.2 million chum *O. keta*, 300,615 coho *O. kisutch*, and 10,802 Chinook salmon *O. tshawytscha*. Approximately 64% of the harvest, 15.8 million fish, was common property harvest and 8.77 million fish were sold for hatchery cost recovery. Homepack, educational permits, and donated fish accounted for less than one percent. Based on an informal survey of salmon processors in the PWS and Copper River area, the preliminary estimated value of the combined commercial salmon harvest was $50.7 million, including hatchery sales. During the 2009 season, 511 drift gillnet, 27 set gillnet, and 154 purse seine permit holders fished. Drift gillnet exvessel harvest value was an estimated $31.1 million, setting average permit earnings at $61,000; set gillnet exvessel harvest value was an estimated $1.7 million, setting average permit earnings at $61,000; purse seine fishery exvessel harvest value was an estimated $9.6 million, setting average permit earnings at $62,000. Revenue generated for hatchery operations was approximately $8.3 million. The PWS management area personal use and subsistence fisheries harvested a total of 145,000 fish. For these fisheries, approximately 9,800 subsistence and personal use permits were issued to Alaska residents. Sport fish permit holders landed an estimated 148,000 salmon in the PWS management area. The commercial Pacific herring *Clupea pallasi* fishery in the PWS management area was closed in 2009 for the tenth consecutive year because the spawning biomass remained below the 22,000 tons regulatory threshold.

Key words: Prince William Sound, Copper River, harvest, drift gillnet, set gillnet, purse seine, commercial salmon harvest, salmon enhancement, PWSAC, VFDA, hatchery, cost recovery, sport, subsistence personal use fishery, escapement, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, Pacific herring, *Clupea pallasi*

PRINCE WILLIAM SOUND MANAGEMENT AREA COMMERCIAL SALMON AND HERRING FISHERIES

OVERVIEW OF MANAGEMENT AREA

The Prince William Sound (PWS) management area, also known as Area E, encompasses all coastal waters and inland drainages entering the north central Gulf of Alaska between Cape Suckling and Cape Fairfield (Figure 1). In addition to Prince William Sound, the management area includes Bering River and Copper River and has a total adjacent land area of approximately 38,000 square miles.

The salmon management area is divided into 11 districts that correspond to local geography and distribution of the 5 species of salmon harvested by the commercial fishery (Figure 2). The management objective for all districts is the achievement of spawning escapement goals for the major stocks while allowing for the orderly harvest of all fish surplus to spawning requirements. In addition, Alaska Department of Fish and Game (ADF&G) follows regulatory plans to manage fisheries and allow private non-profit (PNP) hatcheries to achieve cost recovery and broodstock objectives. As an avenue for the commercial fishing industry to formally provide management recommendations to the ADF&G, representatives from PWS area processors, gear groups, and aquaculture associations sit on an advisory body known as the PWS Salmon Harvest Task Force (SHTF).

Six hatcheries contribute to the area's salmon fisheries. Prince William Sound Aquaculture Corporation (PWSAC) operates 5 of the hatcheries. Gulkana Hatchery (GH) in Paxson augments production of sockeye salmon *Oncorhynchus nerka* in the Copper River. Cannery Creek Hatchery (CCH) located in Unakwik Inlet (northern PWS) and Armin F. Koernig (AFK) Hatchery on Evans Island (southwestern PWS) produce pink salmon *O. gorbuscha*. Wally

Noerenberg Hatchery (WNH) on Esther Island (northwestern PWS) produces pink, chum *O. keta*, and coho salmon *O. kisutch*. Main Bay Hatchery (MBH) in the Eshamy District (western PWS) produces sockeye salmon *O. nerka*. Valdez Fisheries Development Association (VFDA) operates Solomon Gulch Hatchery (SGH) in Port Valdez (northern PWS) and produces pink and coho salmon.

Gear utilized in the salmon fisheries includes purse seine and drift and set gillnet. Purse seine gear is permitted to fish in the Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague and Southeastern Districts. Drift gillnet permits are the most numerous and are permitted to fish in the Bering River, Copper River, Coghill, Unakwik, and Eshamy Districts. In 2009 drift gillnet gear was permitted to harvest hatchery chum salmon in the Port Chalmers Subdistrict of the Montague District as stipulated in the *Prince William Sound Management and Allocation Plan* (5 AAC 24.370). Set gillnet gear is permitted to fish in the Eshamy District.

When Pacific herring *Clupea pallasi* spawning biomass allows for a commercial fishery, an annual harvest level is determined for each of the 5 commercial fisheries: purse seine sac roe, gillnet sac roe, spawn-on-kelp not in pounds, and spawn-on-kelp in pounds fisheries occurring in the spring, and herring food/bait fishery occurring in the fall. The guideline harvest level established by the *Prince William Sound Herring Management Plan* (5 AAC 27.365) governs all herring fisheries. The management objective for herring is to target fisheries on a high quality segment of the biomass while maintaining a threshold spawning biomass.

OVERVIEW OF AREAWIDE SALMON AND HERRING FISHERIES

The 2009 Prince William Sound management area commercial salmon harvest was 24.5 million fish. The harvest was composed of 19.1 million pink, 1.9 million sockeye, 3.2 million chum, 300,615 coho, and 10,752 Chinook salmon (Table 1, Figure 3). Hatchery runs of sockeye, coho, pink, and chum salmon were below forecast. Harvest of all 5 salmon species was below the 10-year (1999–2008) commercial harvest average (Table 2). Approximately 64% of the harvest, 15.8 million fish, was attributed to the common property fishery and 8.77 million fish were attributed to the hatchery cost recovery fishery. Homepack and donated harvest accounted for less than one percent of Area E harvest (Table 1). The 2009 preliminary exvessel value estimates by gear group from the common property fishery, both wild and enhanced salmon, are $9.6 million (22.7%) for purse seine, $31.1 million (73.4%) for drift gillnet, and $1.7 million (3.9%) for set gillnet (Table 3, Figure 4). The average price per pound paid to fishermen was significantly above the 10 year average (1999–2008) (Table 4). The purse seine harvest value was the lowest since 2002 and the drift gillnet harvest value was the second highest of the previous 10 years (Table 5).

No commercial fisheries for herring occurred in 2009 because the spawning biomass was below the regulatory threshold of 22,000 tons of herring.

As the result of amendments made to the Prince *William Sound Management and Salmon Enhancement Allocation Plan* (5 AAC 24.370) at the December 2005 Alaska Board of Fisheries meeting, and the 5 year average enhanced exvessel value for the set gillnet and purse seine gear group exceeding their limits of 5% and 55%, respectively, set gillnet permit holders were limited to no more than 36 hours per week after July 10 and drift gillnet permit holders were permitted to harvest hatchery chum salmon in the Port Chalmers Subdistrict of the Montague District.

SALMON SEASON SUMMARY BY DISTRICT

COPPER RIVER DISTRICT (APPENDICES A1–A19, APPENDIX E)

The Alaska Department of Fish and Game with direction from the Alaska Board of Fisheries, has consistently endeavored to manage salmon runs to the Copper River District to assure sustained yield and to meet all user group allocations, as outlined in *Copper River District Salmon Management Plan* (5 AAC 24.360). At the December 1999 Alaska Board of Fisheries meeting in Valdez, *Copper River King Salmon Management Plan* (5 AAC 24.361) was amended to provide ADF&G both the tools and the discretion to manage early season fisheries as necessary to maintain the spawning escapement within the range of 28,000 to 55,000 Chinook salmon. In 2003 the Alaska Board of Fisheries modified the spawning escapement goal to 24,000 or greater Chinook salmon. At the December 2005 Alaska Board of Fisheries meeting, the *Copper River Chinook Salmon Fishery Management Plan* was further amended to limit the number of commercial openings inside of the barrier islands in statistical weeks 20 and 21 to no more than 1 per week to increase the number of early Chinook salmon available for harvest to users in the uppermost reaches of the Copper River.

Management tools, such as inriver sonar, aerial survey observations, and harvest data provide ADF&G fishery managers with indices of abundance that are used to regulate Copper River fisheries. ADF&G relies on the escapement index provided by the sonar at Miles Lake to aid in managing commercial harvests and provide for upriver escapement and allocations. Additionally, aerial escapement indices, thermal and strontium marked otolith data, and weir data have provided supporting information on the relative success of ADF&G in meeting provisions of the *Copper River District Salmon Management Plan*. From 1999 to 2008 the combined reported upriver subsistence and personal use harvest (federal and state) has ranged from 123,000 sockeye salmon (in 2008) to 211,000 (in 1999), with a 10-year average of 168,000 salmon. A general increasing trend in subsistence harvest is reflected annually through additions to the inriver goal. Achieving escapement goals and satisfying management plan provisions remains the primary management objectives of ADF&G.

The Copper River District commercial fishing season has historically opened in mid-May. Commercial fishery periods, as codified in regulation, that ran from Monday morning to Friday evening used to be standard management practice. Starting in 1968, periods were established inseason by emergency order. In general, fishing time has steadily been reduced over the years in response to increased efficiency of the commercial fleet, changing patterns in the fishery, and reallocations by the Alaska Board of Fisheries. Two commercial fishing periods per week has been the recent schedule with the duration of a given fishing period dependent upon trends in escapement, harvest, and environmental conditions.

In 2003, the Alaska Board of Fisheries adopted a range of 300,000–500,000 wild sockeye salmon as the sustainable escapement goal (SEG) (5 AAC 24.360(a)). Prior to this, the sockeye salmon spawning escapement goal was 300,000 fish (adopted in 1972 and placed into regulation in 1980 (Fried 1994).

Copper River District Salmon Management Plan outlines biological and allocation categories that comprise the inriver goal for Miles Lake sonar. Spawning escapement, subsistence harvest, personal use harvest, sport fishery harvest, hatchery brood, ‘other salmon’, and hatchery surplus are the categories included in the management plan’s inriver goal.

The components of the 2009 inriver goals were as follows:

Spawning escapement	300,000 to 500,000 sockeye salmon
Other salmon	17,500 salmon
Subsistence harvest	70,365 salmon
Personal Use harvest	110,948 salmon
Sport fishery	15,000 salmon
Gulkana broodstock	20,000 sockeye
Gulkana Hatchery surplus	58,238 sockeye
Total	592,051 to 792,051 salmon

Of the 7 categories contained within the inriver goal, the most significant increases over time have been in hatchery surplus, subsistence, and personal use categories. In the early 1980s, the Miles Lake sonar minimum inriver goal stood at 350,000 salmon. Since that time, the minimum inriver goal has been set as high as 768,000, primarily in response to large forecasts of enhanced sockeye salmon and increasing subsistence and personal use harvests. The number of subsistence and personal use salmon within the inriver goal are calculated annually using the average subsistence and personal use harvest from the previous 5 years. The daily inriver goal is the anticipated number of salmon counted daily at the Miles Lake sonar to meet the overall inriver goal. For 6 of the 7 components listed above, the daily inriver goal is calculated using both wild and enhanced run timing. The subsistence harvest component however is calculated using only wild stock run timing. This is required by AS 16.05.940(33) which states: "subsistence uses" means the noncommercial, customary and traditional uses of ***wild***, renewable resources. The number of hatchery surplus sockeye salmon within the inriver goal is determined annually using the Gulkana Hatchery run forecast to determine the surplus escapement of hatchery fish required to not exceed the average wild stock exploitation rate of 67% during the late June and July mixed stock fishery in Copper River District. It is important to note surplus hatchery sockeye salmon do not fulfill any wild stock escapement needs, nor are they linked to any upriver subsistence harvest or sport allocations; a significant percentage of the hatchery surplus is taken during July and August in these upriver fisheries.

Preseason Outlook and Harvest Strategy

The 2009 commercial harvest forecast for the Copper River District was 30,725 Chinook, 509,588 sockeye, and 294,660 coho salmon, (Table 6). The enhanced sockeye salmon run to Gulkana Hatchery was forecast to be 149,000 fish. PWSAC required approximately 20,000 fish for broodstock leaving the remaining hatchery sockeye salmon available for commercial, subsistence, and sport harvests. The 2009 inriver goal for salmon passing Miles Lake was 592,051 to 792,051 fish. This number equated to a sonar goal of 576,818 to 771,688 salmon by August 2, the season ending date for sonar counting at Miles Lake in 2009 (Appendix A6).

The traditional fishing schedule for the Copper River District is 2 evenly spaced fishing periods per week, with periods generally occurring on Mondays and Thursdays with duration of periods announced by emergency order. It was agreed upon at the Salmon Harvest Task Force (SHTF)

meeting in 2007 that the second gillnet fishing period in each week would begin Thursday morning rather than Thursday evening as had been the standard for over 15 years prior to that year. This change was requested by the majority of the permit holders who indicated a preference for starting the openings in the mornings. Most processors also supported this as it provided additional time to process and ship fresh product to the weekend markets.

During years when Miles Lake sonar is not operational prior to the first opening, early season management of the Copper River District is based on actual harvest versus anticipated harvest. In addition environmental conditions, fishing effort, and harvest consistency throughout the period are also taken into account. In late May, sonar counts and commercial harvest information become the primary factors governing management of the fishery. By mid-June, aerial estimates of sockeye salmon escapement in Copper River Delta systems are also considered when scheduling commercial fishing periods. Because of the many spawning systems in the Copper River delta, an actual weekly escapement index of selected sockeye and coho salmon systems is compared to an anticipated weekly escapement index. The SEG for Copper River delta sockeye salmon stocks is 55,000 to 130,000 fish.

Typically, coho salmon management begins in the second week of August. The historical precedent is to provide an initial single 24-hour opening per week; as harvest or aerial survey numbers warrant, the duration of this fishing period may be increased to 48 hours, or a second fishing period may be added during the week. Aerial escapement estimates for the early portion of the coho salmon run are frequently not immediately available as other species of salmon remain in tributaries and accurate aerial identification is problematic. Additionally, fall weather makes weekly survey flights difficult. The SEG for the Copper River Delta is 32,000 to 67,000 coho salmon.

Sockeye and Chinook Salmon Fishery Season Summary

The total 2009 Copper River sockeye salmon run was 1,721,848 fish with 896,621 (52.1%) commercially harvested, 137,809 (8.0%) harvested by upriver subsistence and personal use users, and an estimated 16,252 (0.9%) by upriver sport fishermen. Commercial permit holders retained 6,417 for “homepack” (0.37%). Sport fishermen on the Copper River Delta harvested an estimated 1,014 (<0.1%) sockeye salmon. Reported educational permit and subsistence harvest in the Copper River District totaled 1,772 (0.1%). The remaining 618,461 (35.9%) comprised the upriver and delta wild sockeye salmon escapement with an additional 43,409 (2.5%) returning to the Gulkana Hatchery area (Appendix A1). Overall, 1,271,627 (73.9%) of the sockeye salmon entering the Copper River District originated from upriver wild stock systems, 324,776 (18.9%) from delta wild stock systems and 125,444 (7.2%) came from the Gulkana Hatchery (Appendix A2).

The 2009 total Chinook salmon run was 42,992 fish with 9,457 (22.0%) commercially harvested, 262 (0.61%) harvested through educational and subsistence permits in the Copper River District and 872 (2.0%) retained by commercial permit holders as “homepack”. A total of 3,031 (7.1%) were harvested by upriver personal use and subsistence users, an estimated 1,000 (2.3%) were harvested by sport fishermen, and the remaining 66.0%, (28,370) represent spawning escapement (Appendix A3). This is above the SEG minimum threshold of 24,000 for Copper River Chinook salmon as defined by the Alaska Board of Fisheries in 5 AAC 24.361(a). The entire Chinook salmon run originated from wild upriver stocks.

The Copper River commercial sockeye salmon harvest was 896,621. This was above the projected 509,588 and 73% of the previous 10-year average of 1,242,204 sockeye salmon. The harvest of 9,457 Chinook salmon was one quarter of the previous 10-year average of 37,320 fish (Appendix A4). The final Miles Lake sonar count on August 1 was 709,748 salmon and was above the midpoint of the inriver escapement goal range of 576,818 to 771,688 salmon for that date (Appendices A6–A8). A total of 486 drift gillnet permits were active in the Copper River District in 2009 out of a total 532, with peak participation occurring in the second fishing period of the season on May 18 with 446 permit holders fishing. River height was within the expected range (Appendix A10). The final escapement index count for the Copper River Delta systems was 69,292 sockeye salmon; within the SEG range of 55,000–130,000 fish and comparable to historical escapement (Appendices A11 and A12). Three aerial surveys of upper Copper River index streams were conducted by the gillnet manager, and peak counts for these surveys are in Appendix A13.

Based on strontium chloride (Sr) otolith mark analysis, 59,948 Gulkana Hatchery sockeye salmon were harvested in the Copper River commercial fishery in 2009 accounting for 6.7% of the total sockeye salmon commercial harvest (Appendix E6). This is less than the previous 10-year contribution average of 241,652 hatchery sockeye salmon (Appendix E7). The majority were 5-year-old fish from the 2004 Gulkana Hatchery release of 7.0 million fry (Appendix E8).

Additionally in 2009, there were an estimated 3,364 Main Bay Hatchery sockeye salmon harvested commercially in the Copper River District (Appendix E6). In 2009 23.5% of returning adult sockeye salmon sampled at Crosswind Lake were unmarked. In 2008 71.6% of the fish sampled were unmarked. In addition from 2007 to 2009 otolith samples from outmigrating smolt at Crosswind Lake showed that 13 to 73% of those juvenile fish had no strontium marks. Prior to the beginning of stocking in 1984 there were only low levels of sockeye salmon in this lake. Thus, unmarked fish must either be wild stock indigenous fish, the progeny of hatchery returns to the lake, or undetected or unmarked Gulkana Hatchery released fish.

Typically the Copper River District has opened for commercial fishing in mid-May, with the management strategy to provide for 2 evenly spaced fishing periods per week as escapement allows.

The first Copper River District commercial fishing period on Thursday, May 14 was for 12 hours and had 425 commercial drift gillnet permits fishing. The harvest from this period was 20,620 sockeye and 1,447 Chinook salmon (Appendix A5). The anticipated harvest was 8,609 sockeye and 2,951 Chinook salmon (Appendix A9). The weather was overcast and the seas were variable during this period. Processors were paying $5.20 per pound for Chinook and $3.54 per pound for sockeye salmon. The second 12-hour period occurred under sunny skies and variable wind on Monday, May 18 with 446 commercial permits reporting deliveries. Harvest from this period was 97,969 sockeye and 1,330 Chinook salmon. This was well above the anticipated 21,285 sockeye salmon harvest and below the anticipated 4,607 Chinook salmon harvest for the second period.

The Miles Lake south and north bank sonar became operational on May 18 and counted 3,557 salmon on the first day of operation. This compared favorably to an anticipated cumulative count of 2,812 salmon for that date (Appendices A6 and A7).

In accordance with 5 AAC 24.361(b) the inside waters, as described in 5 AAC 24.350(1)(B), were closed for the duration of the 12-hour period occurring on Thursday, May 21. Harvest from

this period was 92,363 sockeye and 658 Chinook salmon with 406 permit holders reporting deliveries. Weather during this period continued to be mostly sunny with variable winds. This allowed smaller vessels to fish in the deeper exposed waters outside of the barrier islands. The actual sockeye salmon harvest from this period was higher than the 30,620 anticipated, conversely Chinook salmon harvested were below the anticipated level of 3,961 fish. Given consistently below anticipated harvest of Chinook and above anticipated levels of sockeye salmon harvested, a 12-hour fishing period in waters outside of the Chinook salmon closure area was announced for the first fishing period in week 22 (May 24–30) on Monday, May 25.

In addition to general weather and sea conditions, harvest can be affected by tides. Tidal cycles during the first 2 weeks (week 20 and 21) of the fishing season in the Copper River District were weak with only modest lows and highs. The fourth fishing period on May 25 occurred during the middle of a strong tidal cycle with over 18 feet of water moving between the high tide of 14.7 feet and the low tide of -3.5 feet. Such conditions frequently contribute to a thorough drift gillnet harvest of Chinook salmon in waters inside of the barrier islands. Keeping these waters closed during this period would prevent this from happening and maximize the number of Chinook salmon entering the Copper River and thereby increase the likelihood that the SEG minimum of 24,000 fish would be met.

Fair weather on May 25 combined with strong tides may have contributed to continued strong sockeye salmon harvests in outer waters with 99,981 delivered by 437 permit holders during the 12-hour opening. Chinook salmon landings remained depressed with only 759 fish reported. The anticipated Chinook and sockeye salmon harvests for this fishing period were 3,961 and 30,620 fish.

The anticipated harvest is based on the preseason forecast as applied to the historic run curve. The preseason forecast for sockeye is based on the age samples taken from the previous year's commercial, subsistence and personal use harvests. The levels of 3-year and 4-year old sockeye salmon are then applied to a sibling model to forecast the anticipated 5-year old component that generally comprise 70–80% of a Copper River sockeye salmon run. However, the Copper River sockeye run in 2008 was weak with numerous commercial fishery closures. As a result of this, the 2009 forecast was based substantially on sockeye salmon harvested upriver by dip nets and fish wheels. It may be the case that subsistence and personal use harvesters retained fewer of the smaller 3-year-old and 4-year-old sockeye salmon. This could have resulted in the 4-year-old age class being underestimated in the 2009 forecast where they would have returned as the predominant 5-year old class. The preseason harvest forecast for Chinook salmon is based on the most recent 5-year harvest average applied to the previous 10-year's harvest timing.

Given that harvest of sockeye salmon remained well above anticipated levels and from experience in recent years when the sockeye run has been temporally compressed, a 36-hour fishing period in waters excluding the Chinook salmon inside closure area was announced to begin at 8:00 am on Thursday, May 28. Sonar passage prior to this remained consistently robust with a cumulative salmon count on May 28 that was 30,000 fish above the minimum cumulative count for that date of 97,566 salmon. Harvest from the Thursday period was 107,806 sockeye and 1,425 Chinook salmon versus an anticipated harvest of 39,657 sockeye and 3,242 Chinook salmon. Given that sonar passage remained consistently above anticipated for sockeye salmon, an additional 36-hour period was announced for Monday, June 1 for waters outside of the Chinook inside closure area. Harvest from this period was 63,752 sockeye and 1,200 Chinook salmon. Anticipated harvest for this period was 44,136 sockeye and 3,489 Chinook salmon.

Sonar passage during the week prior to Wednesday, June 3 slowed and dropped below the daily inriver goal. The cumulative sonar count on that date was 10,000 fish above the minimum cumulative goal of 186,478 salmon.

It was also anticipated that participation in this fishery would begin to decrease as PWS fisheries were beginning. In light of this, a 24-hour fishing period was announced to begin at 8:00 am on Thursday, June 4. Harvest from this period was 38,731 sockeye and 644 Chinook salmon versus an anticipated harvest of 34,495 sockeye and 2,349 Chinook salmon. Participation in this fishing period dropped to 303 permit holders, a decrease of over 100 permits from the previous week. Sonar passage during the week prior to Saturday, June 6 remained lackluster with the cumulative count falling behind the cumulative inriver goal on June 5.

A 12-hour period was announced on Saturday, June 6 for the following Monday with the Chinook salmon inside closure area remaining closed. Harvest from this period was 39,076 sockeye and 619 Chinook salmon harvested by 223 permits. Sonar passage over the next week remained slow without a second fishing period announced during statistical week 24. Sonar counts did begin an increasing trend at the end of this week. A 12-hour subsistence only fishing period was announced for Monday, June 15 with fishing permitted in the Chinook salmon inside closure area.

Daily sonar counts from June 12 onwards remained above the daily inriver goal with the actual cumulative count surpassing the inriver goal on June 18 and a 12-hour fishing period for Wednesday, June 17 was announced on Tuesday, June 16. Historically, 90% of the Chinook salmon run passes through the Copper River District by this date so waters of the Chinook salmon inside closure area were opened during this fishing period to commercial harvest. Harvest from this period was 49,935 sockeye and 244 Chinook salmon harvested by 186 permit holders.

It is noteworthy that when the inside waters were closed to commercial fishing from May 21 until June 17 weather and seas in the Copper River District were calm, mostly clear and without any storm events. This is extremely unusual and likely contributed to robust sockeye harvests. When stormy conditions do occur, much of the gillnet fleet chooses to work in the sheltered inside waters that are mostly comprised of the Chinook salmon inside closure area described in 5 AAC 24.350(1)(B). Had the weather been normal for the early summer, a large portion of the fleet may have chosen not to participate in the fishery.

A second 12-hour period was announced during statistical week 25 for Saturday, June 20. Harvest from this period was 22,330 sockeye and 242 Chinook salmon with 178 permit holders reporting deliveries. Two fishing periods were announced during statistical week 26 (June 21–27) with a total of 30,750 sockeye and 171 Chinook salmon harvested by 109 permit holders during this week. Sonar passage remained stable with 17,000 salmon above the minimum cumulative inriver goal of 401,617 on June 27.

Fishing time was increased for the second period in week 27 (June 29–July 4) from 12 to 24 hours. Fishing time was increased as a result of adequate sonar passage and increased gillnet permit holder participation in other PWS fisheries. Two 24-hour commercial periods were provided in both week 28 (July 5–11) and week 29 (July 12–18) with sonar passage remaining steady with no daily counts falling below that days inriver goal. Harvest and participation for these 2 weeks was 72,006 and 72,558 with 168 and 188 permit holders reporting deliveries in each week. Harvest time was increased in week 30 (July 19–25) to two 36-hour periods. Total

harvest from this week was 12,852 with 107 permit holders reporting deliveries. Two 36-hour periods per week were offered in week 31 (July 26–August 1), week 32 (August 2–8) and week 33 (August 9–15). Participation during these weeks was minimal with fewer than 80 permits targeting sockeye salmon until the second period in week 33 where 103 permit holders reported deliveries. Harvests of sockeye during these weeks declined over time while harvests of coho salmon increased (Appendix A5).

Daily sonar passage at Miles Lake for the remainder of July was above the minimum more often than in the early portion of the summer. The final cumulative sonar estimate at the end of the last day of data collection on August 1 was 709,748 salmon. This was above the midpoint value of 674,253 for the inriver goal range of 576,818 to 771,688 salmon for the final date.

The final escapement index value for Copper River Delta sockeye salmon stocks based on aerial surveys was 69,292, and was within the SEG range of 55,000 to 130,000 fish. Since 1999 this value has ranged from a low of 58,406 in 2005, to a high of 100,975 in 1999 with a previous 10-year average index value of 80,128 fish (Appendices A11 and A12).

Fishing effort in 2009 peaked during the second period on May 18 where 446 permit holders harvested 97,969 sockeye and 1,330 Chinook salmon during the 12-hour opening. Peak sockeye salmon harvest occurred during the fifth fishing period where 107,806 fish were harvested by 423 permit holders. Peak Chinook salmon harvest occurred during the first fishing period with 1,447 fish harvested by 425 permit holders.

The total 2009 Copper River District commercial harvest of sockeye salmon (896,621), was above the anticipated harvest of 509,600 sockeye. The Chinook salmon harvest (9,457), was below the anticipated harvest of 30,700 fish. These harvests were below the previous 10-year average for both sockeye (1,242,204) and Chinook salmon (37,320). In addition to closures of the waters inside of the barrier islands as described in 5 AAC 24.350(1)(B) to commercial fishing from May 21 until June 17 other harvests of Chinook salmon were restricted. Personal use harvest of Chinook salmon at Chitina was suspended on June 15. On June 15, the upper Copper River Sport harvest annual bag limit for Chinook salmon was reduced from 4 to 2 fish and no more than 1 fish could be retained from any individual tributary of the mainstem Copper River. On June 29, the Gulkana River drainage was closed to all sport harvest of Chinook salmon. Final spawning escapement of Chinook salmon in the Copper River is estimated at 28,169 fish. This is above the SEG threshold of 24,000 fish as specified in 5 AAC 24.361(a).

Typically 5-year-old sockeye salmon make up 70 to 85% of the Copper River run and 5-year-old Chinook salmon make up 50 to 80% of the run. The majority of the sockeye salmon harvested commercially, 69.4%, were 5-year-old fish from brood year 2004, with 4-year-old fish and 6-year-old fish making up 21.7% and 8.7%, respectively. Over half of the sockeye salmon harvested, 54.7%, were males. (Appendix A14). The majority of the Chinook salmon harvested commercially, 49.4%, were 5-year-old fish from brood year 2004, with 6-year-old and 4-year-old fish making up 27.5% and 20.0%, respectively. Approximately 2.7% of the run was 7-year-old fish from brood year 2002. Under half of the Chinook salmon harvested, 47.1%, were males (Appendix A15).

Coho Salmon Fishery Season Summary

The 2009 total run was estimated to be 300,079 coho salmon. A total of 207,776 (69.24%) coho salmon were harvested commercially, and of these 717 were reported retained as “homepack”,

22 were harvested from the Copper River District in the subsistence gillnet fishery; 1,452 were harvested by personal use dipnetters in the Chitina Subdistrict; 194 were harvested in the Glennallen Subdistrict dip net and fish wheel subsistence fisheries; an estimated 7,063 (2.35%) were harvested by sport fisherman on the Copper River delta near Cordova; and an estimated 37 were harvested by upriver sport fisherman (Appendix A17). Finally, 230 coho salmon were harvested in federally managed subsistence fisheries (Appendices F5 and F6). The Copper River Delta spawning escapement was 82,588 coho salmon (Appendix A17). The aerial survey index for this season was 41,364 fish and was within the SEG index range of 32,000 to 67,000 (Appendix A18). The 2009 index value is at least 20,000 fish below the 2002 to 2006 index values, and is comparable to index values from 1999 to 2001 when delta coho salmon runs were depressed (Appendix A19). The 2009 total run size for coho salmon in the Copper River is unknown because the number of coho salmon migrating upriver has not been assessed.

The coho salmon commercial harvest of 207,776 was 30% below the projected harvest of 297,431 fish. As is typical in this fishery, escapement estimates of coho salmon were hampered by frequent storms and high silt levels in major index streams. Rough seas and inclement weather likely had a negative impact on harvest levels of coho salmon.

Coho salmon season officially began at 7:00 a.m. on Monday, August 17 during statistical week 34 (August 16–22) with a single 24-hour period. An aerial survey flown on August 11 counted 5,814 coho salmon in index streams and was 32 fish (0.5%) below the SEG range for statistical week 33 of 5,846–12,239 fish. The harvest from the first coho salmon period was 19,648 fish with 196 permit holders reporting deliveries. The second 12-hour period during week 34 occurred on August 20 had 20,189 coho salmon delivered by 203 permit holders.

Weather during this time was poor with stormy conditions prevailing in the Copper River District. In addition, permit holders reported that much of the harvest had occurred in the northern portion of the Copper River District. Typically the majority of the harvest occurs in the southern portion of the district with the fleet harvesting coho salmon that are returning to the Martin River, Sheep Creek and main stem Copper River. These observations prompted a number of commercial permit holders to request a reduction in fishing time to one fishing period per week.

During this time sport fish harvests remained robust with most sport users easily harvesting their daily limit of 3 coho salmon (5 AAC 55.023 (1)(A)). A partial aerial survey conducted under poor observational and marginal flying conditions on August 22 documented good numbers of coho salmon in portions of streams observed. A 12-hour period was held on Monday, August 24 with 233 permits delivering 19,872 coho salmon harvested during stormy conditions. Reports from commercial harvesters continued to indicate that coho salmon were primarily being harvested from the northern portion of the district and from outside waters. In light of this, permit holders continued to request not having a second period during this week and advised closing the sport fishery to maximize spawning escapement.

Given that the harvest from the previous commercial fishing period was less than half of the anticipated harvest of 46,480 fish, a second period during week 35 (August 23–29) was not announced. On Saturday, August 29 a 24-hour period was announced for Monday, August 31. Harvest from this period was 29,103 coho salmon with 223 permits reporting deliveries. An aerial survey flown under marginal conditions with high levels of silt in index streams on Friday,

September 4 documented 21,352 coho salmon in index streams, this was 95 fish (0.4%) below the lower end of the SEG range of 21,447–44,901 for statistical week 36 (August 30-September 5).

An aerial survey conducted on Sunday, September 6 under very good conditions documented 18,902 coho salmon in index streams, this was within the SEG range (18,286–38,285) for week 37 (September 6–12). Two 24-hour periods occurred during week 37 with a total of 44,554 coho salmon harvested by 219 permit holders. Two fishing periods were also offered the following week, 24-hours on Monday, September 14 with 160 permit holders harvesting 21,002 coho salmon and a 36-hour period on Thursday, September 17 with 103 permit holders harvesting 14,505 coho salmon. An aerial survey conducted on Friday, September 18 documented 21,393 coho salmon in index systems versus an SEG for week 38 (September 13–19) of 16,908–35,401 coho salmon. Two 36-hour fishing periods were offered during week 39 (September 20–26) with 21 permit holders delivering 1,978 coho salmon during the Monday period and 3 permit holders delivering 50 coho salmon during the Thursday opening. An announcement was made on Friday, September 25 for a 60-hour fishing period on Monday, September 28 and an 84-hour period on Thursday, October 1. In addition 2 fishing periods of the same durations were offered the following week (October 4–10). No commercial harvests were reported from either of these 2 weeks. The Copper and Bering river districts were closed for the season on October 11.

Aerial surveys were flown on Friday, October 2 and on Wednesday, October 14. A total of 27,868 and 29,266 coho salmon were counted on these surveys. The count on October 2 was within the SEG range of 17,896–37,470 for week 40 (September 27–October 3). The count on Wednesday, October 14 was above the upper end of the previous weeks SEG range of 8,474 to 17,743 (Appendix A18). There is no coho salmon SEG range for week 42 (October 11–17).

Peak fishing effort was during the 12-hour period that occurred on Monday, August 24 when 233 permit holders delivered 19,872 coho salmon. Peak harvest occurred during the 24-hour period that occurred on Monday, September 7 when 219 permit holders harvested 32,553 coho salmon. The total harvest of 207,776 coho salmon for the 2009 season was below the harvest projection of 297,431 fish (Appendices A5 and A9). The final 2009 aerial escapement index value for Copper River Delta coho salmon stocks was 41,364 fish and within the SEG range of 32,000 to 67,000 coho salmon for the Copper River District. This was below the previous 10-year average index value of 71,357 coho salmon (Appendices A18 and A19). The majority of the coho salmon harvested commercially, 56.5%, were 4-year-olds from brood year 2006, with 3-year-old and 5-year-old fish making up 43.2% and 0.3%, respectively. Over half, 54.5%, of the coho salmon harvested were males (Appendix A16).

BERING RIVER DISTRICT, (APPENDICES A19–A23)

Preseason Outlook and Harvest Strategy

Opening in early June, the Bering River District is managed concurrently with the Copper River District.

Sockeye Salmon Season Summary

The 2009 harvest of 4,157 sockeye salmon from the Bering River District was below the 10-year harvest average of 18,407 fish (Appendix A20). The sockeye salmon aerial escapement index count in the Bering River District index streams was 17,022 salmon (Appendix A21). This was below the SEG range of 23,000 to 35,000 fish. The Bering River drainage, the largest sockeye salmon spawning system in the district, had a peak index count of 9,060 sockeye salmon on July 5.

Regular aerial surveys of this district are problematic given poor weather conditions and distance from Cordova. Consequently, index streams in this district could not be surveyed from July 6 to August 11. (Appendix A21).

The first period for the 2009 season began on Monday, June 8 and was for 12 hours (Appendix A22). During this period 3 Chinook and 533 sockeye salmon were harvested. The second 12-hour period occurred on Wednesday, June 17 during which there was no harvest reported. On the following Saturday, June 20 there was a 12-hour opening during which 12 Chinook and 3,619 sockeye salmon were reported harvested by 12 permit holders. There were 3 additional 12-hour periods on June 22, 25 and 29, and two 24-hour periods on July 2 and 6 during which there was no harvest reported. An aerial survey flown on July 5 counted 6,340 sockeye salmon in index systems. This compares to an SEG range of 16,889–25,701 for statistical week 28 (July 5–11). There were no further fishing periods in the Bering River District until late August.

There were deliveries reported in only 2 of the 8 open periods when management focused on sockeye salmon prior to August 17. Peak participation and harvest for sockeye and Chinook salmon occurred during the third fishing period (June 20) when 12 permit holders reported delivering 12 Chinook and 3,619 sockeye salmon during the 12-hour opening. (Appendix A22).

Coho Salmon Season Summary

Weather conditions allowed for sporadic aerial surveys of coho salmon index streams (Appendix A23). For the third year in a row, the Bering River District coho salmon run was late and above average in abundance with final escapement either in the upper end of the SEG, or above it.

In 2009 the first opening of the Bering River District coho salmon fishery was on August 31 and was for 24-hours with 7,471 fish harvested by 42 permits. Prior to this an aerial survey had been flown on August 11 with 230 coho salmon observed under poor conditions versus an SEG range of 4,002–10,158 for statistical week 33 (August 9–15). An aerial survey conducted on Friday, September 4 under fair to good conditions counted 10,772 coho salmon in index streams. This is within the SEG range of 6,969–17,691 for statistical week 36 (August 30–September 5). An additional aerial survey was conducted 2 days later on Sunday, September 6 on the first day of statistical week 37 (September 6–12). Observational conditions on this flight were good to excellent with 8,450 coho salmon counted in index streams versus an SEG range of 5,041–12,797 for statistical week 37. Two 24-hour fishing periods were scheduled during this week with 58 permits reporting a total of 18,754 coho salmon delivered. Two fishing periods were scheduled during the following week, 24-hours on Monday, September 14 and 36-hours on Thursday, September 17. Harvest from these 2 periods combined was 18,091 coho salmon with 38 permits reporting. An aerial survey flown on September 18 documented 15,031 coho salmon in index streams. This is above the SEG range of 4,199–10,659 for statistical week 38 (September 13–19). There were two 36-hour openings the following week during which 20 deliveries occurred in the period on Monday, September 21 with 14 permit holders reporting 1,206 coho salmon. There were no deliveries from the Thursday, September 24 fishing period. There were 2 commercial periods totaling 144 hours in both statistical week 40 (September 27–October 3) and statistical week 41 (October 4–10) with no commercial harvests reported from either. Two additional aerial surveys were flown on October 2 and on October 14. On October 2 a total of 12,262 coho salmon were observed in index streams, this is above the SEG range of 1,042–2,645 for week 40. On October 14, a total of 14,725 coho salmon were observed in index streams. There is no coho salmon SEG range specified for week 42 (October 11–17).

The 2009 coho salmon season was closed after the 84-hour October 8–11 fishing period after more than 2 weeks during which no commercial harvests were reported.

Peak fishing effort and harvest was during the first period in statistical week 37 when 58 boats harvested 13,405 coho salmon (Appendix A22). The total harvest of 45,522 coho salmon for the 2009 season was below the anticipated previous 10-year harvest average of 48,192 fish. The coho salmon escapement goal was achieved with a peak escapement index of 22,130 fish. This was below the previous 10-year average of 32,406 and within the SEG range of 13,000 to 33,000 fish for the Bering River District (Appendices A19 and A23).

COGHILL DISTRICT (APPENDICES B1–B8)

Preseason Outlook and Harvest Strategy

The 2009 forecast of sockeye salmon returning to Coghill Lake was 224,000 fish. Meeting the lower end of the SEG range of 20,000–40,000 sockeye salmon would leave 204,000 fish for the common property fishery (CPF). Enhanced chum salmon runs to the Wally Noerenberg Hatchery were forecast to be 2.8 million fish. PWSAC's projection for cost recovery and broodstock requirements was approximately 699,000 fish, leaving 2.1 million chum salmon for the CPF. The projected run of pink salmon to the WNH facility was 7.5 million fish. Of those, PWSAC's projection for cost recovery and broodstock requirements was approximately 1.8 million fish, leaving 5.7 million pink salmon available to the CPF. An estimated run of 133,000 coho salmon were projected for WNH (Table 6). A total of 2,700 were anticipated to be harvested for broodstock with the remaining fish available to the CPF.

Season Summary

The Coghill River weir was fully deployed and fish tight on June 7. Final sockeye salmon escapement was 19,293 on July 22 when the weir was washed out as the result of a high water event. At that time there were an estimated 1,000 sockeye salmon below the weir. This is within the SEG range for Coghill Lake of 20,000–40,000 sockeye salmon (Appendices B1, B2, and B3).

The total CPF purse seine and drift gillnet combined sockeye salmon harvest for the Coghill District was 104,752 (99% drift gillnet) fish; the total CPF harvests for chum, pink, and coho salmon were 1,336,654 (99% drift gillnet), 1,305,714 (21% drift gillnet), and 20,926 (92% drift gillnet), respectively (Appendix B4 and B5). In 2009 PWSAC reported a WNH chum salmon purse seine cost recovery harvest of 393,875 fish, a raceway cost recovery harvest of 66,689 fish and broodstock carcass sales of 144,061 fish. PWSAC also reported a pink salmon purse seine cost recovery harvest of 1.2 million fish, a raceway cost recovery harvest of 74,763, and broodstock carcass sales of 183,961 fish. As part of chum salmon brood collection, 143,114 chum salmon were used to seed the hatchery, 66,689 fish were not viable or unspawned, 8,721 fish were holding mortalities, and 5,000 fish were not harvested and remained within the watershed. As part of pink salmon brood collection, 184,569 pink salmon were used to seed the hatchery, 15,931 fish were not viable, 59,440 fish were not spawned, 4,776 fish were holding mortalities, and 53,000 were not harvested and remained within the watershed. PWSAC also reported harvesting 2,064 coho salmon for broodstock. (Appendix E12).

There were 54,599 MBH sockeye harvested in the Coghill District commercial fishery, accounting for 52.1% of the 104,752 total sockeye salmon harvested (Appendix E9). There were 1,336,654 chum salmon harvested in this district by the CPF, with 1,197,664 (89.6%) having been released at WNH, 99,155 (7.4%) from the Port Chalmers remote release in the Montague

District, and 39,836 (3.0%) originating from wild stocks (Appendix E11). A total of 103,415 sockeye, 19,168 coho, and 1,323,728 chum salmon were harvested by the drift gillnet fleet and the remainder by the purse seine fleet (Appendices B4, B5 and B6).

The common property gillnet fishery began in the Coghill District on May 25. A regular schedule of Monday and Thursday openings, 60 to 84 hours in length was established until late July when purse seine gear was allowed in this district with the start of pink salmon management.

During the first openings of the season in statistical week 22 (May 24–30) 37 permit holders reported harvesting 31,508 chum and 46 sockeye salmon during the 60-hour and 84-hour openings (Appendix B4). Typically the gillnet fleet targets returning Wally Noerenberg Hatchery chum salmon in the early season and broadens their focus in late-June to include harvest of returning Main Bay Hatchery sockeye and wild sockeye salmon returning to Coghill Lake.

During the 2 periods occurring in statistical week 23 (May 31–June 6) 101 permit holders harvested a total of 1,272 sockeye and 91,723 chum salmon. With the exception of the second period in week 23, the entire Coghill District excluding the WNH special harvest area (SHA) had been opened to commercial harvest. The WNH SHA and the remainder of the Coghill District was opened to commercial harvest for 84 hours beginning at 8:00 am on Thursday, June 4. The SHA and terminal harvest area (THA) were closed during the first period in week 24 (June 7–13) that began at 8:00 am on Monday, June 8 and ended Wednesday night at 8:00 pm. Harvest from this period was 98,604 chum and 2,878 sockeye salmon with 174 permits delivering. Harvest from the Thursday, June 11 period was 155,258 chum and 6,270 sockeye salmon with 227 permits reporting deliveries. Areas within the hatchery subdistrict were restricted during this statistical week at the request of PWSAC.

On June 14, PWSAC began cost recovery with a harvest of 10,549 chum salmon. Rather than contracting cost recovery purse seine harvest vessels directly as had been done in the past, PWSAC arranged to have processors contract their own vessels. Commercial common property harvest and effort during the periods occurring in statistical week 25 (June 14–20) increased with 290 permit holders reporting 356,185 chum and 16,520 sockeye salmon harvested. Area and time restrictions imposed in the hatchery subdistrict were made in consultation with the PWSAC general manager. Cost recovery harvest during this period of time was slow with only 25,000 chum salmon harvested by the single seine vessel performing cost recovery. Harvest during the periods occurring in week 26 (June 21–27) declined slightly with 175 permit holders reporting a harvest of 205,628 chum and 13,992 sockeye salmon. Cost recovery harvest during this week picked up with 91,449 chum salmon harvested for a cumulative harvest of 127,451 on June 25. This was less than the anticipated cost recovery harvest of 300,432 chum salmon for this date. The cumulative commercial harvest for this date was 844,291 chum salmon which is 5.7% below the anticipated harvest (895,430) for this date. Commercial common property fishing was not allowed in the Esther Subdistrict during weeks 26–28 by recommendation of the PWSAC general manager. Harvest during week 27 (June 28–July 4) was down from previous weeks with only 146 permits harvesting 126,931 chum and 20,784 sockeye salmon. On June 29 the PWSAC general manager requested that the department determine why cost recovery was proceeding slowly and asked ADF&G to direct cost recovery vessels to harvest more aggressively. The department indicated that this was not within ADF&G purview, however if chum salmon returning to the WNH hatchery subdistrict began losing quality or were straying, the department

would not hesitate to open a common property fishery in the hatchery subdistrict focusing on those fish.

The transition from shallow drift gillnets, less than 60 meshes, to deep gillnets was announced on Wednesday, July 1 and occurred on Thursday, July 2 as the result of an increase in sockeye salmon passage at the Coghill River weir. Cost recovery harvest during this week was 110,392 chum salmon for a cumulative harvest of 254,372 fish. This is 53.1% of the anticipated cost recovery harvest for this date On July 1, the PWSAC executive committee announced that in light of the impending cost recovery shortfall at WNH, one million pounds of sockeye salmon would be harvested from the Main Bay Hatchery Subdistrict. Harvest from week 28 (July 5–11) continued to decline for both of the 60-hour periods offered with 108,900 chum and 13,361 sockeye salmon harvested by 140 permits. As of July 11 total CPF harvest (1,174,737) and cost recovery harvest (441,510) combined was 1,616,247 chum salmon. This compares to an anticipated total harvest of 2,432,244 fish for this date. In addition the anticipated cost recovery harvest for this date was 570,378 fish. Given the declining quality of chum salmon in the WNH THA and SHA, PWSAC requested opening the northern portion of the hatchery subdistrict excluding the SHA and THA to the common property fleet during week 29 (July 12–18). A total of 71,482 chum salmon were harvested from this portion of the hatchery subdistrict by 108 permit holders during this statistical week. An additional 13,350 chum salmon were harvested from the WNH THA during the 84-hour Thursday, July 16 opening that was requested by PWSAC. Overall a total of 120 permits harvested 111,766 chum and 24,838 sockeye salmon from the Coghill District during the 60- and 84-hour periods that occurred this week with 84,832 harvested from the Esther Subdistrict and the THA. Harvest from statistical week 30 (July 19–25) slowed considerably with 60 permits harvesting 25,763 chum salmon from the Esther Subdistrict including the SHA and THA during the six 14-hour periods that occurred. There was no reported harvest from outside of this area during this statistical week for chum or sockeye salmon. In addition seine harvest began in the second period of this week with 6 seine permit holders reporting a harvest of 1,327 chum salmon from the Esther Subdistrict.

There was only one 14-hour commercial fishing period during week 31 (July 26–August 1) on Sunday, July 26 with 322 chum salmon harvested by 2 drift gillnet permit holders. There were no fishing periods during the following statistical week as the result of below anticipated escapement of pink salmon in index streams as well as below expected returns of these fish to the WNH. There were 787 sockeye, 543 coho, 85,015 pink, and 474 chum salmon harvested in week 33 (August 9–15) by 52 drift gillnet permit holders during the five 14-hour periods that occurred during this statistical week. Drift gillnet participation over the next 3 weeks declined from 59 permit holders in week 34 (August 16–22) to 37 permit holders in week 36 (August 30–September 5) with 4,018 coho and 4,703 pink salmon harvested. During the 14-hour period that occurred on Thursday, September 3 the number of coho harvested commercially (602) surpassed the number of pink salmon harvested, thereby ending management for pink salmon and closing the district to purse seine harvest as stipulated in 5 AAC 24.370(e)(5)(B). Drift gillnet harvest from week 37 (September 6–12) was 2,091 coho and 0 pink salmon with 8 permit holders reporting deliveries. A total of 19 permit holders reported harvesting 9,017 coho salmon during the 24-hour and 36-hour periods that occurred in week 38 (September 13–19). There were two 36-hour periods offered the following week with 6 permits reporting 91 coho salmon delivered during the Monday period. There were no further deliveries reported in week 39. Two long periods (60-hours on Monday and 84-hours on Thursday) were offered in both weeks 40

(September 27–October 3) and 41 (October 4–10) with no deliveries reported. The 2009 Coghill drift gillnet season closed at the conclusion of the last period.

Peak drift gillnet fishing effort occurred during the 60-hour period on June 15–17 when 290 permit holders harvested 7,128 sockeye and 158,444 chum salmon. Peak sockeye salmon harvest occurred during the 60-hour period on July 13–15 when 14,018 fish were landed by 120 permit holders. Peak chum salmon harvest occurred during the June 18-21 fishing period (84 hours) when 230 permit holders harvested 197,741 fish. Overall, 103,415 sockeye salmon were harvested by 377 drift gillnet permit holders during the 2009 season. This is below the previous drift gillnet 10-year harvest average of 135,039 sockeye salmon (Appendix B6). The majority of the 104,752 sockeye salmon harvested by the drift gillnet and purse seine fleets combined were returning Main Bay Hatchery fish (54,599) in addition to 108 sockeye salmon from the Solf Lake remote release site. The remaining 51,470 sockeye salmon were wild stock (Appendix E9). The 2009 harvest of 1,323,728 chum salmon by drift gillnet permit holders was above the previous 10-year average of 1,071,090 chum salmon. The majority of the chum salmon harvested were hatchery fish with 99,155(7.4%) otolith marked as having been remote released from the Port Chalmers and 1,197,664 (89.6%) otolith marked as having been released from WNH. The remaining 39,836 (3.0%) were wild stock chum salmon (Appendix E11). The 2009 harvest of 19,168 coho salmon by the drift gillnet fleet was below the previous 10-year average harvest of 39,898 fish. The estimated age and sex compositions of sockeye salmon commercially harvested as well as those sampled at the Coghill weir can be found in Appendix B7 and B8.

UNAKWIK DISTRICT (APPENDICES B9 AND B10)

Preseason Outlook and Harvest Strategy

Unakwik District, in the northern portion of Unakwik Inlet, is the smallest district in the Prince William Sound management area. Both drift gillnet and purse seine gears are allowed during all fishing periods. This district was established for management of relatively small runs of sockeye salmon to Cowpen and Miners lakes. Escapement enumeration is by aerial survey. A major pink salmon hatchery, Cannery Creek Hatchery, borders the southern boundary of the district.

Season Summary

The total 2009 Unakwik District harvest was 3,128 sockeye and 384 chum salmon (Appendix B9). Of those fish, 1,975 sockeye and 374 chum salmon were caught by 10 drift gillnet permit holders. The combined 2009 sockeye salmon harvest of 3,128 was 58% below the 10-year average of 7,382 fish for both gear types (Appendix B10). The Unakwik District opened on Monday, June 8 for a 60-hour period followed by an 84-hour period on Thursday. This schedule was maintained until June 29 at which point a schedule of two 24-hour periods was established until this district was closed for the season 2 weeks later on July 10.

PORT CHALMERS SUBDISTRICT, (APPENDICES B11, B12, E22)

Preseason Outlook and Harvest Strategy

The Port Chalmers Subdistrict is located in the northern end of the Montague District. Since 1994 PWSAC has been releasing chum salmon at this remote location for purse seine harvest. PWSAC forecast a run of 1,014,000 chum salmon returning to this subdistrict in 2009.

At the 2005 Alaska Board of Fisheries meeting, the *Prince William Sound Management and Allocation Plan* (5 AAC 24.370) was amended to address imbalances in the allocation and states when: "the drift gillnet gear group harvest value (of PWSAC enhanced sales) is 45% or less, then in the year following the current calculations, the drift gillnet gear group shall have exclusive access to the Port Chalmers Subdistrict to harvest enhanced salmon returns from June 1 through July 30, during fishing periods established by emergency order;".

The drift gillnet harvest value allocation percentage for the 2009 fishing season, based on the 2003–2007 5-year average annual exvessel value of enhanced salmon, was 42.9%. On September 2, 2008 ADF&G announced that the drift gillnet fleet would have exclusive access to enhanced chum salmon returning to the Port Chalmers Subdistrict in 2009. Shortly thereafter the department announced that gillnets greater than 60 meshes in depth would be permitted in this subdistrict to assure an aggressive harvest of hatchery produced chum salmon and thereby minimize the possibility of these fish straying.

Season Summary

The total Port Chalmers Subdistrict harvest was 672,918 chum salmon (Appendix B11) with 202 drift gillnet permit holders reporting deliveries. The 2009 chum salmon harvest was above the 5-year average of 600,339 fish (Appendix B12). A total of 640,985 chum salmon (95.3%) were marked as having been released at Pt. Chalmers, and 26,142 (3.9%) were marked as WNH releases. The remaining 5,791 (0.9%) were wild stock chum salmon (Appendix E21). The Port Chalmers Subdistrict was opened on Monday, May 25 for a 60-hour period followed by an 84-hour period on Thursday. This schedule was maintained for the next 9 weeks until the last week of July when 14-hour periods were offered on Monday, July 27 and Wednesday, July 29. Harvest peaked during the June 29–July 1 period with 140,000 chum salmon harvested by 94 permit holders. Effort peaked the following week with 101,000 chum salmon harvested by 130 permit holders. It was also during this period (July 2–5) that 6,512 sockeye salmon were harvested. Consequently, in periods following, only the eastern portion of the Port Chalmers Subdistrict, east of a line from Graveyard Point to a point of land 3 miles south of Gilmour Point, was opened. In addition to traditional drift gillnet vessels, (bow and stern pickers) a number of drift gillnet permit holders fished drift gillnet gear from converted purse seine vessels. In many cases this was done by deploying the drift gillnet from the converted purse seine vessel using a seine skiff to tow it out. This is also the standard method of deploying purse seines. The seine skiff would power down once the net was deployed and function as a buoy, or deploy a buoy and return to the seiner. Public Safety officers reported writing several citations where both skiff and seine vessel were powered up and towing a single drift gillnet. In addition, citations were also written where skiffs attached to drift gillnets were beached.

ESHAMY DISTRICT, (APPENDICES C1–C8)

Preseason Outlook and Harvest Strategy

The 2009 forecast for sockeye salmon returning to Eshamy Lake was 76,000. Meeting the minimum of the biological escapement goal (BEG) range of 13,000–28,000 fish would leave approximately 63,000 fish for the common property set and drift gillnet fisheries. The total return to the Main Bay Hatchery was projected by PWSAC to be 882,000 sockeye salmon. The entire projected run was stock of Coghill Lake origin, of which 7,930 fish were required for broodstock and the remaining 874,000 fish would be available for harvest in the common property fisheries.

At the SHTF meeting in late spring it was announced that the first gillnet opening in the Crafton Island Subdistrict would occur during the last week of May. Additionally, it was agreed that the fishing periods starting on Thursday would continue to begin in the mornings, rather than the evenings as had been the standard prior to 2007. Similar to previous years, fishing periods would be reduced to less than 12 hours, as an alternative to omitting fishing periods. Under the *Prince William Sound Management and Salmon Enhancement Allocation Plan* (5 AAC 24.370), when the set gillnet gear group catches 5% or more of the of the 5-year average value of PWSAC enhanced stocks, beginning July 10 of the following year, they will be limited to no more than 36 hours of fishing time per week. In 2008, the set gillnet gear group was 5.3% of the 5-year average value of PWSAC enhanced stocks, consequently weekly time limits after July 10 were imposed on 2009.

Season Summary

The Eshamy River weir was fully deployed and fish tight on July 9. The weir was maintained and fish were counted until August 28 (Appendix C1 and C2). Total escapement through the weir consisted of 24,025 sockeye, 3,849 pink, 416 chum, and 147 coho salmon. The 2009 sockeye salmon escapement was below the 10-year average of 29,915 fish (Appendix C3). In 2009, as a result of the below anticipated chum salmon return to WNH, 133,560 MBH sockeye salmon were harvested by PWSAC for cost recovery. In addition, 8,815 sockeye salmon were harvested for broodstock at MBH. The run timing of Coghill Lake sockeye salmon stock returning to the MBH was expected to be from mid June to late July with the peak anticipated on July 4. PWSAC typically installs the barrier seine in mid June to begin broodstock collection.

The initial commercial opening of the 2009 season was a 60-hour period occurring in statistical week 22 (May 24–30) on Monday, May 25. There were no deliveries during this period. This was followed by an 84-hour period on Thursday, May 28 during which 5 set gillnet permit holders harvested 489 chum, 44 sockeye and 2 Chinook salmon. Harvest and effort during week 23 (May 31–June 6) increased significantly with 13 set gillnet permit holders delivering 3,161 chum and 2,224 sockeye salmon, but drift gillnet participation remained low and harvest was confidential during the 144-hours that this district was open to commercial harvest (Appendix C4 and C5). Harvest and effort continued increasing with a maximum for both occurring in week 26 (June 21–27) when 26 set gillnet permit holders delivered 53,809 sockeye and 13,802 chum salmon, and 268 drift gillnet permit holders delivered 218,562 sockeye and 118,059 chum salmon during the 144-hours that this district was open to commercial harvest.

Beginning on Monday, June 29 only portions of the Eshamy District outside of the Main Bay Subdistrict was opened to commercial CPF harvest. On June 30 as a result of the ongoing chum salmon cost recovery shortfall at WNH, the PWSAC executive committee announced that the gillnet cost recovery goal would also include one million pounds of MBH sockeye salmon. On Wednesday, July 1 in order to expedite the harvest of these fish, the department closed the waters of the Eshamy general district between 60° 34.25’N and 60° 32.00’N. This eliminated the possibility of permit holders setting gillnets across the mouth of Main Bay (3,400 feet) and preventing return of sockeye salmon to the hatchery sub district. Harvest from week 27 (June 28–July 4) dropped significantly with both gear groups combined harvesting 79,900 sockeye and 30,699 chum salmon during the 12-hour and 24-hour periods that occurred this week. Cost recovery harvest was reported from Main Bay during the last 3 days of this statistical week with 51,341 sockeye salmon (290,981 pounds) harvested. MBH cost recovery continued the following week with 77,230 sockeye salmon (431,676 pounds) harvested. Common property harvest from week 28 (July 5–11) with 23 set gillnet permit holders and 147 drift gillnet permit holders

harvesting 54,071 sockeye and 25,347 chum salmon combined during the two 12-hour commercial openings. Cost recovery was completed in Main Bay on Sunday, July 12 with an additional 4,989 sockeye salmon (27,938 pounds) harvested by PWSAC.

The entire Eshamy District was reopened to CPF on Monday, July 12. The combined drift and set gillnet harvest from periods during week 29 (July 12–18) was 102,852 sockeye, 47,630 chum, and 21,220 pink salmon with 23 set gillnet and 151 drift gillnet permit holders reporting harvests. Total fishing time for the drift gillnet fleet during week 29 was 144 hours, whereas the set gillnet fleet was limited to no more than 36-hours total. The Eshamy River weir was fish tight on July 10. No salmon were counted through the Eshamy River weir until July 16 when 2 sockeye salmon were passed.

The first fishing period of week 30 (July 19–25) for drift gillnet permit holders was 60-hours and for set gillnet permit holders the period was 24 hours with area restricted to only the waters north of Loomis Creek. The combined harvest from this period was 20,139 sockeye and 6,003 chum, and 9,792 pink salmon with 7 set gillnet and 51 drift gillnet permit holders reporting deliveries. Sockeye salmon passage at the Eshamy River weir remained below anticipated levels with a cumulative of 180 fish passed by Tuesday, July 21 versus an anticipated minimum cumulative passage of 1,406 fish for this date. Consequently, during the Thursday, July 24 period fishing time for drift gillnet gear was reduced to 24-hours with set gillnet fishing for only 12-hours with the entire district open. Combined harvest from this period was 3,582 sockeye, 753 pink and 259 chum salmon. Weir passage during week 31 (July 26–August 1) improved dramatically with a cumulative deficit of 1,777 fish at the start of the week and a surplus of 1,626 past the weir at the closing. Commercial fishing was opened to both gear types for a total of 36 hours within the Main Bay hatchery subdistrict only during this week. The combined harvests for both periods was 9,862 sockeye and 1,217 pink salmon with 6 set gillnet and 35 drift gillnet permit holders reporting deliveries.

Harvest during week 32 (August 2–8) for both drift and set gillnet was 20,702 sockeye and 1,425 pink salmon with 2 set and 24 drift permits reporting deliveries during the 36 hours that this district was open. Weir passage continued to be steady with 9,996 sockeye salmon counted as of August 8 versus an SEG range of 4,445–9,574 for that date. Area was restricted to portions of Eshamy Lagoon and the Main Bay Hatchery THA and SHA in order to minimize interception of pink salmon.

During the Monday fishing period in week 33 (August 9–15), Main Bay Hatchery Subdistrict was opened to both gear types for 24-hours. Harvest from this period was confidential. During the Thursday period, area in the Eshamy Bay and lagoon as well as Main Bay was opened to drift gillnet harvest for 36-hours and to set gillnet harvest for 12-hours. The remainder of the Eshamy District was closed due to below anticipated levels of pink salmon in index streams in this district and surrounding districts. Pink salmon harvests in the Eshamy District generally are comprised of more than 85% wild fish (Appendix E15). Harvest from this period was 8,495 sockeye and 19,261 pink salmon with no set gillnet and 23 drift gillnet permit holders participating. Escapement at the Eshamy River weir on August 15 was robust with a cumulative passage of 16,853 sockeye salmon. This is above the anticipated BEG range of 6,931–14,927 fish for this date.

During the Monday period in week 34 (August 16–22) the Main Bay Subdistrict was open for 36-hours to drift gillnet and 24-hours to set gillnet, in addition portions of Eshamy Bay and

lagoon, and the Main Bay hatchery subdistrict were open for 12-hours to both gear types. As was the case in the previous period, the preponderance of commercial harvest during this period continued to be pink salmon with 13,827 delivered by drift gillnet permit holders. Sockeye salmon harvest was only 884 fish. There was no set gillnet harvest reported during this period. Area and time for the Thursday, August 20 period was similar to the Monday opening, with harvest similar to the previous period. Combined harvest for both gear types for this period was 267 sockeye and 7,008 pink salmon with 1 set gillnet and 10 drift gillnet permit holders reporting deliveries. Cumulative sockeye salmon escapement on the last day of this statistical week was 23,570 fish. This is above the BEG range of 9,702–20,896 sockeye salmon.

During week 35 (August 23–29) only the Main Bay hatchery subdistrict was opened to commercial common property harvest. Even though escapement at the Eshamy weir was above the upper end of the BEG, below anticipated levels of pink salmon escapement in Eshamy District index streams precluded any fishery in the southern portion of this district. Combined harvest from the 2 fishing periods this week was 171 sockeye and 4,797 pink salmon with 3 drift gillnet and 1 set gillnet permit reporting deliveries. There were no further deliveries in the following 3 weeks in which fishing periods were announced. The 2009 Eshamy gillnet season closed at 8:00 pm on Friday, September 18. The Eshamy weir was operational through August 28. A total of 24,025 sockeye, 147 coho, 3,849 pink, and 416 chum salmon passed through the Eshamy weir in 2009. This compares to a previous 10-year average of 29,915 sockeye, 200 coho, 12,918 pink and 337 chum salmon (Appendix C3).

Overall 539,293 sockeye and 286,361 chum salmon were harvested by 357 drift gillnet permit holders during the 2009 season. This is higher than the previous 10-year average of 376,155 sockeye and 59,275 chum salmon for this gear group. A total of 27 set gillnet permit holders harvested 152,642 sockeye and 50,748 chum salmon. This is also slightly higher than the previous 10-year averages of 149,291 sockeye and 16,172 chum salmon harvested by this gear group (Appendix C6). Of the 691,935 sockeye salmon harvested in the Eshamy District, 627,945 (90.8%) were Main Bay Hatchery sockeye salmon (Appendix E14). The majority of the chum salmon harvested were returning hatchery fish with 82,783 (24.6%) from the Port Chalmers release site and 237,868 (70.6%) from Wally Noerenberg Hatchery. The remaining 16,458 (4.8%) were wild stock chum salmon.

The estimated age and sex compositions of sockeye salmon, harvested in the commercial fishery and at the Eshamy River weir can be found in Appendices C7 and C8.

GENERAL PURSE SEINE DISTRICTS, (APPENDICES D1–D12)

Preseason Outlook and Harvest Strategy

The general purse seine districts include Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague, and Southeastern. The *Prince William Sound Management and Salmon Enhancement Allocation Plan* (5 AAC 24.370(d)) closes Southwestern District to purse seine gear prior to July 18. The plan also closes Coghill District to purse seine gear prior to July 21, unless superseded by the following plans: the *Wally Noerenberg Hatchery Management Plan* (5 AAC 24.368(f)) allows early harvest of the harvestable surplus of chum salmon to prevent deterioration of fish quality; or the *Prince William Sound Management and Salmon Enhancement Allocation Plan* (5 AAC 24.370(e)) allows the purse seine fleet to fish prior to July 21 if the purse seine fleet caught 45% or less of the average annual commercial CPF exvessel value in the PWS area in the previous 5 years. Beginning July 21, both purse seine and drift

gillnet gear are allowed in Coghill District. Purse seine gear is allowed in Coghill District while the harvestable surplus by number is predominantly pink salmon. Fishing periods in all districts are established by emergency order (EO).

ADF&G forecasts wild fish runs, while hatchery run projections are provided by PWSAC and VFDA. Run projections for species and districts without formal forecasts were based on average historical production. The forecast CPF harvests by species are summarized in Table 6. Run projections are the basis for early inseason management of all districts. Cost recovery harvest projections of enhanced runs may change depending upon the price per pound that VFDA and PWSAC receive for their cost recovery harvest. On March 09, 2009, the PWSAC Board of Directors approved the annual corporate budget for Fiscal Year 2009. The overall pink salmon and Wally Noerenberg Hatchery chum salmon revenue goals are $5,203,734 and $2,664,469, respectively.

The general purse seine districts are managed to achieve wild pink and chum salmon escapement goals by district and allow for the orderly harvest of surplus wild and enhanced stocks. Escapement of pink and chum salmon is monitored through the season by weekly aerial surveys of 215 index streams. The escapement index is based on a geometric method used since the inception of the systematic survey program in the early 1960s. In this method, aerial observers are assumed to count without error or bias. Linear interpolations between observations are used to estimate numbers of fish in the stream on days when no surveys are flown. All daily observations and interpolations are summed across the season. Because fish seen on day i+1 may include fish seen on day i, the sum of all daily observations and interpolations must be divided by some residence time for fish in the streams to account for duplicate observations. Currently, a residence time of 17.5 days is used which is based on tagging studies completed by National Marine Fisheries Service on Olsen Creek in the early 1960s (Bue et al. 1998). Aerial survey pink and chum salmon escapement trends, compared to average historical performance, determine the area and duration of fishing periods within districts. Escapement indices may underestimate wild escapement due to frequent weather delays and varied observational conditions throughout the season.

Inseason modifications to harvest projections, season opening dates, and strategies for weekly fishing periods occur as fisheries develop and wild salmon escapement needs are met. ADF&G uses time and area to assist with prosecuting an orderly fishery while protecting wild salmon form overharvest. When wild salmon escapements are weak subdistrict openings are utilized to target the fishing fleet on enhanced stocks. Further, ADF&G may use Salmon Harvest Task Force markers to close wild stock terminal areas when escapements are lower than expected and as an intermediate step before initiating areawide closures. Hatchery Annual Management Plans (AMP) from VFDA and PWSAC provide guidelines to ADF&G for managing enhanced stock fisheries to achieve cost recovery and broodstock objectives. The AMPs underwent Regional Planning Team (RPT) review on April 14, and were signed by the Commissioner.

Chum Salmon

The 2009 forecast for the chum salmon run to PWS was 4.64 million fish. The majority (92%) of the run was anticipated to be from PWSAC hatchery production. PWSAC forecasted a run of 2.84 million chum salmon to WNH of which 699,000 would be needed for cost recovery and broodstock. The remaining 2.14 million chum salmon were anticipated to be available for the CPF. PWSAC also forecasted a 1.01 million enhanced chum salmon run to Port Chalmers and a

409,000 chum salmon run to AFK. All AFK chum salmon were intended for harvest by the purse seine CPF. Based on the wild chum salmon forecast of 376,000 fish, there was a potential CPF of 176,000 wild chum salmon in 2009.

Pink Salmon

The 2009 pink salmon run forecast for PWS was 54.93 million fish. This estimate includes 14.28 million wild stock pink salmon, 17.95 million VFDA pink salmon, and 22.70 million PWSAC pink salmon. The hatchery forecast was based on the release of approximately 610.64 million pink salmon fry in 2008. Approximately 5.02 million pink salmon (32%) of the projected VFDA pink salmon run were designated for cost recovery and broodstock. The remaining 12.93 million VFDA fish were intended for the CPF. Approximately 5.55 million pink salmon (24%) of the projected PWSAC pink salmon run are needed for cost recovery and broodstock. The remaining 17.15 million PWSAC fish were intended for the CPF. After an escapement of 2.00 million wild pink salmon, 12.28 million wild pink salmon were projected for commercial harvest.

At the May 2009 SHTF meeting, the department described the potential for a strong 2009 wild pink salmon run, fifth largest among 24 odd brood year returns, 1961–2007, based on average total runs for odd years 2005 and 2007. Environmental factors such as extended cold and dry periods during the winter that may have killed eggs and fry in streams, and cold ocean temperatures, the lowest since the early 1970s, may have reduced marine survival. The SHTF discussed the pink salmon harvest strategy in anticipation of a robust pink salmon run, wild and enhanced. The strategy related consistent and focused fishing effort in hatchery terminal areas with concurrent expansions in fishing area as wild stock aerial survey estimates indicate adequate numbers of returning fish to meet escapement goals.

Coho Salmon

Both VFDA and PWSAC forecasted moderate runs of coho salmon in 2009. PWSAC's expected run of coho salmon was 153,000 fish (133,000 fish to WNH and 20,000 fish to remote release sites). Approximately 2,700 fish were required for broodstock leaving 150,000 fish for the CPF. When the harvestable surplus shifts to coho salmon, on average during the first week of September, the drift gillnet fleet will have exclusive access to the Coghill District.

The 2008 run of coho salmon to the VFDA hatchery was forecast to be 211,000 fish with 2,000 salmon needed for VFDA broodstock. Port Valdez was anticipated to be closed to CPF purse seine fishing north of a line from Entrance Point to Potato Point beginning on August 15. Purse seine fishing in Port Valdez was expected to start the day after Labor Day, September 8, to target surplus VFDA produced coho salmon.

Chum Salmon Season Summary

The PWS 2009 chum salmon purse seine CPF harvest of 269,000 fish was composed of approximately 5% wild fish and 95% hatchery fish. PWSAC harvested approximately 612,000 enhanced and 11,000 wild chum salmon for cost recovery and broodstock.

Aerial surveys to assess wild chum salmon escapements in the Eastern and Northern districts began in mid June. Surveys expanded to other PWS districts starting in early July. Inseason, the wild chum salmon escapement estimates from aerial surveys remained below cumulative anticipated levels in all but the Southeastern district. Similar to previous years, pink salmon densities during aerial surveys made accurate chum salmon counting difficult so chum salmon

may have been under estimated. After postseason adjustment of escapement estimates for comparison with district sustainable escapement goals, Eastern, Northwestern, and Southeastern districts exceeded their SEG lower thresholds. The 2009 PWS wild stock chum salmon escapement index of 209,000 in districts with SEGs (237,000 in all districts) was more than double the PWS SEG lower threshold of 91,000; this difference was largely driven by Eastern and Southeastern district adjusted aerial escapement indexes of 85,000 and 87,000, respectively.

Pink and chum salmon travel and spawn in the same areas creating a mixed stock fishery. In mixed stock fisheries, if one component requires protection from fishing effort because of low abundance, fishing opportunity on stocks with a harvestable surplus may be limited. This was the case for wild chum salmon in 2009; CPF harvest of wild chum was limited by low pink salmon escapement estimates that resulted in few openings outside hatchery subdistricts. Purse seine fishing effort was focused on large hatchery pink salmon runs, minimizing the effort on wild pink and chum salmon during openings outside hatchery subdistricts.

Pink Salmon Season Summary

The 2009 harvest of 19.05 million pink salmon, composed of approximately 5% wild and 95% hatchery fish, was the third lowest PWS pink salmon harvest in 20 years. VFDA and PWSAC contributed 6% and 89% respectively, to the overall PWS pink salmon harvest. Pink salmon harvest by gear type was 10.77 million by purse seine, 4,000 by set gillnet, 401,000 by drift gillnet, and 7.88 million for hatchery cost recovery and broodstock (1.18 million VFDA and 6.70 million PWSAC). VFDA cost recovery and broodstock harvest was approximately 98% of the total pink salmon run to SGH. PWSAC cost recovery and broodstock harvest was approximately 40% of the total pink salmon run to PWSAC hatcheries.

Aerial surveys to assess early chum and pink salmon escapements in the Eastern and Northern districts began in mid-June. Surveys expanded to other PWS districts in July. Inseason wild pink salmon aerial survey escapement estimates were above cumulative anticipated levels in the Eastern, Northwestern, Southwestern, Montague, and Southeastern districts. Adjusted pink salmon aerial survey escapement indices were above the lower SEG bound for all districts. The 2009 PWS wild stock pink salmon escapement index of 1.83 million was slightly below the odd-year SEG midpoint of 2.0 million and was the tenth highest odd year escapement since 1961. The PWS wild stock pink salmon harvest of 995,000 fish was 8% of the 2009 commercial harvest forecast midpoint estimate and was the second lowest wild stock harvest (fourth lowest by percent of total harvest) in the last 30 years. The ratio of enhanced pink salmon to wild pink salmon in the 2009 commercial common property harvest was 23:2.

Eastern District Summary

The 2009 VFDA Solomon Gulch Hatchery pink salmon forecast was 17.95 million fish, based on an 8.99% marine survival applied to the 2008 fry release of 220.40 million. A total of 323,000 salmon were needed to meet egg take objectives. The 2009 cost recovery goal was approximately $3.12 million or approximately 11.1 million pounds of pink salmon. Approximately 12.93 million pink salmon were forecast for CPF.

Aerial surveys of the Eastern District started in late June and were flown into early October to ensure that the broad range in pink and chum salmon run timing was represented in the escapement index. Aerial survey counts were above and below anticipated cumulative wild pink and chum salmon escapement indices. The 2009 pink salmon escapement goal for the Eastern

District was 455,000 fish, midway between the odd-year SEG lower bound (425,000 pink salmon) and midpoint (567,500 pink salmon). The 2009 chum salmon escapement goal of 85,000 fish was more than 1.5 times the SEG lower threshold of 50,000 chum salmon.

ADF&G began receiving reports of pink and chum salmon run entry in the Eastern District in mid-June. To gauge harvest opportunity on wild chum salmon stocks during this early run entry, boat surveys were conducted starting in mid June. A chum salmon CPF was not scheduled during June due to low chum salmon abundance throughout the Eastern District.

VFDA pink salmon cost recovery started on June 26 and continued through brood collection, ending on August 28. The department expanded the SHA to the mouth of Port Valdez at the beginning of cost recovery operations. Cost recovery purse seine fishing was conducted throughout Port Valdez to a line between Potato Point and Entrance Point. The expanded cost recovery area was maintained until July 23, when fishing area was reduced to match the boundaries of the SGH THA. This reduction in area was intended to mitigate the risk of overharvesting local wild stocks during run overlap.

Wild salmon harvest in VFDA cost recovery is a management concern because of high numbers of wild fish intercepted in 2007. To track wild salmon harvest, VFDA is required to complete daily stock composition sampling. In 2009, 28,000 wild pink salmon were harvested in cost recovery representing 4% of the total harvest, up from 1% seen in 2007. The four fold increase in the proportion of wild pink salmon harvested may be due to the lower number of enhanced pink salmon relative to wild pink salmon as well as low enhanced salmon abundance promoting increased fleet movement in an effort to target small concentrations of fish. With a larger run, fleet distribution is generally concentrated in areas with consistent run entry or large concentrations, i.e., Valdez Narrows or waters adjacent to the hatchery. The department and VFDA will continue to work together to limit wild stock harvest.

The total VFDA enhanced pink salmon harvest of 1.19 million was 7% of the preseason forecast and was composed of 30,000 CPF harvest and 1.16 million hatchery harvest (cost recovery and broodstock). Contribution estimates indicated 27,000 VFDA pink salmon were harvested in the CPF outside the Eastern District, including 17,000 fish harvested in the Montague District, 3,000 fish harvested in the Southwestern District, and 5,000 fish harvested in the Northern District.

The Eastern District commercial harvest was 1.28 million pink, 9,000 chum, 400 sockeye, 22,000 coho, and 0 Chinook salmon. VFDA pink salmon cost recovery harvest was composed of 1.15 million VFDA fish and 28,000 wild fish. A CPF targeting VFDA pink salmon did not occur in 2009; rather, the Eastern District CPF harvest was a product of openings starting mid-August directed at wild pink and chum salmon stocks. In 2009, 35 CPF fishing periods occurred with 19 permit holders recording 36 landings. The Eastern District CPF harvest of 95,000 pink salmon was composed of 3,000 VFDA fish, 13,000 AFK fish, 14,000 WNH fish, 10,000 CCH fish, and 56,000 wild fish.

The 9,000 chum salmon harvested in the Eastern District were assumed 100% wild origin. The peak CPF harvest of 3,000 chum salmon, predominately from Sheep Bay and Simpson Bay, occurred on August 14 during a 14-hour period.

Port Valdez remained closed to the CPF north of a line from Entrance Point to Potato Point through early September. The combination of pink and coho salmon hatchery requirements and sport fishery management priorities necessitated a late and limited CPF in the Port. The shortfall

in the VFDA enhanced pink salmon run resulted in protracted cost recovery and conservative broodstock management through mid-August. On August 15, management priority shifted to the coho salmon sport fishery in Port Valdez, closing the Port to commercial fishing before Labor Day. In addition, the VFDA AMP was amended inseason to include a coho salmon cost recovery goal of $900,000 as a result of the enhanced pink salmon run shortfall. VFDA purse seine cost recovery was initiated on the morning of September 8 but, having harvested less than 200 coho salmon by early afternoon, VFDA determined the fishery was not economically viable and suspended fishing. VFDA expressed concern about jeopardizing coho salmon broodstock collection by allowing the commercial fleet into Port Valdez near the hatchery. Accordingly, ADF&G provided a closed area buffer around the hatchery to protect coho salmon broodstock. Port Valdez opened to the commercial CPF on September 10 and remained open until September 23; no harvest was reported for the duration of the fishery. VFDA utilized 3,455 coho salmon for broodstock and sold 17,404 coho salmon as raceway cost recovery.

Northern District Summary

Northern District wild pink and chum salmon escapement indices remained below inseason anticipated escapement levels for the entire season. After post season analysis, making estimates comparable to districtwide sustainable escapement goals, the Northern District met the pink salmon escapement goal target in 2009. Wild pink salmon escapement of 120,000 fish was 9% above the 110,000 fish escapement lower bound and 70% of the escapement midpoint. The Northern District chum salmon escapement index of 19,000 fish was 7% below the SEG lower threshold of 20,000 fish.

The 2009 PWS CCH total harvest of 3.17 million enhanced pink salmon was well below the PWSAC forecast of 7.50 million fish. Lagging CCH enhanced pink salmon run entry and weak wild pink and chum salmon escapement required a conservative management approach resulting in broad area restrictions. The management strategy in the Northern District consisted of keeping the CPF and cost recovery fishery restricted to portions of the CCH SHA and THA, and to portions of the CCH Subdistrict along the eastern shore of Unakwik Inlet north of Payday Point, from late July to mid-September. This strategy allowed for an efficient and timely harvest, protection of wild chum and pink salmon headed for Siwash and Jonah bays, and minimizing harvest of wild stock salmon migrating to streams outside Unakwik Inlet waters.

PWSAC utilized 953,000 pink salmon for cost recovery and broodstock in the Northern District. ADF&G expanded the CCH SHA for cost recovery harvest, upon PWSAC's request, from July 28–August 8 to expedite cost recovery in an effort to maintain fish quality and allow for a timely CPF during early run entry. Due to weak wild stock pink and chum salmon aerial escapement indices, the SHA expansion was restricted to waters approximately 1 nautical mile offshore on the east side of Unakwik Inlet north of a line at $60^{o}58.00$ N. lat. PWSAC harvested approximately 612,000 pink salmon, falling 61% below the CCH cost recovery goal of 1.56 million fish. The CCH cost recovery total harvest contribution estimate was 96% enhanced stock and 4% wild stock. The broodstock harvest of approximately 246,000 fish was 13% below the broodstock goal of 281,000 fish. An additional 95,000 pink salmon remained unharvested as surplus to cost recovery and broodstock.

The 2009 Northern District CPF harvest was composed of 2.06 million pink salmon, 15,000 chum salmon, 90 sockeye salmon, 70 coho salmon, and zero Chinook salmon. The Northern District was open for 41 CPF periods with a total of 91 permits recording 391 landings. The

Northern District season started with a CPF period in mid-July scheduled concurrently with Coghill and Southwestern district openings in an effort to provide clean-up harvest opportunity on remaining enhanced chum salmon stocks. Approximately 3,000 chum salmon, assumed to be of WNH origin, and 300 pink salmon were harvested on the east side of Culross Island in Hidden Bay. After the build-up of enhanced chum salmon in Hidden Bay was deemed to be cleaned up, the Northern District remained closed to the CPF until PWSAC achieved 97% of their aggregate cost recovery at CCH, WNH, and AFK hatchery. Northern District waters were open for twenty-one, 14-hour and 12-hour periods as available daylight diminished, between August 11 and August 31. This fishery had a maximum single-period harvest of 491,000 fish and an average of 98,000 pink salmon harvested per period. The pink salmon CPF harvest was composed of 3% wild stock pink salmon and 89% CCH, 7% WNH, 1% AFK, and <1% VFDA fish.

Coghill District Summary

Coghill District wild pink and chum salmon aerial escapement indices remained below cumulative anticipated levels all season. The wild pink salmon spawning escapement of 126,000 fish was 1,000 fish over the Coghill District odd-year escapement goal lower bound, but 74,000 fish below the escapement midpoint of 200,000. The Coghill District spawning escapement estimate of 5,000 wild chum salmon was 35% below SEG lower threshold of 8,000 fish.

PWSAC's 2009 forecast for pink salmon returning to WNH was 7.50 million fish. PWSAC set a broodstock goal of 264,000 pink salmon and a cost recovery goal of 1.56 million pink salmon. The preseason forecast for common property harvest of pink salmon returning to WNH was 5.68 million fish. By regulation, management for pink salmon returning to WNH began on July 21. The management strategy in Coghill District initially focused effort on hatchery fish with the possibility of expanding area as wild stock escapement in Port Wells and Northwestern District streams allowed. This was accomplished by initially limiting fishing to a portion of the Esther Subdistrict north of Egg Rocks and west of Esther Passage. Daily fishing in the northern portion of the Esther Subdistrict provided an effective means for harvesting enhanced pink salmon in close proximity to WNH while minimizing harvest of wild stocks. The intent of this strategy was to allow wild stocks to pass through the southern and eastern portions of the Esther Subdistrict into the Northwestern District and the Port Wells area of the Coghill District. Fishing area progressively expanded during the purse seine fishery into the WNH THA and SHA, but did not move beyond the boundaries of the Esther Subdistrict.

In 2009, the WNH enhanced pink salmon run was significantly less than PWSAC's preseason projections. Run timing was average and harvest remained below anticipated for the duration of the pink salmon run. The total harvest of pink salmon returning to WNH was 3.17 million fish, falling 57% below the forecast. Pink salmon purse seine cost recovery harvest began on July 27 and continued with daily harvest through August 10, averaging 68,000 fish per day. PWSAC conducted cost recovery concurrently with the CPF from August 14–18 to finish the remainder of their processor cost recovery bid obligations, which resulted in the harvest of 160,000 pink salmon. PWSAC harvested 1.44 million pink salmon for cost recovery and broodstock at WNH. The cost recovery harvest of 1.25 million was 19% below the goal of 1.56 million pink salmon. The WNH cost recovery harvest contribution estimate was 98% enhanced pink salmon. The broodstock harvest of 189,000 pink salmon was 72% of the broodstock goal of 264,000 fish. An additional 53,000 pink salmon remained unharvested as surplus to cost recovery and broodstock.

The Coghill District opened to purse seine gear from July 21-26 and from August 11–September 5. There were 32 CPF periods with a total of 56 permit holders recording 238 landings. The peak purse seine harvest and permit participation occurred on August 21 with 228,000 pink salmon harvested by 26 permit holders. The 2009 Coghill District CPF purse seine harvest was composed of 13,000 chum salmon, 1.03 million pink salmon, 1,000 sockeye salmon, 2,000 coho salmon, and 3 Chinook salmon (Table 1). The pink salmon CPF harvest was composed of 6% wild stock pink salmon and 84% WNH, 9% CCH, 1% AFK, and <1% VFDA enhanced pink salmon. Additional information, including the preseason outlook, harvest strategy, and results, is detailed in the Coghill District section of this report.

Northwestern District Summary

Northwestern District wild pink and chum salmon aerial survey escapement indices remained below the cumulative anticipated escapement in July, August, and September. Wild pink salmon spawning escapement of 127,000 fish was midway between the odd-year escapement midpoint of 105,000 fish and the upper bound of 145,000 fish. Northwestern District escapement of 14,000 wild chum salmon was 2.8 times the SEG threshold of 5,000 fish.

The Northwestern District was not open to the commercial CPF in 2009.

Southwestern District Summary

The Southwestern District aerial escapement indices exceeded daily anticipated escapement levels starting in the second week of August and exceeded cumulative anticipated escapement starting in the fourth week of August. The wild pink salmon escapement index of 239,000 fish exceeded the upper bound of the odd-year sustainable escapement goal (225,000 fish) by 6%. The Southwestern District had an aerial survey escapement index of 10,000 chum salmon. Pink salmon harvest management was based on aerial survey escapement data, test fishing in the Southwestern District, harvest rates, and terminal area run entry. Test fishing conducted by the *R/V Solstice* in late July provided pink salmon harvest rate, stock composition, and sex ratio data. A regular fishing schedule was maintained in the AFK hatchery SHA and THA during the CPF to focus fishing effort on AFK pink salmon, remote release chum salmon, and other migrating hatchery stocks while maintaining an acceptable level of wild stock harvest. Fishing area within the Port San Juan Subdistrict and AFK SHA and THA was adjusted to meet hatchery escapement (cost recovery and broodstock) goals. Fishing time was provided in the hatchery subdistricts and general district waters on a limited basis to ensure that migration corridors through Montague, Latouche, Elrington, Prince of Whales, Bainbridge, and Knight Island Passages remained open for wild stock salmon bound for southwestern and northern systems (e.g., Eshamy Lake sockeye and southern/northern/western PWS chum and pink salmon).

The 2009 Southwestern District CPF harvest was composed of 7.48 million pink salmon, 234,000 chum salmon, 68,000 sockeye salmon, 3,000 coho salmon, and 25 Chinook salmon. There were 59 CPF periods in the Southwestern District. Fishing to target remote release chum salmon at the AFK THA and SHA started with a weekly schedule of alternating 60-hour and 84-hour fishing periods on May 25, followed by a concurrent fishery targeting the enhanced sockeye salmon run to Marsha Bay starting June 8. The 2 periods per week schedule was implemented to increase the frequency of harvest reporting and subsequent timeliness of management actions. The regular schedule of alternating 60-hour and 84-hour fishing periods continued in the AFK THA and SHA until July 22, but was punctuated by a day-on, day-off schedule from June 25 to July 5. The alternating-day fishery closures were intended to reduce the harvest of non-targeted

salmon stocks by providing a time window for migration through the AFK hatchery THA and SHA. While difficult to reconcile with run timing and alternate management strategies, the day-on, day-off fishery coincided with the peak sockeye salmon harvest, and did not appear to reduce harvest as desired. In the future, a reduction in area, instead of time, will likely be employed as a first step in reducing harvest of non-targeted salmon stocks. Additionally, the Marsha Bay fishery continued through July 22 with the 2-period-per-week fishing schedule.

Of the 232,000 chum salmon harvested in the AFK THA and SHA by the CPF, 47% were WNH thermal marked fish, 51% were Port Chalmers thermal marked fish, and 2% were of wild stock origin. PWSAC did not harvest any portion of the AFK enhanced chum salmon run for cost recovery, instead conducting chum salmon cost recovery at WNH. The Marsha Bay sockeye salmon remote release resulted in a harvest of 8,800, slightly exceeding the 8,400 fish forecast. .

ADF&G was concerned about the harvest of non-targeted salmon stocks during early-season fishing in the Southwestern District. There were 59,000 sockeye salmon harvested in the AFK THA and SHA with more than 99% harvested in the AFK hatchery chum salmon fishery in June and July. Otolith sampling revealed that 8% of the sockeye salmon harvested were of wild stock origin and the remainder was of Main Bay Hatchery enhanced stock origin. Beyond the adjustments to fishery timing mentioned above, ADF&G adjusted the open fishing area in the AFK THA in an attempt to reduce the harvest of sockeye salmon. The enhanced sockeye salmon harvest in the AFK THA and SHA may be the result of fishing on the edge of a migratory corridor and run timing overlap with the AFK enhanced chum salmon run. ADF&G, working with Icicle Seafoods and Trident Seafoods (predominant chum salmon buyers by volume in the Southwestern District), arranged for preliminary reporting of sockeye salmon harvest in this fishery. These processors also provided an opportunity to sample the harvest to determine stock composition. This is an important arrangement because harvest reporting by regulation is only required on the day following the close of a fishing period. Voluntary reporting by processors and the fishing fleet allows the department to effectively manage sockeye salmon in the migratory corridors.

The 2009 AFK enhanced pink salmon run of 10.52 million fish was 37% above PWSAC's preseason 7.7 million fish projection. PWSAC harvested 133% more than their 1.89 million pink salmon harvest goal (cost recovery and broodstock combined) at AFK with a harvest of 4.39 million fish. The cost recovery harvest of 4.16 million pink salmon was more than double the cost recovery goal of 1.60 million fish, while the broodstock harvest of 233,000 fish was below the broodstock goal of 289,000 fish by 20%. An additional 19,500 pink salmon remained unharvested as surplus to cost recovery and broodstock. The AFK cost recovery harvest contribution estimate was <1% wild stock pink salmon. Run entry at AFK was late, with a daily average of 194,000 pink salmon harvested for cost recovery from July 27 to August 3. This was above the average daily cost recovery harvest of 31,000 fish in 2008 and 58,000 fish in 2006, but well below the average daily cost recovery harvest of 358,000 fish in 2007. Run entry remained above cumulative anticipated run entry starting August 4 with an average daily harvest of 292,000 pink salmon through the end of August. The pink salmon CPF did not start until August 11, largely because of the slow cost recovery progress at CCH and WNH and weak wild stock escapement indices.

During the initial CPF pink salmon fishing period, open area was limited to waters of the Point Elrington Subdistrict and the AFK hatchery THA based on an improving trend in wild stock escapement. Due to higher than anticipated wild stock harvest, 10% of the total harvest or

108,000 fish, open area was reduced to the waters of the AFK hatchery THA. Wild stock harvest levels remained a driving force in the fishery, limiting time and area strategies. Aerial surveys and on-the-ground reports, prior to and during the first 2 weeks of the fishery, indicated that large numbers of pink salmon were building up throughout the Southwestern District. To provide the fleet with an opportunity to harvest available surplus, while minimizing the risk of overharvesting wild stocks, a strategy of fishing broad areas for 6-hours was implemented. The strategy involved opening Southwestern District waters for 6-hours to focus fishing effort on concentrations of enhanced stocks, along with concurrent and extended time, 14-hours, in the San Juan Subdistrict and AFK hatchery terminal area waters to provide harvest opportunity throughout the day. The 6-hour openings occurred on 3 occasions (August 16, 18, and 23) and resulted in 3.5 million pink salmon harvested, of which 241,000 were of wild stock origin. Between August 27 and September 18, the Port San Juan Subdistrict was opened on an every-other-day schedule to minimize the harvest of wild stocks. Windowing the Port San Juan Subdistrict openings was intended to allow wild stock pink and chum salmon to pass through the Port San Juan Subdistrict while providing harvest opportunity outside the AFK THA and SHA.

Hatchery-wild contribution estimates averaged 19,000 wild stock origin fish per fishing period during the Southwestern District pink salmon CPF. The total Southwestern District pink salmon CPF harvest of 7.48 million fish was composed of 7% wild stock, 83% AFK, 6% WNH, 4% CCH, and <1% VFDA fish. Of the estimated 537,000 wild stock pink salmon harvested in the Southwestern District CPF, the majority were harvested during fishing periods with open area expanded beyond the AFK hatchery THA and SHA. It is unknown how many of those fish were destined for the Southwestern District or other areas in the sound.

Montague District Summary

Aerial surveys were conducted into late September to ensure the majority of the pink salmon escapement was represented in the escapement indices. Wild pink salmon spawning escapement of 263,770 fish was 6% above the odd-year escapement midpoint of 250,000 salmon. Montague District had an estimated 17,733 wild chum salmon spawning escapement, but has no chum salmon escapement goal (Appendix D4). It is likely the chum salmon are stray hatchery salmon from the Port Chalmers remote chum salmon release.

The 2009 Montague District purse seine harvest was composed of 58,652 pink, 2 sockeye, and 927 coho; no chum or Chinook salmon were harvested in the Montague District (Table 1). Montague District was open daily from August 15 through September 16. Fishing was restricted to area south of 60° 09.60’ N for the first 8 periods, due to lower than anticipated wild stock escapement indices on northern Montague Island, then expanded to the entire district for the remainder of the season. Of the total season pink salmon harvest, over half, 29,424 fish, were caught in 2 periods, August 23 and 24. Of those pink salmon caught, 18,831 were enhanced (AFK origin) and 10,593 were wild fish. The overall Montague District purse seine pink salmon harvest was 46% wild and 54% enhanced fish (primarily AFK hatchery origin).

Southeastern District Summary

In 2009, the Southeastern District wild pink salmon aerial survey escapement index remained below the daily and cumulative anticipated escapement for most of the season. The aerial survey pink salmon escapement index was 488,831 salmon, 9% below the midpoint odd-year escapement of 535,000 fish. The 2009 aerial survey chum salmon escapement index exceeded the daily and cumulative anticipated escapement for most of the season. The aerial survey chum

salmon escapement index was 86,528 well above the lower threshold escapement range of 8,000 salmon (Appendix D4).

The Southeastern District purse seine harvest was composed of 36,698 pink, 2,887 chum, 183 sockeye, and 32 coho salmon (Table 1). Southeastern District was open daily from August 11 through September 16. Fishing was restricted to area south and west of a line from Johnstone Point to Hook Point for the entire season due to lower than anticipated escapement on Hawkins Island and northern Hinchinbrook Island. Peak harvest occurred on August 13 when 3 permit holders harvested 19,673 pink salmon.

PRINCE WILLIAM SOUND AND COPPER RIVER SUBSISTENCE FISHERIES (APPENDICES F1–F8)

The Prince William Sound Subsistence Management Area includes all waters of Alaska between the longitude of Cape Fairfield and the longitude of Cape Suckling. State of Alaska Subsistence fishing permits are not required for marine finfish other than salmon. Herring spawn on kelp may be taken for subsistence purposes as described in 5 AAC 01.610(d)(1)(2); therein, herring spawn on kelp may be taken above water from March 15 through June 15 or harvested using dive gear only during fishing periods open for the wild herring spawn-on-kelp commercial fishery. Lingcod may be taken for subsistence purposes only from July 1 through December 31. Additionally, herring, smelt, rockfish, and other groundfish may also be harvested for subsistence purposes in the PWS Area.

Prior to achieving statehood in 1959, Alaska's subsistence fisheries were not monitored by the territorial government. In addition, the Copper River District commercial fishery was opened in early May and participants were allowed to operate 150 fathoms of 8.5 inch mesh king salmon gear in addition to the legal limit of 150 fathoms of red salmon gear (Pirtle and Fridgen 1966; pg 22). These regulations, in conjunction with no monitoring, likely lead to the depletion of upriver stocks utilized by interior residents. Under state jurisdiction, the opening date for the Copper River District commercial and subsistence seasons was moved to mid-May and commercial gear was restricted to 150 fathoms per permit holder to increase early run escapement to interior residents. Beginning in 1960, subsistence users were required to have a license and a permit, and were required to report harvests at the end of the season (Pirtle and Noerenberg 1960; pg 30). In addition, commercial permit holders were not permitted to hold subsistence fishing permits during the commercial salmon net fishing season in Area E. Also, seasonal subsistence bag limits were tied to both household size and income. From 1960 to 1977 fish wheel permit holders from households with incomes above $4,000 were entitled to the same number of fish as dip net subsistence users: 20 salmon for a one person household and 40 salmon for households with 2 or more people. Fish wheel permit holders from households with incomes less than $4,000 were entitled to the standard dip net amount plus an additional 200 salmon for a household of 1 person and up to 500 salmon for a household of 2 or more people. The 1966 Area Management Biologist Ralph Pirtle noted that while the number of fish wheel subsistence permits remained constant from 1960 to 1966, the number of dip net permits had increased from 32 in 1960 to 1,132 in 1965. He further stated that,

> "Subsistence fishing in Alaska is allowed, usually by authority of a permit, as a means for low income families to supplement their diet. Unfortunately, a complete control of the fishery has not been maintained which has allowed abuse of the subsistence fishery by

> persons actually seeking recreation and sport rather than actual need of the resource for livelihood" (Pirtle and Fridgen 1966).

After 1977, in response to increased participation related to the trans-Alaska oil pipeline boom, basic allocation for both gear types was reduced to 15 or 30 salmon for households with incomes greater than $5,000. In addition, after 1977 the maximum household income necessary to receive the 200 or 500 fish additional allocation was increased to $6,000. Beginning in 1981, fish wheel limits were increased to 30 salmon for one person, 60 salmon for a household of 2, and 10 salmon for each additional household member. The income limit for the 200 or 500 additional allocation of salmon was also increased to $12,000.

In February 1984, the Alaska Board of Fisheries determined salmon stocks of the Chitina Subdistrict do not support customary and traditional uses and those in the Glennallen Subdistrict do support customary and traditional uses. Accordingly, the Alaska Board of Fisheries amended its *Copper River Subsistence Salmon Fisheries Management Plan* (5 AAC 01.647) to include provisions for subsistence salmon fishing only in the Glennallen Subdistrict. While the Chitina Subdistrict was closed to subsistence fishing, a personal use fishery was authorized. Participation in the Glennallen Subdistrict subsistence salmon fishery was limited to residents of the Copper River basin and certain upper Tanana communities. In addition, the $12,000 income restriction granting eligibility for the additional 200 or 500 salmon allocation was removed, with permits for these additional salmon available by request to Alaska residents regardless of income.

In 1985, following an Alaska Supreme Court decision, regulations governing subsistence fishing in the Copper River reverted back to those prior to 1984. This change eliminated the distinction between the personal use and subsistence fisheries with both fisheries operating under subsistence regulations. In addition, the restriction limiting participation in subsistence fisheries to only rural residents was removed. However, the income restriction prohibiting persons of higher incomes from receiving the additional 200 or 500 salmon was not reinstated.

In 1986, following the passage of a new state subsistence statute that included a rural preference, the regulations in effect in 1984 were reinstated, closing the Chitina Subdistrict subsistence fishery and reopening a personal use fishery in its stead. In 1988, the Batzulnetas fishery was established in response to a lawsuit. This lawsuit allowed the residents of Batzulnetas to fish at the traditional village site. In addition, this lawsuit coupled with the McDowell decision challenging rural preference, forced the federal government to assume management of subsistence fishing in navigable waters. In 1990, following the Alaska Supreme Court decision in the McDowell case in late 1989, the subsistence fishery in the Glennallen Subdistrict was again open to all Alaska residents. In December 1996, the Alaska Board of Fisheries rejected (by a vote of 0-6) Proposal 50 to make a positive customary and traditional use finding for the Chitina Subdistrict fishery that would reopen the Chitina Subdistrict to subsistence fishing. In December 1999, the Alaska Board of Fisheries adopted (by a vote of 4-2) Proposal 44 to make a positive customary and traditional finding for the Chitina Subdistrict salmon fishery. The board then adopted regulations changing the status of the Chitina Subdistrict dip net fishery from personal use to subsistence.

In 2003, the Alaska Board of Fisheries reversed its 1999 positive finding for customary and traditional use of salmon stocks in the Chitina Subdistrict. This finding resulted in the Chitina Subdistrict subsistence fishery reverting back to a personal use fishery. As a result, there are currently 2 subsistence fisheries north of Miles Lake: the Glennallen Subdistrict fishery and the

Batzulnetas subsistence fishery, both primarily fish wheel and dip net fisheries. In response to increased harvest, the Alaska Board of Fisheries, during the December 2005 meeting, voted to increase the Glennallen Subdistrict subsistence fishery component of the Miles Lake sonar inriver goal from a range of 60,000–75,000 to range of 61,000–82,500 salmon.

Lower Copper River and Prince William Sound

Prior to 1987, commercial permit holders were not permitted to hold subsistence fishing permits during the commercial salmon net fishing season in Area E. During this period 5 AAC 01.020 *Subsistence Fishing by Commercial Fishermen* stated that, "Commercial fishermen may retain fish for their personal use from their lawfully taken commercial catch." In 1993 this was repealed with the following regulation adopted, 5 AAC 01.021 *Retention of Fish Taken in Commercial Fisheries*. This stated that, "People who commercial fish may retain fish for their own use from their lawfully taken commercial catch." This was repealed in 2004 with 5 AAC 39.010. *Retention of Fish Taken in a Commercial Fishery* adopted. This stated that, "A person engaged in a commercial fishery may retain finfish from lawfully taken commercial catch for that person's own use, including for the use as bait in a commercial fishery. Finfish retained under this section may not be sold or bartered." Moving this regulation from the Subsistence chapter to Chapter 39 allowed retained fish to be used as bait. In addition it eliminated conflict with 5 AAC 01.010(b) that specified that only Alaska residents may take finfish for subsistence purposes. Currently, commercial permit holders may retain fish from their commercial harvest for their own personal use and in addition (since 1987) may also participate in subsistence fisheries in the Prince William Sound area.

Subsistence fishing is allowed in the Copper River District from May 15 until 2 days before the opening of the commercial fishery, 7 days per week. Boundary lines for Copper River District subsistence fishing are the same as the commercial drift gillnet fishery. Once the commercial season has commenced, subsistence fishing is allowed only during commercial fishing periods or by emergency order. Regulation stipulates that 2 days following the closure of the Copper River District to commercial salmon fishing for the season, subsistence fishing is allowed, 7 days a week, until September 30. Within the Copper River District, drift gillnets are the only legal gear and nets may have a maximum length of 50 fathoms with a maximum mesh size of 6 inches prior to July 15.

In 2009, 323 subsistence permits were issued, of which 30 (9.3%) were not returned. Of the 293 permits that were returned, 165 permit holders reported not fishing. A harvest of 212 Chinook, 1,764 sockeye, 22 coho, and 1 chum salmon were reported from the 128 permits that reported fishing (Appendix F1). In addition one subsistence permit was issued for the PWS general subsistence district and that permit holder reported not fishing. (Appendix F2). Overall 340 Alaskans from 20 communities reported harvesting 2,585 salmon in the Area E subsistence fisheries (Appendix F8).

During the 2009 commercial fishing season in the Copper River District, 6,528 sockeye, 876 Chinook and 767 coho salmon were reported as retained for their own personal use, by 328 commercial permit holders (Appendix A1, A3, A17, F7, and F8). In PWS, 16 commercial permit holders reported retaining 111 sockeye, 4 Chinook, and 30 coho salmon as "homepack" from their commercial harvests. Overall in Area E, 335 permit holders from 20 Alaska communities and the lower 49 states reported retaining 8,299 salmon for "homepack" from their commercial catches (Appendix F7 and F8).

In 2005, the federal government began issuing permits allowing subsistence harvests on federal lands in PWS and the lower Copper River area. Legal gear types are dip net, rod and reel, and spear. In 2009, a total of 39 federal permits were issued; 38 permits were returned, with 46 sockeye and 185 coho salmon reported as harvested. Current and historical federal harvest numbers are listed in Appendix F6.

Tatitlek and Chenega Area Subsistence Fisheries

Two subsistence areas were established in 1988 to provide opportunities for customary and traditional use of salmon by residents of Tatitlek and Chenega villages. The Chenega area includes the entirety of the Southwestern District, as described in 5 AAC 24.200 (i), as well as a portion of the Montague District along the northwestern shore of Green Island from the westernmost tip to the northernmost tip of the island (5 AAC 01.648(a)). The Tatitlek subsistence area is located south of the Valdez Nonsubsistence Area described in 5 AAC 99.015(a)(5) and encompasses portions of the Northern and Eastern districts (5 AAC 01.648(b)). Initially, only residents of Chenega and Tatitlek were eligible for subsistence permits in their respective areas. In 1989, a court ruling qualified all residents of Alaska for a subsistence permit in both of these subsistence areas, invalidating 5 AAC 01.648(a)(7) and (b)(7) which stipulates that permits may only be issued in these villages. Permit holders are allowed to fish in these areas from May 15, seven days per week, until 2 days before the initial commercial fishing period in the associated commercial fishing districts. Chenega Subsistence Area consists of waters in Southwestern and Montague districts and Tatitlek Subsistence Area consists of waters in Eastern and Northern districts. Once the commercial fishing season is established, area and time within these subsistence areas is defined by the area and time in the associated commercial fishing district. Two days after the closure of the commercial fishing season in the associated commercial fishing district, subsistence fisheries are open, 7 days per week, until October 31.

In 2009, 4 permits were issued for the Chenega subsistence area, of which 4 permits were returned. Of those returned permits, 3 permit holders reported fishing, with a total harvest of 2 Chinook, 168 sockeye, 26 coho, 5 pink, and 84 chum salmon. In the Tatitlek area, 12 permits were issued of which 4 were returned. Of those returned permits, 3 permit holders reported fishing, with a total harvest of 170 sockeye and 131 coho salmon (Appendix F3).

UPPER COPPER RIVER

Glennallen Subdistrict Subsistence Fishery

The Glennallen Subdistrict is that portion of the mainstem Copper River upstream of the McCarthy Bridge to the mouth of the Slana River; this subdistrict is open June 1 through September 30 for continuous fishing. Fish wheels and dip nets are legal gear. Participants must be Alaska residents and are allowed one permit per household per year and the permit identifies the single gear type to be used. Total annual harvest, assuming that additional salmon were requested by the permit holder, cannot exceed 200 salmon for a household of one and 500 salmon for a household of 2 or more. No more than 5 Chinook salmon may be taken by each dip net permit holder. Both tips of the caudal fin must be clipped on all harvested salmon. Subsistence permits, with completed harvest information, are required to be returned to ADF&G by October 31 of each year.

In 2009, a total of 469 dip net permits and 621 fish wheel permits were issued to subsistence users in the Glennallen Subdistrict. Of these 124 (11.3%) were not returned. A combined total of

2,330 Chinook and 43,738 sockeye salmon were reported harvested in the Glennallen Subdistrict. Comparatively, the previous 10-year average was 56,986 sockeye and 2,995 Chinook salmon for this subdistrict. Total effort has remained somewhat constant over the last 10-years, with an average number of 689 fish wheel permits and 410 dip net permits issued per season (Appendix F4). Historically, sockeye salmon dominate the harvest, representing approximately 95% of the reported harvest, followed by Chinook and coho salmon (Appendices A1, A3, A17 and F4).

In 2002, the federal government began issuing permits allowing subsistence harvests on federal lands in the Glennallen Subdistrict. Legal types of fishing gear are dip net, fish wheel, and spear. In 2009, a total of 274 federal permits were issued for the Glennallen Subdistrict. Of these 233 permits were returned. A total 11,822 sockeye, 494 Chinook, and 34 coho salmon were reported harvested (Appendices A1, A3, A17). Current and historical federal harvest numbers are listed in Appendix F6.

Batzulnetas Subsistence Fishery

In 1988, an interim subsistence fishery was provided by emergency regulation at Batzulnetas to settle the United States District Court case of John vs. Alaska. The Batzulnetas fishery, as described in 5 AAC 01.647(i), encompasses all waters from the regulatory markers near the mouth of Tanada Creek and approximately one-half mile downstream from that mouth and in Tanada Creek between ADF&G regulatory markers identifying the open waters of the creek. Salmon may be taken, as established by emergency order, starting June 1 when fishing periods are limited to one 48-hour period per week; beginning in July, fishing periods are increased to 84-hours per week until September 1, when the fishery closes.

In 1987, the fishery was conducted near the mouth of Tanada Creek near the historical village site of Batzulnetas. Eight permits were issued in that year to individuals, or family groups, from Mentasta and Dot Lake, and the fishery was conducted during July and August. A total harvest of 22 sockeye salmon was reported in 1987. The Alaska Board of Fisheries reviewed the fishery before the 1988 season and set seasons, eliminated the quota, and provided for additional gear types. Permits can be issued throughout the season and must be completed and returned to ADF&G by October 31. No permits were issued for this fishery between 1988 and 1992 and in 1996. Between 1993 and 2002 the average harvest was 251 sockeye salmon. From 1999 to 2002 only one permit was issued each year with a harvest of 55 sockeye salmon in 1999, 0 sockeye salmon in 2000, 62 sockeye salmon in 2001, and 208 sockeye salmon in 2002. In 2004 one permit was issue with a reported harvest of 182 salmon. Beginning in 2005, the National Park Service (NPS) in the Wrangell-St. Elias National Park and Preserve began enforcing NPS regulations that only allow subsistence salmon harvest by rural community residents. The enforcement of these regulations prohibited the subsistence fishing by non-rural residents in that portion of the Copper River upstream of Indian River. This includes 15 river miles of the Glennallen Subdistrict and the entire Batzulnetas fishery. As a result of the rural preference, no state subsistence fishing permits were issued after 2004. A single federal permit was issued in 2005, 2007 and 2009 with only one sockeye salmon reported harvested in 2007 (Appendices A1 and F5).

Chitina Subdistrict Personal Use Fishery

The Chitina Subdistrict is the portion of the main stem Copper River from the downstream edge of the McCarthy Road Bridge to a marker 200 yards above Haley Creek. Regulations for the

Chitina Subdistrict personal use fishery remain similar to the Glennallen subsistence fishery regulations, with 3 exceptions: 1) permit holders are required to possess a sport fishing license, 2) permit holders are only allowed to take salmon using dip net, and 3) permit holders are limited to one Chinook salmon per household. The Alaska Board of Fisheries determined that retaining the bag limit of one Chinook salmon provided for a reasonable opportunity to harvest Chinook salmon, and would also maintain Chinook salmon harvests at historical levels. Annual bag limits would continue to be 15 salmon for a household of one, and 30 salmon for a household of 2 or more individuals. Based upon recent harvests, the board determined that a range of 100,000–150,000 sockeye salmon was necessary for personal use needs to be met in the Chitina Subdistrict fishery. This range includes a hatchery contribution of 15,000–20,000 fish, resulting in an 85,000–130,000 wild sockeye salmon stock harvest allocation.

The *Copper River Personal Use Dip Net Salmon Fishery Management Plan* (5 AAC 77.591) requires the Chitina Subdistrict personal use fishery to be opened on June 1; an EO may be issued to close the fishery, effective June 1, and an emergency order to reopen the season shall be issued on or before June 11 depending on the strength and timing of the sockeye salmon run. Additionally, inseason adjustments to the fishery, as necessitated by fluctuations in salmon escapement, shall be made by emergency order. In 2009, there were 10 EOs issued to make adjustments to the dip net fishery. The first period started on Monday, June 1 and the last period closed on August 31. The fishery is then open by regulation from September 1–30. As the result of below anticipated abundance of Chinook salmon in the commercial fishery and at Baird Canyon fish wheels, this fishery was closed to the retention of Chinook salmon beginning on Monday, June 15. Reported harvest for the Chitina Subdistrict personal use fishery in 2009 was 199 Chinook, 81,432 sockeye, and 1,452 coho salmon. The previous 10-year average reported harvests are 2,519 Chinook, 100,264 sockeye, and 2,167 coho salmon. There were 7,958 permits issued for the Chitina Personal Use fishery in 2009, of these 1,050 (13.2%) were not returned. This is slightly below the 10-year average of 8,271 permits issued (Appendices A1, A3, A17 and F4).

In 2002, the federal government began issuing permits allowing subsistence harvests on federal lands in the Chitina Subdistrict. The only legal gear type is a dip net. In 2009, a total of 68 federal permits were issued. Of the 62 permits returned, 817 sockeye, 8 Chinook and 11 coho salmon were reported harvested (Appendices A1, A3, A17). Current and historical federal harvest numbers are listed in Appendix F6.

PRINCE WILLIAM SOUND AND COPPER RIVER SALMON ENHANCEMENT (APPENDIX E)

Fisheries enhancement and rehabilitation in Alaska began in earnest in the early 1970s by the Fisheries Research and Enhancement Division (FRED) to help build and stabilize fisheries production. In 1974, the Alaska legislature passed the Private Non-Profit Hatchery Act, allowing private-sector non-profit businesses to assist with salmon enhancement and rehabilitation. In December, 1974 Prince William Sound Aquaculture Corporation was created and began hatchery operations at Armin F. Koernig Hatchery on Evans Island in 1975, producing pink and chum salmon. In 1978, Valdez Fisheries Development Association began producing pink, chum, and coho salmon at the Crooked Creek Scientific/Educational facility in Port Valdez. Hatcheries in the Prince William Sound Management Area are currently run by 2 non-profit corporations: Prince William Sound Aquaculture Corporation (PWSAC)- Armin F. Koernig, Main Bay, Wally Noerenberg, Cannery Creek, and Gulkana hatcheries, and Valdez Fisheries Development

Association (VFDA)- Solomon Gulch Hatchery. These 2 non-profit corporations are among 15 other non-profit corporations in the state of Alaska that maintain and operate private hatcheries that produce salmon for harvest in common property fisheries.

PWSAC is the largest producer of salmon in Alaska, with a permitted capacity of 665.8 million eggs. PWSAC is also the largest producer of pink and sockeye salmon in Alaska, with a permitted capacity of 462.0 million and 47.8 million eggs, respectively. The pink salmon production is more than double the permitted capacity of the next largest producer, VFDA, which has a permitted capacity of 230.0 million pink salmon eggs. PWSAC is the second largest producer of chum salmon in Alaska with a permitted capacity of 148.0 million eggs. In addition to the aforementioned species, PWSAC and VFDA have a permitted coho salmon capacity of 4.0 million and 2.0 million eggs, respectively. Further, PWSAC has a 4.0 million egg Chinook salmon permitted capacity, which has not been utilized since 1996 when Chinook salmon eggs were last harvested at Wally Noerenberg Hatchery. Current permitted egg capacities, in millions of eggs, for the 7 largest aquaculture associations in Alaska are listed below:

Hatchery non-profit corporation	Chinook Salmon	Chum Salmon	Coho Salmon	Pink Salmon	Sockeye Salmon	Total
Cook Inlet Aquaculture Assn. (CIAA)	4.00	0	6.16	125.00	48.66	**183.82**
Douglas Island Pink and Chum (DIPAC)	0.95	121.00	1.65	50.00	33.50	**207.10**
Kodiak Region Aquaculture Assn. (KRAA)	0.30	25.00	2.80	215.00	20.60	**263.70**
Northern Southeast Regional Aquaculture Assn. (NSRAA)	9.00	155.80	10.84	0.30	2.00	**177.94**
Prince William Sound Aquaculture Assn. (PWSAC)	4.0	148.00	4.0	462.00	47.75	**665.75**
Southern Southeast Regional Aquaculture Assn. (SSRAA)	3.50	128.30	10.90	0	2.70	**145.40**
Valdez Fisheries Development Assn. (VFDA)	0.30	0	2.00	230.00	0	**232.30**
all others	3.00	40.00	10.78	196.00	6.35	**256.13**
Statewide egg capacity totals (millions)	**25.05**	**618.10**	**49.13**	**1,278.30**	**161.56**	**2,132.14**

In 2009, PWSAC and VFDA contributed 90.7% of the total Area E salmon harvest of 24.5 million fish. PWSAC and VFDA produced 18.1 million (94.8%) of the 19.1 million pink salmon and 109,000 (36.2%) coho salmon of the 301,000 harvested overall in Area E. In addition, PWSAC produced 3.1 million (97.3%) of the 3.2 million chum salmon harvested as well as 1.0 million (50.9%) sockeye salmon of the 2.0 million harvested overall in Area E (Table 1).

Gulkana Hatchery

The Gulkana Hatchery consists of 2 rearing facilities (Gulkana I and II) located above Paxson Lake on the east fork of the Gulkana River approximately 260 miles north of Cordova. This facility is owned by ADF&G and has been managed by PWSAC since 1993. Gulkana I was constructed in 1973 after spawning sockeye were identified in several warm water springs adjacent to the east fork of the Gulkana River. These springs produce approximately 1,600 l/s of water, of which 1,100–1,600 l/s are required for hatchery operations. Gulkana II was constructed in 1987 to increase sockeye production and begin production of Chinook salmon. Chinook

salmon reared at this facility were released in limited quantities at Monsoon Lake and in the Gulkana River from 1987 to 1991. The combined facilities have released between 180,000 and 32.3 million fry annually since 1974 (Appendix E8). Annual total Gulkana produced sockeye salmon runs since 1997 have ranged from 88,750 to over 1.1 million fish (Appendix E7).

In 2009, the overall run of sockeye salmon produced by the Gulkana hatcheries totaled 133,032 fish. This was lower than the forecast run of 224,943 sockeye salmon. A total of 18,789 sockeye salmon were reported harvested for broodstock (Appendix E1) and 29,355 Gulkana produced sockeye salmon were harvested in the Chitina Subdistrict Personal Use and the Glennallen Subdistrict subsistence fisheries. In addition an estimated 393 were harvested by sport fisherman in the Copper and Gulkana Rivers. The Copper River District commercial gillnet fleet harvested 45.1% of the total hatchery run, or 59,948 sockeye salmon (Appendix E7).

The 2009 GH sockeye salmon harvest contributions by period and the historical GH contributions, fry releases, total hatchery runs and estimated marine survivals are in Appendices E6–E8.

Wally Noerenberg Hatchery

WNH is located on state park lands in Lake Bay on the southern end of Esther Island in PWS. The hatchery was completed in 1985 and produced 5 species of salmon until 1987 when sockeye production was moved to Main Bay Hatchery. Further, Chinook salmon production was discontinued in 1997 to increase coho salmon production. Water for hatchery operations is supplied by Esther Lake, a 200 hectare lake with a volume of 2.5 million cubic meters, via deep and shallow intakes. These 2 water sources allow manipulation of water temperature with limited need for mechanical heating or cooling, and are capable of producing approximately 22,000 l/s, of which 5,500–11,000 l/s are required for hatchery operations. In addition to releases at the WNH facility, there are 2 chum salmon remote release sites, Port Chalmers located on Montague Island, and Sawmill Bay, adjacent to AFK hatchery.

In 2009, the total run of chum salmon, released as fry from WNH as well as both remote release sites, was 3.1 million fish. The overall run was less than the PWSAC forecast run of 4.3 million chum salmon. (Appendix E1). Errors in the thermal marking program have created uncertainty in the run of chum salmon to each release site. Chum salmon returning to all release locations originated from brood years 2003 to 2006 releases. PWSAC reported cumulative survival rates for these brood years of 5.4%, 3.8%, 1.7% and 0.1%, respectively (WNH 2009 Annual Report, Schedule C-1, Item 12). A total of 461,511 chum salmon (454,896 hatchery and 6,615 wild) were harvested for hatchery cost recovery at WNH and were worth $1.6 million dollars (PWSAC 2009 Board of Directors report, page 35). This was $1.0 million dollars below the chum salmon cost recovery goal. As part of cost recovery, in addition to purse seine harvest, 66,689 chum salmon were harvested from the freshwater raceway. A total of 156,835 chum salmon were collected for broodstock and of those, 144,061 carcasses were sold as part of a ‘full utilization’ strategy (Appendix E12). The commercial fleet harvested 2.5 million or 80.6% of the total WNH chum salmon run including remote releases at AFK and Port Chalmers (Appendix E1).

In 2009, the total run of pink salmon produced by WNH was 3.2 million fish and was lower than the preseason forecast of 7.5 million pink salmon. These fish originated from the BY2007 release and had a survival rate of 2.4%. A total of 1,254,461 pink salmon (1,226,982 hatchery, 27,479 wild) were harvested for hatchery cost recovery at WNH. Sales of unviable broodstock and excess males accounted for an additional 75,371 pink salmon sold. A total of 189,345 pink

salmon were collected by PWSAC for broodstock and of those, 184,569 carcasses were sold as part of a ‘full utilization’ strategy. An additional 53,000 pink salmon went unharvested as part of brood collection. The commercial fleet harvested 1.7 million WNH pink salmon, 51.6% of the total pink salmon run to this facility (Appendices E1, E3, and E12).

In 2009, the total run of coho salmon produced by the WNH was 45,233 fish. These fish originated from the BY2006 release and had a survival rate of 2.3%. The overall run was lower than the preseason forecast of 133,000 coho salmon. The commercial fleet harvested 20,926 coho salmon from the Coghill District of which all but 717 are thought to be of hatchery origin. The sport fishery harvested 22,960 WNH coho salmon originating from releases in Whittier, WNH, Chenega, and Cordova. PWSAC collected 2,064 coho salmon for broodstock (Appendices E1, E5, and E12).

Historical pink, chum, and coho salmon fry releases, total hatchery runs and estimated marine survival for WNH salmon are in Appendices E1, E2, E3, E5, and E12. WNH’s contributions to pink salmon harvest in the Coghill, Eshamy, Eastern, Montague, Northern, and Southwestern districts are in Appendices E10, E13, E19, E22, E23, and E26, respectively. WNH’s contributions to chum salmon harvest in the Coghill and Montague districts are in Appendices E11 and E21, respectively. WNH’s contributions to coho salmon harvest are in Appendix E5. WNH 2009 cost recovery summary is located in Appendix E12.

Main Bay Hatchery

MBH is situated in the Eshamy District, approximately 20 miles west of the northern end of Knight Island. MBH was built on U.S. Forest Service land in 1981 by FRED as a chum salmon production facility. In 1987, returning adult chum salmon were collected for broodstock to increase chum salmon production at WNH while sockeye fry were transferred from WNH to MBH be raised to smolts, making MBH the first sockeye salmon smolt production facility in the state. Although owned by ADF&G, PWSAC has operated MBH under contract since 1991. At one time, MBH produced sockeye salmon from 6 distinct populations including early-run Eyak Lake, mid-run Coghill Lake, and late-run Eshamy Lake sockeye, but to streamline operations, minimize run over and limit contamination concerns focus turned to rearing Coghill Lake sockeye in 1998.Water for hatchery operations is supplied by Main Lake, a 334 hectare lake with a volume of 140 million cubic meters. A pipeline from the lake produces approximately 566 l/s, of which 85–566 l/s are required for hatchery operations. MBH has released between 300,000 and 10.8 million sockeye salmon annually since 1988 (Appendix E18).

In 2009, the total run of sockeye salmon produced by the Main Bay Hatchery was 898,998 fish, exceeding the forecasted run of 882,000 sockeye salmon. A total of 133,560 sockeye salmon (131,213 hatchery and 2,347 wild stock) worth $1.1 million were harvested for cost recovery in the Eshamy District. Sockeye salmon cost recovery was a mid-season addition to the annual management plan to address a shortfall in chum salmon cost recovery conducted at WNH. A total of 10,815 sockeye salmon were utilized for broodstock purposes and carcasses were not sold. The commercial fleet harvested 84.1% or 756,630 of the total sockeye salmon run (Appendices E1, E17). Detailed MBH contributions to the CPF, total contribution summaries, and historical fry release information are in Appendices E1, E9, E13, E15-E18, and E25.

Solomon Gulch Hatchery

SGH is located near Valdez, 2 miles from the southern terminus of the Alaska pipeline. The hatchery is owned and operated by VFDA. Hatchery operations began in the fall of 1982 when the incubation room was completed and the first pink and coho salmon eggs were transferred in December. In 1983 the adult delivery system and rearing building were completed and the first return of pink salmon arrived at the hatchery. From 1982 to 1995 chum salmon were released from SGH with annual runs ranging from 450 to 442,000 fish and average annual runs of 66,000 fish. SGH currently produces pink and coho salmon with annual runs ranging from 95,000 to 23.9 million and 34 to 473,000, respectively, and average annual runs of 7.8 million and 121,000 fish, respectively. Water for hatchery operations is supplied by Solomon Lake, a 324 hectare lake with a volume of 48.1 million cubic meters. A pipeline from the lake produces approximately 8,300 l/s, of which 553–8,300 l/s are required for hatchery operations.

In 2009, the overall run of pink salmon produced by the SGH was 1.2 million fish. These fish originated from the BY2007 release, had a survival rate of approximately 0.6% and were below the preseason forecast of 17.9 million fish. A total of 732,380 pink salmon (704,151 hatchery and 28,229 wild stock), were harvested for hatchery cost recovery. In addition to purse seine harvest, 37,342 pink salmon were harvested in the freshwater raceway. A total of 449,353 pink salmon were collected for broodstock and of those, 419,537 carcasses were sold as part of the 'full utilization' strategy. An additional 28,747 fish met watershed escapement needs. The commercial fleet harvested 29,942 or 2.4% of the pink salmon run to this facility (Appendix E1, E3, and E20).

In 2009, the overall run of coho salmon produced by SGH was 89,494 fish. These fish originated from the BY2006 release and had a survival rate of 5.4%. The overall run was below the preseason forecast of 238,457 coho salmon. The commercial fleet harvested 914 SGH coho salmon, 1.0% of the total coho salmon run to this facility. VFDA harvested 17,424 coho salmon for cost recovery, 3,455 were collected for broodstock, an estimated 500 fish escaped into the local watersheds, and an estimated 67,201 fish were harvested by sport users (Appendices E1, E5, and E20).

Historical pink and coho salmon fry releases, total hatchery run and estimated marine survival for SGH are in Appendices EI, E2, E3 and E5. SGH's contributions to pink salmon harvest in the Coghill, Eshamy, Eastern, Montague, Northern, and Southwestern districts is located in Appendices E10, E13, E19, E22, E23, and E26, respectively. VFDA's contributions to coho salmon harvest are located in Appendix E5. VFDA 2009 cost recovery summary is located in Appendix E20.

Cannery Creek Hatchery

CCH is located in Unakwik Inlet, approximately halfway between Valdez and Whittier. CCH, constructed in 1978, is owned by ADF&G and has been operated by PWSAC under contract since 1988. The facility was originally constructed as a pink and chum salmon hatchery, but the chum program was discontinued in 1989 due to extremely cold lake water from January through March. Water for hatchery operations is supplied by Cannery Lake which has a surface area of 53 hectares and produces 504 l/s of which 47–504 l/s are required for hatchery operations.

In 2009, the overall run of pink salmon produced by CCH was 3.3 million fish. These fish originated from the BY2007 release, had a survival rate of approximately 2.5% and were less

than the preseason projection of 7.5 million fish. A total of 612,463 pink salmon (590,244 hatchery and 22,219 wild) were harvested for CCH cost recovery. As part of cost recovery, in addition to purse seine harvest, 168,092 pink salmon were harvested from the freshwater raceway. A total of 245,864 pink salmon were collected for broodstock and of those 234,777 carcasses were sold as part of the 'full utilization strategy. An additional 95,000 pink salmon went unharvested as part of brood stock collection. The commercial fleet harvested 2.3 million or 69.8% of the total pink salmon run to this facility (Appendices E1, E3, and E24).

Historical pink salmon fry releases, total hatchery run and estimated marine survival for CCH are in Appendices E1, E2, E3, and E24. CCH's contributions to pink salmon harvest in the Coghill, Eastern, Northern, and Southwestern districts are in Appendices E10, E19, E23, and E26, respectively. CCH 2009 cost recovery summary is located in Appendix E24.

Armin F. Koernig Hatchery

AFK is located on Evans Island in southwestern PWS, 2 miles southwest of Chenega village. Converted from an existing cannery in 1974, AFK was operated by ADF&G for a short time before ownership and operations were taken over by PWSAC in 1976. In 1975, PWSAC collected adult pink salmon and conducted egg take in Ewan Bay about 25 air miles from the hatchery. Once water-hardened, the salmon eggs were flown in buckets to a temporary hatchery incubation room over the course of 8 days. Construction delays hindered the completion of the hatchery so chum salmon production was not started in 1975 and the pink eggs were seeded into Larson Creek to ensure their survival. AFK become a fully operational hatchery in 1977 with pink salmon broodstock collected from Larson Creek. Additional pink and chum salmon eggs were collected in Galena Bay to round out production. Chum salmon production was discontinued in 1986 but was resumed in 1996 for 2 years. AFK was rebuilt in 1991 and water for hatchery operations is supplied by San Juan Lake which has an area of 6 hectares. A pipeline from the lake produces approximately 1,700 l/s, of which approximately 200–1,382 l/s are required for hatchery operations. AFK hatchery currently produces pink salmon, and chum salmon from WNH are remotely released from this facility.

In 2009, the overall run of pink salmon produced at AFK hatchery was 10.5 million fish, this was above the anticipated run of 7.7 million pink salmon. These fish originated from the BY2007 release and had a survival rate of 7.3%. A total of 4.2 million pink salmon (4,154,397 hatchery and 6,779 wild stock) were harvested for hatchery cost recovery. As part of cost recovery, in addition to purse seine harvest, 277,753 pink salmon were harvest in the freshwater raceway. A total of 232,620 pink salmon were harvested for broodstock of which 231,898 carcasses were sold as part of the 'full utilization' program. An additional 19,500 pink salmon went unharvested as part of brood collection. The commercial fleet harvested 6.3 million or 59.7% of the total pink salmon run to this facility (Appendices E1, E3, and E27).

Historical pink salmon fry releases, total hatchery runs and estimated marine survival for AFK are in Appendices E1, E2, E3, and E27. AFK's contributions to pink salmon harvest in the Coghill, Eshamy, Eastern, Montague, Northern, and Southwestern districts are in Appendices E10, E13, E19, E22, E23, and E26, respectively. AFK 2009 cost recovery summary is located in Appendix E27.

2009 PRINCE WILLIAM SOUND HERRING FISHERIES

PRESEASON OUTLOOK AND HARVEST STRATEGY

The Prince William Sound herring management area encompasses all coastal waters of the Gulf of Alaska between Cape Suckling and Cape Fairfield, extending offshore to 59° N. lat. A total of 5 herring fisheries may occur annually. During the spring season, 2 fisheries target herring for sac roe using either purse seine or gillnet gear and 2 spawn-on-kelp fisheries harvest either naturally occurring spawn on kelp or spawn on kelp suspended in pounds. In the fall a food/bait fishery may occur. Of the 5 herring fisheries, only the wild spawn-on kelp and the food/bait fishery are open entry fisheries. Each of these fisheries is managed depending on observed herring population size and age structure.

For management purposes, PWS herring is treated as a single stock that spawns from mid-April to early May. At the 1994 BOF meeting the minimum spawning biomass threshold was raised from 8,400 to 22,000 tons for the PWS stock; no fishery may be opened if the estimated spawning biomass is below this level. The 22,000-ton threshold is 25% of the potential spawning biomass from an unfished stock (for methods, see Funk and Rowell 1995). The higher threshold established manageable harvest levels while reducing the risk of overfishing and driving the population to low abundance. When the stock size is between 22,000 and 42,500 tons, the *PWS Herring Management Plan* (5 AAC 27.365) allocates the projected available surplus to the 5 fisheries based on a 0–20 % harvest rate. The maximum harvest rate of 20% is applied when stock size is greater than 42,500 tons. The sac roe seine fishery is allocated 58.1% of the available surplus; the food/bait fishery 16.3%; the pound spawn-on-kelp fishery 14.2%; the wild spawn-on-kelp fishery 8.0 %; and the gillnet sac roe fishery is allocated 3.4%. The sac roe fishery has dominated harvests with a peak in the early 1990's followed by a precipitous decline and a fishery closure since 1999 (Appendices G2 and G3).

During the 1999 and 2003 BOF meetings several regulatory changes were made to PWS herring fisheries. In 1999, regulations were standardized for PWS herring buyer, buyer's agent, and fishermen's fish ticket reporting requirements with those in other parts of the state. The 1999 BOF further created new regulations that would increase the legal depth of a purse seine used in the fall food/bait fishery and specified herring spawn-on-kelp pound marking requirements. Also, in December 1999 the BOF closed Tatitlek Narrows to all commercial herring fishing. This closure was repealed at the 2003 BOF meeting (5 AAC 27.350 (b) repealed 24 April 2003). The 2003 BOF meeting established a regulation requiring a CFEC permit holder intending to operate a pound register with the Cordova ADF&G office by March 15 of that year. A further regulation change restricted the number of kelp blades annually based on the number of permit holders registered.

The PWS herring purse seine fishery is composed of 104 permanent and 2 interim permits. Purse seines can be 150 fathoms long and 1,025 meshes deep; mesh size is not regulated. There are 24 gillnet permits in PWS. Gillnets are limited to 100 fathoms in aggregate length and 120 meshes in depth during the spring sac roe fishery (1 March through 30 June). Gillnets may be 150 fathoms in aggregate length for the food and bait fishery. Mesh size is regulated from a minimum of 2 1/8 inches to a maximum of 3 inches. Historical sac roe harvests are presented in Appendices G3-G4. There are 128 herring pound permits in PWS. Seine specifications for the closed pound fishery are the same as the sac roe seine fishery. Open and closed pound fisheries can be managed separately or in combination. The size of the pound is limited to 2,000 square

feet at the surface and walls of a closed pound cannot exceed 30 feet in depth. The herring allocation for this fishery is divided among the number of permit holders and ADF&G establishes the maximum number of blades of kelp a permit may maintain in the pound based on the number of permits registered to fish by 15 March. The historical pound spawn-on-kelp harvest peaked in the early 1990s and has declined since that time with multiple season closures (Appendix G6). The wild spawn-on-kelp fishery, utilizing native PWS kelp, occurs after a major spawning event takes place on marketable species of kelp. Wild kelp is taken by divers or by hand picking depending on the type of kelp available for harvest and market demand. The historical wild spawn-on-kelp fishery harvests are given in Appendix G5. Once instituted, pound fisheries dominated harvests of wild spawn on kelp (Appendix G7). The food/bait fishery season may run from October 1 through January 31; however, industry concerns over product quality usually results in a delay of the season's opening date until November. Purse seine size is not restricted for the food/bait fishery and trawling or gillnetting may also occur. The historical food/bait fishery harvests are given in Appendices G7-G8. Historical fishery harvest values for all PWS fisheries are presented in Appendix G9.

SEASON SUMMARY

Based on herring stock assessment information, all 2009 herring fisheries were closed. The 2009 PWS herring biomass estimate was below the minimum spawning biomass threshold of 22,000 tons.

Age structured assessment modeling was used to project the 2009 biomass of Pacific herring. The PWS herring biomass forecast for 2009 was 13,650 tons. Hydroacoustic, net sampling, and aerial surveys were conducted in 2009 to assess herring biomass, disease prevalence, age composition, and growth.

Acoustic surveys were conducted during March and April 2009 with the ADF&G research vessel *Solstice* and the M/V *Auklet*, contracted by the Prince William Sound Science Center. ADF&G conducted broad scale surveys in eastern PWS up to Tatitlek Narrows; north and central Montague Island; and from Sawmill Bay to Whale Bay. Detailed acoustics data were collected on major concentrations of herring in Port Gravina, between St. Matthews Bay and Red Head, and in Whale Bay. . Age composition samples varied by location and sample gear: spawning fish samples from Eastern PWS and Montague Island were predominately age 4 and 5. Further, 10%-15% of the Eastern PWS spawning samples were age 8 and older. Samples from other locations and prespawning Eastern PWS samples (Whale and Olsen bays and Comfort Cove) were predominately younger fish (age 1, 2, and 3).

Herring disease assessment has been included as part of the annual age, sex, and size assessment ADF&G has completed each spring since 1993. Disease sampling in 2002 documented a viral hemorrhagic septicemia virus (VHSV) prevalence of 14%. Although this did not appear to seriously impact the adult population, it may have increased mortality of juveniles. Also, the prevalence of *Ichthyophonus hoferi* increased significantly between 2002 (14%) and 2005 (25%). In March and April, ADF&G examined herring for prevalence of focal skin reddening and the pathogen *Ichthyophonus hoferi*. Prevalence of focal skin reddening associated with VHSV was not detected; however, prevalence of I. hoferi varied from 13.3% in Simpson Bay to 43.3% in Port Gravina. Evidence suggests both VHSV and *I. hoferi* may occur in approximately 4-year cycles. The last *I. hoferi* peak was in 2001 and prevalence of *I. hoferi* is positively correlated with age. Therefore, there may have been increased mortality from *I. hoferi* in older age groups

in 2006 and 2007. If this trend continues, mortality of the predominant age class may increase significantly. ADF&G is monitoring these disease indices.

A total of 47.3 mile-days of spawn were observed in spring 2009, 14% less than the mile-days observed in 2008, and lower than all but one year in which commercial fishing occurred. Sixteen mile-days were assessed as dissipating or drift of milt. Most of the spawning events were in the eastern portion of PWS (31.7 mile-day) while Montague and the northeastern areas had much smaller amounts (7.6 and 8.0 mile-days respectively) (Appendix G13).

ADF&G collected additional age, sex, and size data along with disease information throughout PWS during the fall of 2009. Updates on the status of the PWS herring population will be announced as new information becomes available.

2010–2011 HERRING SEASON OUTLOOK

Given the PWS herring spawning population, current size and age structure, a commercial harvest is not anticipated in 2010. Consecutive years of low recruitment will further delay the recovery of the herring population to a size capable of supporting a sustainable commercial harvest. ADF&G will continue to monitor the PWS herring biomass to assess growth and recruitment. An ongoing disease study will continue to examine the incidence of VHSV and *I. hoferi* in the PWS herring population.

REFERENCES CITED

Bue, B. G., S. M. Fried, S. Sharr, D. G. Sharp, J. A. Wilcock, and H. J. Geiger. 1998. Estimating salmon escapement using area-under-the-curve, aerial observer efficiency, and stream-life estimates: The Prince William Sound pink salmon example. North Pacific Anadromous Fish Commission Bulletin No. 1:240-250.

Fried, S. M. 1994. Pacific salmon spawning escapement goals for the Prince William Sound, Cook Inlet, and Bristol Bay areas of Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries, Special Publication No. 8, Juneau.

Funk F., and K. A. Rowell. 1995. Population model suggests new threshold for managing Alaska's Togiak Fishery for Pacific herring in Bristol Bay. Alaska Fishery Research Bulletin Vol. 2 (2): 125-136.

Pirtle, R. B. and W. H. Noerenberg. 1960. Annual Management Report, Commercial Fisheries Division, Cordova Area 1960. Alaska Department of Fish and Game, Division of Commercial Fisheries, Cordova.

Pirtle, R. B. and P. J. Fridgen. 1967. Annual statistical report, 1966, Cordova area. Alaska Department of Fish and Game, Division of Commercial Fisheries, Annual Management Report, Anchorage.

PWSAC (Prince William Sound Aquaculture Corporation). 2009. Annual Reports-AFKH, CCH, and WNH. Prince William Sound Aquaculture Corporation, Cordova.

TABLES

Table 1.–Prince William Sound Management Area commercial salmon harvest by gear type and district, 2009.

District	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Eastern	19	0	55	1,221	95,071	4,752	101,099
Northern	91	0	92	69	2,064,871	15,234	2,080,266
Coghill	56	3	1,337	1,758	1,028,789	12,926	1,044,813
Northwestern	0	0	0	0	0	0	0
Southwestern	144	25	67,802	2,581	7,481,863	233,661	7,785,932
Montague	10	0	2	927	58,652	0	59,581
Southeastern	3	0	32	183	36,698	2,887	39,800
Unakwik	2	0	1,153	0	0	10	1,163
Purse seine total		28	70,473	6,739	10,765,944	269,470	11,112,654
Bering River	218	15	4,157	45,522	1	5	49,700
Copper River	486	9,457	896,621	207,776	16,759	8,629	1,139,242
Coghill	377	174	103,415	19,168	276,925	1,323,728	1,723,410
Eshamy	357	67	539,293	1,695	77,539	286,361	904,955
Montague	202	87	10,208	1,475	29,300	672,918	713,988
Unakwik	10	1	1,975	0	0	374	2,350
Drift gillnet total		9,801	1,555,669	275,636	400,524	2,292,015	4,533,645
Eshamy	27	47	152,642	49	4,251	50,748	207,737
Set gillnet total		47	152,642	49	4,251	50,748	207,737
Solomon Gulch	1	0	313	17,424	1,192,013	3,916	1,213,666
Cannery Creek	1	0	0	0	912,935	0	912,935
Wally Noerenberg	1	0	0	0	1,532,850	604,625	2,137,475
Main Bay	1	0	133,560	0	2	0	133,562
Armin F. Koernig	1	0	0	0	4,239,864	0	4,239,864
Hatchery total[a]		0	133,873	17,424	7,877,664	608,541	8,637,502
Test Fishery	1	0	0	0	1,703	0	1,703
Home Pack	344	876	6,528	767	61	67	8,299
Donated Fish	35	0	47	0	0	0	47
Misc. Total		876	6,575	767	1,764	67	10,049
Prince William Sound total		10,752	1,919,232	300,615	19,050,147	3,220,841	24,501,587

[a] Hatchery sales for hatchery operating costs.

Table 2.–Total commercial salmon harvest by species from all gear types, Prince William Sound Area, 1950–2009.

Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1950 [a]	DGN +SGN	17,783	(96.8%)	827,107	(94.5%)	146,839	(63.8%)	44,852	(2.4%)	16,079	(3.5%)
1950 [a]	PS	365	(2.0%)	23,742	(2.7%)	49,743	(21.6%)	966,078	(52.2%)	319,684	(70.1%)
1950 [a]	Troll	22	(0.1%)	0	(0.0%)	9,454	(4.1%)	0	(0.0%)	0	(0.0%)
1950 [a]	Fish Trap	193	(1.1%)	24,680	(2.8%)	24,060	(10.5%)	839,842	(45.4%)	120,183	(26.4%)
	Total	18,363		875,529		230,096		1,850,772		455,946	
1951 [b]	DGN	17,483	(82.8%)	458,262	(69.1%)	200,748	(80.8%)	4,064	(0.5%)	5,877	(1.1%)
1951 [b]	SGN	19	(0.1%)	74,397	(11.2%)	1,795	(0.7%)	14,724	(1.8%)	22,011	(4.0%)
1951 [b]	PS	951	(4.5%)	89,544	(13.5%)	7,278	(2.9%)	344,310	(42.9%)	357,877	(65.2%)
1951 [b]	Troll	26	(0.1%)	0	(0.0%)	87	(0.0%)	0	(0.0%)	0	(0.0%)
1951 [b]	Fish Trap	2,630	(12.5%)	41,396	(6.2%)	38,452	(15.5%)	439,900	(54.8%)	163,490	(29.8%)
	Total	21,109		663,599		248,360		802,998		549,255	
1952 [b]	DGN	29,418	(99.8%)	1,136,693	(93.9%)	178,353	(78.0%)	59,071	(2.7%)	18,963	(3.4%)
1952 [b]	SGN	20	(0.1%)	36,305	(3.0%)	2,557	(1.1%)	66,927	(3.1%)	20,994	(3.8%)
1952 [b]	PS	27	(0.1%)	8,137	(0.7%)	11,846	(5.2%)	1,199,455	(55.3%)	425,581	(77.3%)
1952 [b]	Troll	1	(0.0%)	0	(0.0%)	21	(0.0%)	1	(0.0%)	1	(0.0%)
1952 [b]	Fish Trap	0	(0.0%)	29,505	(2.4%)	35,735	(15.6%)	842,386	(38.9%)	85,215	(15.5%)
	Total	29,466		1,210,640		228,512		2,167,840		550,754	
1953 [b]	DGN	12,225	(99.4%)	572,942	(92.2%)	29,959	(44.8%)	11,993	(0.6%)	3,674	(1.0%)
1953 [b]	SGN	7	(0.1%)	14,809	(2.4%)	1,355	(2.0%)	66,285	(3.3%)	23,009	(6.5%)
1953 [b]	PS	60	(0.5%)	12,014	(1.9%)	6,531	(9.8%)	856,887	(42.9%)	237,146	(67.2%)
1953 [b]	Troll	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1953 [b]	Fish Trap	4	(0.0%)	21,767	(3.5%)	29,033	(43.4%)	1,061,414	(53.2%)	88,931	(25.2%)
	Total	12,296		621,532		66,878		1,996,579		352,760	
1954 [b]	DGN	15,764	(100.0%)	1,099,693	(99.4%)	249,905	(99.8%)	144	(1.2%)	273	(4.3%)
1954 [b]	SGN	1	(0.0%)	6,185	(0.6%)	436	(0.2%)	12,142	(98.8%)	6,071	(95.7%)
1954 [b]	PS	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1954 [b]	Troll	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1954 [b]	Fish Trap	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	15,765		1,105,878		250,341		12,286		6,344	
1955 [b]	DGN	20,563	(100.0%)	670,826	(98.1%)	228,308	(99.7%)	199	(0.7%)	14	(0.3%)
1955 [b]	SGN	0	(0.0%)	12,924	(1.9%)	596	(0.3%)	26,873	(99.3%)	4,662	(99.7%)
1955 [b]	PS	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1955 [b]	Troll	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1955 [b]	Fish Trap	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	20,563		683,750		228,904		27,072		4,676	
1956 [b]	DGN	11,849	(96.0%)	582,012	(78.8%)	162,732	(82.4%)	1,177	(0.0%)	59	(0.0%)
1956 [b]	SGN	1	(0.0%)	77,514	(10.5%)	789	(0.4%)	32,105	(0.7%)	14,490	(2.9%)
1956 [b]	PS	373	(3.0%)	40,728	(5.5%)	5,731	(2.9%)	2,757,727	(60.9%)	423,792	(83.5%)
1956 [b]	Troll	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1956 [b]	Fish Trap	118	(1.0%)	38,094	(5.2%)	28,330	(14.3%)	1,735,576	(38.3%)	68,917	(13.6%)
	Total	12,341		738,348		197,582		4,526,585		507,258	
1957 [b]	DGN	8,226	(89.5%)	574,726	(90.2%)	86,149	(80.5%)	2,536	(0.4%)	3,247	(0.5%)
1957 [b]	SGN	0	(0.0%)	35,964	(5.6%)	755	(0.7%)	22,689	(3.5%)	13,809	(2.0%)
1957 [b]	PS	604	(6.6%)	12,528	(2.0%)	5,574	(5.2%)	330,584	(50.8%)	567,363	(80.3%)

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Table 2.–Page 2 of 8.

Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1960 [c]	DGN	8,741	(100.0%)	393,557	(91.8%)	206,212	(87.0%)	476	(0.0%)	319	(0.1%)
1960 [c]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1960 [c]	PS	0	(0.0%)	35,176	(8.2%)	30,722	(13.0%)	1,841,899	(100.0%)	381,858	(99.9%)
1960 [c]	Troll	NA		NA		NA		NA		NA	
	Total	8,741		428,733		236,934		1,842,375		382,177	
1961 [c]	DGN	13,573	(100.0%)	657,366	(92.3%)	170,729	(98.1%)	16,200	(0.7%)	4,052	(1.8%)
1961 [c]	SGN	0	(0.0%)	54,057	(7.6%)	1,303	(0.7%)	109,142	(4.7%)	21,589	(9.6%)
1961 [c]	PS	0	(0.0%)	418	(0.1%)	2,011	(1.2%)	2,174,440	(94.5%)	199,033	(88.6%)
1961 [c]	Troll	NA		NA		NA		NA		NA	
	Total	13,573		711,841		174,043		2,299,782		224,674	
1962 [c]	DGN + SGN	12,793	(100.0%)	742,493	(97.3%)	321,375	(95.8%)	14,389	(0.2%)	7,558	(0.9%)
1962 [c]	PS	0	(0.0%)	20,822	(2.7%)	13,993	(4.2%)	6,466,736	(99.8%)	831,949	(99.1%)
1962 [c]	Troll	NA		NA		NA		NA		NA	
	Total	12,793		763,315		335,368		6,481,125		839,507	
1963 [d]	DGN	41,193	(96.0%)	415,205	(100.0%)	291,345	(93.6%)	23,712	(3.5%)	43,941	(45.2%)
1963 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1963 [d]	PS	47	(0.1%)	174	(0.0%)	2,731	(0.9%)	661,844	(96.4%)	53,306	(54.8%)
1963 [d]	Troll	1,652	(3.9%)	0	(0.0%)	17,238	(5.5%)	835	(0.1%)	62	(0.1%)
	Total	42,892		415,379		311,314		686,391		97,309	
1964 [d]	DGN	12,793	(99.5%)	742,493	(95.2%)	321,375	(91.2%)	14,389	(0.3%)	7,558	(1.4%)
1964 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1964 [d]	PS	65	(0.5%)	37,498	(4.8%)	30,968	(8.8%)	4,193,055	(99.7%)	531,551	(98.6%)
1964 [d]	Troll	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	12,858		779,991		352,343		4,207,444		539,109	
1965 [d]	DGN	15,404	(93.4%)	858,788	(90.7%)	123,077	(73.2%)	4,617	(0.2%)	4,665	(2.3%)
1965 [d]	SGN	3	(0.0%)	11,278	(1.2%)	51	(0.0%)	332	(0.0%)	383	(0.2%)
1965 [d]	PS	562	(3.4%)	76,701	(8.1%)	39,263	(23.4%)	2,455,978	(99.8%)	196,360	(97.5%)
1965 [d]	Troll	523	(3.2%)	0	(0.0%)	5,722	(3.4%)	347	(0.0%)	7	(0.0%)
	Total	16,492		946,767		168,113		2,461,274		201,415	
1966 [d]	DGN	11,464	(94.9%)	1,061,596	(93.9%)	166,012	(87.5%)	5,638	(0.2%)	3,126	(0.7%)
1966 [d]	SGN	0	(0.0%)	20,503	(1.8%)	728	(0.4%)	35,499	(1.3%)	7,772	(1.8%)
1966 [d]	PS	177	(1.5%)	48,909	(4.3%)	20,319	(10.7%)	2,659,935	(98.5%)	415,818	(97.4%)
1966 [d]	Troll	437	(3.6%)	0	(0.0%)	2,578	(1.4%)	188	(0.0%)	6	(0.0%)
	Total	12,078		1,131,008		189,637		2,701,260		426,722	
1967 [d]	DGN	9,929	(73.6%)	544,423	(96.2%)	206,625	(83.6%)	39,506	(1.5%)	19,250	(7.0%)
1967 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1967 [d]	PS	421	(3.1%)	21,283	(3.8%)	18,325	(7.4%)	2,586,006	(98.4%)	255,133	(93.0%)
1967 [d]	Troll	3,147	(23.3%)	0	(0.0%)	22,223	(9.0%)	1,404	(0.1%)	71	(0.0%)
	Total	13,497		565,706		247,173		2,626,916		274,454	
1968 [d]	DGN	9,167	(86.3%)	650,036	(89.7%)	303,096	(96.4%)	15,860	(0.6%)	15,753	(4.6%)
1968 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1968 [d]	PS	152	(1.4%)	74,414	(10.3%)	7,064	(2.2%)	2,432,315	(99.3%)	326,012	(95.4%)
1968 [d]	Troll	1,306	(12.3%)	0	(0.0%)	4,407	(1.4%)	396	(0.0%)	2	(0.0%)
	Total	10,625		724,450		314,567		2,448,571		341,767	
1969 [e]	DGN	14,148	(81.3%)	819,891	(80.3%)	81,588	(91.5%)	5,508	(0.1%)	9,724	(3.0%)
1969 [e]	SGN	13	(0.1%)	56,785	(5.6%)	182	(0.2%)	22,133	(0.5%)	7,120	(2.2%)
1969 [e]	PS	691	(4.0%)	143,737	(14.1%)	5,978	(6.7%)	4,800,991	(99.4%)	304,371	(94.8%)
1969 [e]	Troll	2,552	(14.7%)	1	(0.0%)	1,450	(1.6%)	795	(0.0%)	6	(0.0%)
	Total	17,404		1,020,414		89,198		4,829,427		321,221	

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1965 [d]	Troll	523	(3.2%)	0	(0.0%)	5,722	(3.4%)	347	(0.0%)	7	(0.0%)
	Total	16,492		946,767		168,113		2,461,274		201,415	
1966 [d]	DGN	11,464	(94.9%)	1,061,596	(93.9%)	166,012	(87.5%)	5,638	(0.2%)	3,126	(0.7%)
1966 [d]	SGN	0	(0.0%)	20,503	(1.8%)	728	(0.4%)	35,499	(1.3%)	7,772	(1.8%)
1966 [d]	PS	177	(1.5%)	48,909	(4.3%)	20,319	(10.7%)	2,659,935	(98.5%)	415,818	(97.4%)
1966 [d]	Troll	437	(3.6%)	0	(0.0%)	2,578	(1.4%)	188	(0.0%)	6	(0.0%)
	Total	12,078		1,131,008		189,637		2,701,260		426,722	
1967 [d]	DGN	9,929	(73.6%)	544,423	(96.2%)	206,625	(83.6%)	39,506	(1.5%)	19,250	(7.0%)
1967 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1967 [d]	PS	421	(3.1%)	21,283	(3.8%)	18,325	(7.4%)	2,586,006	(98.4%)	255,133	(93.0%)
1967 [d]	Troll	3,147	(23.3%)	0	(0.0%)	22,223	(9.0%)	1,404	(0.1%)	71	(0.0%)
	Total	13,497		565,706		247,173		2,626,916		274,454	
1968 [d]	DGN	9,167	(86.3%)	650,036	(89.7%)	303,096	(96.4%)	15,860	(0.6%)	15,753	(4.6%)
1968 [d]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1968 [d]	PS	152	(1.4%)	74,414	(10.3%)	7,064	(2.2%)	2,432,315	(99.3%)	326,012	(95.4%)
1968 [d]	Troll	1,306	(12.3%)	0	(0.0%)	4,407	(1.4%)	396	(0.0%)	2	(0.0%)
	Total	10,625		724,450		314,567		2,448,571		341,767	
1969 [e]	DGN	14,148	(81.3%)	819,891	(80.3%)	81,588	(91.5%)	5,508	(0.1%)	9,724	(3.0%)
1969 [e]	SGN	13	(0.1%)	56,785	(5.6%)	182	(0.2%)	22,133	(0.5%)	7,120	(2.2%)
1969 [e]	PS	691	(4.0%)	143,737	(14.1%)	5,978	(6.7%)	4,800,991	(99.4%)	304,371	(94.8%)
1969 [e]	Troll	2,552	(14.7%)	1	(0.0%)	1,450	(1.6%)	795	(0.0%)	6	(0.0%)
	Total	17,404		1,020,414		89,198		4,829,427		321,221	
1970 [e]	DGN	19,392	(95.0%)	1,168,945	(94.1%)	241,071	(95.6%)	21,607	(0.8%)	8,126	(3.5%)
1970 [e]	SGN	4	(0.0%)	15,396	(1.2%)	515	(0.2%)	40,222	(1.4%)	4,703	(2.0%)
1970 [e]	PS	204	(1.0%)	58,159	(4.7%)	9,486	(3.8%)	2,748,709	(97.8%)	218,692	(94.5%)
1970 [e]	Troll	818	(4.0%)	2	(0.0%)	1,194	(0.5%)	84	(0.0%)	0	(0.0%)
	Total	20,418		1,242,502		252,266		2,810,622		231,521	
1971 [e]	DGN	16,664	(82.7%)	684,909	(92.3%)	297,200	(90.7%)	5,883	(0.1%)	16,652	(2.9%)
1971 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1971 [e]	PS	1,075	(5.3%)	57,036	(7.7%)	30,023	(9.2%)	7,306,580	(99.9%)	562,898	(97.1%)
1971 [e]	Troll	2,403	(11.9%)	0	(0.0%)	474	(0.1%)	267	(0.0%)	2	(0.0%)
	Total	20,142		741,945		327,697		7,312,730		579,552	
1972 [e]	DGN	22,475	(97.7%)	938,344	(96.1%)	123,768	(99.3%)	32,075	(56.2%)	35,743	(77.6%)
1972 [e]	SGN	33	(0.1%)	37,771	(3.9%)	520	(0.4%)	25,013	(43.8%)	10,345	(22.4%)
1972 [e]	PS	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1972 [e]	Troll	495	(2.2%)	0	(0.0%)	382	(0.3%)	2	(0.0%)	0	(0.0%)
	Total	23,003		976,115		124,670		57,090		46,088	
1973 [e]	DGN	20,451	(90.3%)	454,211	(96.0%)	197,828	(99.4%)	101,688	(4.9%)	108,729	(14.7%)
1973 [e]	SGN	28	(0.1%)	8,969	(1.9%)	78	(0.0%)	9,724	(0.5%)	10,914	(1.5%)
1973 [e]	PS	237	(1.0%)	9,864	(2.1%)	812	(0.4%)	1,954,432	(94.6%)	620,374	(83.8%)
1973 [e]	Troll	1,922	(8.5%)	0	(0.0%)	301	(0.2%)	0	(0.0%)	0	(0.0%)
	Total	22,638		473,044		199,019		2,065,844		740,017	

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1974 [e]	DGN	19,191	(93.2%)	730,673	(98.6%)	75,460	(99.2%)	336,047	(73.3%)	76,082	(85.3%)
1974 [e]	SGN	4	(0.0%)	6,394	(0.9%)	11	(0.0%)	68,300	(14.9%)	5,408	(6.1%)
1974 [e]	PS	192	(0.9%)	4,273	(0.6%)	22	(0.0%)	54,268	(11.8%)	7,720	(8.7%)
1974 [e]	Troll	1,215	(5.9%)	0	(0.0%)	548	(0.7%)	4	(0.0%)	0	(0.0%)
	Total	20,602		741,340		76,041		458,619		89,210	
1975 [e]	DGN	20,501	(92.8%)	519,425	(95.0%)	78,397	(93.3%)	186,758	(4.2%)	41,970	(41.4%)
1975 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1975 [e]	PS	1,598	(7.2%)	27,195	(5.0%)	5,660	(6.7%)	4,265,685	(95.8%)	59,306	(58.6%)
1975 [e]	PS	224	(1.0%)	0	(0.0%)	9	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	22,099		546,620		84,057		4,452,443		101,276	
1976 [e]	DGN	31,825	(97.2%)	963,415	(95.5%)	154,529	(96.3%)	160,506	(5.3%)	111,504	(30.1%)
1976 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1976 [e]	PS	493	(1.5%)	45,425	(4.5%)	5,845	(3.6%)	2,861,920	(94.7%)	259,153	(69.9%)
1976 [e]	Troll	409	(1.2%)	0	(0.0%)	120	(0.1%)	0	(0.0%)	0	(0.0%)
	Total	32,727		1,008,840		160,494		3,022,426		370,657	
1977 [e]	DGN	22,365	(97.8%)	812,755	(86.1%)	178,674	(99.6%)	419,529	(9.2%)	136,517	(23.8%)
1977 [e]	SGN	9	(0.0%)	9,889	(1.0%)	2	(0.0%)	24,743	(0.5%)	4,218	(0.7%)
1977 [e]	PS	490	(2.1%)	121,287	(12.8%)	741	(0.4%)	4,091,421	(90.2%)	431,958	(75.4%)
	Total	22,864		943,931		179,417		4,535,693		572,693	
1978 [e]	DGN	29,886	(98.2%)	486,441	(96.2%)	311,499	(99.5%)	55,387	(2.0%)	115,900	(23.7%)
1978 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1978 [e]	PS	549	(1.8%)	19,068	(3.8%)	1,431	(0.5%)	2,728,464	(98.0%)	373,871	(76.3%)
	Total	30,435		505,509		312,930		2,783,851		489,771	
1979 [e]	DGN	18,617	(92.7%)	304,546	(82.4%)	310,777	(98.4%)	269,921	(1.7%)	80,406	(23.0%)
1979 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1979 [e]	PS	1,461	(7.3%)	65,037	(17.6%)	4,997	(1.6%)	15,343,689	(98.3%)	269,193	(77.0%)
	Total	20,078		369,583		315,774		15,613,610		349,599	
1980 [e]	DGN	8,561	(99.1%)	78,096	(37.4%)	335,255	(99.4%)	367,700	(2.6%)	69,126	(14.3%)
1980 [e]	SGN	0	(0.0%)	2,000	(1.0%)	38	(0.0%)	2,471	(0.0%)	134	(0.0%)
1980 [e]	PS	82	(0.9%)	128,628	(61.6%)	1,830	(0.5%)	13,790,852	(97.4%)	412,954	(85.6%)
	Total	8,643		208,724		337,123		14,161,023		482,214	
1981 [e]	DGN	20,530	(98.8%)	636,739	(81.2%)	393,788	(99.2%)	564,357	(2.7%)	142,744	(7.6%)
1981 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1981 [e]	PS	252	(1.2%)	147,719	(18.8%)	3,375	(0.8%)	19,993,579	(97.3%)	1,745,987	(92.4%)
	Total	20,782		784,458		397,163		20,557,936		1,888,731	
1982 [e]	DGN	47,744	(99.7%)	2,286,348	(96.8%)	599,960	(95.2%)	194,359	(1.0%)	254,310	(19.0%)
1982 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1982 [e]	PS	127	(0.3%)	76,187	(3.2%)	30,204	(4.8%)	20,207,907	(99.0%)	1,082,693	(81.0%)
	Total	47,871		2,362,535		630,164		20,402,266		1,337,003	
1983 [e]	DGN	53,558	(99.4%)	858,954	(94.5%)	356,036	(97.4%)	409,989	(3.1%)	246,198	(23.5%)
1983 [e]	SGN	1	(0.0%)	1,328	(0.1%)	40	(0.0%)	168,134	(1.3%)	4,463	(0.4%)

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1983 [e]	PS	320	(0.6%)	48,203	(5.3%)	9,423	(2.6%)	12,716,040	(95.7%)	798,378	(76.1%)
	Total	53,879		908,485		365,499		13,294,163		1,049,039	
1984 [e]	DGN	39,798	(99.7%)	1,151,485	(86.2%)	595,475	(95.6%)	1,302,766	(6.2%)	346,325	(27.4%)
1984 [e]	SGN	1	(0.0%)	24,057	(1.8%)	347	(0.1%)	277,219	(1.3%)	3,042	(0.2%)
1984 [e]	PS	80	(0.2%)	159,531	(11.9%)	27,292	(4.4%)	19,603,191	(92.5%)	913,412	(72.3%)
1984 [e]	Troll	35	(0.1%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	39,914		1,335,073		623,114		21,183,176		1,262,779	
1985 [e]	DGN	42,834	(98.4%)	1,321,716	(91.1%)	1,008,037	(98.4%)	507,896	(2.1%)	267,384	(20.7%)
1985 [e]	SGN	1	(0.0%)	3,439	(0.2%)	74	(0.0%)	33,284	(0.1%)	1,295	(0.1%)
1985 [e]	PS	694	(1.6%)	124,993	(8.6%)	16,441	(1.6%)	23,330,611	(97.7%)	1,025,026	(79.2%)
1985 [e]	Hatchery	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
	Total	43,529		1,450,148		1,024,552		23,871,791		1,293,705	
1986 [e]	DGN	41,420	(98.3%)	1,206,583	(93.7%)	412,045	(96.8%)	74,847	(0.7%)	239,361	(14.0%)
1986 [e]	SGN	9	(0.0%)	1,043	(0.1%)	86	(0.0%)	42,123	(0.4%)	5,764	(0.3%)
1986 [e]	PS	699	(1.7%)	80,587	(6.3%)	11,460	(2.7%)	10,399,605	(91.0%)	1,439,618	(84.4%)
1986 [e]	Hatchery	0	(0.0%)	0	(0.0%)	2,156	(0.5%)	909,219	(8.0%)	20,683	(1.2%)
	Total	42,128		1,288,213		425,747		11,425,794		1,705,426	
1987 [e]	DGN	41,522	(98.8%)	1,584,886	(91.0%)	141,143	(80.4%)	755,168	(2.6%)	345,531	(17.7%)
1987 [e]	SGN	34	(0.1%)	5,514	(0.3%)	336	(0.2%)	88,866	(0.3%)	48,439	(2.5%)
1987 [e]	PS	489	(1.2%)	151,468	(8.7%)	27,158	(15.5%)	25,528,640	(87.0%)	1,557,140	(79.7%)
1987 [e]	Hatchery	0	(0.0%)	12	(0.0%)	7,015	(4.0%)	2,986,061	(10.2%)	2,549	(0.1%)
	Total	42,045		1,741,880		175,652		29,358,735		1,953,659	
1988 [e]	DGN	31,377	(98.7%)	726,362	(94.5%)	444,714	(92.9%)	1,668,449	(14.1%)	569,068	(30.8%)
1988 [e]	SGN	101	(0.3%)	18,526	(2.4%)	284	(0.1%)	182,135	(1.5%)	94,627	(5.1%)
1988 [e]	PS	326	(1.0%)	23,353	(3.0%)	27,332	(5.7%)	7,792,900	(65.9%)	1,145,680	(61.9%)
1988 [e]	Hatchery	1	(0.0%)	74	(0.0%)	6,189	(1.3%)	2,184,703	(18.5%)	40,841	(2.2%)
	Total	31,805		768,315		478,519		11,828,187		1,850,216	
1989 [e]	DGN	31,267	(98.1%)	1,158,832	(99.4%)	223,317	(73.0%)	79,209	(0.5%)	101,383	(15.2%)
1989 [e]	SGN	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
1989 [e]	PS	610	(1.9%)	7,370	(0.6%)	30,311	(9.9%)	9,532,789	(54.6%)	540,978	(80.9%)
1989 [e]	Hatchery	8	(0.0%)	11	(0.0%)	52,307	(17.1%)	7,853,419	(45.0%)	26,714	(4.0%)
	Total	31,885		1,166,213		305,935		17,465,417		669,075	
1990 [e]	DGN	21,955	(99.2%)	878,312	(96.4%)	419,080	(80.0%)	2,084,456	(4.7%)	573,550	(59.4%)
1990 [e]	SGN	56	(0.3%)	10,204	(1.1%)	532	(0.1%)	369,589	(0.8%)	94,494	(9.8%)
1990 [e]	PS	115	(0.5%)	22,213	(2.4%)	89,997	(17.2%)	32,964,133	(74.7%)	272,518	(28.2%)
1990 [e]	Hatchery	2	(0.0%)	108	(0.0%)	14,199	(2.7%)	8,732,658	(19.8%)	24,554	(2.5%)
	Total	22,128		910,837		523,808		44,150,836		965,116	
1991 [e]	DGN	35,027	(99.3%)	1,530,596	(88.3%)	574,879	(89.6%)	289,566	(0.9%)	256,939	(73.0%)
1991 [e]	SGN	76	(0.2%)	184,028	(10.6%)	511	(0.1%)	20,075	(0.1%)	49,394	(14.0%)
1991 [e]	PS	156	(0.4%)	18,704	(1.1%)	13,339	(2.1%)	26,585,034	(80.9%)	32,071	(9.1%)
1991 [e]	Hatchery	0	(0.0%)	14	(0.0%)	52,625	(8.2%)	5,955,561	(18.1%)	13,471	(3.8%)
	Total	35,259		1,733,342		641,354		32,850,236		351,875	

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
1992 [e]	DGN	40,234	(97.4%)	1,424,398	(80.7%)	505,167	(81.6%)	326,042	(3.8%)	239,309	(72.2%)
1992 [e]	SGN	101	(0.2%)	144,568	(8.2%)	1,242	(0.2%)	390,097	(4.5%)	4,695	(1.4%)
1992 [e]	PS	116	(0.3%)	32,972	(1.9%)	38,984	(6.3%)	4,863,595	(56.3%)	30,088	(9.1%)
1992 [e]	Hatchery	850	(2.1%)	163,086	(9.2%)	73,530	(11.9%)	3,054,233	(35.4%)	57,392	(17.3%)
	Total	41,301		1,765,024		618,923		8,633,967		331,484	
1993 [e]	DGN	30,446	(95.2%)	1,594,215	(86.4%)	435,877	(97.9%)	200,252	(3.5%)	676,255	(57.3%)
1993 [e]	SGN	55	(0.2%)	101,717	(5.5%)	832	(0.2%)	84,568	(1.5%)	20,369	(1.7%)
1993 [e]	PS	58	(0.2%)	34,575	(1.9%)	5,437	(1.2%)	3,238,236	(56.5%)	9,458	(0.8%)
1993 [e]	Hatchery	1,437	(4.5%)	113,738	(6.2%)	3,259	(0.7%)	2,212,903	(38.6%)	475,148	(40.2%)
	Total	31,996		1,844,245		445,405		5,735,959		1,181,230	
1994 [e]	DGN	47,574	(98.0%)	1,255,470	(83.0%)	988,138	(93.4%)	325,283	(0.9%)	582,823	(55.4%)
1994 [e]	SGN	9	(0.0%)	97,664	(6.5%)	628	(0.1%)	311,134	(0.8%)	6,908	(0.7%)
1994 [e]	PS	121	(0.2%)	80,699	(5.3%)	46,905	(4.4%)	25,671,910	(69.7%)	82,113	(7.8%)
1994 [e]	Hatchery	842	(1.7%)	79,541	(5.3%)	22,454	(2.1%)	10,521,439	(28.6%)	380,365	(36.1%)
	Total	48,546		1,513,374		1,058,125		36,829,766		1,052,209	
1995 [e]	DGN	66,216	(98.7%)	1,383,171	(91.1%)	855,514	(88.7%)	242,041	(1.5%)	449,308	(59.4%)
1995 [e]	SGN	19	(0.0%)	30,814	(2.0%)	695	(0.1%)	28,118	(0.2%)	6,621	(0.9%)
1995 [e]	PS	128	(0.2%)	40,796	(2.7%)	95,349	(9.9%)	10,546,358	(66.3%)	68,892	(9.1%)
1995 [e]	Hatchery	719	(1.1%)	63,326	(4.2%)	13,248	(1.4%)	5,090,152	(32.0%)	231,539	(30.6%)
	Total	67,082		1,518,107		964,806		15,906,669		756,360	
1996 [e]	DGN	56,360	(99.8%)	2,756,822	(91.9%)	309,047	(67.3%)	84,879	(0.3%)	662,779	(31.5%)
1996 [e]	SGN	13	(0.0%)	132,268	(4.4%)	309	(0.1%)	16,648	(0.1%)	9,276	(0.4%)
1996 [e]	PS	64	(0.1%)	24,021	(0.8%)	111,012	(24.2%)	17,656,080	(67.8%)	364,821	(17.3%)
1996 [e]	Hatchery	19	(0.0%)	86,959	(2.9%)	38,951	(8.5%)	8,291,205	(31.8%)	1,066,683	(50.7%)
	Total	56,456		3,000,070		459,319		26,048,812		2,103,559	
1997 [e]	DGN	52,178	(99.4%)	3,671,438	(88.2%)	24,797	(30.9%)	309,778	(1.2%)	727,387	(32.8%)
1997 [e]	SGN	12	(0.0%)	196,005	(4.7%)	163	(0.2%)	76,610	(0.3%)	8,475	(0.4%)
1997 [e]	PS	204	(0.4%)	28,924	(0.7%)	55,223	(68.9%)	15,595,495	(60.6%)	680,084	(30.6%)
1997 [e]	Hatchery	88	(0.2%)	266,335	(6.4%)	3	(0.0%)	9,734,102	(37.9%)	804,416	(36.2%)
	Total	52,482		4,162,702		80,186		25,715,985		2,220,362	
1998 [e]	DGN	69,514	(98.3%)	1,521,303	(90.4%)	123,748	(70.9%)	507,438	(1.8%)	353,270	(28.3%)
1998 [e]	SGN	1	(0.0%)	25,533	(1.5%)	91	(0.1%)	33,916	(0.1%)	214	(0.0%)
1998 [e]	PS	227	(0.3%)	20,428	(1.2%)	50,607	(29.0%)	19,327,718	(68.1%)	399,240	(32.0%)
1998 [e]	Hatchery	980	(1.4%)	115,914	(6.9%)	87	(0.0%)	8,507,352	(30.0%)	494,416	(39.6%)
	Total	70,722		1,683,178		174,533		28,376,424		1,247,140	
1999 [e]	DGN	62,814	(99.0%)	1,897,001	(93.7%)	145,754	(85.8%)	169,899	(0.4%)	728,043	(24.6%)
1999 [e]	SGN	131	(0.2%)	74,378	(3.7%)	1,092	(0.6%)	43,443	(0.1%)	11,101	(0.4%)
1999 [e]	PS	475	(0.7%)	24,914	(1.2%)	23,046	(13.6%)	31,425,027	(69.8%)	1,444,200	(48.8%)
1999 [e]	Hatchery	0	(0.0%)	28,777	(1.4%)	0	(0.0%)	13,383,078	(29.7%)	777,180	(26.3%)
	Total	63,420		2,025,070		169,892		45,021,447		2,960,524	
2000 [e]	DGN	32,173	(99.3%)	1,294,703	(90.5%)	449,538	(62.9%)	473,282	(1.2%)	1,676,693	(32.5%)
2000 [e]	SGN	41	(0.1%)	101,105	(7.1%)	662	(0.1%)	139,008	(0.4%)	12,319	(0.2%)

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
2000 [e]	PS	189	(0.6%)	34,692	(2.4%)	264,085	(37.0%)	27,147,419	(69.8%)	1,744,575	(33.8%)
2000 [e]	Hatchery	0	(0.0%)	218	(0.0%)	1	(0.0%)	11,125,819	(28.6%)	1,729,876	(33.5%)
	Total	32,403		1,430,718		714,286		38,885,528		5,163,463	
2001 [e]	DGN	39,866	(98.6%)	1,918,836	(84.9%)	267,798	(54.8%)	685,686	(1.9%)	1,166,598	(37.7%)
2001 [e]	SGN	25	(0.1%)	176,060	(7.8%)	1,006	(0.2%)	127,737	(0.4%)	7,057	(0.2%)
2001 [e]	PS	554	(1.4%)	123,004	(5.4%)	198,334	(40.6%)	21,517,861	(61.1%)	988,409	(31.9%)
2001 [e]	Hatchery	0	(0.0%)	43,073	(1.9%)	21,781	(4.5%)	12,914,314	(36.6%)	936,028	(30.2%)
	Total	40,445		2,260,973		488,919		35,245,598		3,098,092	
2002 [e]	DGN	39,384	(99.3%)	1,907,520	(84.3%)	617,075	(94.9%)	132,499	(0.7%)	1,797,115	(28.2%)
2002 [e]	SGN	30	(0.1%)	241,660	(10.7%)	525	(0.1%)	64,421	(0.3%)	22,987	(0.4%)
2002 [e]	PS	260	(0.7%)	18,837	(0.8%)	32,730	(5.0%)	7,966,259	(42.0%)	1,972,459	(30.9%)
2002 [e]	Hatchery	1	(0.0%)	93,722	(4.1%)	1	(0.0%)	10,787,752	(56.9%)	2,580,926	(40.5%)
	Total	39,675		2,261,739		650,331		18,950,931		6,373,487	
2003 [e]	DGN	48,056	(99.8%)	1,946,105	(71.4%)	434,634	(83.3%)	118,951	(0.2%)	753,883	(19.8%)
2003 [e]	SGN	0	(0.0%)	215,733	(7.9%)	663	(0.1%)	28,537	(0.1%)	6,265	(0.2%)
2003 [e]	PS	120	(0.2%)	197,407	(7.2%)	66,838	(12.8%)	38,661,721	(74.4%)	1,481,727	(38.9%)
2003 [e]	Hatchery	0	(0.0%)	366,770	(13.5%)	19,782	(3.8%)	13,156,974	(25.3%)	1,563,019	(41.1%)
	Total	48,176		2,726,015		521,917		51,966,183		3,804,894	
2004 [e]	DGN	38,432	(99.6%)	1,500,223	(79.3%)	575,122	(92.8%)	81,090	(0.3%)	581,762	(29.1%)
2004 [e]	SGN	11	(0.0%)	91,412	(4.8%)	825	(0.1%)	51,655	(0.2%)	10,381	(0.5%)
2004 [e]	PS	156	(0.4%)	17,530	(0.9%)	33,990	(5.5%)	11,573,514	(49.2%)	881,129	(44.0%)
2004 [e]	Hatchery	0	(0.0%)	282,632	(14.9%)	9,974	(1.6%)	11,825,224	(50.3%)	528,676	(26.4%)
	Total	38,599		1,891,797		619,911		23,531,483		2,001,948	
2005 [e]	DGN	35,024	(99.4%)	1,606,130	(80.8%)	360,574	(67.8%)	228,463	(0.4%)	888,847	(42.3%)
2005 [e]	SGN	0	(0.0%)	109,532	(5.5%)	882	(0.2%)	126,135	(0.2%)	3,452	(0.2%)
2005 [e]	PS	224	(0.6%)	63,482	(3.2%)	142,672	(26.8%)	47,017,421	(78.4%)	568,847	(27.1%)
2005 [e]	Hatchery	0	(0.0%)	207,605	(10.4%)	27,417	(5.2%)	12,572,614	(21.0%)	638,320	(30.4%)
	Total	35,248		1,986,749		531,545		59,944,633		2,099,466	
2006 [e]	DGN	30,603	(99.2%)	2,012,665	(79.8%)	477,430	(62.5%)	145,348	(0.7%)	314,487	(14.4%)
2006 [e]	SGN	9	(0.0%)	124,087	(4.9%)	352	(0.0%)	20,863	(0.1%)	9,883	(0.5%)
2006 [e]	PS	227	(0.7%)	37,745	(1.5%)	268,574	(35.2%)	11,828,266	(54.5%)	1,032,627	(47.3%)
2006 [e]	Hatchery	0	(0.0%)	348,276	(13.8%)	17,198	(2.3%)	9,727,499	(44.8%)	824,558	(37.8%)
	Total	30,839		2,522,773		763,554		21,721,976		2,181,555	
2007 [e]	DGN	39,300	(98.2%)	2,645,002	(81.9%)	190,025	(57.8%)	188,950	(0.3%)	1,100,667	(30.8%)
2007 [e]	SGN	18	(0.0%)	196,537	(6.1%)	365	(0.1%)	13,796	(0.0%)	24,651	(0.7%)
2007 [e]	PS	713	(1.8%)	66,004	(2.0%)	108,593	(33.0%)	51,270,207	(80.8%)	1,353,892	(37.8%)
2007 [e]	Hatchery	0	(0.0%)	321,330	(10.0%)	29,644	(9.0%)	11,995,924	(18.9%)	1,099,730	(30.7%)
	Total	40,031		3,228,873		328,627		63,468,877		3,578,940	
2008 [e]	DGN	11,643	(98.8%)	1,061,224	(81.7%)	325,249	(59.1%)	960,113	(2.3%)	2,561,113	(50.5%)
2008 [e]	SGN	18	(0.2%)	162,403	(12.5%)	151	(0.0%)	20,455	(0.0%)	53,627	(1.1%)
2008 [e]	PS	127	(1.1%)	74,912	(5.8%)	202,003	(36.7%)	33,727,052	(79.6%)	1,820,049	(35.9%)

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Year	Gear	Chinook		Sockeye		Coho		Pink		Chum	
2008 [e]	Hatchery	0	(0.0%)	0	(0.0%)	22,623	(4.1%)	7,639,384	(18.0%)	641,332	(12.6%)
	Total	11,788		1,298,539		550,026		42,347,004		5,076,121	
10-Year Avg.	DGN	37,730	(99.1%)	1,778,941	(82.2%)	384,320	(72.0%)	318,428	(0.8%)	1,156,921	(31.8%)
	SGN	28	(0.1%)	149,291	(6.9%)	652	(0.1%)	63,605	(0.2%)	16,172	(0.4%)
	PS	305	(0.8%)	65,853	(3.0%)	134,087	(25.1%)	28,213,475	(70.3%)	1,328,791	(36.6%)
	Hatchery	0	(0.0%)	169,240	(7.8%)	14,842	(2.8%)	11,512,858	(28.7%)	1,131,965	(31.2%)
	Total	38,062		2,163,325		533,901		40,108,366		3,633,849	
2009 [e]	DGN	9,801	(97.7%)	1,555,669	(81.4%)	275,636	(91.9%)	400,524	(2.1%)	2,292,015	(70.9%)
2009 [e]	SGN	47	(0.5%)	152,642	(8.0%)	49	(0.0%)	4,251	(0.0%)	50,748	(1.6%)
2009 [e]	PS	28	(0.3%)	70,473	(3.7%)	6,739	(2.2%)	10,765,944	(56.4%)	269,470	(8.3%)
2009 [e]	Hatchery	0	(0.0%)	133,873	(7.0%)	17,424	(5.8%)	7,906,411	(41.4%)	622,276	(19.2%)
	Total	10,036		1,912,305		299,848		19,077,130		3,234,509	

[a] 1950 harvest numbers are from USFW Annual Management Report.

[b] 1951–1959 harvest numbers are fish ticket data published in USFW Bureau of Commercial Fisheries report, "Alaska Commercial Salmon Catch Statistics, 1951–1959" by Robert R. Simpson. 1960.

[c] 1960–1962 harvest numbers are from annual ADF&G Annual Management Reports.

[d] 1963–1968 harvest numbers are ADF&G fish ticket data from tractor feed IBM printouts in bound "Computer Catch Statistics, Prince William Sound".

[e] 1969–2009 harvest numbers are fish ticket data from Zephyr database query.

Table 3.–Mean price and estimated exvessel value of the total commercial salmon harvest by gear type, Prince William Sound, 2009.

PURSE SEINE			Average		
Species	Number	Pounds [a]	Weight	Price [a]	Value
Chinook	28	577	20.61	$1.71	$985
Sockeye	70,473	442,495	6.28	1.32	$584,595
Coho	6,739	53,121	7.88	$0.42	$22,522
Pink	10,765,944	32,873,517	3.05	0.24	$7,890,237
Chum	269,470	2,110,291	7.83	$0.53	$1,123,335
	11,112,654	35,480,001			$9,621,674
DRIFT GILLNET			Average		
Species	Number	Pounds	Weight	Price	Value
Chinook	9,801	184,142	18.79	$5.19	$956,053
Sockeye	1,555,669	9,702,895	6.24	$1.79	$17,386,798
Coho	275,636	2,474,875	8.98	$1.29	$3,197,336
Pink	400,524	1,374,494	3.43	$0.26	$363,373
Chum	2,292,015	17,590,050	7.67	$0.52	$9,227,837
	4,533,645	31,326,456			$31,131,396
SET GILLNET [b]			Average		
Species	Number	Pounds	Weight	Price	Value
Chinook	47	863	18.36	$1.51	$1,302
Sockeye	152,642	1,002,774	6.57	$1.45	$1,451,897
Coho	49	401	8.18	$0.60	$241
Pink	4,251	16,743	3.94	$0.20	$3,419
Chum	50,748	377,465	7.44	$0.52	$197,332
	207,737	1,398,246			$1,654,191
HATCHERY SALES [c]			Average		
Species	Number	Pounds	Weight	Price	Value
Chinook	0	0		$0.00	$0
Sockeye	133,915	752,623	5.62	$1.45	$1,088,363
Coho	20,879	151,790	7.27	$0.96	$145,267
Pink	7,877,664	23,057,868	2.93	$0.23	$5,208,870
Chum	622,276	4,207,180	6.76	$0.43	$1,816,012
	8,654,734	28,169,462			$8,258,512

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Table 3.–Page 2 of 2.

OTHER GEAR [d] Species	Number	Pounds	Average Weight	Price	Value
Chinook	0	0	0	$0	$0
Sockeye	0	0	0	$0	$0
Coho	0	0	0	$0	$0
Pink	0	0	0	$0	$0
Chum	0	0	0	$0	$0
	0	0	0	$0	$0

Gear Type	Value of Catch	No. of Permits	Average Earnings
Purse Seine	$9,621,674	154	$62,478
Drift Gillnet	$31,131,396	511	$60,922
Set Gillnet	$1,654,191	27	$61,266
Subtotal- Value of CPF Catch	$42,407,262		
Hatchery	$8,258,512		
Other Gear	$0		
GRAND TOTAL	$50,665,774		

[a] Mean prices are based on weighted average prices given voluntarily by processors and hatchery operators. Pounds of fish was based on fish ticket reporting and does not represent pounds reported in Commercial Operator Annual Reports.

[b] Sockeye salmon price is based on the received price to the hatchery operator.

[c] Number and pounds from fish ticket data. Value from hatchery annual reports.

[d] Includes the sales of confiscated fish.

Table 4.–Average price paid to permit holders for salmon, Prince William Sound, 1988–2009.

	Chinook salmon			Sockeye salmon			Coho salmon			Pink salmon			Chum salmon		
	Gillnet			Gillnet			Gillnet			Gillnet			Gillnet		
	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine
1988	$2.23	$2.43	$2.23	$3.20	$2.74	$2.68	$2.35	$1.19	$1.85	NA	$0.60	$0.79	NA	$0.92	$0.72
1989	$2.25	$0.00	$2.41	$2.30	$0.00	$2.68	$0.60	$0.00	$1.58	NA	$0.00	$0.48	NA	$0.00	$0.43
1990	$2.24	$1.45	$1.50	$2.13	$1.59	$1.50	$0.97	$0.69	$0.50	NA	$0.30	$0.30	NA	$0.70	$0.70
1991	$1.65	$1.00	$1.00	$1.28	$1.28	$1.00	$0.65	$0.44	$0.45	NA	$0.12	$0.12	NA	$0.40	$0.40
1992	$2.50	$1.55	$1.55	$2.50	$1.55	$1.55	$0.90	$0.90	$0.90	NA	$0.18	$0.18	NA	$0.55	$0.55
1993	$1.82	$0.97	$0.63	$1.32	$0.87	$0.83	$0.80	$0.66	$0.54	NA	$0.17	$0.16	NA	$0.71	$0.36
1994	$1.43	$0.84	$0.63	$1.27	$1.16	$0.89	$0.74	$0.67	$0.54	NA	$0.11	$0.16	NA	$0.32	$0.24
1995	$2.19	$0.79	$0.67	$1.67	$1.07	$0.86	$0.52	$0.37	$0.39	NA	$0.18	$0.18	NA	$0.39	$0.28
1996	$1.96	$0.68	$0.55	$1.38	$0.85	$0.73	$0.53	$0.24	$0.36	NA	$0.04	$0.07	NA	$0.14	$0.13
1997	$2.00	$1.00	$1.00	$0.88	$0.85	$0.85	$0.30	$0.25	$0.30	NA	$0.07	$0.12	NA	$0.25	$0.30
1998	$2.07	$1.25	$1.10	$1.49	$1.11	$1.01	$0.46	$0.41	$0.31	NA	$0.14	$0.12	NA	$0.21	$0.27
1999	$3.44	$0.50	$1.15	$1.84	$0.89	$0.98	$0.58	$0.23	$0.49	NA	$0.06	$0.10	NA	$0.15	$0.27
2000	$4.02	$4.04	$0.95	$1.72	$1.38	$0.90	$0.57	$0.56	$0.42	NA	$0.11	$0.15	NA	$0.26	$0.28
2001	$3.30	$1.94	$0.65	$1.35	$0.77	$0.74	$0.32	$0.20	$0.26	NA	$0.05	$0.13	NA	$0.38	$0.37
2002	$3.34	$1.26	$0.34	$1.29	$1.14	$0.57	$0.35	$0.09	$0.25	NA	$0.05	$0.09	NA	$0.15	$0.15
2003	$3.48	$0.00	$0.48	$1.16	$0.80	$0.71	$0.48	$0.48	$0.42	NA	$0.06	$0.07	NA	$0.17	$0.17
2004	$4.69	$1.38	$0.45	$1.81	$0.85	$0.55	$0.69	$0.28	$0.42	NA	$0.04	$0.10	NA	$0.23	$0.18
2005	$4.70	$0.00	$0.52	$1.79	$0.92	$0.54	$0.83	$0.69	$0.10	NA	$0.05	$0.08	NA	$0.28	$0.18
2006	$5.03	$1.20	$1.26	$1.83	$1.15	$1.05	$0.92	$0.67	$0.60	NA	$0.11	$0.16	NA	$0.37	$0.33
2007	$4.50	$2.70	$0.97	$1.81	$1.04	$0.82	$0.90	$0.30	$0.59	NA	$0.11	$0.17	NA	$0.33	$0.37
2008	$5.96	$1.04	$1.40	$3.12	$1.24	$1.17	$1.23	$1.24	$1.12	$0.27	$0.33	$0.34	$0.21	$0.55	$0.57
10-year Average	$4.25	$1.41	$0.82	$1.77	$1.02	$0.80	$0.69	$0.47	$0.47	$0.27	$0.10	$0.14	$0.21	$0.29	$0.29
2009	$5.29	$2.06	$1.71	$2.09	$1.42	$1.32	$1.30	$1.13	$0.42	$0.22	$0.27	$0.24	$0.28	$0.52	$0.53

Note: These prices are based on weighted average prices given voluntarily by processors and hatchery operators and do not represent prices reported in the Commercial Operators Annual Report. These prices are estimates and do not reflect postseason adjustments and bonuses. Caution should be used when estimating value from these prices.

Table 5.–Estimated exvessel value of the total commercial salmon harvest by gear type with previous 10-year average, Prince William Sound, 1998–2009.

PURSE SEINE											Previous 10-yr	
Species	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average	2009
Chinook	7,427	2,706	5,435	1,353	924	1,270	1,787	4,940	9,330	2,487	3,766	985
Sockeye	141,923	195,169	539,388	58,142	847,966	46,573	207,022	219,984	338,262	540,113	313,454	584,595
Coho	329,317	965,404	398,532	69,207	226,619	121,688	103,312	1,426,736	546,805	2,056,932	624,455	22,522
Pink	9,456,108	13,728,606	9,584,465	2,425,505	10,716,380	4,293,551	13,104,242	6,688,126	28,839,799	39,059,344	13,789,613	7,890,237
Chum	3,128,816	3,964,546	2,863,466	2,423,525	1,717,083.00	1,228,965	773,620	3,007,947	3,499,189	8,002,952	3,061,011	1,123,335
	$13,063,591	$18,856,431	$13,391,287	$4,977,731	$13,508,972	$5,692,047	$14,189,982	$11,347,734	$33,233,386	$49,661,828	$17,792,299	$9,621,674
DRIFT GILLNET												
Species												
Chinook	5,510,840	2,698,417	2,791,619	2,691,215	3,810,019	4,050,947	3,575,253	3,145,401	3,886,795	1,511,402	3,367,191	956,053
Sockeye	20,048,000	13,554,212	14,158,076	14,964,894	13,791,971	13,436,808	15,849,204	19,375,916	26,169,047	11,533,354	16,288,148	17,386,798
Coho	733,022	2,486,184	790,544	2,027,738	1,762,604	3,561,659	2,374,703	3,972,107	1,391,204	3,937,198	2,303,696	3,197,336
Pink	43,612	177,559	144,896	23,889	27,904	12,134	84,308	54,070	82,356	1,195,812	184,654	363,373
Chum	1,529,765	3,550,614	3,371,206	2,206,854	821,818	976,553	1,965,383	845,703	2,542,327	10,853,908	2,866,413	9,227,837
	$27,865,239	$22,466,986	$21,256,342	$21,914,590	$20,214,316	$22,038,101	$23,848,851	$27,393,197	$34,071,729	$29,031,674	$25,010,103	$31,131,396
SET GILLNET												
Species												
Chinook	592	2,902	787	765	0	189	0	143	1,267	533	718	1,302
Sockeye	407,497	912,603	844,123	1,701,077	1,070,058	454,709	608,528	822,232	1,318,799	1,238,739	937,836	1,451,897
Coho	1,877	3,346	1,686	388	1,611	1,635	4,737	1,869	873	1,414	1,944	241
Pink	8,721	53,160	22,048	10,848	6,324	7,439	23,542	8,325	5,416	20,966	16,679	3,419
Chum	13,630	25,641	20,045	27,638	6,742	17,261	6,880	29,925	53,380	231,785	43,293	197,332
	$432,317	$997,652	$888,689	$1,740,716	$1,084,735	$481,233	$643,687	$862,493	$1,379,735	$1,493,437	$1,000,469	$1,654,191

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Table 5.–Page 2 of 2.

PURSE SEINE											Previous 10-yr	
Species	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average	2009
HATCHERY SALES												
Species												
Chinook	0	0	0	15	0	0	0	0	0	0	2	0
Sockeye	143,855	478	174,418	418,114	1,769,179	997,020	2,383,400	2,173,808	1,790,819	0	985,109	1,088,363
Coho	0	2	9,459	1	0	35,733	0	102,792	161,995	67,879	37,786	145,267
Pink	6,312,337	6,358,529	6,430,468	4,989,921	6,068,403	5,718,678	7,288,894	7,300,390	6,809,392	7,574,535	6,485,155	5,208,870
Chum	2,380,321	4,007,449	3,070,274	3,794,069	1,643,243	779,268	1,704,693	2,893,174	2,105,903	2,465,426	2,484,382	1,816,012
	$8,836,513	$10,366,458	$9,684,619	$9,202,119	$9,480,825	$7,530,699	$11,376,987	$12,470,164	$10,868,110	$10,107,840	$9,992,433	$8,258,512
OTHER GEAR												
Species												
Chinook	448	1,266	0	200	26	493	81	0	0	0	251	0
Sockeye	68,525	5,944	509	1,324	195	614	289	0	0	0	7,740	0
Coho	106		468	0	0	0	0	0	0	0	64	0
Pink	81,476		382	0	2812	0	0	0	0	0	9,408	0
Chum	358		4,206	5	0	0	0	0	0	0	508	0
	$150,913	$7,210	$5,565	$1,529	$3,033	$1,107	$370	$0	$0	$0	$16,973	$0

AVERAGE EARNINGS	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		2009
Purse Seine	$93,983	$143,942	$88,101	$41,481	$127,443	$54,210	$137,767	$102,232	$299,400	$352,212	$144,077	$62,478
Drift Gillnet	$53,280	$41,994	$39,731	$41,039	$39,327	$42,219	$46,807	$55,452	$67,335	$57,262	$48,445	$60,922
Set Gillnet	$20,587	$35,630	$27,772	$62,168	$38,741	$17,823	$23,840	$33,173	$53,067	$59,737	$37,254	$61,266

NUMBER OF PERMITS FISHED												
Purse Seine	139	131	152	120	106	105	103	111	111	141	122	154
Drift Gillnet	523	535	535	534	514	522	508	494	506	507	518	511
Set Gillnet	21	28	32	28	28	27	27	26	26	25	27	27

Table 6.–Preseason harvest or total run projections for the 2009 commercial common property salmon fishery by district and species, Prince William Sound Area.

District/facility [a]	Forecast type [b]	Chinook Point Estimate	Chinook Range	Sockeye Point Estimate	Sockeye Range	Coho Point Estimate	Coho Range	Pink Point Estimate	Pink Range	Chum Point Estimate	Chum Range
Copper River [c]	CH	30		510	0 – 1,167	297	38 – 557				
Bering River [d]	CH			18	0 – 52	45	0 – 116				
Coghill [e]	CH			194	35 – 352						
Eshamy [e]	CH			56	0 – 120						
Unakwik [f]	CH			7	3 – 12						
General PWS Districts	CH							12,280	0 – 26,950	176	67 – 286
Total Wild Stock		30		785	35 – 1,226	342	38 – 569	12,280	0 – 26,950	176	67 – 286
Solomon Gulch	TR					238	60 329	17,948	6,588 – 19,964		
Armin F. Koernig	TR							7,700	3,200 – 12,200	409	346 – 473
Wally Noerenberg [g]	TR					133	96 170	7,500	4,700 – 10,200	2,840	2,349 – 3,334
Cannery Creek	TR							7,500	3,100 – 12,000		
Main Bay [h]	TR			882	714 – 1,050						
Gulkana	TR			225	79 – 370						
Total Hatchery				1,107	718 – 1,113	371	113 – 370	40,648	9,238 – 28,204	3,249	2,374 – 3,367
Total Hatchery and Wild		30		1,892		713		52,928		3,425	

Note: CH = Commercial Harvest and TR = Total Return

[a] Formal forecast procedures are used for estimating wild stock runs of pink and chum salmon in PWS. Hatchery contributions are based on known fry releases and average marine survival rates. Harvest estimates are made only for species that constitute a significant portion of the catch.

[b] The Alaska Department of Fish and Game provides commercial harvest forecasts for all wild stocks and Gulkana Hatchery sockeye salmon total return. Hatchery operators provide total return forecasts. Harvest projections do not include salmon harvested by hatcheries for cost recovery.

[c] Formalized sibling model forecast procedures are used for Copper River sockeye salmon runs. Copper River Chinook and coho salmon harvest estimates are based on the mean annual harvest (5-year for Chinook and 10-year for coho salmon).

[d] Bering River coho salmon harvest estimates are based on 10-year mean annual harvest.

[e] Formalized sibling model forecast procedures are used for Coghill and Eshamy District sockeye salmon runs. The Coghill District's wild pink and chum salmon harvest is included in the "General PWS Districts" projection.

[f] The Unakwik District sockeye salmon harvest estimate is based on the 10-year mean annual harvest.

[g] Wally Noerenberg Hatchery chum salmon harvest estimate includes all on-site and remote release runs of chum salmon.

[h] Main Bay sockeye salmon harvest estimate includes all on-site and remote release runs of sockeye salmon.

FIGURES

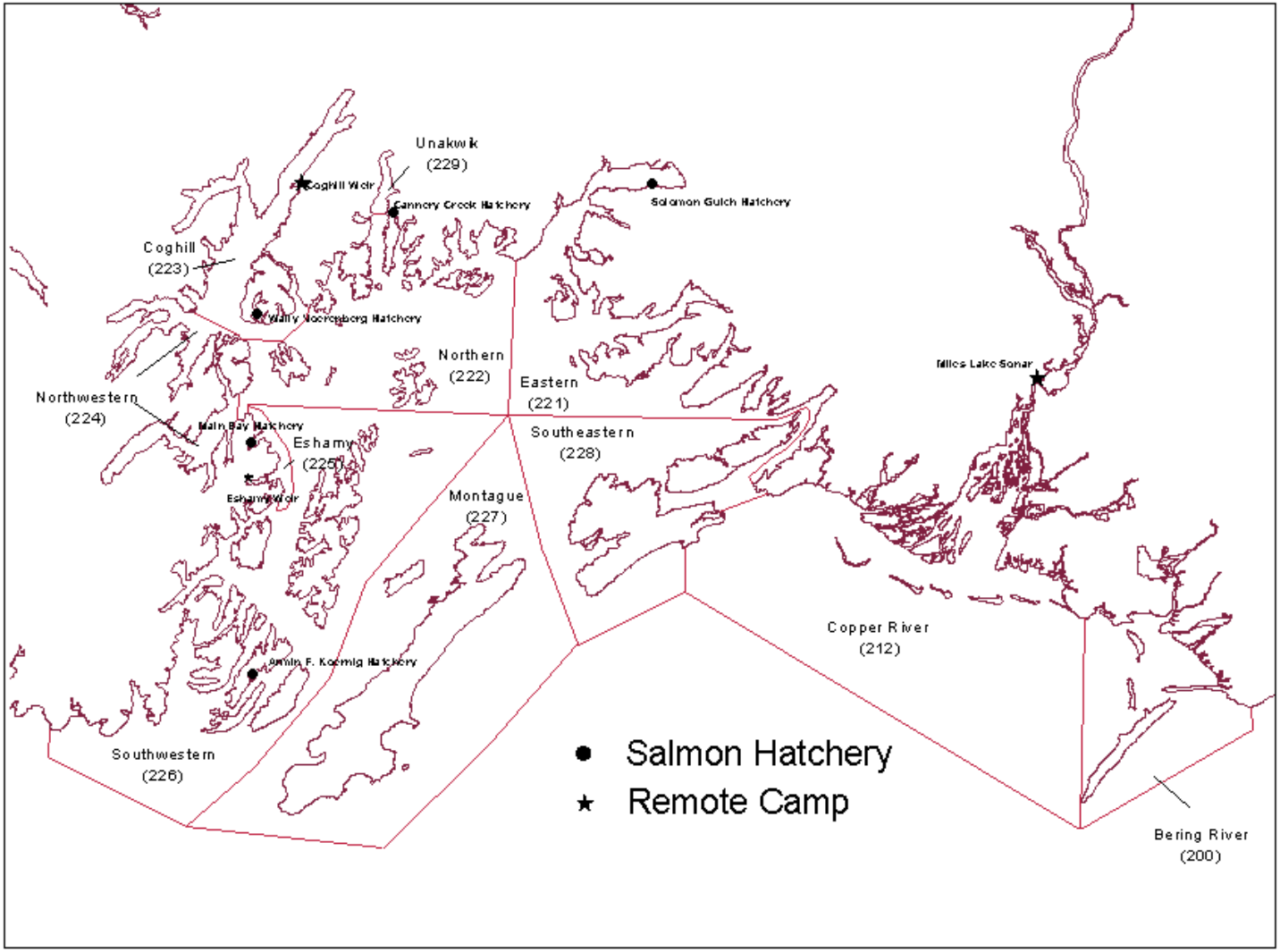

Figure 1.–Prince William Sound Management Area showing commercial fishing districts, salmon hatcheries, weir locations, and Miles Lake sonar camp.

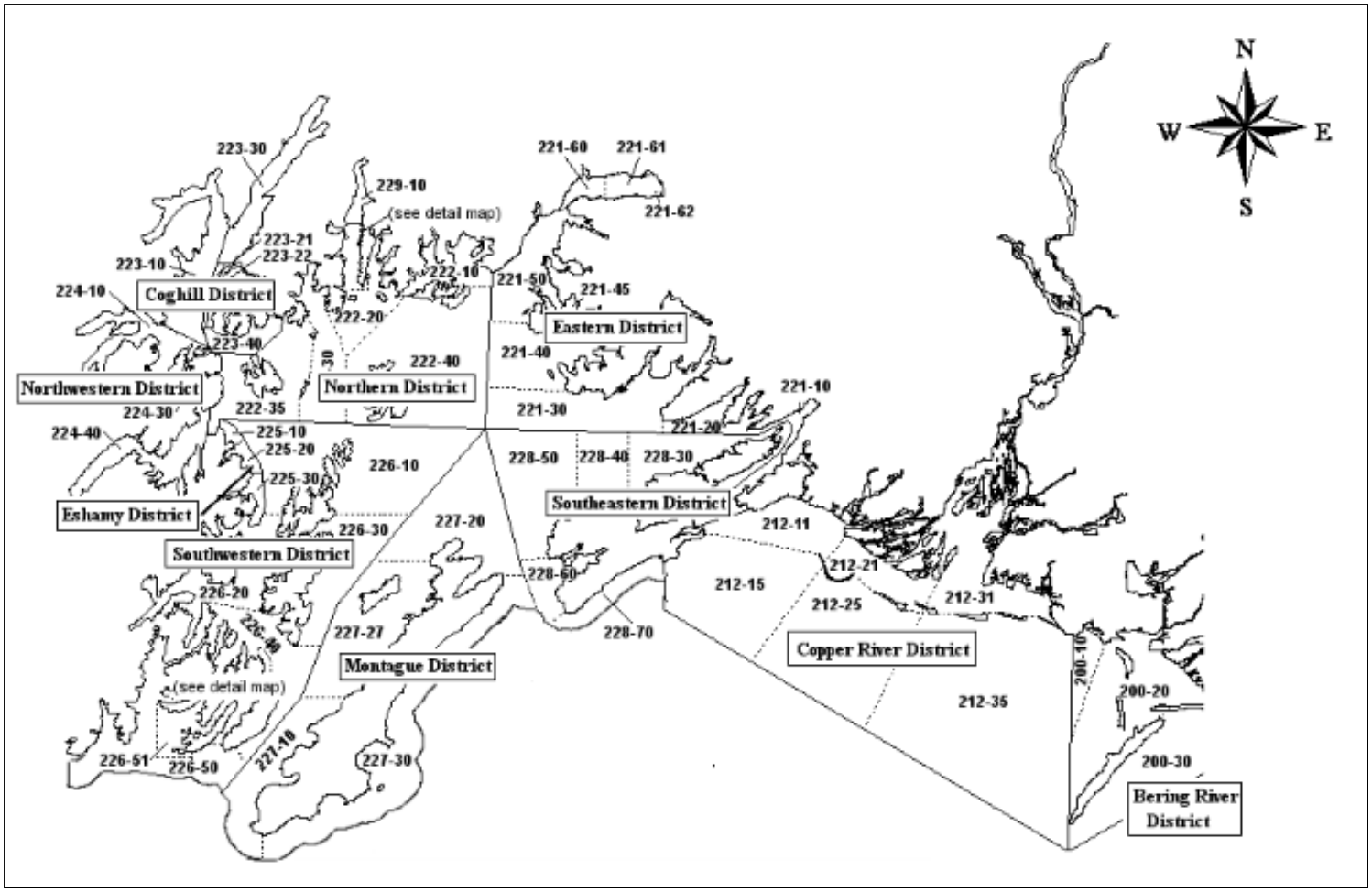

Figure 2.–Prince William Sound Area showing commercial fishing districts and statistical reporting areas.

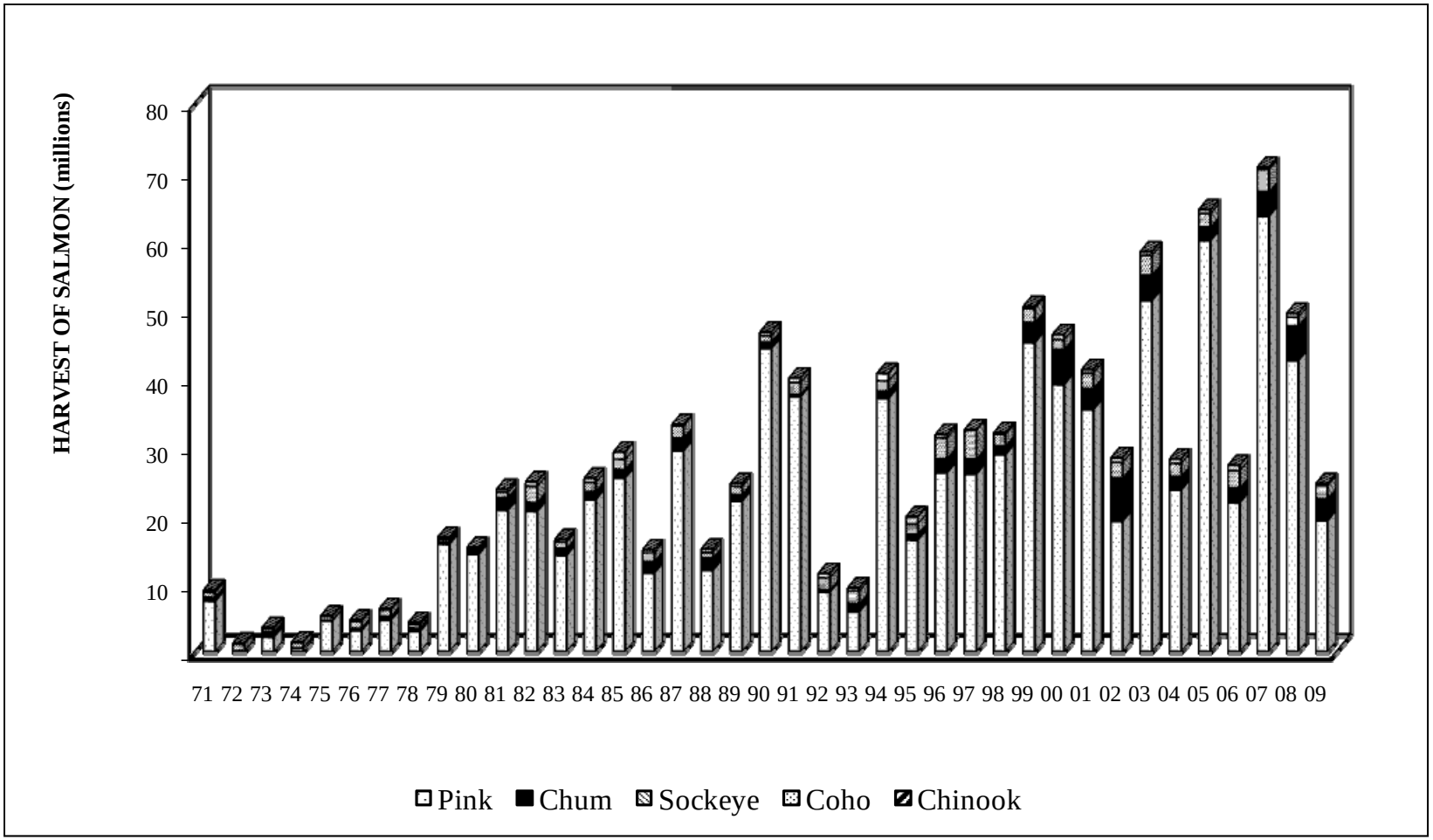

Figure 3.–Commercial salmon harvests in Prince William Sound, 1971–2009.

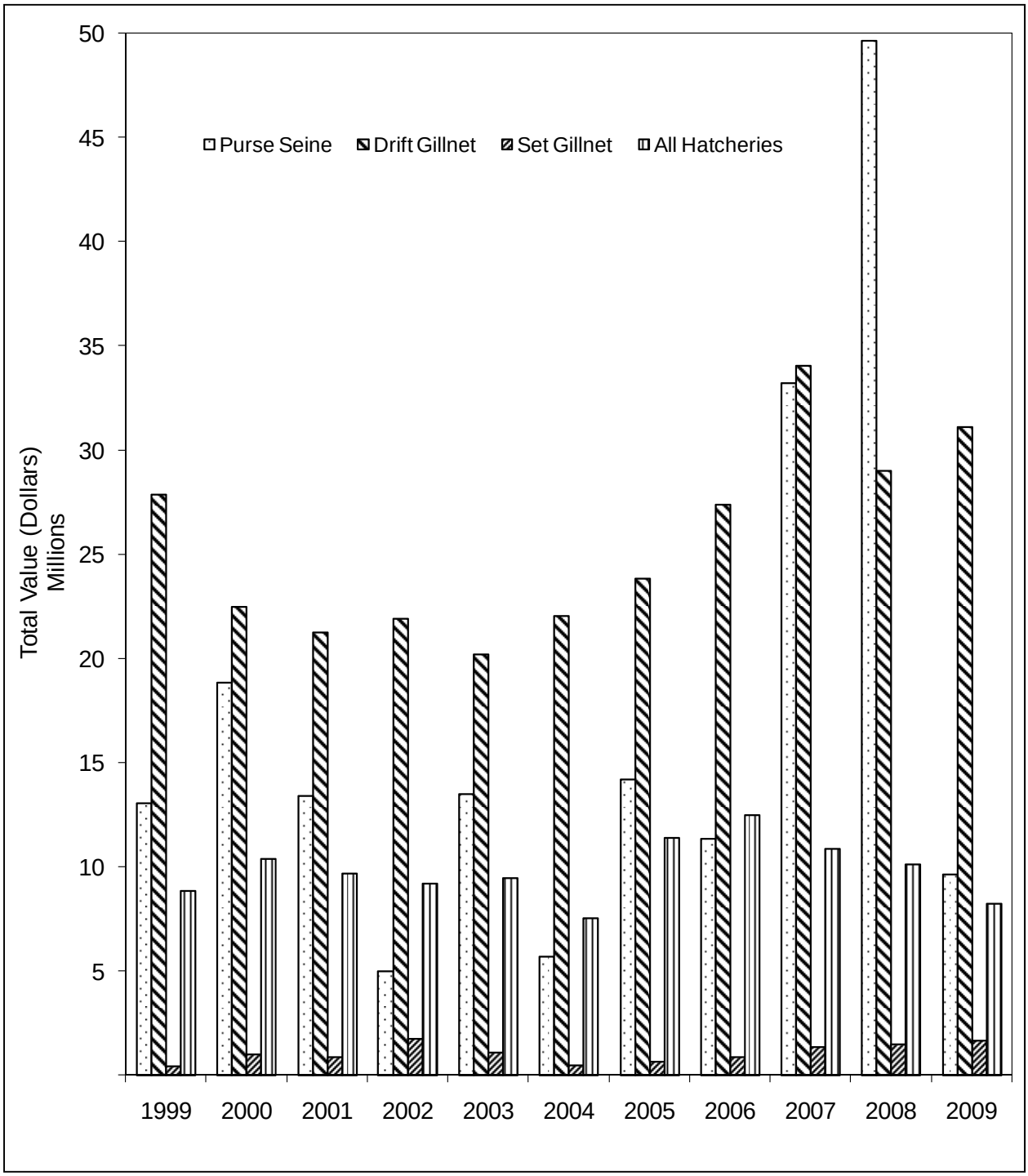

Figure 4.–Exvessel value of the commercial salmon harvest by gear type, 1999–2009.

APPENDIX A

Appendix A1.–Total estimated sockeye salmon runs to the Copper River by end user or destination with previous 10-year average, 1999–2009.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10-year Average	2009	% 2009 Run
Commercial harvest[a]	1,682,559	880,334	1,323,577	1,248,503	1,188,052	1,048,004	1,331,664	1,496,754	1,901,773	320,815	1,242,204	896,621	52.07%
Commercial, homepack[a]	1,333	651	2,113	1,138	4,077	525	1,785	1,539	2,023	2,172	1,736	6,528	0.38%
Commercial, donated[a]	0	434	0	128	35	74	83	114	0	80	95	47	0.00%
Educational drift gillnet permit[a]	0	0	0	151	0	0	42	16	62	29	30	8	0.00%
Subsistence (Cordova, drift gillnet)[b]	1,330	4,360	3,072	3,067	1,607	1,822	830	4,355	6,148	3,969	3,056	1,764	0.10%
Federal Subsistence (PWS/Chugach Nat'l Forest, dip net, spear, rod and reel)	0	0	0	0	0	0	109	150	36	32	33	46	0.00%
Subsistence (Batzulnetas, dip net, fish wheel or spear)[b]	55	0	62	208	164	182	0	0	1	1	67	0	0.00%
Subsistence (Glennallen Subdistrict, dip net, fish wheel or spear)[b]	72,901	58,241	76,337	47,892	44,209	52,130	60,966	55,492	61,477	40,214	56,986	43,738	2.54%
Federal Subsistence (Glennallen subdistrict, dip net, fish wheel or spear)	0	0	0	7,950	13,616	17,704	19,973	16,711	15,225	11,347	10,253	11,822	0.69%
Personal Use Reported (Chitina Subdistrict, dip net)[b]	137,729	103,329	117,440	75,881	80,134	93,182	108,868	102,443	112,753	70,885	100,264	81,432	4.73%
Federal Subsistence (Chitina subdistrict, dip net)	0	0	0	575	717	1,215	1,265	1,379	929	789	687	817	0.05%
Upriver sport harvest[c]	11,101	12,361	8,169	7,761	7,108	6,464	8,135	14,297	23,028	11,431	10,986	16,252	0.94%
Delta sport harvest[c]	2,855	2,189	298	798	631	952	656	113	1,704	1,225	1,142	1,014	0.06%
Upriver spawning escapement[d]	487,412	300,134	516,163	584,293	464,807	451,455	533,130	604,403	631,190	497,469	507,046	479,877	27.87%
Delta spawning escapement[e]	201,950	196,090	142,130	151,470	146,300	138,770	116,812	197,792	176,570	135,900	160,378	138,584	8.05%
Hatchery broodstock/Excess[f]	109,663	75,385	75,620	62,361	45,024	6,618	92,455	97,192	28,648	44,865	63,783	43,409	2.52%
Total estimated sockeye salmon run size	2,708,888	1,633,508	2,264,981	2,192,176	1,996,481	1,819,097	2,276,773	2,592,750	2,961,567	1,141,223	2,158,744	1,721,959	

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[a] Numbers are from fish ticket data. Homepack numbers for sockeye are voluntarily reported.

[b] Data is reported harvest from returned state and federal subsistence permits.

[c] 2008 upriver and delta Sport harvest data unavailable at time of writing. Number is average of respective Sport harvest from previous 5 years.

[d] Beginning in 1999 sockeye salmon spawning escapement is based on the total number of fish passed the Miles Lake sonar minus the Chinook salmon inriver midpoint abundance estimate, upriver subsistence, personal use, sport, hatchery broodstock and onsite hatchery surplus. Prior to 1999, upriver spawning escapement was based on the Miles Lake sonar passage (sockeye only) minus upriver subsistence, personal use, sport, hatchery broodstock, and onsite hatchery surplus. The number of sockeye passed the Miles Lake sonar was determined by multiplying the total number of fish passed the sonar by the percentage of sockeye salmon in the total upriver subsistence and personal use fisheries.

[e] Delta spawning escapement estimated by doubling the peak aerial survey index.

[f] Hatchery broodstock and onsite excess are from the PWSAC (2009).

Appendix A2.–Total estimated sockeye salmon runs to the Copper River by origin with previous 10-year average, 1999–2009.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10-year Average	2009
Upriver wild contribution[a]	990,377	642,232	1,576,622	1,372,026	1,380,372	1,354,152	1,753,604	1,773,516	2,264,424	852,468	1,395,979	1,271,716
Delta wild contribution[b]	620,420	514,399	380,346	393,448	413,253	371,485	306,563	531,312	564,510	202,811	429,855	324,799
Gulkana contributions[c]	1,098,091	476,876	308,014	426,702	202,856	93,460	216,606	287,922	132,633	85,944	332,910	125,444
Total estimated sockeye salmon run size	2,708,888	1,633,508	2,264,981	2,192,176	1,996,481	1,819,097	2,276,773	2,592,750	2,961,567	1,141,223	2,158,744	1,721,959

[a] Beginning in 1999, the upriver wild sockeye contribution is estimated as the sum of the total number of sockeye passed the Miles Lake Sonar (total number of fish passed the Miles Lake sonar minus the Chinook salmon inriver abundance estimate) and sockeye captured in the Copper River commercial and subsistence harvests minus Gulkana hatchery contributions to the CR commercial and subsistence fisheries, delta wild stock and delta sport harvests. Prior to 1999, upriver wild sockeye contribution was estimated as the sum of the total number of sockeye passed the Miles Lake sonar (total number of fish passed the Miles Lake sonar multiplied by the percent of sockeye salmon harvested in upriver subsistence fisheries) and sockeye captured in the Copper River commercial and subsistence harvests minus Gulkana hatchery contributions to the CR commercial and subsistence fisheries, delta wild stock and delta sport harvests.

[b] Delta wild sockeye contribution is estimated as the total CR district harvest multiplied by percent sockeye (delta escapement by the total number of sockeye salmon passed the Miles Lake sonar) then adding delta escapement and delta sport harvest.

[c] Gulkana sockeye salmon contributions from 1995 to 2003 are based on CWT recovery; contributions from 2004-2007 are based on strontium marks from commercial and subsistence samples and the historical average of sport CWT percentage.

Appendix A3.–Total estimated Chinook salmon run to the Copper River by end user or destination with previous 10-year average, 1999–2009.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10-year Average	2009	% 2009 Run
Commercial harvest[a]	62,337	31,259	39,524	38,734	47,721	38,191	34,624	30,278	39,095	11,437	37,320	9,457	22.00%
Commercial, homepack[a]	1,115	740	935	773	1,073	539	760	779	1,019	537	827	876	2.04%
Commercial, donated[a]	0	6	0	4	3	5	11	3	0	4	4	0	0.00%
Educational drift gillnet permit[a]	0	0	0	25	0	0	92	11	70	47	25	50	0.12%
Subsistence (Cordova, drift gillnet)[b]	353	689	826	549	710	1,106	260	779	1,145	470	689	212	0.49%
Subsistence (Batzulnetas, dip net, fish wheel or spear)[b]	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Subsistence (Glennallen Subdistrict, dip net, fish wheel or spear)[b]	3,058	4,782	3,254	3,424	2,395	3,166	2,080	2,444	3,106	2,238	2,995	2,330	5.42%
Federal Subsistence (Glennallen subdistrict, dip net, fish wheel or spear)	0	0	0	564	554	636	345	430	569	705	380	494	1.15%
Personal Use harvests (Chitina Subdistrict, dip net)[b]	5,755	3,037	2,731	1,763	1,870	2,108	1,776	2,071	2,388	1,690	2,519	199	0.46%
Federal Subsistence (Chitina subdistrict, dip net)	0	0	0	33	18	7	22	13	26	22	14	8	0.02%
Sport harvest[c]	6,742	5,531	4,904	5,098	5,717	3,435	4,093	3,425	5,123	3,618	4,769	1,000	2.33%
Upriver spawning escapement[d]	16,535	24,697	28,889	21,991	34,210	31,212	22,017	59,406	35,137	33,070	30,716	28,370	65.98%
Total estimated Chinook salmon run size	95,895	70,741	81,063	72,958	94,271	80,405	66,080	99,639	87,678	53,838	80,257	42,996	

[a] Numbers are from fish ticket data.

[b] Data is reported harvest from returned state and federal subsistence permits.

[c] Upriver Chinook salmon sport harvest only; there is no delta Chinook salmon sport harvest. The 2008 Sport harvest data is unavailable at time of writing. The 2008 harvest estimate is an average of Chinook salmon Sport harvests from the previous 5 years.

[d] Upriver Chinook salmon spawning escapement is estimated using the inriver abundance estimate and subtracting subsistence, personal use and sport Chinook salmon harvests. Beginning in 1999, inriver abundance estimates were calculated using mark–recapture studies; prior to 1999 inriver abundance estimates were calculated using aerial and foot surveys.

Appendix A4.–Total commercial salmon harvest by species in the Copper River District, 1960–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1960	14,052	593,824	118,395	375	314	726,960
1961	7,621	528,223	133,987	1,639	106	671,576
1962	14,792	677,626	174,628	1,880	513	869,439
1963	10,871	375,925	202,621	1,487	85	590,989
1964	12,751	699,548	242,666	548	62	955,575
1965	15,390	818,277	70,786	803	331	905,587
1966	11,422	1,005,615	116,147	717	115	1,134,016
1967	9,853	679,503	160,532	573	218	850,679
1968	9,743	573,270	230,867	4,343	473	818,696
1969	14,040	696,836	77,405	847	244	789,372
1970	19,375	1,115,695	161,892	645	687	1,298,294
1971	16,486	616,801	208,915	1,762	5,287	849,251
1972	22,250	727,144	103,021	2,304	717	855,436
1973	19,947	332,816	132,164	8,964	10,173	504,064
1974	18,980	607,766	46,625	9,839	664	683,874
1975	19,644	335,384	53,805	236	807	409,876
1976	31,479	865,195	111,900	3,392	178	1,012,144
1977	21,722	602,737	131,356	23,185	335	779,335
1978	29,062	249,872	220,338	3,512	2,233	505,017
1979	17,678	80,528	194,885	1,295	107	294,493
1980	8,454	18,908	225,299	3,966	198	256,825
1981	20,178	477,662	310,154	23,952	1,799	833,745
1982	47,362	1,177,632	454,763	7,154	1,177	1,688,088
1983	50,022	626,735	234,243	7,345	2,217	920,562
1984	38,957	900,043	382,432	32,194	6,935	1,360,561
1985	42,214	927,553	587,990	19,061	5,966	1,582,784
1986	40,670	780,808	295,980	3,016	17,614	1,138,088
1987	41,001	1,180,782	111,599	31,635	14,796	1,379,813
1988	30,741	576,950	315,568	2,775	11,022	937,056
1989	30,863	1,025,923	194,454	25,877	5,845	1,282,962
1990	21,702	844,778	246,797	1,596	7,545	1,122,418
1991	34,787	1,206,811	385,086	1,246	20,220	1,648,150
1992	39,810	970,938	291,627	1,664	5,807	1,309,846
1993	29,727	1,398,234	281,469	9,579	13,002	1,732,011
1994	47,061	1,152,220	677,633	12,079	19,055	1,908,048
1995	65,675	1,271,822	542,658	19,809	56,100	1,956,064
1996	55,646	2,356,365	193,042	6,372	25,533	2,636,958
1997	51,273	2,955,431	18,656	8,483	2,465	3,036,308
1998	68,827	1,341,692	108,232	20,829	5,022	1,544,602
1999	62,337	1,682,559	153,061	10,205	25,321	1,933,483
2000	31,259	880,334	304,944	9,804	5,363	1,231,704
2001	39,524	1,323,577	251,473	9,387	2,789	1,626,750
2002	38,734	1,248,503	504,223	3,677	31,627	1,826,764
2003	47,721	1,188,052	363,489	12,934	10,110	1,622,306
2004	38,191	1,048,004	467,859	5,175	3,386	1,562,615
2005	34,624	1,331,664	263,465	34,987	3,515	1,668,255
2006	30,278	1,496,754	318,285	30,844	17,203	1,893,364
2007	39,095	1,901,773	117,182	80,715	9,657	2,148,422
2008	11,437	320,815	202,621	1,437	1,279	1,705,827
10-Year Average	37,320	1,242,204	294,660	19,917	11,025	1,605,125
2009	9,457	896,621	207,776	16,759	8,629	1,139,242

Appendix A5.–Copper River District commercial drift gillnet salmon harvest by period, 2009.

Period [a]	Date	Emergency Order Issued	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds
01	05/14-05/14	2-F-E-001-09	12	425	464	1,447	30,731	20,620	124,512	0	0	0	0	68	442
02	05/18-05/18	2-F-E-002-09	12	446	559	1,330	26,320	97,969	582,104	0	0	0	0	29	191
03[b]	05/21-05/21	2-F-E-003-09	12	406	527	658	12,453	92,363	560,102	0	0	0	0	7	52
04[b]	05/25-05/25	2-F-E-004-09	12	437	548	759	13,332	99,981	613,807	0	0	0	0	243	1,683
05[b]	05/28-05/29	2-F-E-006-09	36	423	895	1,425	27,245	107,806	658,630	0	0	0	0	275	1,796
06[b]	06/01-06/02	2-F-E-009-09	36	398	691	1,200	23,913	63,752	395,600	0	0	0	0	1,921	12,400
07[b]	06/04-06/05	2-F-E-012-09	24	303	449	644	12,498	38,731	241,602	0	0	0	0	1,427	9,902
08[b]	06/08-06/08	2-F-E-015-09	12	223	307	619	10,317	39,076	245,303	0	0	0	0	1,443	10,488
09	06/17-06/17	2-F-E-024-09	12	186	234	244	4,706	49,935	306,831	33	241	0	0	63	443
10	06/20-06/20	2-F-E-027-09	12	178	209	242	5,048	22,330	140,354	119	896	1	3	60	467
11	06/22-06/22	2-F-E-028-09	12	56	58	59	1,447	4,992	29,990	1	6	0	0	0	0
12	06/25-06/25	2-F-E-034-09	12	109	134	112	2,249	25,758	155,342	36	255	1	3	51	378
13	06/29-06/29	2-F-E-037-09	12	155	179	220	2,184	24,101	146,883	184	1,367	26	81	68	527
14	07/02-07/03	2-F-E-042-09	24	163	230	55	1,249	27,339	159,239	437	3,291	373	1,273	188	1,464
15	07/06-07/07	2-F-E-046-09	24	151	232	59	1,112	31,530	186,565	404	2,829	701	2,580	344	2,600
16	07/09-07/10	2-F-E-052-09	24	168	245	40	817	40,352	237,647	731	5,083	1,355	4,655	557	4,103
17	07/13-07/14	2-F-E-058-09	24	169	279	20	336	41,217	237,412	214	1,688	1,591	5,400	450	3,007
18	07/16-07/17	2-F-E-063-09	24	188	273	33	368	31,341	178,407	438	3,360	1,016	3,560	174	1,345
19	07/20-07/21	2-F-E-065-09	36	107	128	10	114	9,570	52,355	113	812	707	2,425	197	1,449
20	07/23-07/24	2-F-E-071-09	36	34	42	7	68	3,282	18,070	145	1,156	377	1,336	397	2,729
21	07/27-07/28	2-F-E-073-09	36	55	72	6	61	8,188	45,010	230	1,789	748	2,617	259	1,785
22	07/30-07/31	2-F-E-076-09	36	60	82	56	477	6,555	37,542	914	7,399	1,805	6,163	172	1,198
23	08/03-08/04	2-F-E-078-09	36	60	76	28	205	3,816	21,893	1,099	8,988	3,134	10,902	125	912
24	08/06-08/07	2-F-E-081-09	36	31	47	94	657	1,577	9,007	2,990	25,648	1,337	4,564	30	188
25	08/10-08/11	2-F-E-085-09	36	73	100	31	290	1,393	8,317	9,212	77,103	2,799	9,917	49	365

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Appendix A5.–Page 2 of 2.

Period [a]	Date	Emergency Order Issued	Hours	Permits	Landings	Chinook Numbers	Chinook Pounds	Sockeye Numbers	Sockeye Pounds	Coho Numbers	Coho Pounds	Pink Numbers	Pink Pounds	Chum Numbers	Chum Pounds
26	08/13-08/14	2-F-E-087-09	36	103	134	32	290	774	4,663	19,575	169,145	628	3,020	20	130
27	08/17-08/18	2-F-E-091-09	24	196	234	17	165	1,022	5,607	19,648	176,522	108	355	6	37
28	08/20-08/20	2-F-E-096-09	12	203	232	4	83	684	4,007	20,189	185,905	41	128	4	28
29	08/24-08/24	2-F-E-099-09	12	233	262	3	50	406	2,476	19,872	177,797	5	17	1	6
30	08/31-09/01	2-F-E-107-09	24	223	332	2	38	115	724	29,103	262,733	4	16	0	0
31	09/07-09/08	2-F-E-115-09	24	219	311	1	30	13	78	32,553	285,423	2	6	1	6
32	09/10-09/11	2-F-E-119-09	24	115	125	0	0	24	230	12,001	108,941	0	0	0	0
33	09/14-09/15	2-F-E-122-09	24	160	231	0	0	5	30	21,002	193,508	0	0	0	0
34	09/17-09/18	2-F-E-124-09	36	103	157	0	0	4	24	14,505	135,498	0	0	0	0
35	09/21-09/22	2-F-E-126-09	36	21	26	0	0	0	0	1,978	15,924	0	0	0	0
36	09/24-09/25	2-F-E-132-09	36	3	3	0	0	0	0	50	515	0	0	0	0
37	09/28-09/30	2-F-E-134-09	60	0	0	0	0	0	0	0	0	0	0	0	0
38	10/01-10/04	2-F-E-134-09	84	0	0	0	0	0	0	0	0	0	0	0	0
39	10/05-10/07	2-F-E-136-09	60	0	0	0	0	0	0	0	0	0	0	0	0
40	10/08-10/11	2-F-E-136-09	84	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,164	486	9,107	9,457	178,853	896,621	5,410,363	207,776	1,853,822	16,759	59,021	8,629	60,121
Average Weight							18.91		6.03		8.92		3.52		6.97

[a] Unless otherwise noted, all waters available to commercial salmon fishing were open in the Copper River District.

[b] Waters of the inside closure area described in 5 AAC 24.350(1)(B) were closed.

Appendix A6.–Daily salmon escapement estimates at Miles Lake sonar, 2009.

		Estimated Daily Escapement Counts						Minimum Inriver Escapement Objective		Maximum Inriver Escapement Objective	
Date	Water Level	North Bank	South Bank	Daily	Cumulative	0600 Count	Projected Daily	Daily	Cumulative	Daily	Cumulative
18 May		1,325	2,232	3,557	3,557		0	1822	2,812	2,438	3,762
19 May	39.88	550	2,682	3,232	6,789	546	2,184	3,201	6,013	4,282	8,045
20 May	NA	488	5,063	5,551	12,340	1,038	4,152	4,665	10,678	6,241	14,285
21 May	40.19	1,723	6,288	8,011	20,351	1,608	6,432	5,263	15,940	7,041	21,326
22 May	40.17	2,100	11,358	13,458	33,809	3,012	12,048	8,099	24,040	10,836	32,162
23 May	40.37	1,716	10,986	12,702	46,511	2,676	10,704	9,243	33,283	12,366	44,528
24 May	40.38	2,310	10,752	13,062	59,573	1,992	7,968	10,202	43,485	13,648	58,176
25 May	40.32	2,445	16,368	18,813	78,386	3,979	15,916	11,644	55,130	15,578	73,754
26 May	40.39	2,502	16,254	18,756	97,142	3,870	15,480	14,370	69,500	19,225	92,979
27 May	40.72	2,602	13,173	15,775	112,917	4,095	16,380	13,601	83,101	18,197	111,176
28 May	41.14	714	13,476	14,190	127,107	2,466	9,864	14,465	97,566	19,352	130,528
29 May	41.13	1,512	15,550	17,062	144,169	3,822	15,288	14,518	112,084	19,422	149,950
30 May	41.00	1,686	12,606	14,292	158,461	4,278	17,112	15,848	127,931	21,201	171,151
31 May	40.86	1,458	7,506	8,964	167,425	2,520	10,080	13,897	141,828	18,592	189,743
1 Jun	40.72	1,236	6,234	7,470	174,895	1,620	6,480	15,945	157,774	21,332	211,075
2 Jun	40.73	3,036	6,960	9,996	184,891	1,530	6,120	14,417	172,190	19,287	230,363
3 Jun	40.96	1,482	10,140	11,622	196,513	2,454	9,816	14,288	186,478	19,114	249,477
4 Jun	41.30	546	6,734	7,280	203,793	2,484	9,936	13,174	199,652	17,625	267,102
5 Jun	41.61	198	4,230	4,428	208,221	978	3,912	14,321	213,973	19,159	286,261
6 Jun	41.87	360	4,761	5,121	213,342	1,026	4,104	12,165	226,138	16,275	302,536
7 Jun	42.27	228	4,117	4,345	217,687	823	3,292	13,346	239,484	17,854	320,391
8 Jun	42.61	256	4,511	4,767	222,454	1,070	4,280	13,980	253,464	18,703	339,094
9 Jun	42.92	260	6,720	6,980	229,434	1,346	5,384	12,040	265,504	16,108	355,202
10 Jun	42.96	210	8,706	8,916	238,350	2,188	8,752	10,791	276,295	14,436	369,638

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		Estimated Daily Escapement Counts						Minimum Inriver Escapement Objective		Maximum Inriver Escapement Objective	
Date	Water Level	North Bank	South Bank	Daily	Cumulative	0600 Count	Projected Daily	Daily	Cumulative	Daily	Cumulative
11 Jun	43.04	438	8,934	9,372	247,722	1,872	7,488	9,852	286,147	13,180	382,818
12 Jun	43.14	228	9,073	9,301	257,023	1,995	7,980	8,713	294,860	11,657	394,475
13 Jun	43.13	198	9,948	10,146	267,169	2,172	8,688	7,599	302,459	10,167	404,641
14 Jun	42.88	258	10,750	11,008	278,177	2,022	8,088	7,421	309,880	9,928	414,569
15 Jun	42.53	450	14,342	14,792	292,969	3,258	13,032	7,854	317,733	10,507	425,076
16 Jun	42.29	525	15,073	15,598	308,567	3,816	15,264	7,666	325,399	10,255	435,331
17 Jun	42.28	504	16,045	16,549	325,116	3,775	15,100	7,593	332,992	10,158	445,489
18 Jun	42.26	642	14,822	15,464	340,580	3,493	13,972	7,357	340,349	9,842	455,331
19 Jun	42.15	600	11,934	12,534	353,114	2,928	11,712	7,600	347,949	10,167	465,499
20 Jun	41.96	666	7,926	8,592	361,706	2,658	10,632	7,231	355,180	9,674	475,173
21 Jun	41.82	845	7,657	8,502	370,208	2,185	8,740	7,042	362,222	9,422	484,595
22 Jun	41.80	1,158	6,892	8,050	378,258	2,232	8,928	6,753	368,975	9,034	493,629
23 Jun	41.76	936	6,023	6,959	385,217	1,787	7,148	6,312	375,287	8,445	502,074
24 Jun	41.71	546	8,748	9,294	394,511	2,118	8,472	6,268	381,555	8,385	510,459
25 Jun	41.64	1,068	6,858	7,926	402,437	1,572	6,288	6,195	387,751	8,288	518,747
26 Jun	41.48	1,458	7,258	8,716	411,153	2,010	8,040	6,912	394,663	9,247	527,995
27 Jun	41.35	2,034	5,042	7,076	418,229	1,712	6,848	6,955	401,617	9,304	537,299
28 Jun	41.25	1,620	5,744	7,364	425,593	1,610	6,440	6,819	408,436	9,123	546,421
29 Jun	41.35	2,432	5,127	7,559	433,152	1,692	6,768	6,698	415,134	8,961	555,382
30 Jun	41.42	3,180	6,990	10,170	443,322	2,046	8,184	6,184	421,318	8,273	563,656
1 Jul	41.58	5,472	6,426	11,898	455,220	2,808	11,232	5,878	427,196	7,863	571,519
2 Jul	41.78	3,492	7,176	10,668	465,888	2,988	11,952	5,452	432,648	7,293	578,813
3 Jul	42.00	2,388	7,872	10,260	476,148	2,286	9,144	5,560	438,207	7,438	586,250
4 Jul	42.18	2,440	7,512	9,952	486,100	1,962	7,848	5,664	443,872	7,578	593,828

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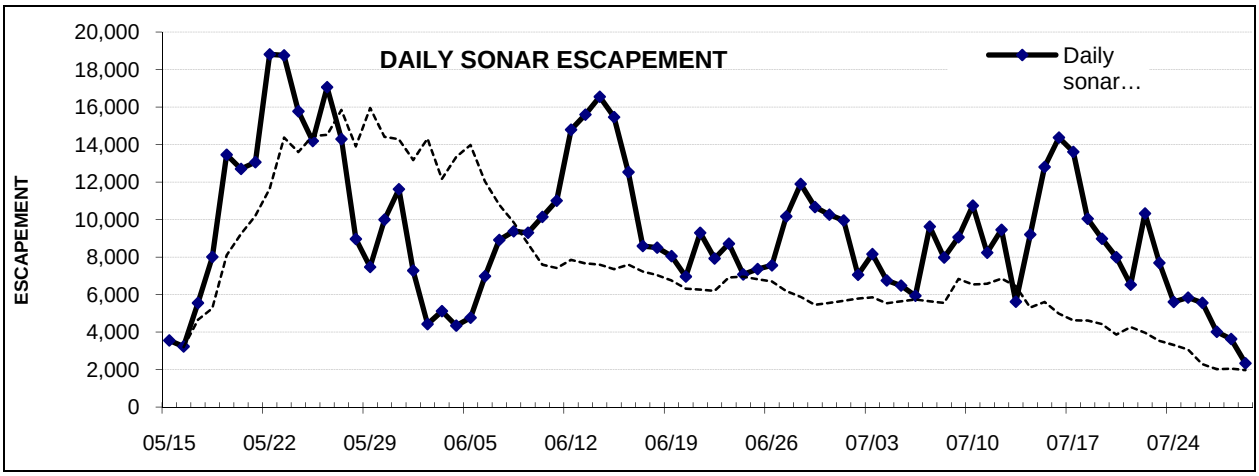
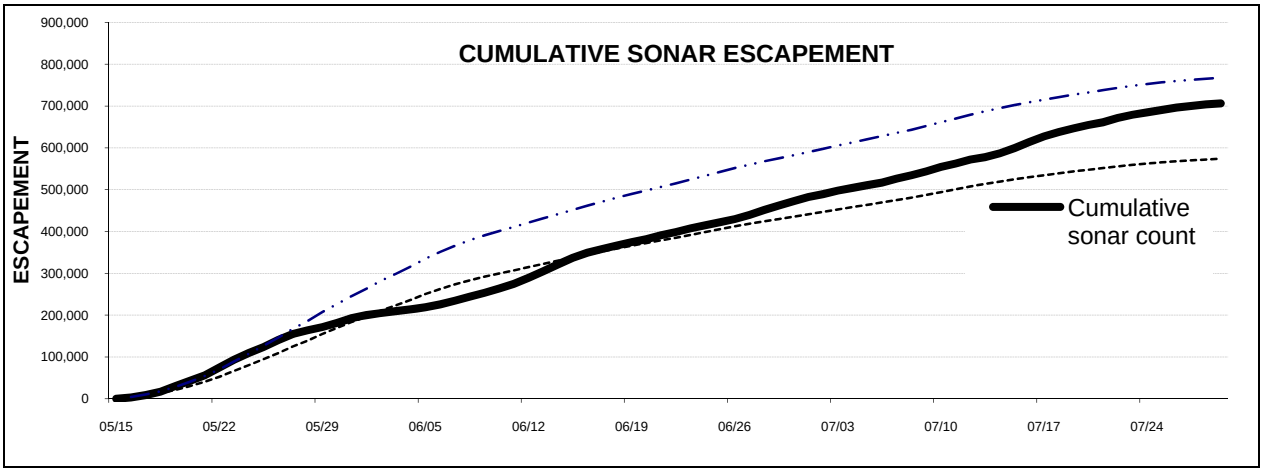
Appendix A6.–Page 3 of 3.

		Daily Escapement Counts						Minimum Inriver Escapement Objective		Maximum Inriver Escapement Objective	
Date	Water Level	North Bank	South Bank	Daily	Cumulative	0600 Count	Projected Daily	Daily	Cumulative	Daily	Cumulative
05 Jul	42.47	1,620	5,433	7,053	493,153	1,995	7,980	5,787	449,659	7,742	601,571
06 Jul	42.77	1,107	7,054	8,161	501,314	1,578	6,312	5,855	455,514	7,833	609,403
07 Jul	43.02	1,314	5,439	6,753	508,067	1,254	5,016	5,539	461,053	7,410	616,814
08 Jul	43.20	1,632	4,848	6,480	514,547	1,404	5,616	5,639	466,692	7,545	624,359
09 Jul	43.42	1,350	4,586	5,936	520,483	1,356	5,424	5,734	472,427	7,672	632,030
10 Jul	43.60	2,376	7,252	9,628	530,111	1,086	4,344	5,641	478,068	7,547	639,577
11 Jul	43.69	2,584	5,392	7,976	538,087	1,484	5,936	5,558	483,626	7,435	647,013
12 Jul	43.74	1,860	7,200	9,060	547,147	1,430	5,720	6,833	490,459	9,142	656,154
13 Jul	43.77	2,346	8,399	10,745	557,892	2,094	8,376	6,539	496,998	8,749	664,903
14 Jul	43.90	2,312	5,922	8,234	566,126	1,314	5,256	6,583	503,581	8,807	673,710
15 Jul	44.02	2,178	7,278	9,456	575,582	2,226	8,904	6,853	510,434	9,168	682,877
16 Jul	44.13	1,597	4,023	5,620	581,202	1,417	5,668	6,453	516,886	8,633	691,510
17 Jul	43.89	2,839	6,367	9,206	590,408	1,454	5,816	5,311	522,198	7,106	698,616
18 Jul	43.57	3,163	9,642	12,805	603,213	3,433	13,732	5,605	527,803	7,499	706,115
19 Jul	43.33	3,930	10,446	14,376	617,589	3,060	12,240	4,988	532,791	6,673	712,788
20 Jul	43.13	3,252	10,358	13,610	631,199	4,694	18,776	4,625	537,416	6,187	718,976
21 Jul	43.08	3,279	6,766	10,045	641,244	2,770	11,080	4,616	542,033	6,176	725,152
22 Jul	42.99	1,566	7,412	8,978	650,222	2,228	8,912	4,433	546,465	5,930	731,082
23 Jul	42.97	1,939	6,053	7,992	658,214	2,397	9,588	3,864	550,329	5,169	736,251
24 Jul	42.85	822	5,703	6,525	664,739	1,464	5,856	4,267	554,595	5,708	741,959
25 Jul	42.55	2,161	8,166	10,327	675,066	2,208	8,832	3,972	558,567	5,314	747,272
26 Jul	42.29	2,448	5,242	7,690	682,756	1,726	6,904	3,533	562,100	4,727	751,999
27 Jul	42.32	1,668	3,940	5,608	688,364	1,289	5,156	3,315	565,415	4,434	756,434
28 Jul	42.55	1,357	4,483	5,840	694,204	1,428	5,712	3,064	568,479	4,099	760,532
29 Jul	43.16	880	4,679	5,559	699,763	1,373	5,492	2,287	570,766	3,060	763,592
30 Jul	43.67	1,260	2,755	4,015	703,778	1,153	4,612	2,022	572,788	2,705	766,298
31 Jul	44.17	961	2,674	3,635	707,413	957	3,828	2,053	574,841	2,746	769,044
01 Aug	44.44	673	1,662	2,335	709,748	598	2,392	1,977	576,818	2,645	771,688

[a] Anticipated counts are not available prior to 15 May because the sonar has only been deployed three times prior to 15 May (2003, 2004, 2005).





Appendix A7.–Minimum and maximum inriver sonar goal versus actual daily and cumulative salmon escapement, Miles Lake Sonar, 2009.

Appendix A8.–Salmon escapement at the Miles Lake Sonar, 1978–2009.

Year	Total	Rank
1978	107,011	32
1979	248,709	31
1980	283,856	30
1981	535,263	24
1982	467,306	27
1983	545,724	22
1984	536,806	23
1985	436,313	29
1986	457,421	28
1987	480,917	26
1988	488,398	25
1989	607,797	16
1990	581,859	20
1991	579,435	21
1992	601,952	17
1993	833,387	9
1994	715,577	12
1995	599,265	18
1996	906,239	4
1997	1,148,079	1
1998	866,957	5
1999	850,951	7
2000	587,497	19
2001	833,569	8
2002	819,794	10
2003	700,543	14
2004	669,514	15
2005	855,125	6
2006	959,706	2
2007	919,600	3
2008	718,344	11
10-Year Average	791,464	
2009	709,748	13

Appendix A9.–Anticipated and actual semi-weekly harvest of sockeye, Chinook and coho salmon in the Copper River District drift gillnet fishery, 2009.

Semi-Weekly Date		Fishing Time (Hours)	Anticipated Sockeye salmon Harvest [a]	Actual Sockeye salmon Harvest	Anticipated Chinook salmon Harvest[b]	Actual Chinook salmon Harvest	Anticipated Coho salmon Harvest [c]	Actual Coho salmon Harvest
05/16	Sat	12	8,609	20,620	2,951	1,447	1	0
05/20	Wed	12	21,285	97,969	4,607	1,330		
05/23	Sat	12	30,620	92,363	3,961	658	21	0
05/27	Wed	12	41,053	99,981	3,970	759		
05/30	Sat	36	39,657	107,806	3,242	1,425	17	0
06/03	Wed	36	44,136	63,752	3,489	1,200		
06/06	Sat	24	34,495	38,731	2,349	644	48	0
06/10	Wed	12	26,661	39,076	1,856	619		
06/13	Sat	0	19,285	0	1,317	0	89	33
06/17	Wed	12	23,291	49,935	1,127	244		
06/20	Sat	12	17,385	22,330	619	242	194	120
06/24	Wed	12	24,710	4,992	509	59		
06/27	Sat	12	17,065	25,758	225	112	341	220
07/01	Wed	12	21,394	24,101	164	220		
07/04	Sat	24	18,219	27,339	109	55	673	841
07/08	Wed	24	24,855	31,530	99	59		
07/11	Sat	24	18,171	40,352	37	40	1,882	945
07/15	Wed	24	22,149	41,217	34	20		
07/18	Sat	24	13,745	31,341	18	33	1,954	551
07/22	Wed	36	14,998	9,570	16	10		
07/25	Sat	36	7,175	3,282	9	7	4,025	375
07/29	Wed	36	6,781	8,188	4	6		
08/01	Sat	36	3,997	6,555	3	56	11,224	2,013
08/05	Wed	36	3,453	3,816	2	28		
08/08	Sat	36	1,888	1,577	1	94	24,034	12,202
08/12	Wed	36	2,001	1,393	2	31		
08/15	Sat	36	832	774	1	32	46,480	39,223
08/19	Wed	24	764	1,022	2	17		
08/22	Sat	12	265	684	1	4	59,440	40,061
08/26	Wed	12	316	406	1	3		
08/29	Sat	0	116	0	1	0	66,986	29,103

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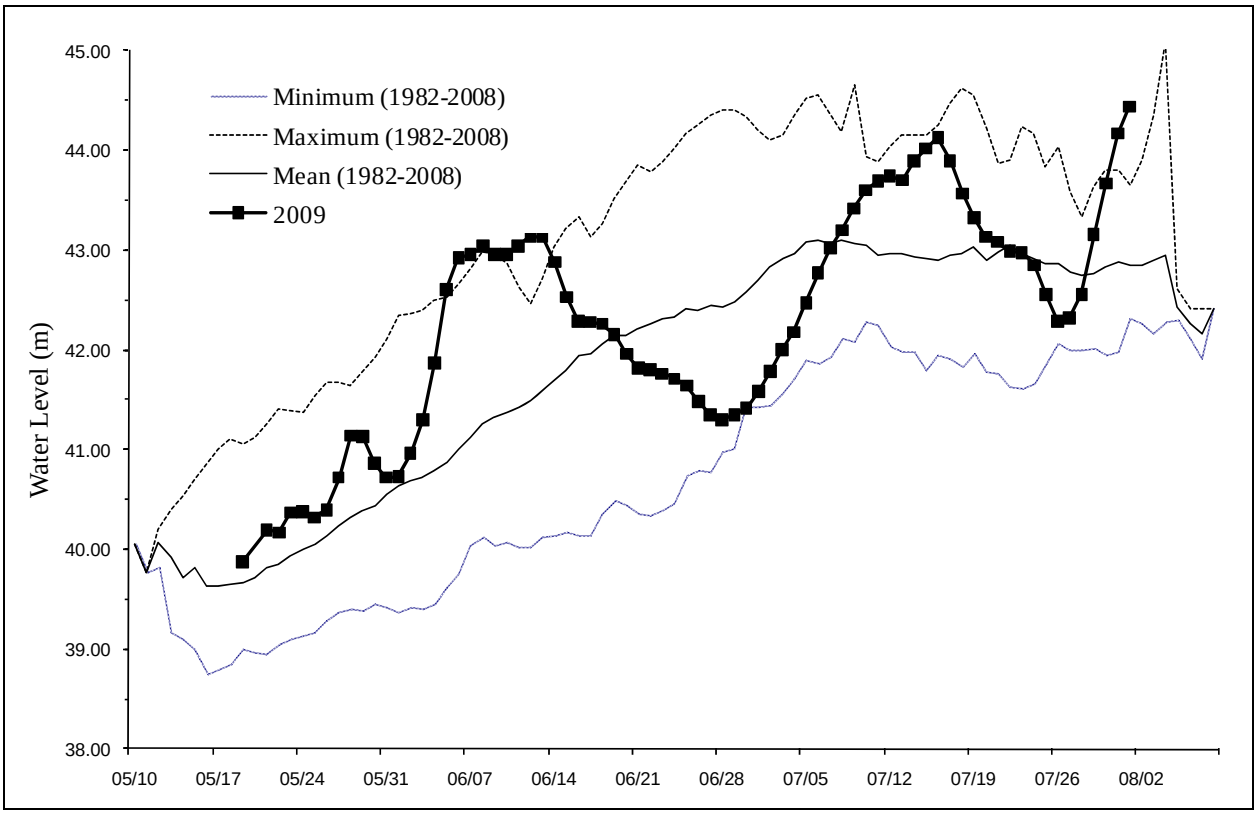
Semi-Weekly Date		Fishing Time (Hours)	Anticipated Sockeye salmon Harvest [a]	Actual Sockeye salmon Harvest	Anticipated Chinook salmon Harvest[b]	Actual Chinook salmon Harvest	Anticipated Coho salmon Harvest [c]	Actual Coho salmon Harvest
09/02	Wed	24	125	115	0	2		
09/05	Sat	0	43	0	0	0	46,067	32,553
09/09	Wed	24	35	13	0	1		
09/12	Sat	24	6	24	0	0	22,376	33,003
09/16	Wed	24	9	5	0	0		
09/19	Sat	36	0	4	0	0	9,686	16,483
09/23	Wed	36	0	0	0	0		
09/26	Sat	36	0	0	0	0	1,418	50
09/30	Wed	60	0	0	0	0		
10/03	Sat	84	0	0	0	0	470	0
10/07	Wed	60	0	0	0	0		
10/10	Sat	84	0	0	0	0	0	0
Total		1,164	509,584	896,621	30,725	9,457	297,426	207,776

[a] Sockeye salmon anticipated harvest is based on the midpoint preseason forecast (742,166) and the 1998–2007 harvest timing.

[b] Chinook salmon anticipated harvest is based on the preseason harvest forecast (46,908) and the 1998–2007 harvest timing. This harvest forecast is the total run forecast minus the lower escapement goal threshold times the mean commercial exploitation rate. Therefore, the Chinook salmon harvest should be considered a maximum harvest because the escapement goal is a lower threshold, not a range based on midpoint preseason forecast (742,166) and the 1998-2007 harvest timing.

[c] Coho salmon anticipated harvest is based on the midpoint preseason forecast (288,013) and the 1969–2007 harvest timing.



Appendix A10.–Water height at the Million Dollar Bridge, 2009.

Appendix A11.–Aerial escapement indices by statistical week and location for sockeye salmon returning to the Copper River Delta, 2009.

	Weekly Escapement Indicies (Statistical Week Ending Date Listed) [b]																						
System [a]	6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	24-Oct	31-Oct	Site c	System e	Anticipated, (by drainage)
Eyak River																							
Eyak River			1,360	1,720*					0			0	0	0		0		0			1,720	12,920	9,972 to 23,571
West Shore Beaches			0	60*					0			20	0	0		10		0			60		
East Shore Beaches			4,080*	2,710					0			1,860	1,850	1,460		10		30			4,080		
Middle Arm Beaches [c]			640	670*					0			5,400	5,430*	2,500		0		30			6,100		
North Shore Beaches			0	20*					0			1	0	0		0		0			20		
Hatchery Creek Delta			500*	0					200			0	30	0		0		0			500		
Hatchery Creek			80	180*					170			0	0	0		0		0			180		
Power Creek Delta				0					200*			0	0	0		0		0			200		
Power Creek			10	10					60*			0	0	0		0		0			60		
Ibeck Creek																							
Ibeck Creek									40			100	100*	10		0		5			100	100	
Alaganik Slough																							
Alaganik Slough			230	2,520*					0												2,520	4,020	8,359 to 19,758
McKinley Lake			450	1,000*					350			400	300	400		120		11			1,000		
Salmon Creek West Fork			0	0					500*			0	0	0		0		0			500		
Salmon Creek East Fork			0	0					0			0	0	0		0		0					
26/27 Mile Creek																							
26/27 Mile Creek			0	0					0			0	0	0		0		0			0	0	2,182 to 5,157
39 Mile Creek																							
39 Mile Creek			20	0					150			160*	90	0		0		10			160	160	5,772 to 13,642
Goat Mountain																							
Goat Mountain Creek			30*	0					0			0	0	0		0		NS			30	30	549 to 1,298
Pleasant Creek																							
Pleasant Creek			1,260	2,610*					100			0	0	0		0		0			2,610	2,610	1,075 to 2,542
Martin River																							
Martin River - Lower			0	260*					0			0	0	0		0		0			260	260	
Ragged Point River			100	200*					20			0	2	0		0		0			200	610	
Ragged Point Lake Outlet			0	0					0			0	10*	0		0		0			10		
Ragged Point Lake			0	20					300			320	250	400*		140		0			400		
Martin River - Upper [c]			2,230	2,350*					50			0	20	0							2,350	2,350	
Martin Lake Outlet			440*	210					0												440	19,071	17,598 to 41,596
Martin Lake			2,700	13,000*					0			130	20	370		522		90			13,000		
Martin Lake Feeders			2,702	2,460					5,631*												5,631		
Pothole River			170	1,070*					20			40	0	10		0		10			1,070	2,540	
Pothole Lake			31	50					21			1,010	630	750		510		1,470*			1,470		
Little Martin River			20*	10					3			0	0	0				0			20	421	
Little Martin Lake			250	390					401*			280	290	80		50		5			401		
Tokun																							
Tokun Springs			220	1,300*					10				0	0		0		0			1,300	22,680	5,352 to 12,649
Tokun River			1,200	1,480*					140			310	242	0		0		0			1,480		
Tokun Lake Outlet			20	7,500*					0				0	0		0		0			7,500		
Tokun Lake			11,610	12,400*					2,652			9,510	6,690	6,700		3,250		1,662			12,400		
Martin River Slough																							
Martin River Slough			1,520*	870					620			0	0	0		0		0			1,520	1,520	4,141 to 9,787
Total	0	0	31,873	55,070	0	0	0	0	11,638	0	0	19,541	15,954	12,680	0	4,612	0	3,323	0	0		69,292	
Lower SEG	14,273	17,627	28,229	30,055	31,424	32,059	32,568	24,976	26,465	24,382	19,762	17,446	12,467	10,561	6,776	4,373	2,611						55,000
Average SEG, (average anticipa	21,902	27,050	43,318	46,121	48,222	49,196	49,977	38,326	40,611	37,415	30,326	26,772	19,131	16,206	10,398	6,711	4,006						84,400
Upper SEG	33,736	41,665	66,722	71,040	74,276	75,775	76,979	59,034	62,553	57,630	46,711	41,236	29,467	24,962	16,016	10,337	6,170						130,000

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* Survey count was used as the peak survey for the site without duplication of counts from survey sites along migratory corridors (see footnote d).

[a] The system represents the majority of known sockeye salmon spawning locations within the Copper River Delta drainage.

[b] The surveys provide information about the relative strength of escapement among years and within a year, time to spawning sites and relative escapement strength among sites. The indices are not intended to provide an actual estimate of escapement but have served that purpose in the absence of any other escapement estimating method.

[c] Site typically has a protracted run timing or two temporally segregated spawning populations at one location. Aerial counts from more than one day may be asterisked and used in the escapement estimate if the surveyor indicates that these counts represented different fish.

[d] The escapement estimates for each site is in the asterisked survey estimate. Where the survey site is a terminal spawning area, the peak count is used. However, if the site is a schooling area for migratory fish bound for sites further upstream, the count which minimizes possible duplicate of counts across dates is selected.

[e] The sum of the estimate by site within a system.

Appendix A12.–Copper River and Bering River area sockeye salmon escapement indices, 1999–2009.

Stream/Lake [a,b]	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10-yr Average	2009
Eyak Lake	18,100	20,500	7,400	13,375	12,900	14,300	9,130	26,290	28,640	9,290	15,993	11,980
Hatchery Creek	200	2,800	950	1,700	0	500	290	2,700	980	560	1,068	680
Power Creek	1,400	6,700	2,450	1,600	850	1,500	566	2,320	1,030	220	1,864	260
Ibek Creek	50	[c]	1,500	0	475	2,300	500	620	142	41	625	100
McKinley Lake	400	2,850	2,080	4,200	3,200	4,500	360	4,306	3,740	3,510	2,915	3,520
Salmon Creek	7,100	4,220	9,650	4,900	1,800	7,400	7,260	4,660	2,630	820	5,044	500
26/27 Mile Creek	3,800	3,300	4,000	850	475	1,125	3,000	3,200	700	8	2,046	0
39 Mile Creek	12,000	6,500	9,000	10,000	7,800	2,600	2,900	2,700	2,710	2,950	5,916	160
Goat Mountain	60	60	5	70	0	700	1,250	1,450	363	100	406	30
Pleasant Creek	7,615	2,300	8,100	2,425	6,850	3,525	50	6,600	4,860	4,920	4,725	2,610
Martin River	2,800	2,650	200	700	3,425	2,275	800	1,570	9,270	6,440	3,013	2,610
Ragged Pt. River/Lake	5,900	3,600	2,900	3,375	4,750	1,975	500	3,050	3,870	3,430	3,335	610
Martin Lake	19,150	22,900	7,100	10,600	18,900	17,300	23,300	23,300	4,200	8,970	15,572	19,071
Pothole Lake	2,100	3,050	1,910	8,400	1,500	1,350	1,200	5,600	2,430	5,800	3,334	2,540
L. Martin Lake	1,800	830	825	2,540	2,175	1,610	1,500	600	450	1,060	1,339	421
Tokun Lake/River	7,600	6,485	5,695	6,500	3,600	3,775	1,800	4,280	16,920	18,321	7,498	22,680
Martin River Slough	10,900	9,300	7,300	4,500	4,450	2,650	4,000	5,650	5,350	900	5,500	1,520
Copper River Delta Total	100,975	98,045	71,065	75,735	73,150	69,385	58,406	98,896	88,285	67,340	80,128	69,292
Upper Copper River [d]	487,412	300,134	516,163	584,293	464,807	451,455	533,130	604,403	631,190	497,469	507,046	479,877
Copper River District Total	588,387	398,179	587,228	660,028	537,957	520,840	591,536	703,299	719,475	564,809	587,174	549,169
Bering River/Lake	39,030	21,050	7,750	19,540	32,075	22,550	19,890	9,310	8,550	17,545	19,729	11,250
Shepherd Creek	1,215	950	60	60	205	195	1,220	60	0	180	415	91
Stillwater Creek	950	320	320	350	375	500	0	140	450	111	352	190
Kushtaka Lake	1,100	700	293	265	185	15	230	61	40	100	299	90
Katalla River	3,900	1,200	400	4,500	17,000	1,875	9,550	5,100	12,130	260	5,592	1,850
Bering River Area Total	46,195	24,220	8,823	24,715	49,840	25,135	30,890	14,671	21,170	18,196	26,386	13,471
Copper/Bering River Total	634,582	422,399	596,051	684,743	587,797	545,975	622,426	717,970	740,645	583,005	613,559	562,640

[a] This table is based on peak aerial survey estimates and sonar counts for the majority of known sockeye salmon spawning areas in the Copper and Bering River Delta. These indices are not intended to provide a true estimate of total escapement but rather a comparable index, based upon the best data available, across years.

[b] The stream/lake represents the combined survey sites corresponding to the "system" designations presented elsewhere in the 2009 Annual Management Report.

[c] Peak escapement estimates were not possible for these systems due to poor weather or water conditions.

[d] Upriver escapement estimate from Miles Lake sonar counts.

Appendix A13.–Aerial survey indices of sockeye salmon escapement to the upper Copper River drainage, 1996–2009.

	Yearly Survey Indices [a]														Anticipated
Location	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Estimate [c]
Mentasta Lake	2,800		6,100	715	1,200	13,000	5,400	4,800	6,000	7,090	7,790	8,507	3,379	3,320	3,277
Fish Creek-Mentasta	400		1,400	450	800	3,500	900		[b]	3,330	3,700	323	1,440	680	963
Bad Crossing 1 & 2	780		7,800	195	19	2,000	157	90	30	5,120	620	1,683	520	1,691	2,604
Suslota Lake	4,100		1,060	0	3,000	2,500	1,500	2,750	1,975	1,230	1,300	30	86	320	1,416
Tanada Lake				350	3,200	200	950	0	3,950	683	30	563	986	1,290	3,849
Dickey Lake	0		350	11	0	1	0	0	10	55	185	71	37	20	115
Keg Creek	850	420	160	125	0	1	30	38	0	7	190	0	1	423	725
Swede Lake	20		770	270	135	500	150	325	225	7	2,570	731	343	109	531
Mahlo Creek	3,800	11,800	12,300	325	1,000	400	5,000	6,850	500	1,950	5,000	14,512	10,261	11,735	2,648
Mendeltna Creek	1,250	400		120	2,800	800	1,875	1,200	50	318	700	473	727	1,945	2,470
St. Anne Creek	3,500	4,800	4,100	1,300	1,100	300	3,500	3,750	970	1,692	6,560	11,970	14,000	8,123	4,888
Tonsina Lake									0		20	20	3	0	1,080
Long Lake									[b]		1,400	505	382	14	1,577
Tana River								250	[b]	[b]	1,392	312	434	19	1,345
Salmon Creek (Bremner)				0	500	1,500	1,400	300	[b]	217	790	750	3,500	530	825
Fish Lake	4,800		4,900	1,880	5,000	5,000	125	1,300	0	281	7,250	1,066	158	0	6,418
Mud Creek.- Summit Lake			700	820	140	450	2,800	3,900	40	[b]	1,800	2,705	11,410	0	7,445
Paxson Inlet-Mud Creek	16,800		15,200	5,700	2,200	7,000	4,800	2,800	2,200	363	2,470	9,317	4,665	2,720	6,560
Mud Creek and Lake	240			20	30	300	30	75	5	145	310	2	10	0	172
Paxson Lake Outlet			200	1,800	1,000	200	140		5	155	270	324	596	0	2,661
Totals	39,340	17,420	55,040	14,081	22,124	37,652	28,757	28,428	15,960	22,643	44,347	53,864	52,938	32,939	51,569

[a] Escapement numbers are based on peak aerial survey estimates and weir counts from the majority of known spawning areas in the upper Copper River drainage. The indices are not intended to provide true estimates of escapement for these stocks, but rather a comparable index, based on the best data available, across years. Missing counts are generally a result of bad weather, high water or other factors that prevented surveys for a given year.

[b] No survey flown.

[c] Calculated using the 1983–1992 average.

Appendix A14.–Estimated age and sex composition of sockeye salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2009.

Strata Combined:	05/14 - 10/11	Brood Year and Age Class [a]									
Sampling dates:	05/14 - 07/21	2006	2005			2004			2003		
Sample size:	4,689	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	Total
Female	Percentage of sample	0.0	1.9	7.2	0.0	0.0	30.7	0.5	0.1	4.3	44.9
	Number in harvest	196	16,985	64,939	0	231	274,808	4,892	1,179	38,914	402,146
Male	Percentage of sample	0.1	2.5	10.0	0.0	0.0	37.2	0.7	0.3	3.9	54.7
	Number in harvest	888	22,531	89,488	116	0	333,197	5,844	2,583	35,317	489,963
Total	Percentage of sample	0.1	4.4	17.3	0.0	0.0	68.2	1.2	0.4	8.3	100.0
	Number in harvest	1,084	39,713	155,293	116	231	611,107	10,736	3,762	74,427	896,469
	Standard error	490	3,096	3,893	116	231	6,229	1,563	1,022	4,213	

[a] Fish with reabsorbed scales have been removed. Strata #6 had 31, #7 - 40, #8 - 72, #9 - 102.

Appendix A15.–Temporally stratified age and sex composition of Chinook salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2009.

Strata Combined:	05/14 - 10/11	Brood Year and Age Class									
Sampling dates:	05/14 - 06/09	2006	2005		2004		2003		2002		
Sample size:	1,457	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	Total
Female	Percentage of sample	0.1	12.1	0.4	26.4	1.2	10.7	0.6	0.1	1.1	52.6
	Number in harvest	6	1,147	38	2,492	113	1,008	58	9	100	4,972
Male	Percentage of sample	0.2	7.1	0.1	21.2	0.6	15.2	1.1	0.2	1.4	47.1
	Number in harvest	16	673	9	2,006	57	1,436	107	23	131	4,457
Total	Percentage of sample	0.2	19.5	0.5	47.6	1.8	25.8	1.7	0.3	2.4	100.0
	Number in harvest	22	1,848	47	4,498	170	2,444	165	32	231	9,456
	Standard error	14	105	21	133	34	117	35	14	40	

Appendix A16.–Estimated age and sex composition of coho salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2009.

Strata Combined:	06/17 - 10/11	Brood Year and Age Class			
Sampling dates:	08/18 - 09/15	2006	2005	2004	
Sample size:	1,199	1.1	2.1	3.1	Total
Female	Percentage of sample	18.7	26.6	0.0	45.3
	Number in harvest	38,840	55,370	0	94,211
Male	Percentage of sample	24.4	29.8	0.3	54.5
	Number in harvest	50,756	61,841	646	113,243
Total	Percentage of sample	43.2	56.5	0.3	100.0
	Number in harvest	89,746	117,384	646	207,776
	Standard error	2,980	2,982	323	

Appendix A17.–Total estimated coho salmon run to the Copper River by end user or destination with previous 10-year average, 1999–2009.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10-year Average	2009
Commercial harvest[a]	153,061	304,944	251,473	504,223	363,489	467,859	263,465	318,285	117,182	202,621	294,660	207,776
Commercial, homepack[a]	36	0	24	187	0	2	119	137	340	423	127	767
Commercial, donated[a]	0	0	5,141	0	0	0	0	0	0	154	530	0
Educational drift gillnet permit[a]	0	0	0	0	0	0	0	0	0	0	0	0
Subsistence (Cordova, drift gillnet)[b]	682	44	70	28	36	46	15	1	15	53	99	22
Federal Subsistence (PWS/Chugach Nat'l Forest, dip net, spear, rod and reel)	0	0	0	0	0	0	141	100	68	119	43	185
Subsistence (Batzulnetas, fish wheel, dip net or spear)[b]	0	0	0	na	na	0	0	0	0	0	0	0
Subsistence (Glennallen Subdistrict, dip net or fish wheel)[b]	292	511	1,027	524	450	541	97	210	231	472	436	194
Federal Subsistence (Glennallen subdistrict, dip net or fish wheel)	0	0	0	81	152	152	126	28	34	156	73	34
Personal Use (Chitina Subdistrict, dip net)[b]	2,095	3,540	2,274	1,761	2,409	2,304	1,562	1,886	1,492	2,346	2,167	1,452
Federal Subsistence (Chitna subdistrict, dip net)	0	0	0	0	70	18	0	20	40	74	22	11
Delta sport harvest[c]	6,954	4,155	12,052	6,525	14,166	14,512	9,727	5,477	6,749	7,709	8,803	7,063
Upriver sport harvest[c]	24	324	92	384	277	131	72	54	0	57	142	37
Upriver spawning escapement[d]	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Delta spawning escapement[e]	87,450	85,660	80,662	174,830	144,110	199,010	199,364	178,140	102,430	153,784	140,544	82,588
Total estimated coho salmon run size	250,594	399,178	352,815	688,543	525,159	684,575	474,688	504,338	228,581	367,968	447,644	300,129

[a] Numbers are from fish ticket data.

[b] Data are reported harvest from returned state and federal subsistence permits.

[c] The 2008 delta and upriver Sport harvest estimates are unavailable at this time.

The 2008 harvest estimates are a 5 year average of coho salmon delta and upriver sport harvest.

[d] Numbers of upriver coho salmon spawners are unavailable.

[e] The Delta spawning index is calculated by doubling the final peak aerial survey index.

Appendix A18.–Aerial escapement indices by statistical week and location for coho salmon returning to the Copper River Delta, 2009.

		Weekly Escapement Indices (Statistical Week Ending Date Listed)[b]															
	System[a]	25 Jul	1 Aug	8 Aug	15 Aug	22 Aug	29 Aug	5 Sep	12 Sep	19 Sep	26 Sep	3 Oct	10 Oct	17 Oct	24 Oct	Site [d]	System [e]	Anticipated (by drainage)
Eyak River	Eyak River				271			400*	280	380		23		68		400	4,260	6,916
	East Shore Beaches				30			100	100	0		170*		0		170		
	West Shore Beaches				0			160	380*	0		250		160		380		
	Middle Arm Beaches				0			0	0	0		0		0		0		
	North Shore Beaches				0			0	0	0		0		0		0		
	Hatchery Creek Delta				10			1,240*	100	110		0		430		1,240		
	Hatchery Creek				0			0	1,080*	660		660		130		1,080		
	Power Creek Delta				0			210	10	0		240*		50		240		
	Power Creek				0			0	220	80		330		750*		750	Drainage	
Ibeck Creek	Ibeck Creek				560			5,490	5,020	9,201		7,851		9,963*		9,963	9,963	6,227
Scott River	Scott Lake				0			30	0	200*		0		0		200	1,170	
	Scott River				0			10	40	300		730		970*		970		
	Elsner Lake [c]				0			0	0	0		0		0		0		
Alaganik Slough	Alaganik Slough				40			220*	60	0		42		0		220	2,140	4,020
	18/20 Mile Creek				0			60	60	150*		113		115		150		
	McKinley Lake				0			220	110	100		10		230*		230		
	Salmon Creek West Fork				300			220	270	30		340*		1		340		
	Salmon Creek East Fork				0			130	210	210		0		1,200*		1,200		
26/27 Mile Creek	26/27 Mile Creek				0			0	0	0		0		100*		100	100	829
39 Mile Creek	39 Mile Creek				790			1,570*	1,510	990		799		462		1,570	1,570	3,831
Goat Mountain Cr.	Goat Mountain Creek				240			750	1,220*	460		650		NS		1,220	1,220	1,181
Pleasant Creek	Pleasant Creek				0			550	680*	202		81		89		680	680	

-continued-

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		Weekly Escapement Indices (Statistical Week Ending Date Listed)[b]															
	System[a]	25 Jul	1 Aug	8 Aug	15 Aug	22 Aug	29 Aug	5 Sep	12 Sep	19 Sep	26 Sep	3 Oct	10 Oct	17 Oct	24 Oct	Site [d]	System [e]	Anticipated (by drainage)
Martin River	Martin River - Lower				20			70	22	90*		21		NS		90	90	
	Ragged Point River				140			330*	80	290		290		NS		330	590	849
	Ragged Point Lake Outlet				0			10	0	20*		0		NS		20		
	Ragged Point Lake				100			240*	160	110		11		NS		240		
	Martin River - Upper				160			1,561*	790	1,320		557		970		1,561	1,561	6,522
	Martin Lake Outlet				300*			10	10	100		20		0		300	1,360	1,936
	Martin Lake							51	0	20		70*		40		70		
	Martin Lake Feeders				402			990*	850	270		370		711		990		
	Pothole River				1			50	30	250		0		2,120*		2,120	2,750	1,370
	Pothole Lake				0			0	0	490		630*		242		630		
	Little Martin River				0			2,350	1,620	2,490		2,810*		1,324		2,810	2,810	5,413
	Little Martin Lake				0			0	0	0		0		0		0		
	Tokun Springs				400*			330	210	160		300		250		400	920	1,376
	Tokun River				90			120	40	250		320*		231		320		
	Tokun Lake Outlet				0			0	0	0		0		0		0		
	Tokun Lake				0			0	0	200*		0		0		200		
Martin River Slough	Martin River Slough				1,960			3,880	3,740	2,260		10,180*		8,660		10,180	10,180	9,531
Copper River Aerial Survey Daily Total		0	0	0	5,814	0	0	21,352	18,902	21,393	0	27,868	0	29,266	0		41,364	
Lower SEG		86	1,225	2,025	5,846	9,298	16,147	21,447	18,286	16,908	15,542	17,896	8,474			9,841		32,000
Average SEG, (average anticipated escapement)		134	1,914	3,164	9,134	14,528	25,229	33,510	28,571	26,418	24,284	27,962	13,241			15,377		50,001
Upper SEG		180	2,565	4,240	12,239	19,468	33,807	44,904	38,285	35,401	32,540	37,470	17,743			20,605		67,000

* Survey count was used as the peak survey for the site.

[a] The system represents the majority of known coho salmon spawning locations in the Copper River Delta drainage.

[b] The surveys provide information about the relative strength of escapement among years and within a year, time to spawning sites and relative escapement strength among sites. The indices are not intended to provide an actual estimate of escapement but have served that purpose in the absence of any other escapement estimating method.

[c] This stream is not included in the estimated delta wide escapement; it is a non-index stream.

[d] Where the survey site is a terminal spawning area the peak count is used. However, if the site is a schooling area for migratory fish bound for further sites upstream, the count which minimizes possible duplication of counts across dates is selected.

[e] The sum of the estimates by site within the index systems.

Appendix A19.–Copper River Delta and Bering River coho salmon escapement indices, 1999–2009.

Stream/Lake [a,b]	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Previous 10-yr Average	2009
Eyak Lake	1,250	2,130	7,800	17,425	10,050	12,700	2,812	1,940	5,810	17,030	7,895	950
Hatchery Creek	300	1,900	450	1,400	0	1,450	0	160	710	370	674	2,320
Power Creek	2,700	1,450	480	2,000	1,500	500	40	360	800	1,140	1,097	990
Ibeck Creek	4,600	7,000	14,000	23,900	26,000	32,000	34,900	36,300	13,200	10,265	20,217	9,963
Scott & Elsner River [c]	2,500	300	600	2,400	125	475	1,400	200	1,520	3,281	1,280	1,170
18/20 Mile	610	420	420	1,450	205	1,560	610	740	550	161	673	150
McKinley Lake	50	120	800	2,200	0	275	140	1,400	280	300	557	450
Salmon Creek	3,080	2,600	200	1,100	725	6,100	2,250	200	150	700	1,711	1,540
26/27 Mile	2,610	1,000	400	240	275	850	820	60	480	10	675	100
39 Mile	3,650	5,000	1,800	4,500	1,250	3,120	9,900	4,400	3,300	5,460	4,238	1,570
Goat Mountain	650	430	330	160	125	450	4,500	3,100	1,400	920	1,207	1,220
Pleasant Creek [c]	1,220	45	210	0	2,000	3,950	3,790	7,030	500	2,800	2,155	680
Martin River	3,900	4,500	3,755	13,325	10,200	11,600	1,050	9,100	8,830	9,323	7,558	1,651
Ragged Point River/Lake	275	330	440	3,400	375	575	650	360	260	302	697	590
Martin Lake	600	1,350	311	1,850	6,300	4,475	24,100	2,900	4,775	2,770	4,943	1,360
Pothole Lake	600	245	390	3,400	4,000	500	140	120	870	3,661	1,393	2,750
Little Martin Lake	3,600	3,000	3,010	500	1,000	7,900	2,100	7,500	2,700	8,760	4,007	2,810
Tokun River/Lake	1,130	710	1,600	540	550	1,750	2,030	700	830	3,020	1,286	850
Martin River Slough	12,900	10,600	4,100	10,025	7,500	9,750	9,850	12,700	5,770	7,780	9,098	10,180
Copper River Delta Total	46,225	43,130	41,096	89,815	72,180	99,980	101,082	89,270	52,735	78,053	71,357	41,294
Katalla River	3,000	2,800	2,900	5,000	10,000	6,500	12,100	8,900	5,510	3,340	6,005	1,590
Bering River/Lake	13,800	10,370	21,040	15,375	13,750	10,125	15,040	13,052	4,910	8,491	12,595	6,320
Dick Creek	1,270	2,500	760	1,700	2,050	2,750	362	1,660	530	1,410	1,499	1,210
Shepherd Creek	200	450	300	675	700	1,125	100	60	130	370	411	10
Nichawak River	4,800	4,300	1,300	1,420	900	1,475	6,900	3,200	11,900	10,120	4,632	4,690
Gandil River	3,000	600	900	330	900	2,000	4,450	640	2,650	840	1,631	1,610
Controller Bay	5,220	5,360	2,807	9,700	4,175	6,210	5,590	5,680	7,332	4,251	5,633	6,330
Bering River Area Total	31,290	26,380	30,007	34,200	32,475	30,185	44,542	33,192	32,962	28,822	32,406	21,760
Copper/Bering Total	77,515	69,510	71,103	124,015	104,655	130,165	145,624	122,462	85,697	106,875	103,762	63,054

[a] This table is based on peak aerial survey estimates counts from the majority of known coho salmon spawning areas in the Copper and Bering River Delta. These indices are not intended to provide a true estimate of total escapement but a comparable index, based upon the best data available, across years.

[b] The stream/lakes in this table represent combined survey sites corresponding to the "system" designations for the current year survey results presented elsewhere in the 2009 Annual Management Report.

[c] Not an index stream.

Appendix A20.–Total commercial salmon harvest by species in the Bering River District, 1974–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1974	32	4,208	28,615	7	2	32,864
1975	162	21,637	24,162	0	0	45,961
1976	228	30,908	42,423	43	1	73,603
1977	127	14,445	47,218	192	221	62,203
1978	331	33,554	91,097	266	2,391	127,639
1979	385	139,015	114,046	6,895	23,094	283,435
1980	0	0	108,872	0	0	108,872
1981	200	55,585	82,626	9,882	8,307	156,600
1982	254	129,667	144,752	47	333	275,053
1983	610	179,273	117,669	851	4,615	303,018
1984	330	91,784	214,632	309	20,408	327,463
1985	215	26,561	419,276	214	9,642	455,908
1986	128	19,038	115,809	15	243	135,233
1987	34	16,926	15,864	54	7	32,885
1988	19	7,152	86,539	23	181	93,914
1989	30	9,225	26,952	7	2	36,216
1990	14	8,332	42,952	2	1	51,301
1991	28	19,181	110,951	4	195	130,359
1992	21	19,721	125,616	4	1	145,363
1993	130	33,951	115,833	82	22	150,018
1994	121	27,926	259,003	34	63	287,147
1995	44	21,585	282,045	26	229	303,929
1996	111	37,712	93,763	0	30	131,616
1997	23	9,651	97	2	0	9,773
1998	70	8,439	12,284	5	2	20,800
1999	42	13,697	9,852	204	96	23,891
2000	5	1,279	56,329	0	0	57,613
2001	76	5,450	2,715	0	0	8,241
2002	14	235	108,522	0	0	108,771
2003	151	18,266	59,481	33	0	77,931
2004	87	13,165	95,595	2	21	108,870
2005	277	77,464	43,030	9,327	14	130,112
2006	238	36,867	56,713	54	39	93,911
2007	88	16,470	9,305	6	1	25,870
2008	42	1,175	40,380	8	1	65,601
10-Year Average	102	18,407	48,192	963	17	67,682
2009	15	4,157	45,522	1	5	49,700

Appendix A21.–Aerial escapement indices by statistical week and location for sockeye salmon returning to the Bering River District, 2009.

Drainage	System[a]	6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	10/24	10/31
Bering River	Bering River			2,190*	10					0			0	0	0						
	Bering Lake			3,890	9,060*					720			10	10	0						
	Dick Creek			10	10					3,141*			50	0	0		10				
	Shepherd Creek - Lagoon			0	0					0			0	0	0						
	Shepherd Creek			0	0					91			0	0	0				1		
	Carbon Creek			0	0					310*			0	0	0						
	Clear Creek			0	0					190*			50	0	0						
	Kushtaka Lake			0	0					90*			40	14	0		4				
	Shockum Creek			0	0					100*			100	10	0						
Katalla River [c]	Katalla River			250	1,850*					30			0	0	20						
Bering River District Weekly Index		0	0	6,340	10,930	0	0	0	0	4,672	0	0	250	34	20	0	14	0	1	0	0
Lower SEG		1,370	4,985	6,207	9,341	16,889	16,946	16,872	14,415	12,893	6,595	3,705	2,271	1,601	876	1,130					

* Survey count was used as the peak survey for the site without duplication of counts for survey sites along migratory corridors (see footnote d).

[a] The survey sites represent the majority of known sockeye salmon spawning locations in the Bering River drainage.

[b] The surveys provide information about the relative strength of escapement among years and within a year, time for spawning sites and relative escapement strength among sites. The indices are not intended to provide an actual estimate of escapement but have served that purpose in the absence of any other escapement estimating method.

[c] This stream is not included in the estimated escapement for the Bering River drainage, it is a non-index stream.

[d] When the survey site is a terminal spawning area the peak count is used. However, if the site is a schooling area for migratory fish bound for sites further upstream, the estimate which minimizes duplicate counts across dates is selected.

[e] The sum of the estimates by site within a system.

Appendix A22.–Bering River District commercial drift gillnet salmon harvest by period, 2009.

		Emergency order				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01	6/8–6/8	2-F-E-015-09	12	*	*	*	*	*	*	*	*	*	*	*	*
02	6/17–6/17	2-F-E-024-09	12	0	0	0	0	0	0	0	0	0	0	0	0
03	6/20–6/20	2-F-E-027-09	12	12	15	12	239	3,619	16,655	0	0	0	0	0	0
04	6/22–6/22	2-F-E-028-09	12	0	0	0	0	0	0	0	0	0	0	0	0
05	6/25–6/25	2-F-E-034-09	12	0	0	0	0	0	0	0	0	0	0	0	0
06	6/29–6/29	2-F-E-037-09	12	0	0	0	0	0	0	0	0	0	0	0	0
07	7/2–7/3	2-F-E-042-09	24	0	0	0	0	0	0	0	0	0	0	0	0
08	7/6–7/7	2-F-E-046-09	24	0	0	0	0	0	0	0	0	0	0	0	0
09	8/31–9/1	2-F-E-107-09	24	42	71	0	0	0	0	7,471	73,271	0	0	0	0
10	9/7–9/8	2-F-E-115-09	24	58	104	0	0	0	0	13,405	127,853	0	0	0	0
11	9/10–9/11	2-F-E-119-09	24	26	34	0	0	0	0	5,349	52,614	0	0	0	0
12	9/14–9/15	2-F-E-122-09	24	38	79	0	0	0	0	9,650	92,943	1	2	0	0
13	9/17–9/18	2-F-E-124-09	36	26	72	0	0	0	0	8,441	84,387	0	0	0	0
14	9/21–9/22	2-F-E-0126-09	36	14	20	0	0	0	0	1,206	11,587	0	0	0	0
15	9/24–9/25	2-F-E-132-09	36	0	0	0	0	0	0	0	0	0	0	0	0
16	9/28–9/30	2-F-E-134-09	60	0	0	0	0	0	0	0	0	0	0	0	0
17	10/1–10/4	2-F-E-134-09	84	0	0	0	0	0	0	0	0	0	0	0	0
18	10/5–10/7	2-F-E-136-09	60	0	0	0	0	0	0	0	0	0	0	0	0
19	10/8–10/11	2-F-E-136-09	84	0	0	0	0	0	0	0	0	0	0	0	0
Total			612	83	397	15	312	4,152	20,150	45,522	442,655	1	2	5	28
Average Weight							20.80		4.85		9.72		2.00		5.60

*Confidential data, less than 3 permit holders delivering.

Appendix A23.–Aerial escapement indices by statistical week and location for coho salmon returning to the Bering River District, 2009.

		Weekly Escapement Indices (Statistical Week Ending Date Listed)[b]																
Drainage	System[a]	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	10/24	Site[e]	System[f]	Anticipated (by drainage)
Bering River	Bering River[c]				200			360	1,010	1,340*		710		350		1,340	7,530	7,720
	Bering Lake				0			2,530	2,190	4,980*		3,010		3,050		4,980		
	Dick Creek				0			760	850	400		561		1,210*		1,210		
	Shepherd Creek - Lagoon				0			0	0	10*		0		0		10	80	
	Shepherd Creek				0			0	0	11*		0		0		0		
	Carbon Creek[d]				0			30	70*	10		0		0		70		
Katalla River	Katalla River				30			1,590*	1,460	1,300		550		343		1,590	1,590	4,993
Lower Bering River	Gandil River				0			40	320	380		551		1,610*		1,610	6,300	2,910
	Nichawak River				0			4,100	1,690	4,251		4,690*		1,922		4,690		
Controller Bay	Campbell River				0				10	1,280		1,380		3,570*		3,570	6,630	7,378
	Edwardes River				0			872	670	880		610		2,570*		2,570		
	Okalee River				0			490*	180	200		200		100		490		
	Other Clear Streams																	
Bering River District Weekly Index		0	0	0	230	0	0	10,772	8,450	15,031	0	12,262	0	14,725	0	22,130	22,130	
Lower SEG		434	487	2,533	4,002	8,732	8,803	6,969	5,041	4,199	5,156	1,042	1,692					13,000
Average SEG, (average anticipated escapement)		768	861	4,482	7,080	15,448	15,574	12,330	8,919	7,429	9,122	1,844	2,993					23,001
Upper SEG		1,102	1,236	6,431	10,158	22,165	22,345	17,691	12,797	10,659	13,089	2,645	4,294					33,000

* Survey count was used as the peak survey for the site without duplication of counts for survey sites along migratory corridors (see footnote d).

[a] The survey sites represent the majority of known coho salmon spawning locations in the Bering River drainage.

[b] The surveys provide information about the relative strength of escapement among years and within a year, time for spawning sites and relative escapement strength among sites. The indices are not intended to provide an actual estimate of escapement but have served that purpose in the absence of any other escapement estimating method.

[c] Counts include coho salmon observed in the Don Miller Hill tributaries.

[d] This stream is not included in the estimated escapement delta wide, it is a non-index stream.

[e] When the survey site is a terminal spawning area the peak count is used. However, if the site is a schooling area for migratory fish bound for sites further upstream, the estimate which minimizes duplicate counts across dates is selected.

[f] The sum of the estimates by site within a system.

APPENDIX B

Appendix B1.–Anticipated daily and cumulative salmon escapement versus actual escapement through the Coghill River weir, 2009.

	Sockeye Salmon					Pink Salmon		
	Actual		Projected		Below	Actual		
Date	Daily	Cumulative	Daily	Cumulative	Weir	Daily	Cumulative	Comments
6/05	NA	NA	1	1		NA	NA	
6/06	NA	NA	0	1		NA	NA	
6/07	NA	NA	2	3		NA	NA	
6/08	0	0	3	6		0	0	Weir fish tight 8:00 pm
6/09	0	0	2	8	NA	0	0	
6/10	0	0	7	16	5	0	0	
6/11	1	1	8	24	5	0	0	
6/12	4	5	39	63	10	0	0	
6/13	9	14	55	118	10	0	0	
6/14	13	27	38	156	5	0	0	
6/15	9	36	53	209	20	0	0	
6/16	13	49	91	300	30	0	0	
6/17	72	121	105	405	40	0	0	
6/18	83	204	149	554	80	0	0	
6/19	157	361	230	784	60	0	0	2 jacks
6/20	174	535	173	957	80	0	0	
6/21	296	831	209	1,166	100	0	0	water coming up
6/22	194	1,025	352	1,518	70	0	0	
6/23	116	1,141	309	1,827	0	0	0	water too high for below weir count
6/24	390	1,531	462	2,289	100	0	0	
6/25	673	2,204	350	2,639	50	0	0	
6/26	263	2,467	419	3,058	20	0	0	
6/27	755	3,222	398	3,455	300	0	0	
6/28	1,276	4,498	612	4,068	300	0	0	
6/29	838	5,336	724	4,791	300	0	0	
6/30	337	5,673	800	5,591	1,000	1	1	40 otolith / 31 scale samples
7/01	588	6,261	1,015	6,606	1,500	1	2	26 otolith / 103 scale samples
7/02	1,020	7,281	833	7,439	1,500	10	0	21 otolith/ 126 scale samples
7/03	1,198	8,479	818	8,257	1,000	21	21	34 otoliths/125 scale samples
7/04	440	8,919	1,152	9,409	1,000	18	39	7 otoliths
7/05	1,862	10,781	1,011	10,420	500	10	49	includes 1000 fish est. through weir hole
7/06	586	11,367	904	11,324	750	37	86	first ASL complete/ 3 chum
7/07	990	12,357	602	11,926	750	40	126	
7/08	398	12,755	731	12,657	500	164	290	
7/09	1,115	13,870	747	13,404	350	108	398	
7/10	487	14,357	710	14,113	250	15	413	1 chum, 1 king, start 2nd sample (13 asl)
7/11	144	14,501	940	15,054	200	42	455	
7/12	151	14,652	1,037	16,091	700	36	491	1 chum
7/13	400	15,052	983	17,074	850	99	590	4 chum
7/14	232	15,284	819	17,893	1,000	146	736	3 chum 368 ASL/44 otolith complete
7/15	159	15,443	586	18,480	1,200	47	783	1 chum need 55 asl/otolith

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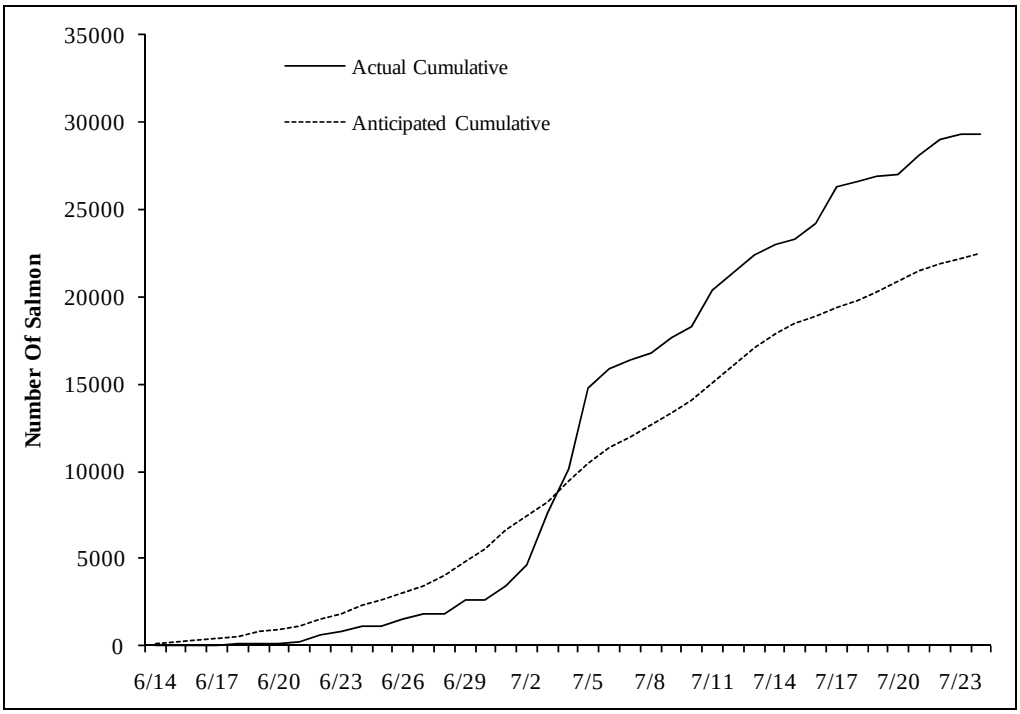
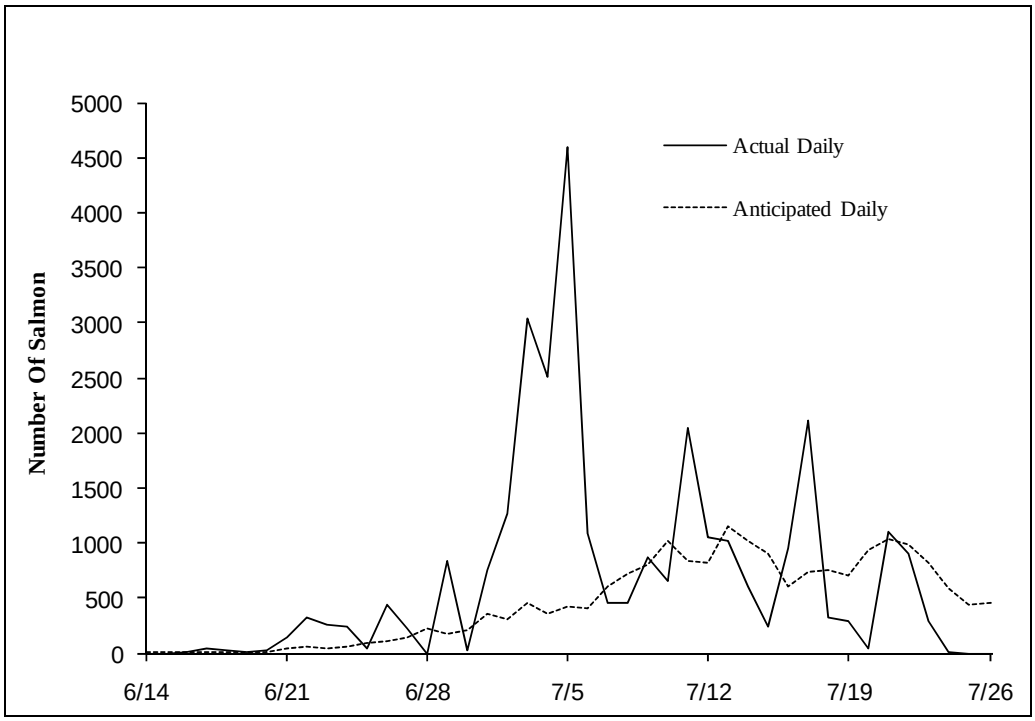
	Sockeye Salmon					Pink Salmon		
	Actual		Projected		Below	Actual		
Date	Daily	Cumulative	Daily	Cumulative	Weir	Daily	Cumulative	Comments
7/16	551	15,994	443	18,923	1,500	229	1,012	2 chum
7/17	882	16,876	447	19,370	1,500	740	1,752	1 chum need 38 asl/otolith
7/18	355	17,231	447	19,817	2,000	356	2,108	2nd ASL complete
7/19	627	17,858	455	20,272	1,000	837	2,945	1 chum
7/20	1,349	19,207	602	20,874	1,000	1,828	4,773	
7/21	86	19,293	606	21,480	1,000	211	4,984	begin 3rd ASL/85 sampled
7/22			91	21,571				pickets pulled for high water
7/23			107	21,678				weir washed out 5:00 am July 22
7/24			0	21,678				
7/25			222	21,900				
7/26			249	22,149				
7/27			0	22,149				
7/28			0	22,149				
7/29			93	22,242				
7/30			338	22,580				
7/31			116	22,696				





Appendix B2.–Anticipated cumulative and daily sockeye salmon escapement versus actual escapement through the Coghill River weir, 2009.

Appendix B3.–Salmon escapement by species in the Coghill District 1971–2009.

Year	Sockeye[a]	Pink[b]	Chum[b]
1971	15,000	62,160	6,600
1972	51,000	30,960	28,160
1973	55,000	493,780	72,610
1974	22,333	56,940	29,280
1975	34,855	452,430	3,640
1976	9,056	53,908	31,398
1977	31,562	320,680	79,957
1978	42,284	67,084	15,966
1979	48,281	125,544	7,823
1980	142,253	148,066	20,919
1981	156,112	140,436	2,389
1982	180,314	309,202	21,586
1983	38,783	284,164	55,127
1984	63,622	365,226	13,500
1985	163,311	238,728	14,514
1986	71,095	109,798	16,300
1987	187,263	67,761	22,472
1988	72,052	42,985	42,536
1989	37,751	48,802	22,434
1990	8,949	45,558	20,494
1991	9,752	84,790	7,055
1992	29,642	23,122	7,583
1993	9,232	41,666	7,404
1994	7,264	65,648	14,176
1995	30,382	46,029	11,596
1996	38,693	104,781	19,669
1997	35,517	52,961	3,101
1998	28,923	85,968	22,764
1999	59,311	168,816	5,057
2000	28,446	223,646	20,488
2001	38,558	148,665	13,388
2002	28,323	54,882	7,430
2003	75,427	375,147	19,729
2004	30,569	36,717	5,000
2005	30,313	528,264	11,979
2006	23,479	145,511	15,900
2007	70,001	197,405	14,052
2008	29,298	145,177	39,660
10-Year Average	41,373	202,423	15,268
2009	23,186	0	0

[a] Escapement count of sockeye salmon past the Coghill River weir.

[b] Pink and chum salmon escapements estimated for streams by aerial survey. Historical data revised in 1990.

Appendix B4.–Total Coghill District commercial common property salmon harvest by period in the drift gillnet fisheries, 2009.

						Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Emergency Orders Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01[a]	5/25-5/27	2-F-E-005-09	60	37	106	11	151	22	141	0	0	0	0	18,739	143,780
02[a]	5/28-5/31	2-F-E-007-09	84	32	92	5	67	24	157	0	0	0	0	12,769	99,093
03[b]	6/1-6/3	2-F-E-010-09	60	71	214	5	102	162	1,063	0	0	0	0	34,637	262,537
04[b]	6/4-6/7	2-F-E-013-09	84	101	373	15	218	1,110	7,461	0	0	0	0	57,086	434,222
05[c]	6/8-6/10	2-F-E-016-09	60	174	636	26	356	2,878	19,058	0	0	106	820	98,604	747,616
06[d]	6/11-6/14	2-F-E-018-09	84	227	955	18	223	6,270	43,191	0	0	97	745	155,258	1,159,407
07[e]	6/15-6/17	2-F-E-021-09	60	290	947	4	119	7,128	50,285	1	7	0	0	158,444	1,211,370
08[f]	6/18-6/21	2-F-E-025-09	84	230	919	8	84	9,392	64,853	1	8	0	0	197,741	1,545,908
09[g]	6/22-6/24	2-F-E-029-09	60	175	686	4	55	9,574	65,158	106	853	2	6	161,072	1,223,316
10[h]	6/25-6/28	2-F-E-035-09	84	115	287	1	9	4,418	28,691	0	0	33	227	44,556	348,851
11[i]	6/29-7/1	2-F-E-038-09	60	97	327	5	77	9,276	61,871	1	9	10	30	62,096	468,074
12[j]	7/2-7/5	2-F-E-043-09	84	146	429	36	293	11,508	73,274	6	44	15	54	64,835	475,172
13[k]	7/6-7/8	2-F-E-047-09	60	104	239	5	40	6,036	39,597	11	86	25	85	37,485	278,824
14[l]	7/9-7/11	2-F-E-053-09	60	140	429	7	243	7,325	48,458	26	195	180	738	71,415	546,968
15[m]	7/13-7/15	2-F-E-059-09	60	120	412	16	299	14,018	90,706	73	562	1,660	5,927	68,178	524,173
16[m]	7/16-7/19	2-F-E-064-09	84	101	327	5	73	10,820	70,724	113	887	4,605	16,566	43,588	338,603
17[n]	7/20-7/20	2-F-E-068-09	14	60	80	0	0	1,002	6,625	11	86	1,159	4,013	19,656	150,016
	7/21-7/21	2-F-E-067-09 and 2-F-E-068-09	14	19	22	0	0	280	1,754	0	0	148	535	6,107	44,848
	7/22-7/22	2-F-E-067-09 and 2-F-E-068-09	14	20	27	0	0	255	1,620	4	31	484	1,953	5,426	39,927
	7/23-7/23	2-F-E-069-09	14	14	17	0	0	76	486	13	95	519	1,861	2,200	17,054
	7/24-7/24	2-F-E-069-09	14	11	12	0	0	220	1,489	0	0	1,534	5,337	1,377	10,684
	7/25-7/25	2-F-E-069-09	14	13	13	0	0	166	1,104	0	0	1,707	6,216	1,419	10,536
	7/26-7/26	2-F-E-069-09	14	u	u	u	u	u	u	u	u	u	u	u	u
	8/11-8/11	2-F-E-084-09	14	45	63	0	0	255	1,677	156	1,168	37,971	131,715	184	1,299
	8/12-8/12	2-F-E-084-09	14	41	52	1	5	116	772	128	954	16,333	54,624	131	898
	8/13-8/13	2-F-E-089-09	14	19	24	0	0	180	1,108	81	580	9,025	29,627	65	474
	8/14-8/14	2-F-E-089-09	14	20	24	1	10	125	864	103	754	10,393	32,798	63	434
	8/15-8/15	2-F-E-090-09	14	19	24	1	9	111	693	75	510	11,293	35,897	31	206

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Period	Date	Emergency Orders Issued	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
	8/16-8/16	2-F-E-090-09	14	14	17	0	0	90	563	52	415	9,065	29,573	24	177
	8/17-8/17	2-F-E-093-09	14	26	40	0	0	109	709	175	1,186	23,332	82,913	38	250
	8/18-8/18	2-F-E-094-09	14	36	46	0	0	99	614	169	1,197	25,564	85,972	36	254
	8/19-8/19	2-F-E-094-09	14	22	39	0	0	58	373	137	989	19,309	62,944	34	260
	8/20-8/20	2-F-E-098-09	14	29	41	0	0	52	351	171	1,256	25,964	90,161	33	257
	8/21-8/21	2-F-E-098-09	14	36	43	0	0	35	246	246	1,809	15,097	54,715	29	211
	8/22-8/22	2-F-E-098-09 and 2-F-E-102-09	14	32	37	0	0	39	267	156	1,178	12,705	45,002	13	95
	8/23-8/23	2-F-E-102-09	14	13	14	0	0	17	109	88	698	5,285	17,505	9	65
	8/24-8/24	2-F-E-102-09	14	29	33	0	0	74	461	366	3,098	14,965	46,421	6	42
	8/25-8/25	2-F-E-104-09	12	37	42	0	0	56	348	509	3,669	11,594	40,035	10	71
	8/26-8/26	2-F-E-104-09	12	31	35	0	0	9	57	276	2,080	6,242	19,803	4	27
	8/27-8/27	2-F-E-107-09 and 2-F-E-109-09	12	11	16	0	0	5	30	217	1,621	2,620	8,091	2	13
	8/28-8/28	2-F-E-107-09 and 2-F-E-109-09	12	6	6	0	0	0	0	66	475	510	1,535	0	0
	8/29-8/29	2-F-E-107-09 and 2-F-E-109-09	12	15	15	0	0	0	0	414	2,900	1,998	7,722	0	0
	8/30-8/30	2-F-E-110-09	12	14	15	0	0	4	25	552	3,729	1,133	3,962	3	19
	8/31-8/31	2-F-E-110-09	12	19	20	0	0	9	57	450	3,367	998	3,005	3	24
	9/1-9/1	2-F-E-111-09	12	20	26	0	0	1	8	633	5,519	1,685	5,793	0	0
	9/2-9/2	2-F-E-111-09	12	14	14	0	0	0	0	326	2,242	518	2,027	0	0
	9/3-9/3	2-F-E-114-09	12	12	14	0	0	0	0	602	4,989	199	606	0	0
	9/4-9/4	2-F-E-114-09	12	14	16	0	0	0	0	798	7,178	170	510	0	0
	9/5-9/5	2-F-E-114-09	12	5	5	0	0	0	0	657	3,982	0	0	0	0
50c	9/7-9/8	2-F-E-116-09	24	u	u	u	u	u	u	u	u	u	u	u	u
51c	9/10-9/11	2-F-E-120-09	24	8	17	0	0	0	0	2,086	16,815	0	0	0	0
52a	9/14-9/15	2-F-E-123-09	24	19	37	0	0	0	0	7,174	60,770	0	0	0	0
53b	9/17-9/18	2-F-E-125-09	36	19	32	0	0	0	0	1,843	15,348	0	0	0	0
54t	9/21-9/22	2-F-E-127-09	36	6	6	0	0	0	0	91	869	0	0	0	0
55t	9/24-9/25	2-F-E-133-09	36	0	0	0	0	0	0	0	0	0	0	0	0
56t	9/28-9/30	2-F-E-135-09	60	0	0	0	0	0	0	0	0	0	0	0	0

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		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
57t	10/1-10/4	2-F-E-135-09	84	0	0	0	0	0	0	0	0	0	0	0	0
58t	10/5-10/7	2-F-E-137-09	60	0	0	0	0	0	0	0	0	0	0	0	0
59t	10/8-10/11	2-F-E-137-09	84	0	0	0	0	0	0	0	0	0	0	0	0
Total			2,034	377	8,366	174	2,433	103,415	687,168	19,168	154,250	276,925	940,091	1,323,728	10,088,471
Average Weight							13.98		6.64		8.05		3.39		7.62

* Confidential data less than 3 permit holders delivering

[a] Waters of the Coghill District, excluding the WNH SHA were open.

[b] Waters of the Coghill District including the WNH SHA were open.

[c] Waters of the Coghill District excluding the WNH SHA and THA were open.

[d] Waters of the Coghill District excluding the WNH SHA and THA were open for 48 hours; waters of the Coghill District excluding the Esther Subdistrict were open for 84 hours.

[e] Waters of the Coghill District excluding the WNH SHA and THA were open for 24 hours; waters of the Coghill District excluding the Esther Subdistrict were open for 60 hours.

[f] Waters of the Coghill District excluding the WNH SHA and THA were open for 12 hours; waters of the Coghill District excluding the Esther Subdistrict were open for 84 hours.

[g] Waters of the Coghill District excluding the Esther Subdistrict were open.

[h] Waters of the Coghill District north of the north end of Esther Passage (60° 55.81'N) were open for 84 hours, waters of the Coghill District east of a line from Pt. Pigot to Pt. Pakenham were open for 24 hours.

[i] Waters of the Coghill District north of the north end of Esther Passage (60° 55.81'N) and east of a line from Pt. Pigot to Pt. Pakenham were open for 60 hours, waters in the Coghill District east of a line from Pt. Pigot to Pt. Pakenham and north of Esther Rock (60° 48.08'N) were open 24 hours.

[j] Waters of the Coghill district north of the north end of Esther Passage (60° 55.81'N) and east of a line from Pt. Pigot to Pt. Pakenham were open for 84 hours, waters in the Coghill District east of a line from Pt. Pigot to Pt. Pakenham and north of Esther Rock (60° 48.08'N) were open for 24 hours.

[k] Waters of the Coghill District north of the north end of Esther Passage (60° 55.81'N) and east of a line from Pt. Pigot to Pt. Pakenham were open for 60 hours, waters in the Coghill District east of a line from Pt. Pigot to Pt. Pakenham and north of Esther Rock (60° 48.08'N) were open 12 hours.

[l] Waters of the Coghill District east of a line from Pt. Pigot to Pt. Pakenham excluding: waters within 1/2 mile of shore north of Pt. Pakenham on the west side of College Fjord, the Esther Subdistrict and the WNH SHA and THA, and waters of Port Wells South of Esther Rock.

[m] Waters of the Coghill District east of a line from Pt. Pigot to Pt. Pakenham excluding: waters within 1/2 mile of shore north of Pt. Pakenham on the west side of College Fjord, the WNH SHA and THA, and waters south of 60° 46.10'N.

[n] Waters of the Esther Subdistrict north of 60° 46.10'N and west of 147° 55.10'W including the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[o] Waters of the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[p] Waters of the Esther Subdistrict, excluding waters east of 147° 55.10'W, south of 60° 46.10'N, and west of the longitude of Hodgkins Pt. were open.

[q] Waters of the Esther Subdistrict, excluding waters east of 147° 55.10'W and south of 60° 46.10'N were open.

[r] Waters of the Esther Subdistrict and the WNH THA excluding waters east of 147° 55.10'W and south of 60° 46.10'N were open.

[s] Waters of the Esther Subdistrict excluding waters east of 147° 55.10'W and south of 60° 46.10'N, and including the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[t] Waters of the Coghill District were open.

[u] Confidential data less than 3 permit holders delivering.

Appendix B5.–Total Coghill District commercial common property salmon harvest by period in the purse seine fisheries, 2009.

						Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Emergency Orders Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
18[a]	7/21-7/21	2-F-E-067-09 and 2-F-E-068-09	14	6	6	0	0	190	1,199	1	8	1,983	10,736	1,327	11,084
19[a]	7/22-7/22	2-F-E-067-09 and 2-F-E-068-09	14	15	15	0	0	310	1,854	9	56	9,043	31,909	2,530	18,475
20[b]	7/23-7/23	2-F-E-069-09	14	7	8	0	0	108	468	0	0	5,669	16,320	621	4,955
21[b]	7/24-7/24	2-F-E-069-09	14	13	13	0	0	154	904	2	16	17,600	52,416	994	7,445
22[b]	7/25-7/25	2-F-E-069-09	14	12	14	0	0	129	818	1	6	18,612	65,479	615	4,669
23[b]	7/26-7/26	2-F-E-069-09	14	8	8	0	0	114	746	2	15	14,965	58,236	617	4,478
24[c]	8/11-8/11	2-F-E-084-09	14	7	7	0	0	36	242	12	94	68,669	204,863	40	298
25[c]	8/12-8/12	2-F-E-084-09	14	11	11	0	0	33	178	23	151	41,726	123,627	6,022	18,190
26[c]	8/13-8/13	2-F-E-089-09	14	10	10	0	0	57	352	29	188	36,705	114,586	18	142
27[c]	8/14-8/14	2-F-E-089-09	14	6	6	0	0	44	250	14	97	24,223	68,327	47	247
28[c]	8/15-8/15	2-F-E-090-09	14	7	7	0	0	56	333	42	307	40,264	121,667	33	203
29[d]	8/16-8/16	2-F-E-090-09	14	5	6	0	0	57	317	50	367	52,504	154,925	35	231
30[d]	8/17-8/17	2-F-E-093-09	14	6	6	0	0	15	99	7	59	82,486	230,652	7	54
31[e]	8/18-8/18	2-F-E-094-09	14	9	10	2	9	9	35	4	21	82,889	244,680	4	31
32[e]	8/19-8/19	2-F-E-094-09	14	11	11	0	0	16	105	17	130	97,261	259,018	2	18
33[f]	8/20-8/20	2-F-E-098-09	14	26	33	0	0	1	5	6	41	228,007	693,655	2	18
34[f]	8/21-8/21	2-F-E-098-09	14	20	21	0	0	2	15	74	427	53,984	162,971	2	12
35[f]	8/22-8/22	2-F-E-098-09 and 2-F-E-102-09	14	11	12	0	0	2	5	29	266	34,848	104,822	1	7
36[f]	8/23-8/23	2-F-E-102-09	14	t	t	t	t	t	t	t	t	t	t	t	t
37[f]	8/24-8/24	2-F-E-102-09	14	5	5	0	0	1	7	139	839	29,036	87,104	3	18
38[f]	8/25-8/25	2-F-E-104-09	12	6	6	1	14	2	10	186	1,000	26,479	79,442	5	34
39[f]	8/26-8/26	2-F-E-104-09	12	4	5	0	0	0	0	115	585	13,983	43,189	1	7
40[f]	08/27-08/27	2-F-E-107-09 and 2-F-E-109-09	12	4	4	0	0	0	0	135	777	8,089	25,875	0	0

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Period	Date	Emergency Orders Issued	Hours	Permits	Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
41[f]	8/28-8/28	2-F-E-107-09 and 2-F-E-109-09	12	3	3	0	0	0	0	96	542	8,838	25,915	0	0
42[f]	8/29-8/29	2-F-E-107-09 and 2-F-E-109-09	12	t	t	t	t	t	t	t	t	t	t	t	t
43[f]	8/30-8/30	2-F-E-110-09	12	4	4	0	0	0	0	357	2,084	6,554	18,193	0	0
44[f]	8/31-8/31	2-F-E-110-09	12	t	t	t	t	t	t	t	t	t	t	t	t
45[f]	9/1-9/1	2-F-E-111-09	12	t	t	t	t	t	t	t	t	t	t	t	t
46[f]	9/2-9/2	2-F-E-111-09	12	0	0	0	0	0	0	0	0	0	0	0	0
47[g]	9/3-9/3	2-F-E-114-09	12	0	0	0	0	0	0	0	0	0	0	0	0
48[g]	9/4-9/4	2-F-E-114-09	12	0	0	0	0	0	0	0	0	0	0	0	0
49[g]	9/5-9/5	2-F-E-114-09	12	0	0	0	0	0	0	0	0	0	0	0	0
Total			424	56	238	3	23	1,337	7,951	1,758	10,494	1,028,789	3,073,447	12,926	70,616
Average Weight							7.67		5.95		5.97		2.99		5.46

[a] Waters of the Esther Subdistrict north of 60° 46.10'N and west of 147° 55.10'W including the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[b] Waters of the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[c] Waters of the Esther Subdistrict, excluding waters east of 147° 55.10'W, south of 60° 46.10'N, and west of the longitude of Hodgkins Pt. were open.

[d] Waters of the Esther Subdistrict, excluding waters east of 147° 55.10'W and south of 60° 46.10'N were open.

[e] Waters of the Esther Subdistrict and the WNH THA excluding waters east of 147° 55.10'W and south of 60° 46.10'N were open.

[f] Waters of the Esther Subdistrict excluding waters east of 147° 55.10'W and south of 60° 46.10'N, and including the WNH THA and SHA to a line of buoys in front of the barrier seine were open.

[g] Confidential data less than 3 permit holders delivering.

Appendix B6.–Total commercial common property harvest by species in the Coghill District 1984–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift Gillnet			
1984	396	94,956	563	897,496	264,878	1,258,289
1985	380	339,296	1,131	454,531	246,824	1,042,162
1986	617	381,565	789	68,887	218,971	670,829
1987	352	377,454	13,396	712,897	318,842	1,422,941
1988	501	82,294	41,307	1,314,061	346,388	1,784,551
1989	364	106,114	80,737	628,522	194,584	1,010,321
1990	126	11,988	128,605	1,907,510	301,209	2,349,438
1991	92	3,888	78,363	231,501	34,223	348,067
1992	242	57,919	86,782	167,384	182,433	494,760
1993	576	66,532	37,898	141,279	635,208	881,493
1994	390	12,928	50,879	58,334	554,181	676,712
1995	468	57,797	29,343	161,493	379,659	628,760
1996	575	177,530	20,926	59,447	612,969	871,447
1997	862	227,231	5,618	154,969	689,977	1,078,657
1998	605	59,463	2,925	383,604	347,317	793,914
1999	401	106,028	1,114	32,408	689,210	829,161
2000	269	176,452	82,869	88,228	1,643,801	1,991,619
2001	216	87,539	3,185	308,707	1,142,449	1,542,096
2002	203	59,758	784	6,457	1,660,443	1,727,645
2003	114	161,872	9,900	44,419	726,431	942,736
2004	126	216,156	10,200	20,081	534,959	781,522
2005	115	94,748	52,416	72,110	880,967	1,100,356
2006	71	96,435	97,002	24,659	266,233	484,400
2007	89	173,430	60,982	65,407	858,179	1,158,087
2008	103	177,974	80,527	854,465	2,308,231	3,421,300
10-Year Average	171	135,039	39,898	151,694	1,071,090	1,397,892
2009	174	103,415	19,168	276,925	1,323,728	1,723,410
			Purse Seine			
1984	0	21	0	10,911	1,126	12,058
1985	85	10,757	112	69,242	19,330	99,526
1986	186	18,514	98	145,706	27,078	191,582
1987	58	38,899	1,956	865,671	59,252	965,836
1988	63	1,623	15,787	1,600,481	11,755	1,629,709
1989	61	2,030	39,484	3,296,965	124,639	3,463,179
1990	2	286	11,819	785,278	10,951	808,336
1991	11	1,562	621	1,980,074	11,519	1,993,787
1992	6	765	27,382	196,503	1,603	226,259
1993	46	6,250	1,760	352,468	3,645	364,169
1994	50	21,060	30,517	3,538,760	3,575	3,593,962
1995	33	20,670	5,337	917,200	2,597	945,837

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Appendix B6.–Part 2 of 2.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Purse Seine			
1996	1	2,640	5,319	1,484,422	463	1,492,845
1997	7	5,694	1,269	1,875,617	33,139	1,915,726
1998	20	1,702	1,531	2,845,157	21,600	2,870,010
1999	34	3,229	338	3,509,722	621,349	4,134,672
2000	1	2,984	31,991	3,271,314	1,338	3,307,628
2001	8	2,398	356	648,335	3,802	654,899
2002	5	2,068	2,431	1,271,180	794,794	2,070,478
2003	15	125,641	724	11,439,915	750,834	12,317,129
2004	2	195	133	23,609	386,042	409,981
2005	1	10,722	1,558	3,246,778	275,783	3,534,842
2006	9	5,944	16,995	1,348,377	297,576	1,668,901
2007	9	12,472	24,602	2,334,590	318,626	2,690,299
2008	14	551	36,831	6,585,095	9,358	6,631,849
10-Year Average	10	16,620	11,596	3,367,892	345,950	3,742,068
2009	3	1,337	1,758	1,028,789	12,926	1,044,813
			Combined Purse Seine and Drift Gillnet			
1984	396	94,977	563	908,407	266,004	1,270,347
1985	465	350,053	1,243	523,773	266,154	1,141,688
1986	803	400,079	887	214,593	246,049	862,411
1987	410	416,353	15,352	1,578,568	378,094	2,388,777
1988	564	83,917	57,094	2,914,542	358,143	3,414,260
1989	425	108,144	120,221	3,925,487	319,223	4,473,500
1990	128	12,274	140,424	2,692,788	312,160	3,157,774
1991	103	5,450	78,984	2,211,575	45,742	2,341,854
1992	248	58,684	114,164	363,887	184,036	721,019
1993	622	72,782	39,658	493,747	638,853	1,245,662
1994	440	33,988	81,396	3,597,094	557,756	4,270,674
1995	501	78,467	34,680	1,078,693	382,256	1,574,597
1996	576	180,170	26,245	1,543,869	613,432	2,364,292
1997	869	232,925	6,887	2,030,586	723,116	2,994,383
1998	625	61,165	4,456	3,228,761	368,917	3,663,924
1999	435	109,257	1,452	3,542,130	1,310,559	4,963,833
2000	270	179,436	114,860	3,359,542	1,645,139	5,299,247
2001	224	89,937	3,541	957,042	1,146,251	2,196,995
2002	208	61,826	3,215	1,277,637	2,455,237	3,798,123
2003	129	287,513	10,624	11,484,334	1,477,265	13,259,865
2004	128	216,351	10,333	43,690	921,001	1,191,503
2005	116	105,470	53,974	3,318,888	1,156,750	4,635,198
2006	80	102,379	113,997	1,373,036	563,809	2,153,301
2007	98	185,902	85,584	2,399,997	1,176,804	3,848,385
2008	117	178,525	117,358	7,439,560	2,317,589	10,053,149
10-Year Average	181	151,660	51,494	3,519,586	1,417,040	5,139,960
2009	177	104,752	20,926	1,305,714	1,336,654	2,768,223

Appendix B7.–Temporally stratified age and sex composition of sockeye salmon harvested in the Coghill District commercial common property drift gillnet and purse seine fisheries, 2009.

Strata Combined:	05/25 - 08/31	Brood Year and Age Class [b]			
Sampling dates:	06/23 - 06/23	2005	2004		
Sample size:	328	1.2	1.3	2.2	Total [a, b]
	Sample size				
Female	Percentage of sample	6.7	26.2	0.3	33.2
	Number in harvest	7,026	27,465	319	34,810
Male	Percentage of sample	13.4	52.4	0.9	66.8
	Number in harvest	14,052	54,929	958	69,939
Total	Percentage of sample	20.1	78.7	1.2	100.0
	Number in harvest	21,078	82,394	1,277	104,749
	Standard error	2,322	2,373	636	

[a] 39 fish were removed due to reabsorbed scales.

[b] Total harvest includes 1,337 fish from the purse seine fishery. All samples taken exclusively from the drift gillnet fishery.

Appendix B8.–Estimated age and sex composition of the sockeye salmon escapement through the weir on the outlet stream of Coghill Lake, 2009.

Strata Combined:	06/11 - 07/22	Brood Year and Age Class [a]									
Sampling dates:	06/30 - 07/21	2006	2005			2004		2003		2002	
Sample size:	899	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Female	Percentage of sample	0.0	0.0	1.0	0.0	60.1	0.4	0.0	1.0	0.1	63
	Number in escapement	0	0	190	0	11,599	68	0	190	26	12,073
Male	Percentage of sample	2.3	0.4	1.4	1.5	30.7	0.1	0.4	0.5	0.0	37
	Number in escapement	449	69	278	294	5,923	17	86	103	0	7,220
Total	Percentage of sample	2.3	0.4	2.4	1.5	90.8	0.4	0.4	1.5	0.1	100
	Number in escapement	449	69	468	294	17,521	86	86	293	26	19,293
	Standard error	99	41	105	82	191	38	44	80	26	

[a] Ages determined using length frequency data.

Appendix B9.–Total commercial common property salmon harvest by period in the Unakwik District drift gillnet and purse seine fisheries, 2009.

Period	Date [a]	Emergency Orders Issued	Hours	Permits	Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
							Drift Gillnet								
01	6/8-6/10	2-F-E-016-09	60	0	0	0	0	0	0	0	0	0	0	0	0
02	6/11-6/14	2-F-E-018-09	84	b	b	b	b	b	b	b	b	b	b	b	b
03	6/15-6/17	2-F-E-021-09	60	9	17	0	0	936	7,302	0	0	0	0	322	2,440
04	6/18-6/21	2-F-E-025-09	84	b	b	b	b	b	b	b	b	b	b	b	b
05	6/22-6/24	2-F-E-029-09	60	b	b	b	b	b	b	b	b	b	b	b	b
06	6/25-6/28	2-F-E-035-09	84	3	3	0	0	387	2,619	0	0	0	0	26	186
07	6/29-6/30	2-F-E-038-09	24	b	b	b	b	b	b	b	b	b	b	b	b
08[b]	7/2-7/3	2-F-E-043-09	24	0	0	0	0	0	0	0	0	0	0	0	0
09	7/6-7/7	2-F-E-047-09	24	b	b	b	b	b	b	b	b	b	b	b	b
10	7/9-7/10	2-F-E-053-09	24	0	0	0	0	0	0	0	0	0	0	0	0
Total			528	10	27	1	25	1,975	15,317	0	0	0	0	374	2,826
Average Weight							25.00		7.76		0.00		0.00		7.56
							Purse Seine								
01	6/8-6/10	2-F-E-016-09	60	0	0	0	0	0	0	0	0	0	0	0	0
02	6/11-6/14	2-F-E-018-09	84	0	0	0	0	0	0	0	0	0	0	0	0
03	6/15-6/17	2-F-E-021-09	60	0	0	0	0	0	0	0	0	0	0	0	0
04	6/18-6/21	2-F-E-025-09	84	b	b	b	b	b	b	b	b	b	b	b	b
05	6/22-6/24	2-F-E-029-09	60	b	b	b	b	b	b	b	b	b	b	b	b
06	6/25-6/28	2-F-E-035-09	84	b	b	b	b	b	b	b	b	b	b	b	b
07	6/29-6/30	2-F-E-038-09	24	b	b	b	b	b	b	b	b	b	b	b	b
08	7/2-7/3	2-F-E-043-09	24	0	0	0	0	0	0	0	0	0	0	0	0
09	7/6-7/7	2-F-E-047-09	24	0	0	0	0	0	0	0	0	0	0	0	0
10	7/9-7/10	2-F-E-053-09	24	0	0	0	0	0	0	0	0	0	0	0	0
Total			528	2	7	0	0	1,153	8,058	0	0	0	0	10	74
Average Weight							0.0		6.99		0.0		0.0		7.40

[a] All waters designated for commercial salmon fishing in the Unakwik District were open for all periods.
[b] Confidential data less than 3 permit holders delivering.

Appendix B10.–Total commercial common property salmon harvest by species in the Unakwik District, 1983–2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift Gillnet			
1983	3	13,215	0	1,515	1,426	16,159
1984	2	18,522	0	27,742	7,125	53,391
1985	26	27,532	22	9,191	3,942	40,713
1986	5	25,759	1	1,973	2,463	30,201
1987	2	5,894	1	4,871	1,356	12,124
1988	15	8,589	0	281	1,504	10,389
1989	31	21,412	27	41,820	404	63,694
1990	3	247	127	9,986	23	10,386
1991	13	4,482	11	12,299	118	16,923
1992	3	2,224	13	3,972	94	6,306
1993	5	14,691	4	3,338	978	19,016
1994	0	548	0	300	0	848
1995	8	2,116	0	1	36	2,161
1996	3	6,063	0	17	694	6,777
1997	3	3,411	0	0	177	3,591
1998	10	13,651	55	1,932	586	16,234
1999	4	8,544	5	0	296	8,849
2000	0	1,119	0	0	20	1,139
2001	3	2,298	2	4	44	2,351
2002	5	9,825	14	0	761	10,605
2003	0	2,163	0	0	0	2,163
2004	5	7,438	1	0	168	7,612
2005	6	23,027	27	1,540	858	25,458
2006	1	698	1	36	171	907
2007	1	15,146	0	0	222	15,369
2008	0	389	0	878	58	1,325
10-Year Average	3	7,065	5	246	260	7,578
2009	1	1,975	0	0	374	2,350
			Purse Seine			
1983	0	6	0	3,344	716	4,066
1984	0	0	0	0	0	0
1985	0	138	0	28,210	4,123	32,471
1986	0	76	0	4,718	4,675	9,469
1987	0	146	0	187,752	6,549	194,447
1988	0	667	7	57,844	23,860	82,378
1989	0	0	0	0	0	0
1990	0	0	0	0	0	0
1991	0	819	3	121,068	79	121,969
1992	0	42	2	13,264	119	13,427
1993	0	79	0	3,233	67	3,379
1994	0	226	102	388,901	73	389,302
1995	0	0	0	0	0	0
1996	0	0	0	0	0	0
1997	0	0	0	0	0	0
1998	0	0	0	0	0	0

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Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Purse Seine			
1999	1	386	0	0	2	389
2000	0	0	0	20,485	0	20,485
2001	0	0	0	0	0	0
2002	3	1,141	16	133	123	1,416
2003	0	1,017	0	2,261	20	3,298
2004	0	0	0	0	0	0
2005	0	80	0	81,858	0	81,938
2006	0	0	0	0	0	0
2007	0	547	0	0	4	551
2008	0	0	0	0	0	0
10-Year Average	0	317	2	10,474	15	10,808
2009	0	1,153	0	0	10	1,163
			Combined Gear			
1983	3	13,221	0	4,859	2,142	20,225
1984	2	18,522	0	27,742	7,125	53,391
1985	26	27,670	22	37,401	8,065	73,184
1986	5	25,835	1	6,691	7,138	39,670
1987	2	6,040	1	192,623	7,905	206,571
1988	15	9,256	0	58,125	25,364	92,760
1989	31	21,412	27	41,820	404	63,694
1990	3	247	127	9,986	23	10,386
1991	13	5,301	11	133,367	197	138,889
1992	3	2,266	13	17,236	213	19,731
1993	5	14,770	4	6,571	1,045	22,395
1994	0	774	0	389,201	73	390,048
1995	8	2,116	0	1	36	2,161
1996	3	6,063	0	17	694	6,777
1997	3	3,411	0	0	177	3,591
1998	10	13,651	55	1,932	586	16,234
1999	5	8,930	5	0	298	9,238
2000	0	1,119	0	20,485	20	21,624
2001	3	2,298	2	4	44	2,351
2002	8	10,966	14	133	884	12,005
2003	0	3,180	0	2,261	20	5,461
2004	5	7,438	1	0	168	7,612
2005	6	23,107	27	83,398	858	107,396
2006	1	698	1	36	171	907
2007	1	15,693	0	0	226	15,920
2008	0	389	0	878	58	1,325
10-Year Average	3	7,382	5	10,720	275	18,384
2009	1	3,128	0	0	384	3,513

Appendix B11.–Total Port Chalmers Subdistrict commercial common property salmon drift gillnet harvest by period, 2009.

		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1[a]	5/25-5/27	2-F-E-005-09	60	12	20	0	0	0	0	0	0	0	0	3,373	26,858
2[a]	5/28-5/31	2-F-E-007-09	84	6	7	0	0	0	0	0	0	0	0	1,436	12,277
3[a]	6/1-6/3	2-F-E-010-09	60	3	5	1	20	0	0	0	0	0	0	2,229	19,102
4[a]	6/4-6/7	2-F-E-013-09	84	19	33	8	159	2	7	0	0	0	0	5,457	44,238
5[a]	6/8-6/10	2-F-E-016-09	60	25	65	1	33	13	84	0	0	0	0	14,139	115,095
6[a]	6/11-6/14	2-F-E-018-09	84	44	91	5	86	23	173	0	0	0	0	11,535	95,342
7[a]	6/15-6/17	2-F-E-021-09	60	29	91	2	18	30	193	0	0	0	0	22,786	187,971
8[a]	6/18-6/21	2-F-E-025-09	84	43	160	5	76	65	430	0	0	0	0	56,834	453,357
9[a]	6/22-6/24	2-F-E-029-09	60	53	152	4	95	165	1,115	0	0	2	7	48,612	382,927
10[a]	6/25-6/28	2-F-E-035-09	84	63	281	14	179	330	2,006	3	20	24	104	111,206	895,516
11[a]	6/29-7/01	2-F-E-038-09	60	94	363	3	88	1,255	7,681	22	184	4,368	15,112	139,786	1,093,562
12[a]	7/2-7/5	2-F-E-043-09	84	130	450	10	144	6,512	43,614	304	2,335	20,113	76,042	101,096	788,727
13[a]	7/6-7/8	2-F-E-047-09	60	92	317	18	353	1,359	8,811	1,015	7,410	2,797	9,401	70,487	539,460
14[b]	7/9-7/12	2-F-E-053-09	84	53	170	6	103	225	1,492	30	221	408	1,352	39,543	296,154
15[b]	7/13-7/15	2-F-E-059-09	60	27	91	8	133	168	1,035	28	212	218	628	19,044	142,687
16[b]	7/16-7/19	2-F-E-064-09	84	17	77	1	18	55	334	38	260	352	1,069	16,565	126,009

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		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders Issued	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
17[b]	7/20-7/22	2-F-E-066-09	60	11	33	1	15	3	18	33	204	77	268	5,318	37,691
18[b]	7/23-7/26	2-F-E-072-09	84	8	27	0	0	3	18	2	15	941	2,906	3,472	25,174
19[b]	7/27-7/27	2-F-E-074-09	14	0	0	0	0	0	0	0	0	0	0	0	0
20[b]	7/29-7/29	2-F-E-074-09	14	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,324	202	2,433	87	1,520	10,208	67,011	1,475	10,861	29,300	106,889	672,918	5,282,147
Average Weight							17.47		6.56		7.36		3.65		7.85

[a] Waters of the Port Chalmers Subdistrict were open. The Pt. Chalmers Subdistrict consists of waters on the west side of Montague Island that are east of a line connecting the following points: 60°20.00' N., 147°26.59' W., 60°14.75' N., 147°35.35' W., 60°02.50' N., 147°44.41' W., Regulatory closed waters and anadromous stream closures within Port Chalmers were not in effect. Drift gillnet gear greater than 60 mesh in depth was permitted.

[b] Waters of the Port Chalmers Subdistrict east of a line from Graveyard Point 60° 20.00' N., 147° 13.25' W., to a point of land three miles south of Gilmour Point at 60°13.50' N., 147°18.00' W., was open.

Appendix B12.–Total commercial common property harvest by species in the Port Chalmers Subdistrict, 2004–2009.

Year	n-permits fished	gear type	Chinook	Sockeye	Coho	Pink	Chum	Total
2004	48	purse seine	120	887	522	102,352	342,968	446,849
2005	39	purse seine	210	1,965	103	718,044	238,503	958,825
2006	51	purse seine	185	1,808	28	144,417	445,762	592,200
2007	57	purse seine	671	5,507	40	492,435	740,554	1,239,207
2008	81	purse seine	88	10,225	23	216,013	1,233,909	1,460,258
5-Year Average			255	4,078	143	334,652	600,339	939,468
2009	207	drift gillnet	87	10,208	2,318	67,978	672,918	753,509

Note: Prior to 2004, the Port Chalmers Subdistrict (227-27) was part of the North Montague Subdistrict (227-20)

APPENDIX C

Appendix C1.–Anticipated daily and cumulative salmon escapement versus actual escapement past the Eshamy River weir, 2009.

	Sockeye salmon						Pink salmon[a]		Chum salmon		Coho salmon	
			Apportioned BEG (13,000 to 28,000)									
	Actual		Projected minimum		Projected maximum		Actual		Actual		Actual	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
7/06	NA	NA	38	460	83	991	NA	NA	NA	NA	NA	NA
7/07	NA	NA	31	492	68	1,059	NA	NA	NA	NA	NA	NA
7/08	NA	NA	53	545	114	1,173	NA	NA	NA	NA	NA	NA
7/09	NA	NA	39	584	84	1,258	NA	NA	NA	NA	NA	NA
7/10	0	0	50	634	108	1,365	0	0	0	0	0	0
7/11	0	0	64	698	137	1,502	0	0	0	0	0	0
7/12	0	0	50	747	107	1,609	0	0	0	0	0	0
7/13	0	0	54	802	117	1,726	0	0	0	0	0	0
7/14	0	0	67	868	143	1,870	0	0	0	0	0	0
7/15	0	0	66	934	143	2,012	0	0	0	0	0	0
7/16	2	2	95	1,029	204	2,216	0	0	0	0	0	0
7/17	0	2	80	1,108	171	2,387	0	0	0	0	0	0
7/18	0	2	69	1,178	149	2,536	0	0	0	0	0	0
7/19	3	5	67	1,244	144	2,680	0	0	16	16	0	0
7/20	163	168	57	1,301	123	2,803	0	0	90	106	0	0
7/21	12	180	105	1,406	225	3,028	0	0	8	114	0	0
7/22	60	240	102	1,508	219	3,247	0	0	23	137	0	0
7/23	91	331	104	1,611	223	3,471	0	0	37	174	0	0
7/24	5	336	152	1,763	327	3,798	0	0	3	177	0	0
7/25	2	338	185	1,948	398	4,196	1	1	0	177	0	0
7/26	45	383	212	2,160	456	4,652	2	3	12	189	0	0
7/27	260	643	184	2,343	395	5,047	51	54	36	225	0	0
7/28	759	1,402	155	2,498	334	5,381	13	67	19	244	0	0
7/29	1,069	2,471	112	2,611	242	5,623	6	73	16	260	0	0
7/30	894	3,365	242	2,853	521	6,145	4	77	4	264	0	0
7/31	744	4,109	144	2,997	311	6,456	3	80	4	268	0	0
8/01	580	4,689	66	3,063	142	6,597	5	85	11	279	0	0
8/02	896	5,585	151	3,214	325	6,923	2	87	1	280	0	0
8/03	851	6,436	144	3,358	310	7,232	6	93	12	292	0	0
8/04	107	6,543	194	3,552	417	7,650	1	94	1	293	0	0
8/05	36	6,579	165	3,717	356	8,005	0	94	2	295	0	0
8/06	2,614	9,193	202	3,919	435	8,441	39	133	37	332	0	0
8/07	803	9,996	237	4,156	511	8,951	8	141	10	342	0	0
8/08	0	9,996	289	4,445	623	9,574	4	145	0	342	0	0
8/09	408	10,404	300	4,745	646	10,220	9	154	7	349	0	0
8/10	295	10,699	364	5,109	784	11,003	22	176	6	355	0	0
8/11	1,583	12,282	296	5,405	638	11,641	40	216	18	373	2	2
8/12	1,426	13,708	347	5,752	748	12,389	41	257	26	399	2	4
8/13	35	13,743	347	6,099	747	13,137	10	267	4	403	0	4
8/14	708	14,451	440	6,539	948	14,085	37	304	2	405	2	6
8/15	2,402	16,853	391	6,931	843	14,927	328	632	9	414	5	11
8/16	292	17,145	431	7,362	929	15,856	101	733	0	414	0	11

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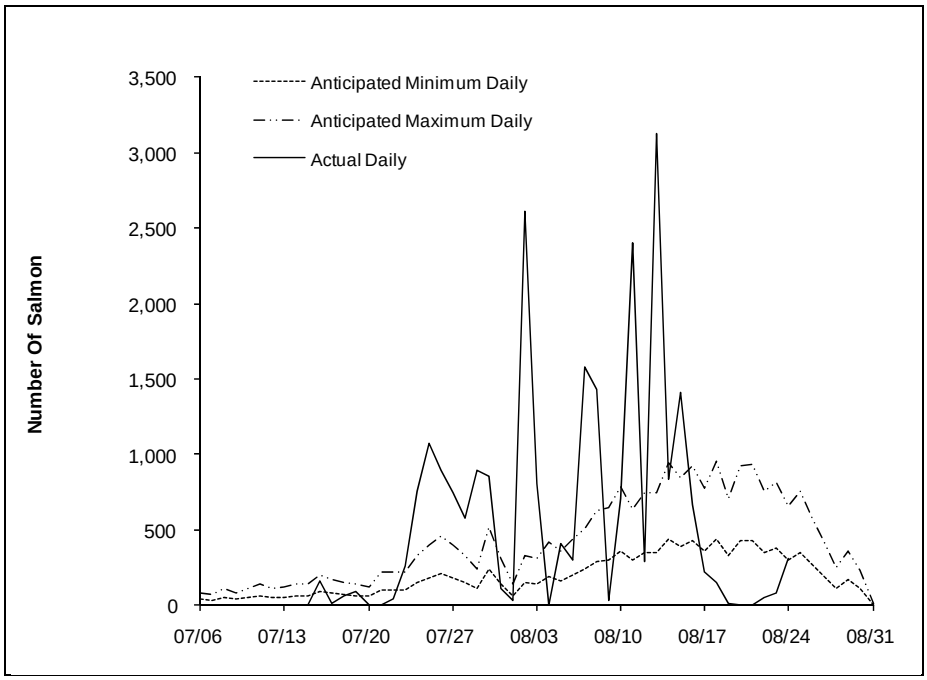
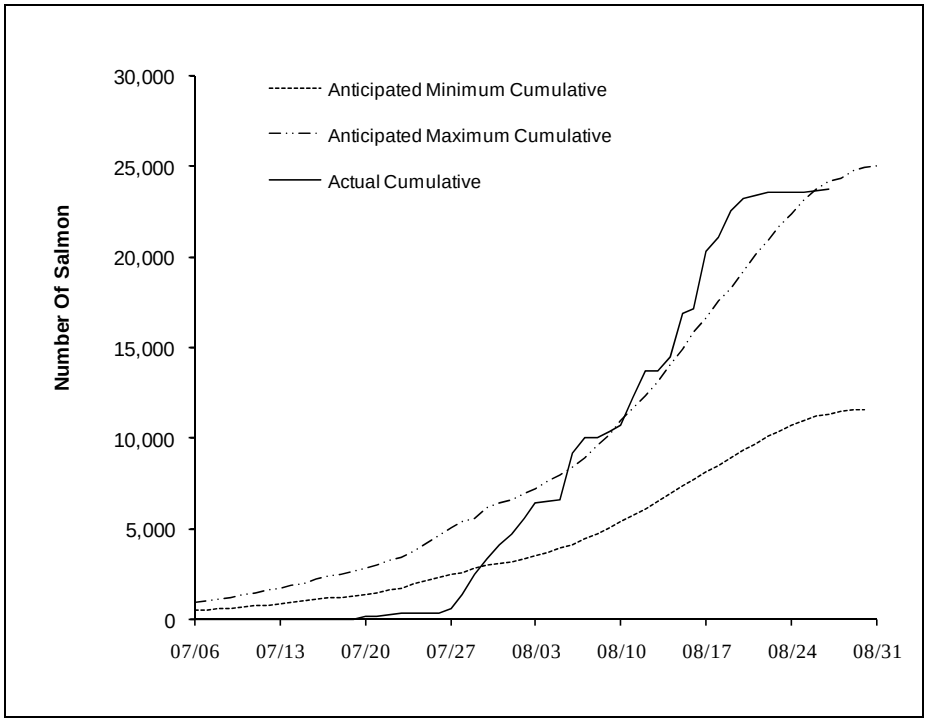
	Sockeye salmon						Pink salmon[a]		Chum salmon		Coho salmon	
			Apportioned BEG (13,000 to 28,000)									
	Actual		Projected minimum		Projected maximum		Actual		Actual		Actual	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
8/17	3,128	20,273	362	7,723	779	16,635	782	1,515	2	416	9	20
8/18	840	21,113	441	8,164	950	17,585	190	1,705	0	416	2	22
8/19	1,414	22,527	329	8,494	709	18,294	592	2,297	0	416	0	22
8/20	669	23,196	427	8,921	920	19,214	310	2,607	0	416	4	26
8/21	224	23,420	432	9,353	930	20,144	353	2,960	0	416	3	29
8/22	150	23,570	349	9,702	752	20,896	238	3,198	0	416	7	36
8/23	11	23,581	380	10,082	819	21,715	104	3,302	0	416	0	36
8/24	0	23,581	304	10,386	655	22,370	42	3,344	0	416	3	39
8/25	0	23,581	350	10,737	754	23,125	83	3,427	0	416	0	39
8/26	53	23,634	267	11,003	574	23,699	189	3,616	0	416	1	40
8/27	79	23,713	196	11,199	421	24,120	150	3,766	0	416	4	44
8/28	312	24,025	115	11,314	248	24,368	83	3,849	0	416	103	147
8/29			167	11,481	360	24,728						
8/30			109	11,590	235	24,963						
8/31			7	11,597	15	24,978						

[a] The weir is designed to prohibit passage of sockeye salmon, smaller pink salmon may pass through the weir uncounted.





Appendix C2.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the Eshamy River weir, 2009.

Appendix C3.–Salmon escapement by species past the Eshamy River weir 1967 to 2009.

Year		Chinook	Sockeye	Coho	Pink	Chum	Total
1967		0	10,821	192	10,433	1	21,447
1968		1	68,048	450	919	1	69,419
1969		0	61,196	96	3,095	2	64,389
1970		0	11,460	25	387	0	11,872
1971	[a]	0	954	97	3,179	0	4,230
1972	[b]	0	28,683	0	0	0	28,683
1973		0	10,202	205	1,698	0	12,105
1974	[b]	0	633	0	0	0	633
1975	[b]	0	1,724	0	0	0	1,724
1976	[b]	0	19,367	0	0	0	19,367
1977		0	11,746	230	32,080	0	44,056
1978		0	12,580	20	552	0	13,152
1979		0	12,169	5	3,654	1	15,829
1980		5	44,263	128	963	2	45,361
1981		1	23,048	249	5,956	13	29,267
1982		0	6,782	79	1,056	79	7,996
1983		0	10,348	40	7,047	4	17,439
1984		2	36,121	881	3,970	0	40,974
1985		0	26,178	96	6,271	0	32,545
1986		2	6,949	55	1,004	31	8,041
1987	[c]	0	0	0	0	0	
1988		2	31,747	48	1,205	1	33,003
1989		1	57,232	0	7,782	210	65,225
1990		0	14,477	43	2,209	5	16,734
1991		2	46,229	907	31,241	17	78,396
1992		1	36,237	52	3,004	5	39,299
1993		1	42,893	92	3,435	9	46,430
1994		1	64,660	1,184	12,061	87	77,993
1995		7	21,701	1,076	18,601	407	41,792
1996		2	5,271	108	7,959	9	13,349
1997		2	39,015	111	15,142	18	54,288
1998	[c]	0	0	0	0	0	
1999		1	27,057	194	32,756	3	60,011
2000		2	22,653	151	20,515	381	43,702
2001		0	55,187	335	21,027	176	76,725
2002		0	40,478	14	4,843	1,072	46,407
2003		2	39,845	N/A	2,440	335	42,622
2004		0	13,443	0	1,518	0	14,961
2005		1	23,523	46	11,024	529	35,123
2006		0	41,823	201	3,585	608	46,217
2007		0	16,646	831	29,409	243	46,673
2008		0	18,494	27	2,060	20	20,601
10-Year Average		1	29,915	200	12,918	337	43,370
2009		1	24,025	147	3,849	416	28,438

N/A= Count is not available

Note: For the breakdown of jacks versus adult sockeye salmon see specific year's daily escapement enumeration table.

[a] Estimate may be low due to holes in weir; actual escapement is estimated to be more than 3,000 sockeye salmon.

[b] Passage of salmon other than sockeye salmon was not recorded.

[c] The Eshamy River weir was not in operation.

Appendix C4.–Total drift gillnet common property salmon harvest by period in the Eshamy District, 2009.

		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01[a]	5/25-5/27	2-F-E-005-09	60	0	0	0	0	0	0	0	0	0	0	0	0
02[a]	5/28-5/31	2-F-E-007-09	84	o	o	o	o	o	o	o	o	o	o	o	o
03[a]	6/1-6/3	2-F-E-010-09	60	o	o	o	o	o	o	o	o	o	o	o	o
04[a]	6/4-6/7	2-F-E-013-09	84	0	0	0	0	0	0	0	0	0	0	0	0
05[b]	6/8-6/10	2-F-E-016-09	60	7	12	0	0	936	5,879	0	0	0	0	530	4,081
06[a]	6/11-6/14	2-F-E-018-09	84	53	149	9	94	7,888	49,046	0	0	0	0	8,751	66,963
07[b]	6/15-6/17	2-F-E-021-09	60	153	421	10	141	20,508	129,877	0	0	0	0	25,937	194,486
08[a]	6/18-6/21	2-F-E-025-09	84	125	489	5	89	42,656	286,958	1	8	2	8	35,626	273,456
09[b]	6/22-6/24	2-F-E-029-09	60	180	600	7	83	67,291	451,271	1	9	0	0	44,005	330,939
10[a]	6/25-6/28	2-F-E-035-09	84	268	1,236	9	126	151,271	1,013,306	32	292	32	137	74,054	555,041
11[c]	6/29-6/30	2-F-E-038-09	24	182	338	1	8	38,299	254,260	31	239	24	107	13,833	104,785
12[d]	7/2-7/2	2-F-E-043-09	12	127	191	8	64	22,975	154,770	8	50	106	352	11,735	88,055
13[e]	7/6-7/6	2-F-E-047-09	12	147	221	1	23	22,093	139,732	20	153	265	919	10,051	76,909
14[dn]	7/9-7/9	2-F-E-053-09	12	104	168	2	33	15,677	100,508	278	2,025	1,017	3,510	12,021	89,801
15[an]	7/13-7/15	2-F-E-059-09	60	151	547	5	160	52,947	319,067	393	2,685	8,445	30,385	31,267	232,357
16[f]	7/16-7/19	2-F-E-064-09	84	84	316	7	140	36,538	228,065	270	2,140	11,469	40,169	12,320	92,756
17[g]	7/20-7/22	2-F-E-066-09	60	51	139	2	30	19,066	119,317	80	586	9,419	35,588	5,728	43,017
18[h]	7/23-7/24	2-F-E-072-09	24	31	42	0	0	3,356	21,159	59	461	748	2,552	253	1,962
19[h]	7/27-7/28	2-F-E-074-09	24	35	54	1	8	5,462	32,804	11	97	1,029	3,617	41	325
20[i]	7/30-7/30	2-F-E-077-09	12	17	20	0	0	2,163	13,802	1	8	66	305	9	72
21[i]	8/3-8/3	2-F-E-079-09	12	14	20	0	0	2,010	12,049	23	192	550	1,986	26	195
22[j]	8/6-8/7	2-F-E-082-09	24	24	28	0	0	17,728	106,712	27	236	820	2,834	24	172
23[i]	8/10-8/11	2-F-E-086-09	24	o	o	o	o	o	o	o	o	o	o	o	o
24[k]	8/13-8/14	2-F-E-088-09	36	23	29	0	0	8,495	51,781	131	1,141	19,261	64,169	54	378
25[l]	8/17-8/18	2-F-E-092-09	24	18	24	0	0	884	5,906	171	1,579	13,827	46,463	14	101

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		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
26[k]	8/20-8/21	2-F-E-097-09	36	10	14	0	0	244	1,730	96	866	6,922	22,159	4	30
27[i]	8/24-8/25	2-F-E-100-09	24	o	o	o	o	o	o	o	o	o	o	o	o
28[m]	8/27-8/28	2-F-E-106-09	36	3	9	0	0	50	381	33	270	2,274	9,114	3	21
29[i]	8/31-9/1	2-F-E-108-09	24	0	0	0	0	0	0	0	0	0	0	0	0
30[m]	9/3-9/4	2-F-E-112-09	36	0	0	0	0	0	0	0	0	0	0	0	0
31[a]	9/7-9/8	2-F-E-116-09	24	0	0	0	0	0	0	0	0	0	0	0	0
32[b]	9/10-9/11	2-F-E-120-09	24	0	0	0	0	0	0	0	0	0	0	0	0
33[a]	9/14-9/15	2-F-E-123-09	24	0	0	0	0	0	0	0	0	0	0	0	0
34[m]	9/17-9/17	2-F-E-125-09	12	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,404	357	5,076	67	999	539,293	3,502,855	1,695	13,287	77,539	268,491	286,361	2,156,457
Average Weight							14.91		6.50		7.84		3.46		7.53

[a] Waters of the Eshamy District excluding the AGZ were open.

[b] Waters of the Eshamy District including the AGZ were open.

[c] Waters of the Eshamy District excluding the MBY SHA, THA and AGZ were open.

[d] Waters of the Eshamy District north of 60°34.25'N and south of 60°32.00'N were open. Deep gear was allowed.

[e] Waters of the Eshamy District north of 60°34.25'N and including Foul Bay, and south of 60°32.00'N were open.

[f] Waters of the Eshamy District excluding the AGZ were open. Anadromous stream closures were in effect.

[g] Waters of the Eshamy District north of Loomis Creek (60°29.44'N, 147°59.42'W) and excluding the AGZ were open.

[h] Waters of the Main Bay Subdistrict including the THA and SHA and excluding the AGZ were open.

[i] Waters of the Main Bay Hatchery THA and SHA were open, the AGZ was closed.

[j] Waters of the Main Bay Hatchery THA, SHA and AGZ are open. Additionally, waters of Eshamy Lagoon west of 148°00.70'W and east of 148° 04.64'W were open.

[k] Waters of the Main Bay Hatchery THA, SHA and AGZ were open. Additionally, waters of Eashmay Bay west of a line from 147°57.83'W, 60° 28.00'N to 147° 58.63'W, 60° 28.73'N were open.

[l] Waters of the Main Bay Hatchery THA and SHA were open. Additionally, waters of Eshamy Bay west of a line from 147° 57.83'W, 60° 28.00'N to 147° 58.63'W, 60° 28.73'N were open.

[m] Waters of the Main Bay Hatchery THA, SHA and AGZ were open.

[n] Anadromous stream closures in Main Bay Subdistrict were suspended.

[o] Confidential data less than 3 permits delivering.

Appendix C5.–Total set gillnet common property salmon harvest by period in the Eshamy District, 2009.

		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01[a]	5/25-5/27	2-F-E-005-09	60	0	0	0	0	0	0	0	0	0	0	0	0
02[a]	5/28-5/31	2-F-E-007-09	84	5	16	2	42	44	287	0	0	0	0	489	3,502
03[a]	6/1-6/3	2-F-E-010-09	60	11	33	5	103	446	2,867	0	0	0	0	1,004	7,230
04[a]	6/4-6/7	2-F-E-013-09	84	13	72	12	263	1,778	11,112	0	0	0	0	2,157	16,087
05[a]	6/8-6/10	2-F-E-016-09	60	16	94	12	202	4,799	30,569	0	0	0	0	2,872	21,256
06[b]	6/11-6/14	2-F-E-018-09	84	19	150	3	83	10,189	64,517	0	0	0	0	5,313	39,379
07[a]	6/15-6/17	2-F-E-021-09	60	21	118	1	8	9,584	59,890	0	0	0	0	4,469	32,537
08[b]	6/18-6/21	2-F-E-025-09	84	22	175	5	72	19,083	127,636	0	0	0	0	7,857	58,471
09[a]	6/22-6/24	2-F-E-029-09	60	23	128	3	42	14,482	95,018	0	0	0	0	5,529	38,853
10[c]	6/25-6/28	2-F-E-035-09	84	26	251	2	28	39,327	265,181	3	21	55	359	8,273	61,268
11[d]	6/29-6/30	2-F-E-038-09	24	23	75	0	0	11,661	76,965	0	0	50	203	2,535	19,131
12[e]	7/2-7/2	2-F-E-043-09	12	22	62	0	0	6,965	47,571	0	0	53	185	2,596	20,374
13[f]	7/6-7/6	2-F-E-047-09	12	22	70	0	0	8,677	55,402	0	0	78	306	1,679	12,924
14[eq]	7/9-7/9	2-F-E-053-09	12	23	68	0	0	7,624	50,454	9	69	172	826	1,596	11,970
15[aq]	7/13-7/14	2-F-E-059-09	24	23	84	0	0	9,759	61,009	6	56	753	3,052	3,126	24,295
16[ag]	7/16-7/16	2-F-E-064-09	12	15	38	2	20	3,608	23,669	11	89	553	2,382	917	7,561
17[hg]	7/20-7/21	2-F-E-066-09	24	7	13	0	0	1,073	7,846	6	49	373	1,561	275	2,142
18[ig]	7/23-7/23	2-F-E-072-09	12	4	4	0	0	226	1,464	0	0	5	26	6	50
19[ig]	7/27-7/28	2-F-E-074-09	24	6	18	0	0	1,496	9,812	1	10	113	671	28	234
20[jg]	7/30-7/30	2-F-E-077-09	12	4	9	0	0	741	4,950	0	0	9	48	12	96
21[jg]	8/3-8/3	2-F-E-079-09	12	r	r	r	r	r	r	r	r	r	r	r	r
22[kg]	8/6-8/7	2-F-E-082-09	24	r	r	r	r	r	r	r	r	r	r	r	r
23[ml]	8/10-8/11	2-F-E-086-09	24	0	0	0	0	0	0	0	0	0	0	0	0
24[n]	8/13-8/13	2-F-E-088-09	12	0	0	0	0	0	0	0	0	0	0	0	0
25[m]	8/17-8/18	2-F-E-092-09	24	0	0	0	0	0	0	0	0	0	0	0	0
26[o]	8/20-8/20	2-F-E-097-09	12	r	r	r	r	r	r	r	r	r	r	r	r
27[p]	8/24-8/25	2-F-E-100-09	24	r	r	r	r	r	r	r	r	r	r	r	r

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		Emergency				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Orders	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
28[j]	8/27-8/27	2-F-E-106-09	12	r	r	r	r	r	r	r	r	r	r	r	r
29[p]	8/31-9/1	2-F-E-108-09	24	0	0	0	0	0	0	0	0	0	0	0	0
30[o]	9/3-9/3	2-F-E-112-09	12	0	0	0	0	0	0	0	0	0	0	0	0
31[b]	9/7-9/8	2-F-E-116-09	24	0	0	0	0	0	0	0	0	0	0	0	0
32[a]	9/10-9/10	2-F-E-120-09	12	0	0	0	0	0	0	0	0	0	0	0	0
33[b]	9/14-9/15	2-F-E-123-09	24	0	0	0	0	0	0	0	0	0	0	0	0
34[a]	9/17-9/17	2-F-E-125-09	12	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,140	27	1,488	47	863	152,642	1,002,774	49	401	4,251	16,743	50,748	377,465
Average Weight							18.36		6.57		8.18		3.94		7.44

[a] Waters of the Eshamy District excluding the AGZ were open.

[b] Waters of the Eshamy District including the AGZ were open.

[c] Waters of the Eshamy District including the AGZ up to a line of buoys in front of the barrier seine.

[d] Waters of the Eshamy District excluding the MBY THA, SHA, and AGZ were open.

[e] Waters of the Eshamy District north of 60°34.25'N and south of 60°32.00'N were open.

[f] Waters of the Eshamy District north of 60°34.25'N and including Foul Bay and south of 60°32.00'N were open.

[g] Anadromous stream closures are in effect for Eshamy District.

[h] Waters of the Eshamy District north of Loomis Creek (60°29.44'N, 147°58.42'W) and excluding the AGZ were open.

[i] Waters of the Main Bay Hatchery Subdistrict including the THA and SHA and excluding the AGZ were open.

[j] Waters of the Main Bay Hatchery THA and SHA and excluding the AGZ were open.

[k] Waters of the Main Bay Hatchery THA, SHA are open. Additionally, waters of Eshamy Lagoon west of 148°00.70'W and east of 148°04.64'W were open.

[l] Anadromous Stream closures are in effect in Main Bay.

[m] Waters of the Main Bay Hatchery THA and SHA and AGZ were open. Additionally, waters in Eshamy Bay west of a line from 147°57.83'W, 60°28.00'N to 147°58.63'W, 60°28.73'W were open.

[n] Waters of the Main Bay Hatchery THA and SHA were open. Additionally, waters in Eshamy Bay west of a line from 147°57.83'W, 60°28.00'N to 147°58.63'W, 60°28.73'W were open.

[o] Waters of the Main Bay Hatchery THA and SHA were open. Additionally, waters in Eshamy Bay west of a line from 147°57.83'W, 60°28.00'N to 147°58.63'W, 60°28.73'W and waters of Eshamy Lagoon east of 148°03.00'W were open.

[p] Waters of the Main Bay Hatchery THA, SHA and AGZ were open.

[q] Anadromous stream closures in Main Bay Subdistrict have been suspended.

[r] Confidential data less than 3 permits delivering.

Appendix C6.–Total commercial common property harvest by species in the Eshamy District, 1980 to 2009.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift Gillnet			
1980	0	684	25	3,225	130	4,064
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	1	924	8	162,541	3,427	166,901
1984	7	23,490	282	247,326	15,451	286,556
1985	1	667	0	24,899	1,021	26,588
1986	0	4	1	938	65	1,008
1987	2	642	3	3,225	7,060	10,932
1988	94	50,868	794	348,873	206,060	606,689
1989 [a]	0	0	0	0	0	0
1990	110	12,967	574	165,362	264,772	443,785
1991	107	296,234	468	44,516	202,183	543,508
1992	158	373,596	1,017	153,018	50,974	578,763
1993	8	80,807	673	45,974	27,045	154,507
1994	2	61,848	623	254,535	9,497	326,505
1995	21	29,851	1,468	60,712	13,284	105,336
1996	19	179,064	1,056	19,043	23,552	222,734
1997	17	475,498	426	146,324	34,768	657,033
1998	2	98,002	252	101,068	343	199,667
1999	30	86,032	2,036	127,082	13,120	228,300
2000	634	235,085	5,396	375,250	27,511	643,876
2001	47	499,972	10,423	367,588	21,316	899,346
2002	428	589,199	3,532	122,365	104,284	819,808
2003	19	575,608	1,764	61,565	16,057	655,013
2004	21	215,460	1,467	55,832	43,228	316,008
2005	15	79,227	1,636	110,499	3,493	194,870
2006	15	381,911	5,429	89,755	30,841	507,951
2007	27	538,183	2,556	42,822	81,410	664,998
2008	48	560,869	1,930	103,325	251,493	917,665
10-Year Average	128	376,155	3,617	145,608	59,275	584,784
2009	67	539,293	1,695	77,539	286,361	904,955
			Set Gillnet			
1980	0	2,000	38	2,371	134	4,543
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	1	1,328	10	167,942	4,463	173,744
1984	5	23,226	98	278,176	3,000	304,505
1985	1	3,439	74	33,284	1,295	38,093

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Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Set Gillnet			
1986	9	1,043	86	42,123	5,764	49,025
1987	31	5,387	336	86,677	45,099	137,530
1988	100	18,321	283	180,456	93,577	292,737
1989 [a]	0	0	0	0	0	0
1990	56	10,204	532	369,589	94,494	474,875
1991	76	184,028	504	20,075	49,394	254,077
1992	101	144,568	1,242	390,097	4,695	540,703
1993	55	101,717	832	84,568	20,369	207,541
1994	9	97,664	628	311,134	6,908	416,343
1995	19	30,814	695	28,118	6,621	66,267
1996	13	132,268	309	16,648	9,276	158,514
1997	12	196,005	163	76,610	8,475	281,265
1998	1	25,533	91	33,916	214	59,755
1999	131	74,378	1,092	43,443	11,101	130,145
2000	41	101,105	662	139,008	12,319	253,135
2001	25	176,060	1,006	127,737	7,057	311,885
2002	30	241,660	525	64,421	22,987	329,623
2003	0	215,733	663	28,537	6,265	251,198
2004	11	91,412	825	51,655	10,381	154,284
2005	0	109,532	882	126,135	3,452	240,001
2006	9	124,087	352	20,863	9,883	155,194
2007	18	196,537	365	13,796	24,651	235,367
2008	18	162,403	151	20,455	53,627	236,654
10-Year Average	28	149,291	652	63,605	16,172	229,749
2009	47	152,642	49	4,251	50,748	207,737
			Combined Gear			
1980	0	2,684	63	5,596	264	8,607
1981	0	0	0	0	0	0
1982	0	0	0	0	0	0
1983	2	2,252	18	330,483	7,890	340,645
1984	12	46,716	380	525,502	18,451	591,061
1985	2	4,106	74	58,183	2,316	64,681
1986	9	1,047	87	43,061	5,829	50,033
1987	33	6,029	339	89,902	52,159	148,462
1988	194	69,189	1,077	529,329	299,637	899,426
1989 [a]	0	0	0	0	0	0
1990	166	23,171	1,106	534,951	359,266	918,660

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Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Combined Gear			
1991	183	480,262	972	64,591	251,577	797,585
1992	259	518,164	2,259	543,115	55,669	1,119,466
1993	63	182,524	1,505	130,542	47,414	362,048
1994	11	159,512	1,251	565,669	16,405	742,848
1995	40	60,665	2,163	88,830	19,905	171,603
1996	32	311,332	1,365	35,691	32,828	381,248
1997	29	671,503	589	222,934	43,243	938,298
1998	3	123,535	343	134,984	557	259,422
1999	161	160,410	3,128	170,525	24,221	358,445
2000	675	336,190	6,058	514,258	39,830	897,011
2001	72	676,032	11,429	495,325	28,373	1,211,231
2002	458	830,859	4,057	186,786	127,271	1,149,431
2003	19	791,341	2,427	90,102	22,322	906,211
2004	32	306,872	2,292	107,487	53,609	470,292
2005	15	188,759	2,518	236,634	6,945	434,871
2006	24	505,998	5,781	110,618	40,724	663,145
2007	45	734,720	2,921	56,618	106,061	900,365
2008	66	723,272	2,081	123,780	305,120	1,154,319
10-Year Average	157	525,445	4,269	209,213	75,448	814,532
2009	114	691,935	1,744	81,790	337,109	1,112,692

[a] Fishing was closed because of oil contamination on the beaches.

Appendix C7.–Estimated age and sex composition of sockeye salmon harvested in the Eshamy District commercial gillnet fishery, 2009.

Strata Combined:	05/25 - 08/31	Brood Year and Age Class [a]					
Sampling dates:	06/19 - 06/29	2005	2004		2003		
Sample size:	816	1.2	1.3	2.2	1.4	2.3	Total
Female	Percentage of sample	25.1	23.2	0.1	0.0	0.1	48.5
	Number in harvest	173,968	160,437	712	0	712	335,829
Male	Percentage of sample	22.6	28.6	0.0	0.1	0.0	51.3
	Number in harvest	156,164	198,060	0	712	0	354,936
Total	Percentage of sample	47.9	51.8	0.1	0.1	0.1	100.0
	Number in harvest	331,170	358,497	712	712	712	691,803
	Standard error	12,223	12,234	712	712	712	

[a] Fish with reabsorbed scales were removed; Strata 1 had 79, strata 2 had 90.

Appendix C8.–Estimated age and sex composition of the sockeye salmon escapement through the Eshamy River weir, 2009.

Strata Combined:	07/10 - 08/28		Brood Year and Age Class [a]					
Sampling dates:	07/31 - 08/28		2006	2005	2004		2003	
Sample size:	1,435		1.1	1.2	1.3	2.2	2.3	Total
Female	Percentage of sample		0.0	32.6	12.7	3.8	2.1	51.3
	Number in escapement		0	7,842	3,048	913	514	12,317
Male	Percentage of sample		0.1	35.6	7.4	3.7	1.9	48.7
	Number in escapement		14	8,547	1,782	899	466	11,708
Total	Percentage of sample		0.1	68.2	20.1	7.5	4.1	100.0
	Number in escapement		14	16,389	4,830	1,812	980	24,025
	Standard error		14	303	263	169	126	

[a] Ages determined using length frequency data.

APPENDIX D

Appendix D1.–Prince William Sound commercial common property purse seine harvest by day, 2009.

			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
5/27	2	2	0	0	0	0	0	0	0	0	393	3,167
6/4	1	1	0	0	0	0	0	0	0	0	358	2,870
6/5	2	2	0	0	0	0	0	0	0	0	1,197	9,699
6/6	5	6	0	0	0	0	0	0	0	0	2,823	23,202
6/7	5	5	0	0	1	6	0	0	0	0	1,142	8,975
6/8	3	3	0	0	0	0	0	0	0	0	824	6,511
6/9	7	7	0	0	0	0	0	0	0	0	2,954	25,128
6/10	6	7	0	0	8	49	0	0	0	0	2,115	15,477
6/11	5	5	0	0	0	0	0	0	0	0	1,563	14,147
6/12	6	7	0	0	106	660	0	0	0	0	1,576	12,063
6/13	6	6	0	0	82	386	0	0	0	0	5,189	44,962
6/14	13	14	0	0	366	1,927	0	0	0	0	8,013	64,816
6/15	4	4	1	12	290	1,788	0	0	0	0	2,655	23,889
6/16	17	17	0	0	1,075	7,393	0	0	0	0	13,287	112,500
6/17	17	17	2	20	768	5,068	0	0	0	0	7,363	60,677
6/18	12	12	2	49	1,397	9,428	0	0	1	4	3,411	25,739
6/19	18	18	1	5	2,682	19,214	0	0	0	0	10,377	89,147
6/20	14	15	2	48	1,447	8,931	0	0	4	16	7,354	59,359
6/21	17	17	0	0	1,437	10,070	0	0	0	0	6,973	60,647
6/22	16	17	1	7	2,094	12,926	0	0	9	32	12,829	100,484
6/23	10	10	0	0	891	6,033	0	0	2	6	7,477	66,228
6/24	23	23	0	0	2,495	13,247	0	0	38	113	10,748	93,748
6/25	5	5	1	33	1,081	5,921	0	0	34	89	3,425	27,551
6/26	20	21	1	19	4,317	28,862	0	0	13	31	14,876	110,064
6/27	7	9	1	16	1,962	10,378	4	30	156	477	3,686	24,465
6/28	24	24	0	0	4,502	29,471	0	0	152	525	13,711	113,343
6/29	5	6	0	0	1,111	6,872	0	0	424	1,275	2,560	23,032
6/30	23	23	0	0	3,469	21,551	0	0	838	2,679	12,411	104,191
7/2	31	31	0	0	8,225	47,109	8	76	1,276	3,644	16,939	140,116
7/3	1	1	0	0	493	3,058	0	0	10	31	105	821
7/4	37	38	1	67	4,289	26,705	52	495	978	3,011	12,316	102,572

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			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
7/6	14	14	0	0	335	1,961	24	140	183	574	3,634	29,748
7/7	16	17	0	0	1,599	9,623	27	182	167	470	6,233	53,229
7/8	12	13	0	0	982	6,590	54	415	145	427	2,686	20,869
7/9	7	7	0	0	1,867	11,175	38	361	397	1,298	2,028	16,690
7/10	16	17	2	39	2,958	19,603	148	1,510	906	3,434	6,559	56,049
7/11	2	2	0	0	382	2,398	11	80	130	476	766	5,948
7/12	17	19	2	43	6,501	42,825	155	1,215	1,876	6,365	8,463	69,064
7/13	4	4	0	0	275	1,709	11	86	162	502	1,026	7,543
7/14	11	11	0	0	1,691	11,200	57	534	817	3,334	3,134	27,579
7/15	12	12	1	26	1,565	11,325	199	1,385	1,506	4,808	2,254	17,425
7/16	12	12	1	10	683	4,859	22	163	336	1,026	766	6,186
7/17	8	8	1	52	1,110	6,092	64	494	1,598	5,053	957	7,561
7/19	2	2	0	0	711	4,274	19	186	3,442	10,330	736	5,890
7/20	2	2	0	0	694	4,169	1	9	5,643	16,930	849	6,801
7/21	9	9	0	0	226	1,417	1	8	2,256	11,815	3,921	31,369
7/22	19	19	1	17	804	4,833	22	181	28,503	90,293	3,820	28,813
7/23	14	16	0	0	1,133	7,197	0	0	46,898	144,813	1,360	10,758
7/24	13	13	0	0	154	904	2	16	17,600	52,416	994	7,445
7/25	12	14	0	0	129	818	1	6	18,612	65,479	615	4,669
7/26	31	31	0	0	437	2,721	4	25	148,438	468,406	1,215	9,116
7/28	4	4	0	0	543	3,325	0	0	8,047	24,611	49	316
8/11	128	166	4	91	266	1,464	578	4,562	1,540,626	4,745,079	13,078	41,336
8/12	114	122	0	0	61	337	103	723	550,116	1,701,809	6,840	24,243
8/13	125	131	0	0	140	787	425	3,854	562,031	1,690,978	1,884	14,289
8/14	124	137	0	0	143	801	765	6,615	474,727	1,443,539	3,963	30,006
8/15	92	99	0	0	74	452	277	2,238	420,439	1,308,543	412	3,320
8/16	130	182	0	0	202	1,239	739	5,875	1,695,101	5,116,646	409	3153
8/17	74	79	0	0	44	297	61	481	323,754	976,255	19	152
8/18	130	161	2	9	76	433	284	2,591	1,414,117	4,321,502	120	926
8/19	107	121	0	0	40	250	29	216	799,061	2,383,599	7	50

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			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
8/20	99	111	0	0	3	18	19	124	457,078	1,387,929	3	25
8/21	89	92	0	0	2	15	86	524	263,969	825,371	2	12
8/22	80	86	0	0	4	16	31	279	229,673	692,578	2	14
8/23	98	110	0	0	42	264	408	3,935	802,326	2,502,710	1	8
8/24	63	68	0	0	2	12	506	4,326	238,372	700,343	6	40
8/25	51	52	1	14	4	20	337	2,342	127,524	386,798	5	34
8/26	41	44	0	0	1	6	144	815	96,327	289,793	1	7
8/27	33	34	0	0	0	0	136	785	126,619	385,977	0	0
8/28	16	16	0	0	0	0	97	545	46,322	139,439	0	0
8/29	26	27	0	0	1	7	205	1,204	110,632	333,513	0	0
8/30	14	14	0	0	0	0	357	2,084	28,056	82,404	0	0
8/31	16	16	0	0	0	0	166	1,067	50,512	152,950	3	18
9/01	6	6	0	0	0	0	60	323	17,778	53,343	0	0
9/02	6	6	0	0	1	6	0	0	10,125	30,380	0	0
9/03	3	3	0	0	0	0	2	16	3,013	9,042	0	0
9/09	1	2	0	0	0	0	0	0	80,187	270,618	0	0
9/10	1	1	0	0	0	0	0	0	5,862	17,586	0	0
Total	154	2,505	28	577	70,473	442,495	6,739	53,121	10,765,944	32,873,517	269,470	2,110,291
Average Weight				20.61		6.28		7.88		3.05		7.83

Appendix D2.–Area E commercial salmon harvest by species, excluding Copper River and Bering River Districts, 1971–2009.

Year[a]	Chinook	Sockeye	Coho	Pink	Chum	Total
1971	3,551	88,368	30,551	7,310,964	574,265	8,007,699
1972[b]	547	197,526	1,634	54,783	45,370	299,860
1973	2,405	124,802	1,399	2,056,878	729,839	2,915,323
1974[b]	1,590	129,366	801	448,773	88,544	669,074
1975	2,519	189,613	6,142	4,452,805	100,479	4,751,558
1976	1,044	112,809	6,171	3,018,991	370,478	3,509,493
1977	648	310,358	843	4,513,082	572,610	5,397,541
1978	1,042	222,083	1,495	2,913,721	485,147	3,623,488
1979	2,015	150,040	6,843	15,607,620	326,414	16,092,932
1980	189	189,816	2,952	14,157,057	482,016	14,832,030
1981	404	251,222	4,383	20,524,470	1,878,716	22,659,195
1982	255	1,055,099	24,362	20,396,222	1,335,368	22,811,306
1983	1,048	92,111	10,496	14,038,796	1,041,309	15,183,760
1984	489	311,955	12,420	22,086,806	1,201,842	23,613,512
1985	1,104	493,278	19,753	25,056,663	1,280,093	26,850,891
1986	1,330	488,715	12,277	11,407,271	1,683,049	13,592,642
1987	874	540,109	47,751	29,198,507	1,904,494	31,691,735
1988	1,037	183,572	75,709	11,817,323	1,832,114	13,909,755
1989	1,113	140,090	203,574	21,860,582	995,962	23,201,321
1990	447	58,497	234,525	44,163,479	959,838	45,416,786
1991	445	507,815	145,311	37,134,311	331,906	38,119,788
1992	1,475	780,932	202,311	8,635,448	328,568	9,948,734
1993	2,148	418,948	48,310	5,761,436	1,173,341	7,404,183
1994	1,376	334,183	121,518	36,874,188	1,039,095	38,370,360
1995	1,364	230,057	140,314	16,045,396	702,216	17,119,347
1996	700	606,525	172,448	26,036,570	2,077,996	28,894,239
1997	1,186	1,197,776	64,360	25,828,078	2,224,725	29,316,125
1998	2,013	365,591	74,105	28,664,281	1,266,887	30,372,877
1999	1,055	339,037	81,841	44,993,247	2,963,838	48,379,018
2000	1,133	548,790	353,013	38,875,724	5,158,397	44,937,057
2001	861	932,070	239,947	35,237,137	3,097,005	39,507,020
2002	958	1,013,396	37,586	18,947,254	6,341,864	26,341,058
2003	256	1,519,598	98,947	51,962,716	3,793,499	57,375,016
2004	864	831,356	56,430	23,526,306	1,998,511	26,413,467
2005	1,217	579,643	230,180	59,852,105	1,993,427	62,656,572
2006	1,118	990,880	388,722	21,691,138	2,164,338	25,236,196
2007	873	1,310,694	202,153	63,383,923	3,569,283	68,466,926
2008	962	979,077	307,837	42,352,208	5,074,804	48,714,888
2009	404	1,011,990	46,580	18,565,070	3,212,148	22,836,192
Ten year average	865	971,749	196,140	37,439,358	3,640,328	42,248,439

[a] Includes purse seine, drift gillnet, and set gillnet harvests. Also includes hatchery sales harvests, personal use, confiscated fish, donated and discarded fish, the surimi study fish, and special use educational permit harvests.

[b] General purse seine season closed.

Appendix D3.–PWS commercial common property pink salmon harvest for all gear types, by district, 1975–2009.

Year	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total[a]
1975	712,328	171,657	303,597	420,891		1,673,887	118,467	875,456	4,276,283
1976	1,380,943	384,267	217,696	207,190		589,458		82,366	2,861,920
1977	1,673,044	147,964	230,215	208,727		930,469	77,104	824,374	4,091,897
1978	1,516,076	933,013	13,059					216,696	2,678,844
1979	4,500,032	115,886	38,560	59,423		5,111,073	1,347,413	4,160,925	15,333,312
1980	3,140,134	1,271,177	134,876	306,109		7,507,776	950	1,271,389	13,632,411
1981	4,797,583	1,194,621	34,155	46,874		10,371,220	278,879	3,221,268	19,944,600
1982	2,959,601	2,331,903	1,000,524	520,972	3,997	10,801,771	6,444	747,116	18,372,328
1983	2,430,063	1,021,345	273,131	714,522		5,957,068	158,241	1,482,013	12,036,383
1984	4,525,029	2,194,904	996,483	1,412,822	544,082	10,197,349	11,587	1,245,042	21,127,298
1985	6,715,143	1,002,872	523,773	527,132	58,183	10,843,752	1,448,809	2,733,562	23,853,226
1986	2,488,540	944,871	214,593	285,184	43,061	6,374,535		147,268	10,498,052
1987	6,964,549	2,419,611	1,578,568	750,877	89,902	13,341,940	111,011	955,988	26,212,446
1988	481,324	286,743	2,932,072	7,738	529,329	5,411,424		1,776	9,650,406
1989	3,151,096	6,464,090	3,925,487	181,565	[b]	[b]	[b]	73,177	13,795,415
1990	7,970,364	5,482,585	2,692,788	891,444	534,951	17,811,479	10,658	12,325	35,406,594
1991	2,617,222	4,150,612	2,211,575		64,591	17,849,425			26,893,425
1992	489,228	1,142,061	363,887		543,115	3,039,775			5,578,066
1993		413,308	493,747		130,542	2,475,798			3,513,395
1994	11,554,320	7,171,038	3,597,094		565,669	3,408,093			26,296,214
1995	4,235,638	3,656,119	1,078,693		88,830	1,707,745	18,239	11,418	10,796,682
1996	6,059,063	5,039,988	1,543,869		35,691	5,046,919			17,725,530
1997 [c]	4,534,365	3,162,822	2,030,586		222,934	5,929,544	65,107	28,040	15,973,398
1998 [c]	2,231,061	5,035,736	3,228,761		134,984	8,425,853	430,525	350,081	19,837,001
1999	12,305,629	4,981,085	3,542,130		170,525	9,511,998	189,641	914,907	31,615,915
2000	9,819,466	4,093,620	3,359,542	17,223	514,258	9,308,399	87,634	549,763	27,749,905
2001	16,050,235	404,899	957,042		495,325	3,072,848	807,010	534,538	22,321,897
2002	355,964	594,245	1,277,637		186,786	5,710,938	32,857	1,075	8,159,502
2003	14,945,744	5,909,643	11,439,915		90,102	5,789,419	60,287	514,452	38,749,562
2004	9,512,987	45,355	43,690		107,487	1,628,219	102,352	260,992	11,701,082
2005	20,516,356	10,175,784	3,318,875		236,634	11,376,513	844,658	770,570	47,239,390
2006	5,712,890	1,331,740	1,373,036		110,618	3,269,037	144,417	21,805	11,963,543
2007	22,059,138	6,221,016	2,399,997		56,618	17,907,847	878,371	1,869,245	51,392,232
2008	11,008,956	8,589,490	10,053,149	0	1,154,319	8,134,915	1,460,258	0	40,401,087
2009	95,071	2,064,871	1,305,714		81,790	7,481,863	87,952	36,698	11,153,959
Ten year average	11,007,681	3,943,066	3,552,860	8,612	303,394	7,368,000	450,580	455,914	27,083,216

[a] Includes purse seine, drift gillnet, and set gillnet harvests from all Prince William Sound districts; Unakwik harvests are included in the Northern District. Does not include hatchery cost recovery, confiscated, or test fish harvests.

[b] These districts were closed due to the Exxon Valdez oil spill.

[c] Eastern and Northern District totals exclude discarded salmon.

Appendix D4.–Aerial escapement indices for pink and chum salmon by district, Prince William Sound, 2009.

Pink Salmon						
District	Escapement Midpoint	Odd Cycle Escapement Goal Range			1977-2009 Mean Index	Observed Escapement Index [a]	Deviation From Midpoint
Eastern	567,500	355,000	-	780,000	543,196	454,960	-19.8%
Northern/Unakwik	172,500	110,000	-	235,000	172,666	119,747	-30.6%
Coghill	200,000	125,000	-	275,000	176,221	125,907	-37.0%
Northwestern	105,000	65,000	-	145,000	113,294	127,261	21.2%
Eshamy	7,500	5,000	-	10,000	7,549	9,790	30.5%
Southwestern	162,500	100,000	-	225,000	162,828	239,357	47.3%
Montague	250,000	155,000	-	345,000	269,866	263,770	5.5%
Southeastern	535,000	335,000	-	735,000	574,554	488,831	-8.6%
Total	2,000,000				2,020,175	1,829,623	-8.5%

Chum Salmon				
District	Escapement Range [b]		1976-2008 Mean Index	Observed Escapement Index [a]	Deviation From Lower Range
Eastern	50,000	and up	106,516	84,636	69.3%
Northern/Unakwik	20,000	and up	39,215	18,578	-7.1%
Coghill	8,000	and up	18,922	5,208	-34.9%
Northwestern	5,000	and up	14,504	14,146	182.9%
Eshamy	None		86	69	NA
Southwestern [c]	None		3,141	9,917	NA
Montague [c]	None		5,114	17,733	NA
Southeastern	8,000	and up	30,086	86,528	981.6%
Total[d]	91,000	and up	209,242	209,096	129.8%

[a] Based on weekly aerial survey counts of 215 index spawning streams in Prince William Sound. This does not represent the total spawning escapement but rather a comparable annual index.

[b] Escapement goal changed to a lower range value with no upper end after the 2005 escapement goal review.

[c] Escapement goal removed in 2003 after review.

[d] Totals exclude districts without escapement goals (Eshamy, Southwestern, and Montague districts).

Appendix D5.–Pink salmon escapement indices by district, 1965–2009.

Year	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total
	Escapement Indices								
1965	257,853	59,820	91,584	159,011	9,340	65,380	77,042	255,926	975,956
1966	544,980	288,710	135,440	79,960	11,720	115,570	42,220	204,570	1,423,170
1967	255,240	144,200	65,240	82,980	5,020	42,950	10,020	236,610	842,260
1968	364,930	151,120	108,020	117,430	10,770	172,770	52,350	179,120	1,156,510
1969	160,600	94,770	39,020	23,830	0	57,890	1,550	26,910	404,570
1970	387,090	125,360	95,170	82,660	7,610	66,790	73,880	140,660	979,220
1971	352,800	126,210	62,160	14,320	1,710	79,140	296,730	179,480	1,112,550
1972	344,470	83,900	30,960	39,020	1,100	29,530	33,140	79,060	641,180
1973	309,040	69,660	493,780	2,910	0	52,320	119,520	177,780	1,225,010
1974	256,880	206,750	56,940	163,930	6,240	160,980	11,750	94,650	958,120
1975	412,560	38,260	452,430	4,990	0	77,270	85,380	194,670	1,265,560
1976	402,792	106,248	53,908	41,886	0	32,639	7,852	66,953	712,278
1977	409,082	47,897	320,680	72,591	0	179,682	185,174	302,561	1,517,667
1978	298,037	88,816	67,084	65,514	0	110,363	30,761	94,811	755,386
1979	755,752	271,952	125,544	155,077	0	286,489	308,412	998,751	2,901,977
1980	300,871	105,551	148,066	85,663	0	81,095	100,985	272,811	1,095,042
1981	650,401	206,282	140,436	108,158	0	137,759	488,066	435,217	2,166,319
1982	508,204	198,838	309,202	121,085	0	134,827	114,421	462,541	1,849,118
1983	450,165	138,993	284,164	171,938	0	145,779	217,597	594,470	2,003,106
1984	1,143,775	439,886	365,226	412,278	0	304,859	169,612	734,202	3,569,838
1985	720,386	166,768	238,728	181,797	0	152,429	316,483	571,406	2,347,997
1986	384,382	131,956	109,798	78,027	3,513	69,388	45,492	163,378	985,934
1987	517,221	114,522	67,761	67,809	3,450	129,192	144,085	328,177	1,372,217
1988	394,111	140,981	42,985	69,627	0	118,359	67,928	137,173	971,164
1989	357,249	95,445	48,802	72,591	18,578	168,518	164,540	307,953	1,233,676
1990	428,723	110,638	45,558	94,359	17,274	136,721	106,603	296,029	1,235,905
1991	427,069	159,909	84,790	89,437	19,152	176,887	239,782	528,766	1,725,792

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Year	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total
					Escapement Indices				
1992	194,962	72,323	23,122	42,805	2,716	64,652	47,029	94,928	542,537
1993	314,727	95,602	41,666	45,847	9,348	98,573	144,784	315,093	1,065,640
1994	613,866	178,151	65,648	141,290	11,799	143,479	58,820	196,228	1,409,281
1995	396,696	84,447	46,029	50,582	10,182	82,490	183,448	336,310	1,190,184
1996	584,236	218,022	104,781	86,709	3,000	63,337	92,966	330,285	1,483,336
1997	345,725	65,260	52,961	53,740	914	112,010	206,943	585,135	1,422,688
1998	377,700	213,288	85,968	97,485	4,644	280,335	161,275	199,410	1,420,105
1999	622,502	214,723	168,816	52,340	6,900	163,347	381,054	853,180	2,462,862
2000	554,984	168,247	223,646	66,078	4,286	131,648	227,881	282,258	1,659,028
2001	436,585	163,573	148,665	102,294	2,963	176,503	314,323	655,480	2,000,386
2002	226,068	138,204	54,882	50,981	1,397	35,554	71,461	364,630	943,177
2003	957,327	262,502	375,147	103,931	5,206	130,356	320,494	691,769	2,846,732
2004	724,663	163,858	79,010	51,306	2,300	108,192	183,891	687,903	2,001,123
2005	1,025,756	579,079	528,264	401,640	32,396	272,572	566,002	1,330,407	4,736,116
2006	248,592	211,603	145,511	127,836	11,247	118,205	149,798	178,009	1,190,802
2007	374,723	156,063	197,405	68,667	9,461	116,130	142,769	443,914	1,509,133
2008	193,844	141,396	145,177	141,787	579	70,291	56,999	112,347	862,419
2009	454,960	119,747	125,907	127,261	9,790	239,357	263,770	488,831	1,829,623
					Even Cycle Average (1966-2008)				
	430,825	167,448	113,459	102,623	4,554	115,890	86,687	244,180	1,265,667
					Odd Cycle Average (1965-2009)				
	484,868	156,924	185,162	97,820	5,966	135,820	221,195	470,990	1,746,037

Note: Historical data revised in 1989. Coghill and Northwestern escapement numbers correspond to current district boundaries. Northern District includes both Northern and Unakwik district counts combined.

Appendix D6.–Weekly aerial survey indices of pink salmon escapement by statistical area, 2009.

Survey Location	Statistical Area	Week Ending Dates[a] 6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	Escapement Index[b]
Orca Inlet	221-10	NS	NS	0	0	3,005	3,000	NS	12,800	2,500	4,375	1,500	3,350	250	0	NS	0	17,623
Simpson & Sheep Bay	221-20	0	0	90	1,100	1,000	2,170	NS	NS	33,250	17,400	56,500	NS	50,200	NS	NS	0	69,203
Port Gravina	221-30	0	0	60	1,600	465	18,650	NS	NS	96,750	51,800	118,500	NS	63,700	NS	NS	0	158,386
Port Fidalgo	221-40	0	0	210	2,400	300	2,500	NS	NS	57,900	14,185	85,400	NS	51,250	NS	NS	100	108,830
Valdez Arm	221-50	0	0	10	150	3,600	6,200	NS	NS	51,350	20,650	64,600	NS	47,905	NS	NS	0	100,917
Port Valdez	221-61	0	NS	0	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Eastern District		0	0	370	5,250	8,370	32,520		12,800	241,750	108,410	326,500	3,350	213,305	0		100	454,960
Columbia & Long Bay	222-10	NS	NS	100	350	7,500	2,925	NS	NS	21,975	4,650	21,900	NS	9,710	NS	NS	0	37,557
Wells Bay & Unakwik Inlet	222-20	NS	0	10	200	6,010	4,000	2,200	1,700	38,200	25,775	38,760	25,625	8,500	NS	NS	0	57,050
Eaglek Bay	222-30	NS	NS	NS	0	800	NS	0	1,050	10,300	16,000	31,100	13,200	NS	NS	NS	NS	25,141
Northern District		NS	0	110	550	14,310	6,925	2,200	2,750	70,475	46,425	91,760	38,825	18,210	NS	NS	0	119,747
West Side Port Wells	223-10	NS	NS	NS	0	0	NS	200	2,075	12,000	17,400	30,400	11,400	NS	NS	NS	NS	22,937
Esther Passage	223-20	NS	NS	NS	0	0	NS	0	0	NS	2,600	4,100	4,550	NS	NS	NS	NS	5,651
College Fiord	223-30	NS	NS	NS	0	3,000	NS	3,000	22,000	NS	95,400	80,260	60,165	NS	NS	NS	NS	97,319
Coghill District		NS	NS	NS	0	3,000	NS	3,200	24,075	12,000	115,400	114,760	76,115	NS	NS	NS	NS	125,907
Passage Canal & Cochrane	224-10	NS	NS	NS	0	250	NS	950	5,300	13,600	22,400	41,975	16,250	NS	NS	NS	NS	35,288
Culross Passage	224-30	NS	NS	NS	50	100	NS	0	300	9,500	27,500	57,100	31,100	NS	NS	NS	NS	37,791
Port Nellie Juan	224-40	NS	NS	NS	0	100	NS	2,450	5,280	17,200	35,500	47,300	8,100	NS	NS	NS	NS	54,182
Northwestern District		NS	NS	NS	50	450	NS	3,400	10,880	40,300	85,400	146,375	55,450	NS	NS	NS	NS	127,261
Main Bay	225-20	NS	NS	NS	0	0	NS	0	NS	170	300	150	25	NS	NS	NS	NS	433
Eshamy Bay	225-30	NS	NS	NS	0	0	NS	0	NS	100	7,000	6,200	3,900	NS	NS	NS	NS	9,357
Eshamy District		NS	NS	NS	0	0	NS	0	NS	270	7,300	6,350	3,925	NS	NS	NS	NS	9,790
Herring Bay	226-10	NS	NS	NS	0	0	NS	NS	NS	NS	5,000	5,000	4,000	NS	NS	NS	NS	15,056
Chenega Is. & Dangerous Pass.	226-20	NS	NS	NS	NS	NS	NS	7,950	22,975	14,015	78,400	90,950	46,680	NS	NS	0	NS	113,602
East Knight Is.	226-30	NS	NS	NS	NS	NS	NS	NS	7,500	1,650	8,000	15,000	3,200	NS	NS	25	NS	28,846
Bainbridge & Latouche	226-40	NS	NS	NS	NS	NS	NS	100	4,000	3,100	28,400	46,100	12,675	NS	NS	1	NS	67,569
Port Bainbridge	226-50	NS	NS	NS	NS	NS	NS	6,000	2,100	2,000	9,000	10,000	1,200	NS	NS	0	NS	14,285
Southwestern District		NS	NS	NS	0	0	NS	14,050	36,575	20,765	128,800	167,050	67,755	NS	NS	26	NS	239,357
Montague Strait	227-10	NS	NS	NS	NS	NS	NS	NS	27,850	28,350	162,100	114,200	64,250	NS	NS	250	NS	70,240
Green Is.	227-20	NS	NS	NS	NS	NS	NS	NS	18,300	13,550	92,500	98,500	39,650	NS	NS	11	NS	193,529

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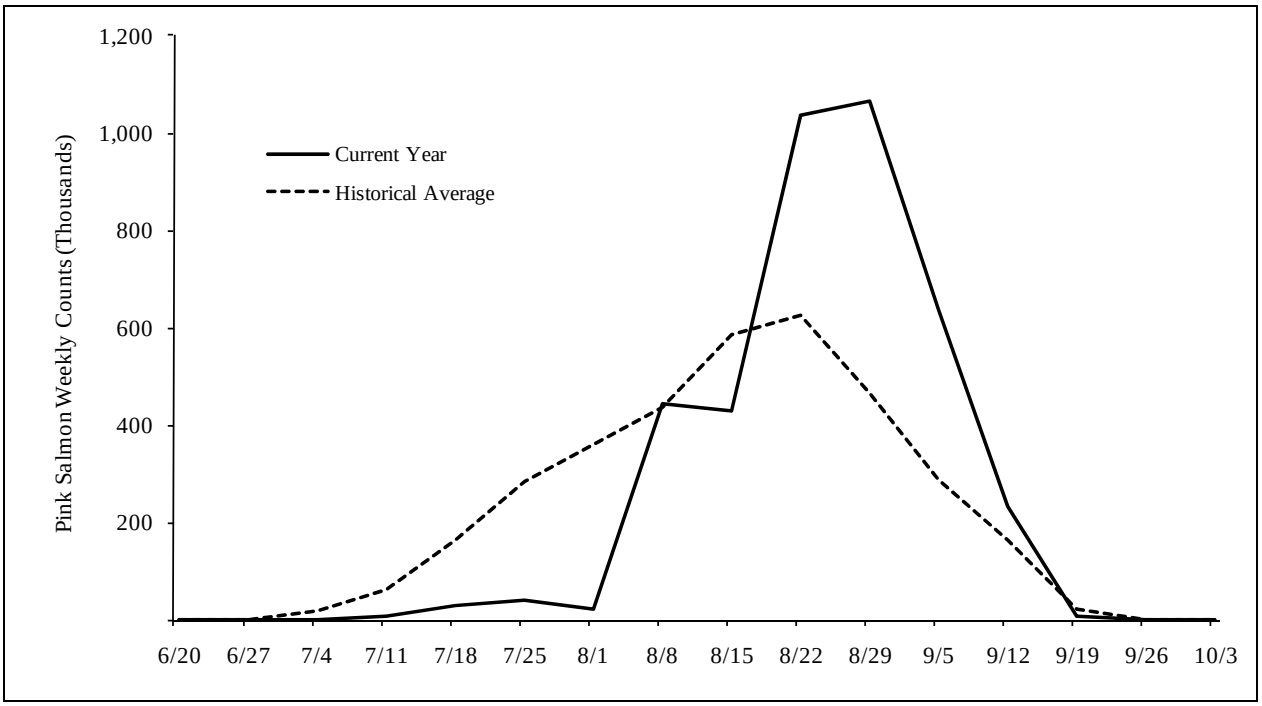
Survey Location	Statistical Area	Week Ending Dates[a] 6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	Escapement Index[b]
Montague District		NS	NS	NS	NS	NS	NS	NS	46,150	41,900	254,600	212,700	103,900	NS	NS	261	NS	263,770
Orca Is. & East Hawkins	228-10	NS	NS	NS	NS	0	NS	NS	600	NS	300	NS	300	NS	0	NS	NS	1,088
Hawkins Cutoff	228-20	NS	NS	NS	NS	750	NS	NS	137,200	NS	83,000	NS	26,900	NS	450	NS	NS	162,282
North Hawkins & Canoe Pass.	228-30	NS	NS	NS	NS	0	NS	NS	4,950	NS	30,200	NS	25,200	NS	65	NS	NS	30,160
Double Bay	228-40	NS	NS	NS	NS	400	NS	NS	18,800	NS	47,200	NS	24,000	NS	150	NS	NS	47,619
Johnstone Point	228-50	NS	NS	NS	NS	205	NS	NS	28,000	NS	26,000	NS	41,500	NS	720	NS	NS	47,728
Port Etches	228-60	NS	NS	NS	NS	925	NS	NS	121,900	NS	102,300	NS	170,100	NS	5,010	NS	NS	199,954
Southeastern District		NS	NS	NS	NS	2,280	NS	NS	311,450	NS	289,000	NS	288,000	NS	6,395	NS	NS	488,831
Upper Unakwik Inlet	229-10	NS	NS	NS	0	0	NS	0	0	200	500	1	30	NS	NS	NS	NS	238
Unakwik District		NS	NS	NS	0	0	NS	0	0	200	500	1	30	NS	NS	NS	NS	238
TOTAL OF 9 DISTRICTS		0	0	480	5,850	28,410	39,445	22,850	444,680	427,660	1,035,835	1,065,496	637,350	231,515	6,395	287	100	1,829,861

Note: NS = No Survey due to run timing or bad survey conditions; NC= No count because of stream conditions (i.e., water clarity)

[a] There are 215 streams in the aerial survey program. All streams are flown at least once a week as run timing dictates. During the peak of the run, streams may be flown twice a week for timely escapement data. When more than one survey per week was flown the weekly observation is the average of the two counts if observing conditions during both were good, or the maximum of the two counts if conditions during the minimum count were poor.

[b] The escapement index is based on a geometric method used since the inception of the systematic survey program in the early 1960s. In this method, aerial observers are assumed to count without error or bias. Linear interpolations between observations are used to estimate numbers of fish in the stream on days when no surveys are flown. All daily observations and interpolations are summed across the season. Because fish seen on day i+1 may include fish seen on day i, the sum of all daily observations and interpolations must be divided by some residence time for fish in the streams to account for duplicate observations. The residence time of 17.5 days has historically been used in this calculation and is from tagging studies completed by National Marine Fisheries Service on Olsen Creek in the early 1960s. Because observer bias does occur and because both observer bias and stream life are stream specific, escapement indices in this table may be used for inter-annual comparisons, but should not be interpreted as the true escapement.



Appendix D7.–Current year and historical weekly pink salmon escapement performance of index spawning streams, 2009.

Appendix D8.–Total chum salmon harvests and escapement indices, including hatchery sales harvests and broodstock, 1965–2009.

	Chum Salmon Escapements [a]									Hatchery		Common Property	Total
Year	Eastern	Northern	Coghill	Northwest	Eshamy	Southwest	Montague	Southeast	Total	Sales	Brood	Harvest [b]	Run[c]
1965	69,180	20,980	20,768	18,907	0	1,829	17,500	46,480	195,644			201,043	396,687
1966	75,690	24,870	10,540	5,770	0	2,180	14,100	9,410	142,560			426,628	569,188
1967	74,570	23,270	7,450	1,670	0	6,200	4,980	9,070	127,210			274,234	401,444
1968	48,960	10,620	8,780	800	0	580	220	4,610	74,570			342,939	417,509
1969	58,690	17,340	8,410	780	0	0	0	6,320	91,540			320,977	412,517
1970	34,430	4,020	11,880	2,720	0	550	0	7,950	61,550			230,661	292,211
1971	49,730	11,870	6,600	5,600	100	1,430	27,990	6,450	109,770			574,265	684,035
1972	112,950	70,760	28,160	22,980	0	4,010	3,340	26,990	269,190			45,370	314,560
1973	213,170	140,030	72,610	13,250	0	1,020	3,110	48,080	491,270			729,839	1,221,109
1974	72,010	55,510	29,280	6,580	0	240	80	3,200	166,900			88,544	255,444
1975	30,040	8,910	3,640	430	0	1,280	140	2,850	47,290			100,479	147,769
1976	16,031	23,971	31,398	2,000	0	0	0	100	73,500			370,478	443,978
1977	38,710	33,719	79,957	7,270	0	400	0	6,149	166,205			575,839	742,044
1978	92,065	25,715	15,966	15,884	0	500	0	6,100	156,230			485,147	641,377
1979	48,212	18,850	7,823	6,026	0	0	0	3,914	84,825			324,040	408,865
1980	21,595	17,836	20,919	1,800	0	2,500	270	7,193	72,113	6		412,948	485,067
1981	67,702	28,231	2,389	14,135	0	650	0	15,630	128,737	118		1,745,869	1,874,724
1982	151,529	60,354	21,586	11,036	0	1,300	0	15,950	261,755	0	86,200	1,335,368	1,683,323
1983	109,414	78,610	55,127	26,017	0	2,000	0	14,407	285,575	0	44,000	1,030,546	1,360,121
1984	97,001	48,466	13,500	5,150	0	0	0	4,625	168,742	4,886	3,000	1,196,785	1,373,413
1985	37,310	24,561	14,514	10,256	0	500	20	2,450	89,611	3,840	0	1,302,090	1,395,541
1986	129,882	46,263	16,300	20,743	0	1,987	0	12,363	227,538	20,683	12,523	1,662,366	1,923,110
1987	189,855	27,134	22,472	25,571	0	1,150	300	46,420	312,902	2,549	15,574	1,902,063	2,233,088
1988	255,515	78,297	42,536	41,468	0	2,055	500	64,609	484,980	42,694	108,271	1,792,616	2,428,561
1989	115,385	44,823	22,434	25,252	300	10,891	0	20,574	239,659	129,551	74,513	862,551	1,306,274
1990	109,072	126,480	20,494	33,421	50	3,945	957	7,241	301,660	24,554	107,284	935,284	1,368,782
1991	66,483	18,153	7,055	9,034	0	2,075	925	9,203	112,928	13,471	114,814	318,435	559,648

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	Chum Salmon Escapements [a]									Hatchery		Common Property	Total
Year	Eastern	Northern	Coghill	Northwest	Eshamy	Southwest	Montague	Southeast	Total	Sales	Brood	Harvest [b]	Run[c]
1992	47,292	12,458	7,583	10,258	300	2,940	784	3,891	85,506	57,392	183,940	271,176	598,014
1993	49,904	19,265	7,404	17,692	0	1,250	30	19,173	114,718	475,148	140,330	706,196	1,436,392
1994	40,476	23,942	14,176	12,992	100	2,225	0	4,057	97,968	380,365	114,654	677,848	1,270,835
1995	75,655	28,899	11,596	4,883	0	2,250	1,000	23,200	147,483	231,539	172,542	486,510	1,038,074
1996	137,908	55,568	19,669	24,405	0	2,231	5,216	47,334	292,331	1,066,705	253,751	1,011,291	2,624,078
1997	93,146	19,429	3,101	8,387	0	800	4,000	43,274	172,137	811,179	178,933	1,413,546	2,575,795
1998	86,227	28,867	22,764	7,553	0	1,602	10,690	52,103	209,806	519,215	179,875	747,672	1,656,568
1999	242,713	36,886	5,057	4,544	0	2,393	8,725	36,181	336,499	777,180	207,073	2,186,658	3,507,410
2000	196,253	23,655	20,488	10,150	16	11,440	66,202	34,969	363,173	1,729,876	85,441	3,428,521	5,607,011
2001	198,683	75,473	13,388	6,373	700	5,187	10,408	37,526	347,738	936,028	171,046	2,153,920	3,608,732
2002	94,046	30,531	7,430	16,194	60	3,985	565	104,906	257,717	2,580,936	209,833	3,760,934	6,809,420
2003	198,921	44,565	19,729	12,736	110	12,373	9,015	116,131	413,580	1,540,227	200,933	3,981,763	6,136,503
2004	108,833	42,456	9,685	10,371	0	1,810	4,170	42,344	219,669	528,676	208,795	1,473,242	2,430,382
2005	113,135	30,657	11,979	12,696	500	1,951	0	25,547	196,465	535,773	280,881	1,461,146	2,474,265
2006	109,403	52,069	15,900	25,860	660	7,293	10,642	26,739	248,565	824,558	217,146	1,356,997	2,647,266
2007	123,814	49,740	14,052	10,778	69	4,095	16,648	60,464	279,660	1,099,730	173,452	2,479,210	4,032,052
2008	74,740	38,798	39,660	28,051	0	3,090	5,085	21,614	211,038	472,905	148,747	4,235,043	5,067,733
2009	84,636	18,578	5,208	14,146	69	9,917	17,733	86,528	236,815	465,427	156,835	2,612,300	3,471,377
Avg.	99,462	38,702	19,233	12,693	67	2,641	5,173	25,177	203,148	510,682	136,798	1,168,615	1,792,294

[a] Coghill and Northwestern District escapement numbers correspond to current district boundaries. The Northern District includes Unakwik District counts.

[b] Includes the commercial common property harvest of both wild and hatchery stocks. Does not include hatchery sales harvests.

[c] Represents the sum of the common property harvest, hatchery sales and brood(including roe recovery), plus the escapement index. Does not account for wild stock escapement into non-index streams.

Appendix D9.–Weekly aerial survey indices of chum salmon escapement by statistical area, 2009.

	Statistical	Week Ending Dates[a]																Escapement
Survey Location	Area	6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	Index[b]
Orca Inlet	221-10			0	0	0	0		2,005	20	875	20	505	0	0		0	1,806
Simpson & Sheep Bay	221-20	0	0	0	150	70	7,350			11,813	4,500	8,215		4,100			0	17,353
Port Gravina	221-30	0	75	2,820	3,900	750	10,300			17,620	11,725	18,615		5,165			0	32,661
Port Fidalgo	221-40	0	0	60	100	0	1,625			4,900	1,625	20,345		3,455			1,710	16,206
Valdez Arm	221-50	0	0	0	30	200	4,071			7,485	3,200	12,790		1,020			200	16,610
Port Valdez	221-61	0		0	0													0
Eastern District		0	75	2,880	4,180	1,020	23,346		2,005	41,838	21,925	59,985	505	13,740	0		1,910	84,636
Columbia & Long Bay	222-10			150	510	1,000	750			2,405	300	2,850		0			0	4,011
Wells Bay & Unakwik Inlet	222-20		0	400	2,005	1,440	2,500	700	1,300	17,970	4,580	2,855	2,020	0			0	13,302
Eaglek Bay	222-30				0	0		300	0	235	990	1,750	560					1,265
Northern District			0	550	2,515	2,440	3,250	1,000	1,300	20,610	5,870	7,455	2,580	0			0	18,578
West Side Port Wells	223-10				0	20		200	850	2,400	5,005	2,190	340					3,799
Esther Passage	223-20				0	0		0	0		40	400	0					148
College Fiord	223-30				0	0		0	0		2,000	200	700					1,262
Coghill District					0	20		200	850	2,400	7,045	2,790	1,040					5,208
Passage Canal & Cochrane	224-10				0	30		0	2,025	1,560	2,170	5,330	130					3,170
Culross Passage	224-30				0	50		0	0	100	1,155	2,075	3,520					2,572
Port Nellie Juan	224-40				0	25		1,000	3,065	2,640	4,625	7,450	230					8,404
Northwestern District					0	105		1,000	5,090	4,300	7,950	14,855	3,880					14,146
Main Bay	225-20				0	0		0		0	0	0	0					0
Eshamy Bay	225-30				0	0		0		0	40	130	0					69
Eshamy District					0	0		0		0	40	130	0					69
Herring Bay	226-10				0	0					50	200	25					193
Chenega Is. & Dangerous Pass.	226-20							1,100	448	1,535	1,625	5,415	730			0		4,600
East Knight Is.	226-30								40	0	105	350	100			0		479
Bainbridge & Latouche	226-40							0	120	50	475	3,250	325			0		3,145
Port Bainbridge	226-50							0	20	0	500	2,000	35			0		1,501
Southwestern District					0	0		1,100	628	1,585	2,755	11,215	1,215			0		9,917
Montague Strait	227-10								3,800	2,200	17,540	6,500	1,950			0		4,323
Green Is.	227-20								515	1,300	6,260	7,150	990			0		13,410

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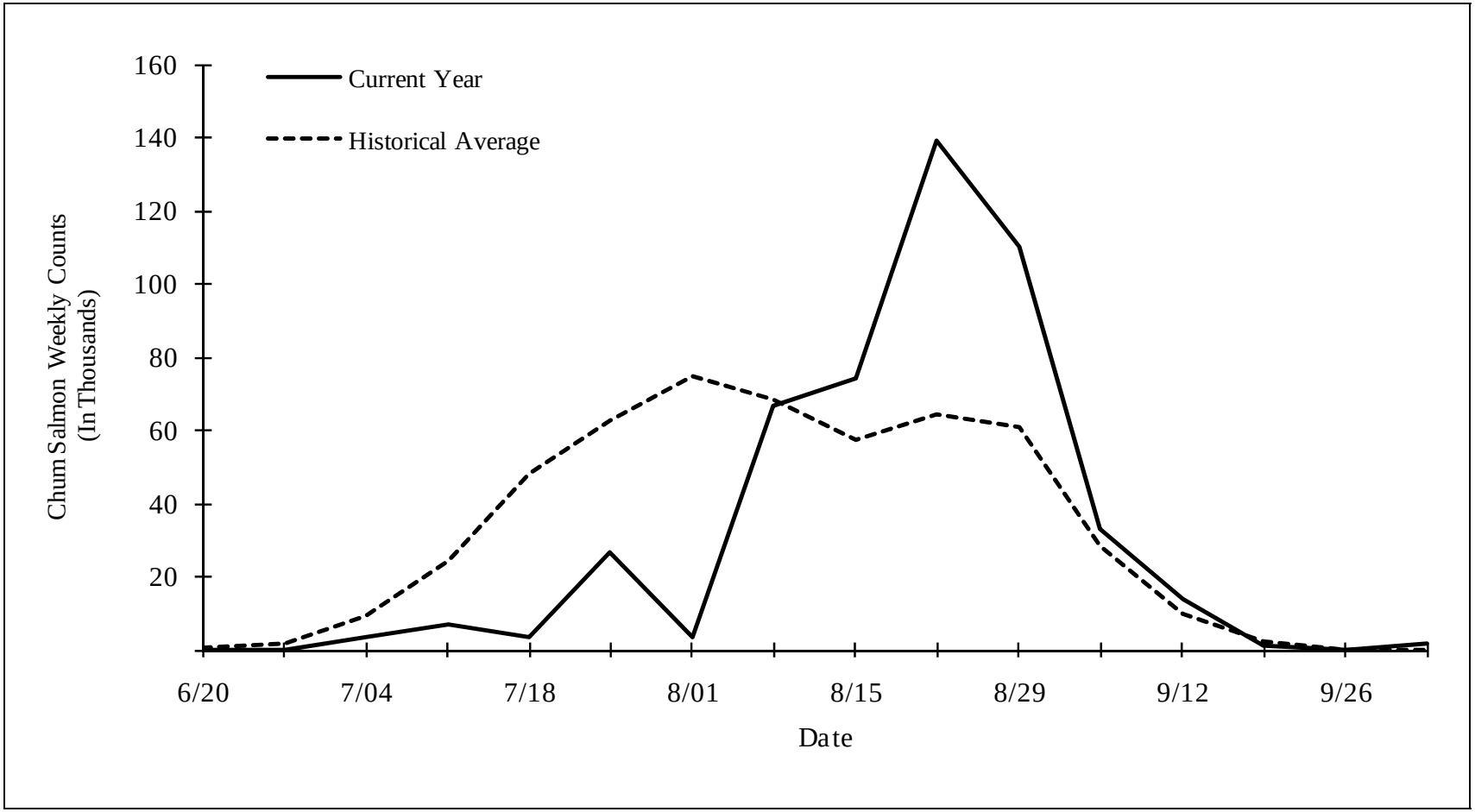
Survey Location	Statistical Area	Week Ending Dates[a]																Escapement Index[b]
		6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	
Montague District									4,315	3,500	23,800	13,650	2,940			0		17,733
Orca Is. & East Hawkins	228-10					0			0		0		0		0			0
Hawkins Cutoff	228-20					0			13,900		24,000		2,160		0			24,939
North Hawkins & Canoe Pass.	228-30					0			548		25		625		0			625
Double Bay	228-40					0			620		11,180		2,310		0			7,321
Johnstone Point	228-50					0			1,600		5,200		1,300		5			4,503
Port Etches	228-60					50			35,845		29,500		14,245		1,330			49,141
Southeastern District						50			52,513		69,905		20,640		1,335			86,528
Upper Unakwik Inlet	229-10				0	0		0	0	0	0	0	0					0
Unakwik District					0	0		0	0	0	0	0	0					0
TOTAL OF 9 DISTRICTS		0	75	3,430	6,695	3,635	26,596	3,300	66,701	74,233	139,290	110,080	32,800	13,740	1,335	0	1,910	236,815

Note: NS = No Survey due to run timing or bad survey conditions; NC= No count because of stream conditions (i.e., water clarity)

[a] There are 215 streams in the aerial survey program. All streams are flown at least once a week as run timing dictates. During peak pink salmon runs streams may be flown twice a week for timely escapement data. When more than one survey per week was flown the weekly observation is the average of the two counts if observing conditions during both were good or, the maximum of the two counts if conditions during the minimum count were poor.

[b] The escapement index is based on a geometric method used since the inception of the systematic survey program in the early 1960s. In this method, aerial observers are assumed to count without error or bias. Linear interpolations between observations are used to estimate numbers of fish in the stream on days when no surveys are flown. All daily observations and interpolations are summed across the season. Because fish seen on day i+1 may include fish seen on day i, the sum of all daily observations and interpolations must be divided by some residence time for fish in the streams to account for duplicate 'observations. The residence time of 17.5 days has historically been used in this calculation and is from tagging studies completed by National Marine Fisheries Service on Olsen Creek in the early 1960s. Because observer bias does occur and because both observer bias and stream life are stream specific, escapement indices in this table may be used for inter-annual comparisons, but should not be interpreted as the true escapement.



Appendix D10.–Current year and historical weekly chum salmon escapement performance of index spawning streams, 2009.

Appendix D11.–Aerial survey escapement indices of sockeye salmon from selected systems, 2009.

	Stream	Week Ending Date [a]												
		27	28	29	30	31	32	33	34	35	36	37	38	39
System Name	Number	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26
Billy's Cr.	218	30	115	60				250	200	30		300		
Cowpen Cr.	242							50	15	400	300			
Miners River	244		450	400			600	800	1,000	925	850			
Red Cr.	300					10			30	15				
Hobo Cr.	417										1			
Shrode Cr.	476			200		400	200	200	250	2,500	3,500			
Gumboot Cr.	507					100								
Jackpot Rvr	608					430	200	1,000	700	700	700			6
Brizgaloff Cr	623								10					
Bainbridge	630					100	150	700	150	400	200			20
Snug Harbor	682								20					
Total		30	565	660	0	1,040	1,150	3,000	2,375	4,970	5,551	300	0	26

[a] Counts are obtained in conjunction with the pink and chum salmon aerial survey program. Many of these sockeye salmon systems are difficult to survey by air, thus counts may not represent total live abundance at a particular time.

Appendix D12.–Temporally stratified age and sex composition of chum salmon harvested in the Prince

		Brood Year and Age Class				
		2006	2005	2004	2003	
		0.2	0.3	0.4	0.5	Total [b]
Coghill District[a]						
Stratum dates:	07/05 - 08/31					
Sampling date:	07/07 - 07/07					
Sample size:	396					
	Sample size	22	195	56	5	278
Female	Percentage of sample	5.6	49.2	14.1	1.3	70.2
	Number in harvest	718	6,365	1,828	163	9,074
	Sample size	13	82	21	2	118
Male	Percentage of sample	3.3	20.7	5.3	0.5	29.8
	Number in harvest	424	2,677	685	65	3,852
	Sample size	35	277	77	7	396
Total	Percentage of sample	8.8	69.9	19.4	1.8	100.0
	Number in harvest	1,142	9,042	2,513	228	12,926
	Standard error	3,927	6,343	5,475	1,823	
SW District						
Stratum dates:	05/25 - 08/24					
Sampling date:	07/21 - 07/21					
Sample size:	324					
	Sample size	6	183	42	3	234
Female	Percentage of sample	1.9	56.5	13.0	0.9	72.2
	Number in harvest	4,327	131,975	30,289	2,164	168,755
	Sample size	2	65	22	1	90
Male	Percentage of sample	0.6	20.1	6.8	0.3	27.8
	Number in harvest	1,442	46,876	15,866	721	64,906
	Sample size	8	255	64	4	324

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		Brood Year and Age Class				
		2006	2005	2004	2003	
		0.2	0.3	0.4	0.5	Total [b]
Total	Percentage of sample	2.5	78.7	19.8	1.2	100.0
	Number in harvest	5,647	180,011	45,179	2,824	233,661
	Standard error	2,018	5,509	5,176	1,436	

All Districts Combined

Strata Combined: 05/25 - 07/21
Sampling dates: 06/21 - 06/28
Sample size: 3782

Female	Sample size	28	378	98	8	512
	Percentage of sample	2.0	56.1	13.0	0.9	72.1
	Number in harvest	5,045	138,340	32,117	2,327	177,829
Male	Sample size	15	147 #	43 #	3 #	208
	Percentage of sample	0.8	20.1	6.7	0.3	27.9
	Number in harvest	1,867	49,553	16,551	786	68,758
Total	Sample size	43	525	141	11	720
	Percentage of sample	2.8	76.2	19.7	1.3	100
	Number in harvest	6,912	187,893	48,669	3,113	246,587
	Standard error	4,415	8,401	7,535	2,320	

[a] All samples were taken from the Coghill District commercial common property drift gillnet harvest.
[b] Total harvest for the Coghill District represents fish harvested in the commercial common property purse seine fishery.

Appendix D13.–Summary of commercial purse seine salmon fishery periods, dates, duration, and emergency orders issued by district, 2009.

Eastern (221)		Northern (222)		Coghill (223)		Northwestern (224)		Southwestern (226)		Montague (227)		Southeastern (228)		Unakwik (229)[a]		Emergency
Date	Hours	Date	Hours	Dates	Hours	Dates	Hours	Date	Hours	Dates	Hours	Date	Hours	Date	Hours	Orders
								5/25-5/27	60 [ab]							2-F-E-008-09
								5/28-5/31	84 [ab]							2-F-E-008-09
								6/1-6/3	60 [ab]							2-F-E-008-09
								6/4-6/7	84 [ab]							2-F-E-008-09
								6/8-6/10	60 [abcd]					6/8-6/10	60 [a]	2-F-E-008-09, 2-F-E-011-09, 2-F-E-016-09
								6/11-6/14	84 [abcd]					6/11-6/14	84 [a]	2-F-E-008-09, 2-F-E-011-09, 2-F-E-018-09
								6/15-6/17	60 [abcd]					6/15-6/17	60 [a]	2-F-E-008-09, 2-F-E-011-09, 2-F-E-021-09
								6/18-6/21	84 [abcd]					6/18-6/21	84 [a]	2-F-E-008-09, 2-F-E-011-09, 2-F-E-025-09
								6/22-6/24	60 [abcd]					6/22-6/24	60 [a]	2-F-E-008-09, 2-F-E-011-09, 2-F-E-029-09
								6/25-6/28	84 [cd]					6/25-6/28	84 [a]	2-F-E-011-09, 2-F-E-035-09
								6/25-6/26	24 [ab]							2-F-E-032-09
								6/27-6/28	24 [ab]							2-F-E-032-09
								6/29-7/1	60 [cd]					6/29-7/1	60 [a]	2-F-E-011-09, 2-F-E-038-09
								6/29-6/30	24 [ab]							2-F-E-039-09
								7/1-7/2	24 [ab]							2-F-E-044-09
								7/2-7/5	84 [cd]							2-F-E-011-09
														7/2-7/3	24 [a]	2-F-E-043-09
								7/3-7/4	24 [ab]							2-F-E-045-09
								7/6-7/8	60 [bcde]					7/6-7/7	24 [a]	2-F-E-011-09, 2-F-E-047-09, 2-F-E-051-09
								7/9-7/12	84 [bcde]					7/9-7/10	24 [a]	2-F-E-011-09 ,2-F-E-051-09, 2-F-E-053-09
								7/13-7/15	60 [bcde]							2-F-E-011-09, 2-F-E-061-09
								7/16-7/19	84 [bcdf]							2-F-E-011-09, 2-F-E-062-09
								7/20-7/22	60 [bcdf]							2-F-E-011-09, 2-F-E-067-09
		7/21	14 [a]	7/21	14 [a]											2-F-E-067-09
				7/22	14 [a]											2-F-E-067-09
				7/23	14 [b]			7/23	14 [bcdf]							2-F-E-069-09
				7/24	14 [b]											2-F-E-069-09
				7/25	14 [b]											2-F-E-069-09
				7/26	14 [b]			7/26	14 [bcdf]							2-F-E-069-09
8/11	14 [ab]	8/11	14 [abc]	8/11	14 [c]			8/11	14 [g]			8/11	14 [a]			2-F-E-084-09
8/12	14 [ab]	8/12	14 [b]	8/12	14 [c]			8/12	14 [h]			8/12	14 [a]			2-F-E-084-09
8/13	14 [ab]	8/13	14 [d]	8/13	14 [c]			8/13	14 [h]			8/13	14 [a]			2-F-E-089-09
8/14	14 [ab]	8/14	14 [d]	8/14	14 [c]			8/14	14 [h]			8/14	14 [a]			2-F-E-089-09
8/15	14 [ab]	8/15	14 [d]	8/15	14 [c]			8/15	14 [h]	8/15	14 [a]	8/15	14 [a]			2-F-E-090-09
8/16	14 [ab]	8/16	14 [d]	8/16	14 [d]			8/16	6-14 [hij]	8/16	14 [a]	8/16	14 [a]			2-F-E-090-09, 2-F-E-093-09
8/17	14 [ab]	8/17	14 [acd]	8/17	14 [d]			8/17	14 [h]	8/17	14 [a]	8/17	14 [a]			2-F-E-093-09
8/18	14 [ab]	8/18	14 [e]	8/18	14 [e]			8/18	6-14 [hij]	8/18	14 [a]	8/18	14 [a]			2-F-E-093-09, 2-F-E-094-09
8/19	14 [ab]	8/19	14 [acfg]	8/19	14 [e]			8/19	14 [k]	8/19	14 [a]	8/19	14 [a]			2-F-E-094-09, 2-F-E-095-09
		8/20	14 [gh]	8/20	14 [ef]			8/20	14 [k]	8/20	14 [a]	8/20	14 [a]			2-F-E-098-09
		8/21	14 [h]	8/21	14 [ef]			8/21	14 [k]	8/21	14 [a]	8/21	14 [a]			2-F-E-098-09, 2-F-E-101-09

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Eastern (221)		Northern (222)		Coghill (223)		Northwestern (224)		Southwestern (226)		Montague (227)		Southeastern (228)		Unakwik (229)[a]		Emergency
Date	Hours	Date	Hours	Dates	Hours	Dates	Hours	Date	Hours	Dates	Hours	Date	Hours	Date	Hours	Orders
		8/22	14 [gh]	8/22	14 [ef]			8/22	14 [k]	8/22	14 [a]	8/22	14 [a]			2-F-E-098-09, 2-F-E-101-09, 2-F-E-102-09
		8/23	14 [gh]	8/23	14 [ef]			8/23	6-14 [ijk]	8/23	14 [a]	8/23	14 [a]			2-F-E-102-09, 2-F-E-103-09
		8/24	14 [gh]	8/24	14 [ef]			8/24	14 [k]	8/24	14 [a]	8/24	14 [a]			2-F-E-102-09, 2-F-E-103-09
		8/25	12 [h]	8/25	12 [ef]			8/25	12 [k]	8/25	12 [b]	8/25	12 [a]			2-F-E-104-09
		8/26	12 [h]	8/26	12 [ef]			8/26	12 [k]	8/26	12 [b]	8/26	12 [a]			2-F-E-104-09
		8/27	12 [h]	8/27	12 [ef]			8/27	12 [ik]	8/27	12 [b]	8/27	12 [a]			2-F-E-109-09
		8/28	12 [h]	8/28	12 [ef]			8/28	12 [k]	8/28	12 [b]	8/28	12 [a]			2-F-E-109-09
		8/29	12 [fg]	8/29	12 [ef]			8/29	12 [ik]	8/29	12 [b]	8/29	12 [a]			2-F-E-109-09, 2-F-E-110-09
8/30	12 [ab]	8/30	12 [fg]	8/30	12 [ef]			8/30	12 [k]	8/30	12 [b]	8/30	12 [a]			2-F-E-110-09
8/31	12 [ab]	8/31	12 [fg]	8/31	12 [ef]			8/31	12 [ik]	8/31	12 [b]	8/31	12 [a]			2-F-E-110-09
9/01	12 [ab]	9/01	12 [i]	9/01	12 [ef]			9/01	12 [l]	9/01	12 [b]	9/01	12 [a]			2-F-E-111-09
9/02	12 [ab]	9/02	12 [i]	9/02	12 [ef]			9/02	12 [il]	9/02	12 [b]	9/02	12 [a]			2-F-E-111-09
9/03	12 [ab]	9/03	12 [i]	9/03	12 [ef]			9/03	12 [l]	9/03	12 [b]	9/03	12 [a]			2-F-E-114-09
9/04	12 [ab]	9/04	12 [i]	9/04	12 [ef]			9/04	12 [il]	9/04	12 [b]	9/04	12 [a]			2-F-E-114-09
9/05	12 [ab]	9/05	12 [i]	9/05	12 [ef]			9/05	12 [l]	9/05	12 [b]	9/05	12 [a]			2-F-E-114-09
9/06	12 [ab]	9/06	12 [i]					9/06	12 [il]	9/06	12 [b]	9/06	12 [a]			2-F-E-117-09
9/07	12 [ab]	9/07	12 [i]					9/07	12 [l]	9/07	12 [b]	9/07	12 [a]			2-F-E-117-09
9/08	12 [ab]	9/08	12 [i]					9/08	12 [il]	9/08	12 [b]	9/08	12 [a]			2-F-E-117-09
9/09	12 [ab]	9/09	12 [j]					9/09	12 [m]	9/09	12 [b]	9/09	12 [a]			2-F-E-117-09, 2-F-E-118-09
9/10	12 [bcd]	9/10	12 [j]					9/10	12 [im]	9/10	12 [b]	9/10	12 [a]			2-F-E-121-09
9/11	12 [bcd]	9/11	12 [j]					9/11	12 [m]	9/11	12 [b]	9/11	12 [a]			2-F-E-121-09
9/12	12 [bcd]	9/12	12 [j]					9/12	12 [im]	9/12	12 [b]	9/12	12 [a]			2-F-E-121-09
9/13	12 [bcd]	9/13	12 [j]					9/13	12 [m]	9/13	12 [b]	9/13	12 [a]			2-F-E-128-09
9/14	12 [bcd]	9/14	12 [j]					9/14	12 [im]	9/14	12 [b]	9/14	12 [a]			2-F-E-128-09
9/15	12 [bcd]	9/15	12 [j]					9/15	12 [m]	9/15	12 [b]	9/15	12 [a]			2-F-E-128-09
9/16	12 [bcd]	9/16	12 [j]					9/16	12 [im]	9/16	12 [b]	9/16	12 [a]			2-F-E-128-09
9/17	12 [bcd]	9/17	12 [j]					9/17	12 [m]							2-F-E-129-09
9/18	12 [bcd]	9/18	12 [j]					9/18	12 [im]							2-F-E-129-09
9/19	12 [bcd]	9/19	12 [j]					9/19	12 [m]							2-F-E-129-09
9/20	12 [bcd]															2-F-E-130-09
9/21	12 [bcd]															2-F-E-130-09
9/22	12 [bcd]															2-F-E-130-09
9/23	12 [bcd]															2-F-E-130-09

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Eastern District

[a] Waters of the Eastern District, south of a line from Entrance Point to Potato Point were open.

[b] Waters behind all SHTF markers remained closed.

[c] Waters of the Eastern District, excluding waters in Port Valdez east of a line from 61º 05.00’ N, 146º 21.50’ W to 61º 06.00’ N, 146º 21.50’ W and south of a line from 61º 06.00’ N, 146º 21.50’ W to 61º 06.00’ N, 146º 15.10’ W, waters within the Valdez small boat harbor, and all waters within 50 yards of the entrance to the Valdez small harbor, were open.

[d] Anadromous stream closures and regulatory closed waters north of a line from Potato Point to Entrance Point were not in effect.

Northern District

[a] Waters in the Northern District, in the Perry Island Subdistrict, within Hidden Bay, west of 148o 06.00 W. Long., were open.

[b] Waters of Unakwik Inlet south of 60º 59.79’ N Lat., east of 147º 34.40’ W. Long., and north of 60º 53.70’ N Lat., excluding the CCH THA and SHA, were open.

[c] Anadromous stream closures within Hidden Bay will not be in effect.

[d] Waters of Cannery Creek Subdistrict south of 60º 59.79’ N Lat., east of 147º 34.40’ W. Long., and north of 60º 54.30’ N Lat., excluding the CCH THA and SHA, were open.

[e] Waters of the CCH Subdistrict south of 60º 58.50’ N. latitude, east of 147º 34.40’ W. longitude, and north of 60º 54.30’ N. latitude, excluding the CCH THA and SHA, were open.

[f] Waters of the CCH Subdistrict north of 60º 58.50’ N. latitude and east of 147º 34.40’ W. longitude, excluding the CCH SHA, were open.

[g] Anadromous stream closures within CCH THA were suspended.

[h] Waters of the CCH Subdistrict east of 147º 34.40’ W. longitude and north of 60º 54.30’ N. latitude, excluding the CCH THA and SHA east of a line from 61º 00.97’ N. latitude, 147º 33.12 W longitude to 60º 59.79’ N. latitude, 147º 32.05’ W. longitude and south of a line from 60º 59.79’ N. latitude, 147º 32.40 W. longitude to 60º 59.79’ N. latitude, 147º 32.05’ W. longitude, were open.

[i] Waters of the CCH Subdistrict east of 147º 34.40’ W. long. and north of 60º 54.30’ N. lat., excluding the THA and SHA, were open.

[j] Waters the CCH Subdistrict east of 147º 34.40’ W. longitude and north of 60º 54.30’ N. latitude, including the CCH THA and SHA, were open.

Coghill District

[a] Waters in the Esther Subdistrict north of 60° 46.10’N. Latitude and west of 147º 55.10’ W. Long, including the WNH THA and SHA to a line of buoys in front of the barrier seine were open to purse seine and drift gillnet.

[b] Waters within the WNH THA and SHA to a line of buoys in front of the barrier seine were open to purse seine and drift gillnet.

[c] Waters of the Esther Subdistrict, excluding waters east of 147º 55.10’ W. Long., south of 60º 46.10’ N Lat., west of the longitude of Hodgkins Point, and within the WNH THA and SHA, were open to commercial purse seine and drift gillnet.

[d] Waters of the Esther Subdistrict, excluding waters east of 147º 55.10’ W. Long., south of 60º 46.10’ N Lat., and within the WNH THA and SHA, were open to commercial purse seine and drift gillnet.

[e] Waters of the WNH THA and the Esther Subdistrict, excluding the WNH SHA and waters east of 147º 55.10’ W. longitude and south of 60º 46.10’ N. latitude, were open to purse seine and drift gillnet.

[f] Waters of the WNH SHA to a line of buoys in front of the barrier seine were open to purse seine and drift gillnet.

Southwestern District

[a] Waters of Sawmill Bay, including the AFK Hatchery Terminal Harvest Area (THA) and Special Harvest Area (SHA), inside of a line from 60° 03.66’N. lat., 147° 59.11’ W. long. to 60° 02.63’ N. lat., 148° 01.70’ W. long. were open.

[b] Anadromous stream closures within the AFK Hatchery THA and SHA were not in effect.

[c] Waters of Marsha Bay, west of 147° 39.75’ W. Long., were open.

[d] Anadromous stream closures within Marsha Bay were not in effect.

[e] Waters within the AFK Hatchery THA and SHA, west of a line from 60º 03.807’ N lat. , 148º 01.089’ W long. to 60º 02.923’ N lat., 148º 01.950’ W long. were open.

[f] Waters within the AFK Hatchery SHA west of 148º 01.950’ W long. were open.

[g] Waters of the Pt. Elrington Subdistrict and the AFK THA were open.

[h] Waters of the AFK THA were open.

[i] Waters of the San Juan Subdistrict were open.

[j] Waters south of a latitude line at Squire Point and waters on the east side of Knight Island south of 60º 28.50’ N. latitude were open.

[k] Waters of the AFK THA and SHA north and east of a line from 60º 03.380’ N latitude, 148º 03.350’ W longitude to 60º 03.020’ N latitude and 148º 02.520’ W longitude, were open.

[l] Waters of the AFK THA and SHA north and east of a line from 60º 03.380’ N lat., 148º 03.350’ W. long. to 60º 02.726’ N lat. and 148º 03.065’ W. long., were open.

[m] Waters of the AFK THA and SHA were open.

Montague District

[a] Waters of the Montague District, excluding waters north of 60° 09.60’ lat., were open.

[b] Waters of the Montague District were open.

Southeastern District

[a] Waters of the Southeastern District, excluding waters north and east of a line between Johnstone Pt. and Hook Point, were open.

Unakwik District

[a] All waters designated for commercial salmon fishing in the Unakwik District were open for all periods.

APPENDIX E

Appendix E1.–Summary of salmon runs to Prince William Sound and Copper River hatcheries, 2009.

Sockeye salmon [a]

Hatchery	BY 2004 Release	BY 2005 Release	2009 Forecast Run [b]	Estimated CPF Contribution	Estimated Sales Harvest Contribution [c]	Broodstock & Unharvested Contribution [d]	Estimated Total Run [e]	Eggs Collected
Gulkana hatchery I	5,577,880	18,751,871	210,545	89,623	0	43,409	133,032	33,090,000
Gulkana hatchery II	1,433,480	1,470,585	14,398		0			1,750,000
Main Bay	8,983,069	9,276,000	882,000	756,630	131,553 [f]	10,815	898,998	10,100,000
Total Sockeye Salmon	15,994,429	29,498,456	1,106,943	846,253	131,553	54,224	1,032,030	44,940,000

Coho salmon [a,g]

Hatchery or release site	BY 2006 Release	2009 Forecast Run [b]	Estimated CPF Contribution	Estimated Sales Harvest Contribution [c]	Broodstock & Unharvested Contribution [d]	Estimated Total Run [g]	Eggs Collected
Solomon Gulch	1,828,100	238,457	68,115	17,424	3,955	89,494	2,301,094
Wally Noerenberg	1,930,000	133,000	43,169	0	2,064	45,233	4,000,000
Total Coho Salmon	3,758,100	371,457	111,284	17,424	6,019	134,727	6,301,094

Pink salmon [a]

Hatchery	BY 2007 Release	2009 Forecast Run [b]	Estimated CPF Contribution	Estimated Sales Harvest Contribution [c]	Broodstock & Unharvested Contribution [d]	Estimated Total Run	Eggs Collected
Solomon Gulch	199,639,850	17,947,623	29,961	714,431	478,100	1,222,492	236,298,472
Armin F. Koernig	144,000,000	7,700,000	6,290,926	4,000,465	252,120	10,543,511	162,000,000
Wally Noerenberg	136,000,000	7,500,000	1,665,106	1,316,027	242,345	3,223,478	148,000,000
Cannery Creek	131,000,000	7,500,000	2,276,020	644,852	340,864	3,261,736	152,000,000
Total Pink Salmon	610,639,850	40,647,623	10,262,013	6,675,775	1,313,429	18,251,217	698,298,472

Chum salmon [a]

Hatchery or release site	BY 2003 Release	BY 2004 Release	BY 2005 Release	BY 2006 Release	2009 Forecast Run [b]	Estimated CPF Contribution (0.073218826)	Estimated Sales Harvest Contribution [c]	Broodstock & Unharvested Contribution [d]	Estimated Total Run	Eggs Collected
Sawmill Bay	16,198,524	15,163,742	15,797,568	15,500,000	409,000			0		17,400,000
Wally Noerenberg	73,883,852	71,343,434	90,403,140	73,500,000	2,840,000	1,597,573	441,988	156,835	2,209,304	132,000,000
Port Chalmers	41,090,505	40,478,815	39,815,183	40,100,000	1,014,000	938,455	12,908	0		0
Total Chum Salmon	131,172,881	126,985,991	146,015,891	129,100,000	4,263,000	2,536,028	454,896	156,835	2,209,304	149,400,000

Total-All Salmon						13,755,578	7,279,648	1,530,507	21,627,278	898,939,566

-continued-

[a] Contribution estimates from PWSAC and VFDA hatcheries are based on analysis of otolith recoveries, historical data, and location of harvest as reported on fish tickets.

[b] Gulkana Hatchery run forecasts were completed by ADF&G; all other hatchery run forecasts were completed by Prince William Sound Aquaculture and Valdez Fisheries Development Association.

[c] Includes whole fish purse seine and raceway harvest, but does not include carcass sales from viable broodstock.

[d] Includes viable broodstock, ground fish, fish given away, holding mortalities, watershed spawners, and fish remaining in the bay after all harvests were complete.

[e] Does not include donated, discarded, and confiscated salmon.

[f] Includes Solf Lake marked sockeye salmon.

[g] Includes remote releases at Chenega, Cordova, and Whittier.

Appendix E2.–Sales harvests of salmon by species from private not-for-profit hatcheries in Prince William Sound as reported on fish tickets, 1977–2009.

Year	Hatchery [a]	Sockeye Sales[b]	Sockeye Broodstock Sales[c]	Coho Sales[b]	Coho Broodstock Sales[c]	Pink Sales[b]	Pink Broodstock Sales[c]	Chum Sales[b]	Chum Broodstock Sales[c]	Total
1977	AFK					15545				15545
1978	AFK					114,188				114,188
1979	AFK					223,748				223,748
1980	AFK, N					346,728		6		346,734
1981	AFK					707,037		118		707,155
1982	AFK					1,354,732				1,354,732
1983	AFK					616,963				616,963
1984	AFK, SG					415,393		4,886		420,279
1985	AFK, SG					1,209,960		3,840		1,213,800
1986	AFK, SG			2,156		905,464		20,683		928,303
1987 [d]	AFK, SG, E, CC			7,015		2,691,190		2,549		2,700,754
1988	AFK, SG, E			6,110		1,632,701		42,694		1,681,505
1989 [e]	AFK, SG, WNH, CC, MB			52,307		7,812,373		131,362		7,996,042
1990	AFK, SG, WNH, CC			14,199		8,732,658		24,554		8,771,411
1991	AFK, SG, WNH, CC			52,625		5,955,561		13,471		6,021,657
1992	AFK, SG, WNH, CC, MB	163,086		73,530		3,049,394		57,392		3,343,402
1993	AFK, SG, WNH, CC, MB	113,738		3,259		2,212,403		475,148		2,804,548
1994	AFK, SG, WNH, CC, MB	79,541		22,454		10,521,439		380,365		11,003,799
1995	AFK, SG, WNH, CC, MB	63,326		13,248		5,100,819		231,539		5,408,932
1996 [f]	AFK, SG, WNH, CC, MB	86,911		38,945		8,291,205		1,066,683		9,483,744
1997	AFK, SG, WNH, CC, MB,GH	266,335		2,933		9,854,675		811,179		10,935,122
1998	AFK, SG, WNH, CC, MB,GH	148,288		20,199		8,825,226		519,215		9,512,928
1999	AFK, SG, WNH, CC, GH	28,769		0		13,130,211		777,180		13,936,168
2000	AFK, SG, WNH, CC, MB	218		1		11,125,819		1,729,876		12,855,914
2001	AFK, SG, WNH, CC, MB	43,073		21,781		12,914,314		936,028		13,915,196
2002	AFK, SG, WNH, CC, MB	93,722		1		10,787,752		2,580,926		13,462,402
2003	AFK, SG, WNH, CC, MB	366,770		0	19,782	12,426,375	730,599	1,540,227	22,792	15,083,753
2004	AFK, SG, WNH, CC, MB	279,902		0		11,825,224		528,676		12,633,802
2005	AFK, SG, WNH, CC, MB	207,605		27,417	60,676	12,529,283	1,246,992	535,783	98,695	14,607,756
2006 [g]	AFK, SG, WNH, CC, MB	348,156		17,198	5,090	9,727,499	239,905	824,558	22,105	10,917,531
2007	AFK, SG, WNH, CC, MB	321,330	0	11,954	17,690	11,990,924	912,585	1,099,730	173,452	14,354,213
2008	AFK, SG, WNH, CC	0	0	267	22,356	6,563,243	1,076,140	478,690	162,643	8,303,339
10-Year Average		168,955		7,862		11,302,064		1,103,167		13,007,007
2009	AFK, SG, WNH, CC, MB	133,873	0	17,424	0	6,760,475	1,107,515	608,541	143,114	8,770,942

-continued-

[a] Hatcheries:
N = NERKA Inc.
SG = Solomon Gulch Hatchery (VFDA)
AFK = Armin F. Koernig (PWSAC) (formerly Port San Juan Hatchery)
CC = Cannery Creek (PWSAC) (formerly operated by ADF&G)
E = Esther Hatchery (PWSAC) (renamed WNH in 1989)
WNH = Wally Noerenberg Hatchery (PWSAC) (formerly Esther Hatchery)
MB = Main Bay (PWSAC) (formerly operated by ADF&G)
GH = Gulkana Hatchery (Crosswind Lake Weir)(formerly operated by ADF&G)

[b] Salmon harvested to generate revenues to offset operating costs. Does not include broodstock sales.

[c] Includes all reported broodstock sales (carcasses from egg takes and roe extraction).

[d] PWSAC administered a sales harvest at the state owned Cannery Creek hatchery. The majority of coho salmon sold were carcasses and surplus brood fish from the Solomon Gulch hatchery.

[e] PWSAC administered a sales harvest at the state owned Main Bay Hatchery to harvest surplus chum salmon from the closure of the common property fishery.

[f] Includes 269,848 pink salmon Peter Pan Seafoods bought from VFDA and then discarded after roe extraction. Also includes approximately 250,000 chum processed by PWSAC for meal production and roe extraction.

[g] Includes 1,227 pink salmon incidentally harvested in the MBH cost recovery fishery.

Appendix E3.–Historical harvest contributions, thermally marked otolith releases, and total returns of pink salmon to Prince William Sound Hatcheries, return years 1998 to 2010.

Brood Year	Return Year	Fry Release	Hatchery Contribution to Broodstock Esc. [a]	Total Sales Harvest	Hatchery Contribution to Sales Harvest	Hatchery Contribution to the CCPF [b]	Total Hatchery Return	Estimated Marine Survival
Solomon Gulch Hatchery								
1996	1998	188,862,094	295,438	3,428,348	3,076,945	1,226,679	4,599,062	2.44%
1997	1999	195,162,163	954,305	4,379,659	4,354,601	9,465,378	14,774,284	7.57%
1998	2000	213,906,642	520,934	4,033,635	3,983,473	7,635,581	12,139,988	5.68%
1999	2001	195,763,690	524,857	3,970,310	3,932,080	11,458,958	15,915,895	8.13%
2000	2002	203,897,201	420,062	4,430,173	4,368,519	360,850	5,149,431	2.53%
2001	2003	202,573,328	1,636,618	4,188,294	4,184,463	11,871,024	17,692,105	8.73%
2002	2004	206,397,607	300,362	3,782,011	3,597,708	7,262,379	11,160,448	5.41%
2003	2005	215,000,000	585,196	3,534,939	3,534,939	13,713,349	17,833,484	8.29%
2004	2006	222,218,569	481,121	3,855,271	3,762,010	4,840,097	9,083,228	4.09%
2005	2007	216,921,213	294,054	3,967,798	3,967,798	19,586,090	23,847,942	10.99%
2006	2008	220,408,302	283,434	4,267,840	4,226,915	10,946,866	15,457,215	7.01%
2007	2009	199,639,850	478,100	742,660	714,431	29,942	1,222,473	0.61%
2008	2010	226,202,628						
Armin F. Koernig Hatchery								
1996	1998	52,384,532	643,153	1,634,956	1,582,038	5,037,454	7,262,645	13.86%
1997	1999	105,974,235	1,352,746	2,814,760	2,994,037	5,108,346	9,455,129	8.92%
1998	2000	133,156,995	235,813	2,017,913	1,998,334	4,646,469	6,880,616	5.17%
1999	2001	142,537,692	368,706	2,929,441	2,803,175	1,668,025	4,839,906	3.40%
2000	2002	150,287,930	368,694	2,285,050	2,291,770	5,098,103	7,758,567	5.16%
2001	2003	155,982,828	1,135,571	1,436,990	1,436,990	4,494,486	7,067,047	4.53%
2002	2004	146,407,222	750,252	3,485,375	2,816,777	1,293,453	4,860,481	3.32%
2003	2005	174,200,000	793,048	2,898,305	2,898,305	6,429,875	10,121,228	5.81%
2004	2006	131,197,783	459,670	2,379,170	2,364,838	2,391,723	5,216,231	3.98%
2005	2007	159,616,613	265,216	3,040,328	3,045,323	12,449,638	15,760,177	9.87%
2006	2008	179,000,000	193,982	893,600	708,534	5,209,753	6,112,269	3.41%
2007	2009	144,000,000	252,120	4,007,244	4,000,465	6,290,036	10,542,621	7.32%
2008	2010	145,000,000						

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Brood Year	Return Year	Fry Release	Hatchery Contribution to Broodstock Esc. [a]	Total Sales Harvest	Hatchery Contribution to Sales Harvest	Hatchery Contribution to the CCPF [b]	Total Hatchery Return	Estimated Marine Survival
Wally Noerenberg Hatchery								
1996	1998	106,440,456	1,163,890	2,437,615	2,427,120	4,817,354	8,408,364	7.90%
1997	1999	103,675,208	886,277	3,860,431	3,861,891	4,828,682	9,576,850	9.24%
1998	2000	123,869,678	255,851	3,536,232	3,520,212	4,980,503	8,756,566	7.07%
1999	2001	116,069,339	325,003	4,937,169	4,949,180	1,906,503	7,180,686	6.19%
2000	2002	127,651,881	350,000	3,471,338	3,426,483	1,840,319	5,616,802	4.40%
2001	2003	106,229,524	982,982	4,400,958	4,400,958	12,422,082	17,806,022	16.76%
2002	2004	119,553,743	360,928	2,292,300	2,292,300	144,533	2,797,761	2.34%
2003	2005	110,000,000	1,043,736	3,619,170	3,619,170	4,515,479	9,178,385	8.34%
2004	2006	84,060,920	321,679	2,327,268	2,327,268	1,459,313	4,108,260	4.89%
2005	2007	84,795,328	236,438	3,472,456	3,456,332	3,831,328	7,524,098	8.87%
2006	2008	77,200,000	202,568	1,265,683	1,068,239	7,429,854	8,700,661	11.27%
2007	2009	136,000,000	242,345	1,343,506	1,316,027	1,664,792	3,223,164	2.37%
2008	2010	128,000,000						
Cannery Creek Hatchery								
1996	1998	136,838,852	904,945	1,324,307	1,305,144	4,869,014	7,079,103	5.17%
1997	1999	137,571,564	1,293,460	2,076,361	2,014,448	5,414,942	8,722,850	6.34%
1998	2000	131,195,588	280,811	1,538,039	1,575,341	4,688,206	6,544,358	4.99%
1999	2001	132,236,317	428,859	1,089,998	1,103,072	589,171	2,121,102	1.60%
2000	2002	139,226,716	345,082	601,191	616,354	627,065	1,588,501	1.14%
2001	2003	138,626,713	551,247	2,400,133	2,400,133	5,390,008	8,341,388	6.02%
2002	2004	135,584,680	540,129	2,265,538	2,265,538	135,021	2,940,688	2.17%
2003	2005	139,400,000	590,559	2,436,874	2,436,874	10,452,306	13,479,739	9.67%
2004	2006	126,575,805	431,920	1,164,563	1,155,733	1,319,036	2,906,689	2.30%
2005	2007	138,157,160	348,619	1,443,191	1,443,191	5,638,233	7,430,043	5.38%
2006	2008	141,000,000	206,926	1,270,289	1,056,676	9,749,992	11,013,594	7.81%
2007	2009	131,000,000	340,864	667,071	644,852	2,275,948	3,261,664	2.49%
2008	2010	141,000,000						

[a] Includes broodstock (for egg take and roe extraction), ground fish, fish given away, holding mortalities, watershed spawners, and fish remaining in the bay after all harvests were complete.

[b] Commercial common property fisheries.

Appendix E4.–Historical harvest contributions, coded wire tag (CWT) and thermally marked otolith releases, and total returns of pink salmon to all hatcheries combined, 1977 to 2009.

Brood Year (BY)	Return Year	Fry Release [a]	CWT/Otolith Applied to Fry Release [b] [c]	Hatchery Contributions [f] Hatchery Cost Recovery Harvest [c]	Commercial Common Property Harvest	Other Harvests [d]	Broodstock Escapement [g]	Total Return	Estimated Marine Survival
1975	1977	1,000,000	0	7,745	4,000	0	16,112	27,857	2.79%
1976	1978	11,010,577	0	114,188	0	0	40,432	154,620	1.40%
1977	1979	16,950,784	0	223,748	275,000	0	54,207	552,955	3.26%
1978	1980	25,600,739	0	346,728	1,092,048	0	145,061	1,583,837	6.19%
1979	1981	24,194,000	0	707,037	1,430,747	0	268,501	2,406,285	9.95%
1980	1982	91,076,000	0	1,354,732	4,303,900	0	239,945	5,898,577	6.48%
1981	1983	91,951,000	0	686,963	3,338,366	0	258,062	4,283,391	4.66%
1982	1984	115,107,533	0	415,393	3,313,423	0	341,259	4,070,075	3.54%
1983	1985	116,336,000	0	1,209,960	6,259,923	0	640,340	8,110,223	6.97%
1984	1986	191,306,265	0	905,464	5,662,315	0	466,471	7,034,250	3.68%
1985	1987	231,538,713	646,561	2,691,190	14,197,065	0	1,158,908	18,047,163	7.79%
1986	1988	218,830,647	568,688	1,632,701	8,748,000	0	824,302	11,205,003	5.12%
1987	1989	532,045,966	939,498	5,767,911	10,561,099	0	856,927	19,052,529 [e]	3.58%
1988	1990	507,688,297	1,074,099	6,691,160	24,379,475	0	749,910	33,315,579 [e]	6.56%
1989	1991	615,139,948	1,128,899	5,201,860	20,900,355	3,573,805	1,324,255	32,750,955 [e]	5.32%
1990	1992	603,519,636	1,091,403	2,626,248	4,345,805	30,290	789,880	8,579,332 [e]	1.42%
1991	1993	495,700,200	823,128	1,544,727	2,392,162	14,648	921,073	6,177,575 [e]	1.25%
1992	1994	567,320,470	950,976	7,613,582	21,173,273	56,396	1,422,306	35,100,601 [e]	6.19%
1993	1995	488,575,978	941,811	4,703,457	9,072,469	78,020	1,154,635	14,475,842 [e]	2.96%
1994	1996	613,158,229	1,017,782	5,363,551	14,502,198	0	544,531	24,284,522 [e]	3.96%
1995	1997	651,675,427	1,079,354	9,780,451	14,893,055	226	1,974,521	26,648,253	4.09%
1996	1998	484,525,934	484,525,934	8,666,960	16,145,999	6,931	3,008,251	27,828,141	5.74%
1997	1999	542,356,070	542,356,934	12,988,616	24,838,848	237,318	4,529,055	42,593,837	7.85%
1998	2000	602,128,903	602,128,903	11,055,419	22,099,196	728	1,293,409	34,448,752	5.72%
1999	2001	586,607,038	586,607,038	12,765,960	15,625,341	1,204	1,647,425	30,039,930	5.12%
2000	2002	621,063,728	621,063,728	10,703,126	7,926,335	992	1,497,115	20,127,568	3.24%
2001	2003	603,412,393	603,412,393	12,422,544	34,177,600	606	4,306,418	50,907,168	8.44%
2002	2004	607,943,252	607,943,252	11,825,224	8,835,385	652	1,951,671	22,612,932	3.72%
2003	2005	638,600,000	638,600,000	12,529,283	35,111,009	272	5,013,716	52,654,280	8.25%
2004	2006	564,053,077	564,053,077	9,726,272	10,010,169	384	1,694,390	21,431,215	3.80%
2005	2007	599,490,314	599,490,314	11,888,945	41,505,289	653	1,144,327	54,539,214	9.10%
2006	2008	617,608,302	617,608,302	7,060,364 [h]	33,336,465	715	886,910 [i]	41,284,454	6.68%
2007	2009	640,202,628	640,202,628	6,675,775 [h]	10,260,718	1,295	1,313,429 [i]	18,251,217	2.85%

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[a] Data for BY 1985 and 1987 to 1995 provided by the ADF&G CWT project; Prince William Sound Aquaculture (PWSAC) provided data for all other years.

[b] Brood years 1985 to 1995 pink salmon were part of the ADF&G CWT project; after 1995, all hatchery pink salmon were thermally marked.

[c] Data for brood years 1985 to 1995 are from the ADF&G CWT project; after 1995, data obtained from otolith analysis.

[d] Includes donated, discarded, and confiscated fish in addition to all fish harvested in the Southwestern District otolith test fishery.

[e] Revised contribution based on individual hatchery CWT adjustment factors. The individual categories were not adjusted; only the total return and estimated marine survival.

[f] Data from ADF&G contribution estimates. No otolith collections were made from broodstock escapements after 1999 because the 1997–1999 data indicated broodstock escapements were <0.05 % wild stock fish. Otolith sampling has been a low priority in the hatchery cost recovery (CR) harvests since 1999 because sampling in the 1997–1999 CR harvests indicated few wild fish (<2%). Contributions do not include harvest from the Bering and Copper River Districts.

[g] Beginning in 1994, broodstock numbers include fish processed for roe. Broodstock escapements prior to 1997 may not include fish remaining in the bay and watershed spawners and may underestimate broodstock escapement.

[h] Hatchery cost recovery is the whole fish purse seine and raceway effort and does not include carcass sales from viable broodstock.

[i] Broodstock escapement includes broodstock sales (carcasses from egg take), holding mortalities, watershed spawners, and fish remaining in the bay after all harvests were complete.

Appendix E5.–Historical harvest contributions, thermally marked otolith releases, and total returns of coho salmon to Prince William Sound hatcheries, brood years 1988–2009.

Brood Year	Return Year	Fry Release	Hatchery Contribution to the CCPF	Hatchery Contribution to Subs/PU Harvest	Hatchery Contribution to Sport Harvest [a]	Hatchery Contribution to Broodstock Esc. [b]	Hatchery Contribution to Cost Recovery [c]	Total Hatchery Return	Estimated Marine Survival
Solomon Gulch Hatchery									
1988	1991	807,153	4,157	0	10,393	1,461	39,176	55,187	6.84%
1989	1992	993,633	5,000	0	17,580	2,651	26,776	52,007	5.23%
1990	1993	1,226,044	102	0	12,841	1,658	2,343	16,944	1.38%
1991	1994	461,388	0	1,000	18,633	11,376	22,091	53,100	11.51%
1992	1995	915,087	78,006	1,000	37,265	16,045	21,592	153,908	16.82%
1993	1996	1,325,316	87,360	0	42,822	21,772	13,713	165,667	12.50%
1994	1997	1,875,823	47,500	0	36,311	13,605	9,818	107,234	5.72%
1995	1998	1,315,183	23,717	1,627	37,088	3,880	19,068	85,380	6.49%
1996	1999	1,748,486	67,232	0	36,125	2,541	12,679	118,577	6.78%
1997	2000	1,863,528	342,490	3,800	67,563	1,625	24,887	440,365	23.63%
1998	2001	1,625,599	147,000	3,854	75,109	1,778	25,595	253,336	15.58%
1999	2002	1,519,328	25,017	0	54,832	21,323	8,000	109,172	7.19%
2000	2003	1,821,889	63,132	0	83,795	17,379	4,087	168,393	9.24%
2001	2004	1,275,145	26,711	0	65,696	2,585	9,897	104,889	8.23%
2002	2005	1,442,274	129,966	0	75,152	2,102	30,686	237,906	16.50%
2003	2006	1,968,366	210,382	0	68,164	2,455	16,172	297,173	15.10%
2004	2007	1,511,592	58,299	0	85,043	3,564	17,748	164,654	10.89%
2005	2008	1,973,604	154,383	0	48,396	3,101	22,356	228,236	11.56%
2006	2009	1,828,100	914	0	67,201	3,955	17,424	89,494	4.90%
2007	2010	1,525,927							
Wally Noerenberg Hatchery									
1988	1991	2,397,419	71,947	0	5,788 [d]	6,469	13,990	98,194	4.10%
1989	1992	2,223,282	114,165	0	2,017 [d]	0	46,121	162,303	7.30%
1990	1993	1,831,198	39,658	0	2,279 [d]	4,857	1,532	48,326	2.64%
1991	1994	1,303,077	81,396	0	3,909 [d]	5,439	13,258	104,002	7.98%
1992	1995	1,483,936	34,680	0	2,307 [d]	4,964	5,152	47,103	3.17%
1993	1996	2,063,934	26,245	0	5,264 [d]	4,081	39,506	75,096	3.64%

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Brood Year	Return Year	Fry Release	Hatchery Contribution to the CCPF	Hatchery Contribution to Subs/PU Harvest	Hatchery Contribution to Sport Harvest [a]	Hatchery Contribution to Broodstock Esc. [b]	Hatchery Contribution to Cost Recovery. [c]	Total Hatchery Return	Estimated Marine Survival
Wally Noerenberg Hatchery									
1994	1997	275,406	5,626	0	3,561 [d]	5,674	0	14,861	5.40%
1995	1998	203,651	2,800	0	4,307 [d]	1,541	0	8,648	4.25%
1996	1999	407,715	338	0	4,194 [d]	2,533	0	7,065	1.73%
1997	2000	1,068,338	111,256	0	9,749 [d]	2,551	0	123,556	11.57%
1998	2001	375,670	2,488	0	13,960 [e]	3,277	0	19,725	5.25%
1999	2002	219,967	3,215	0	16,770 [e]	2,389	0	22,374	10.17%
2000	2003	485,834	9,624	0	17,858 [e]	1,314	0	28,796	5.93%
2001	2004	920,858	9,333	0	17,323 [e]	150	637	27,443	2.98%
2002	2005	989,383	53,257	0	31,023 [e]	11,450	19	95,749	9.68%
2003	2006	1,057,922	113,997	0	19,768 [e]	17,079	0	150,844	14.26%
2004	2007	1,052,897	84,867	0	33,323 [e]	2,129	11,975	132,294	12.56%
2005	2008	1,850,000	116,641	0	15,790 [e]	2,609	267	135,307	7.31%
2006	2009	1,930,000	20,209	0	22,960	2,064	0	45,233	2.34%
2007	2010	226,000							

[a] These estimates assume all coho salmon harvested in PWS are from SGH or WNH production.
[b] Broodstock escapements include all fish remaining after commercial harvests, i.e., fish used for brood, watershed spawners, predation behind the barrier seine, and fish remaining in front of the hatchery.
[c] Commercial common property fisheries.
[d] Sport fish harvest was calculated by summing coho harvest from northwest PWS and Orca Inlet as reported in the 2007 AMR for Recreational Fisheries in PWS.
[e] Sport fish harvest was calculated by summing Whittier harvest and Orca Inlet harvest as reported in the 2007 AMR for Recreational Fisheries in PWS.

Appendix E6.–Sockeye salmon hatchery and wild stock contributions to the Copper River drift gillnet commercial common property fishery by period, 2009.

			Origin [a]							
			Gulkana		Main Bay		Hatchery	Wild		
Dates	Period	Hours	Nr.	Percent	Nr.	Percent	Total	Nr.	Percent	Total
05/14 - 05/14	1 [a]	12	193	0.9%	0	0.0%	193	20,427	99.1%	20,620
05/18 - 05/18	2 [a]	12	916	0.9%	0	0.0%	916	97,053	99.1%	97,969
05/21 - 05/21	3 [a]	12	863	0.9%	0	0.0%	863	91,500	99.1%	92,363
05/25 - 05/25	4 [a]	12	934	0.9%	0	0.0%	934	99,047	99.1%	99,981
05/28 - 05/29	5 [a]	36	1,008	0.9%	0	0.0%	1,008	106,798	99.1%	107,806
06/01 - 06/02	6 [a]	36	596	0.9%	0	0.0%	596	63,156	99.1%	63,752
06/04 - 06/05	7 [a]	24	362	0.9%	0	0.0%	362	38,369	99.1%	38,731
06/08 - 06/08	8	12	365	0.9%	0	0.0%	365	38,711	99.1%	39,076
06/17 - 06/17	9	12	273	0.5%	0	0.0%	273	49,662	99.5%	49,935
06/20 - 06/20	10	12	1,755	7.9%	319	1.4%	2,074	20,257	90.7%	22,330
06/22 - 06/22	11	12	212	4.3%	0	0.0%	212	4,780	95.7%	4,992
06/25 - 06/25	12	12	2,342	9.1%	138	0.5%	2,479	23,279	90.4%	25,758
06/29 - 06/29	13	12	3,834	15.9%	274	1.1%	4,108	19,993	83.0%	24,101
07/02 - 07/03	14	24	5,858	21.4%	300	1.1%	6,159	21,180	77.5%	27,339
07/06 - 07/07	15	24	9,476	30.1%	517	1.6%	9,993	21,537	68.3%	31,530
07/09 - 07/10	16	24	6,508	16.1%	1,302	3.2%	7,810	32,542	80.6%	40,352
07/13 - 07/14	17	24	9,595	23.3%	0	0.0%	9,595	31,622	76.7%	41,217
07/16 - 07/17	18	24	6,691	21.3%	176	0.6%	6,867	24,474	78.1%	31,341
07/20 - 07/21	19	36	2,256	23.6%	68	0.7%	2,324	7,246	75.7%	9,570
07/23 - 07/24	20	36	610	18.6%	29	0.9%	639	2,643	80.5%	3,282
07/27 - 07/28	21	36	1,766	21.6%	80	1.0%	1,846	6,342	77.5%	8,188
07/30 - 07/31	22 [a]	36	1,414	21.6%	64	1.0%	1,478	5,077	77.5%	6,555
08/03 - 08/04	23 [a]	36	823	21.6%	37	1.0%	860	2,956	77.5%	3,816
08/06 - 08/07	24 [a]	36	340	21.6%	15	1.0%	356	1,221	77.5%	1,577
08/10 - 08/11	25 [a]	36	300	21.6%	14	1.0%	314	1,079	77.5%	1,393
08/13 - 08/14	26 [a]	36	167	21.6%	8	1.0%	175	599	77.5%	774
08/17 - 08/18	27 [a]	24	220	21.6%	10	1.0%	230	792	77.5%	1,022
08/20 - 08/20	28 [a]	12	148	21.6%	7	1.0%	154	530	77.5%	684
08/24 - 08/24	29 [a]	12	88	21.6%	4	1.0%	92	314	77.5%	406
08/31 - 09/01	30 [a]	24	25	21.6%	1	1.0%	26	89	77.5%	115
09/07 - 09/08	31 [a]	24	3	21.6%	0	1.0%	3	10	77.5%	13
09/10 - 09/11	32 [a]	24	5	21.6%	0	1.0%	5	19	77.5%	24
09/14 - 09/15	33 [a]	24	1	21.6%	0	1.0%	1	4	77.5%	5
09/17 - 09/18	34 [a]	36	1	21.6%	0	1.0%	1	3	77.5%	4
09/21 - 09/22	35 [a]	36	0		0		0	0		0
09/24 - 09/25	36 [a]	36	0		0		0	0		0
09/28 - 09/30	37 [a]	60	0		0		0	0		0
10/01 - 10/04	38 [a]	84	0		0		0	0		0
10/05 - 10/07	39 [a]	60	0		0		0	0		0
10/08 - 10/11	40 [a]	84	0		0		0	0		0
Total			59,948	676.4%	3,364	0.0	63,312	833,309	93.2	896,621

[a] No otolith contribution estimates. Proportions based on nearest sampled period or average of nearest adjacent periods.

Appendix E7.–Gulkana sockeye salmon harvests and total contribution, 1977–2009.

	Hatchery Contributions				Total
Year	Commercial[a]	Subsistence/ Personal Use[b]	Sport[c]	Broodstock/ Escapement[d]	Hatchery Run
1977	183	12	0	122	317
1978	720	74	2	1,300	2,096
1979	900	393	9	3,425	4,727
1980	350	589	34	4,250	5,223
1981	3,600	478	13	4,650	8,741
1982	3,600	322	6	5,740	9,668
1983	6,600	1,167	23	6,502	14,292
1984	5,318	450	14	14,650	20,433
1985	31,955	2,121	114	20,680	54,870
1986	30,404	2,667	113	20,975	54,159
1987	47,347	3,071	184	28,200	78,802
1988	92,552	9,351	260	30,125	132,288
1989	175,643	13,734	534	47,075	236,986
1990	64,917	7,203	209	19,100	91,429
1991	102,009	9,449	228	40,659	152,346
1992	87,120	11,455	261	32,396	131,232
1993	149,844	14,812	370	97,249	262,274
1994	94,656	9,157	175	69,750	173,738
1995	147,844	15,289	343	65,640	229,116
1996	314,916	16,144	855	145,903	477,818
1997	266,724	8,857	190	129,017	404,788
1998	524,985	31,824	1,045	119,130	676,984
1999	945,287	42,281	861	130,735	1,119,163
2000	366,372	34,113	1,006	73,115	474,606
2001	196,326	35,699	369	80,485	312,879
2002	335,451	28,305	585	60,254	424,595
2003	138,056	19,513	263	44,961	202,793
2004	59,540	27,117	184	6,695	93,537
2005	95,897	28,031	223	91,058	215,209
2006	163,691	26,860	179	96,552	287,282
2007	94,232	9,656	97	27,602	131,587
2008	21,669	19,175	235 [e]	47,667	88,746
10-Year Average	241,652	27,075	400	65,912	335,040
2009	59,948	29,355	320 [e]	43,409	133,032

[a] Commercial contributions are from strontium marks (2004–current), coded wire tags (1995–2003), and fry to adult survival, age composition at return and exploitation rate (1977–1994).
[b] Subsistence and Personal Use contributions are from strontium marks (2004–current), coded wire tags (1995–2003), and fry to adult survival, age composition at return and exploitation rate (1977–1994).
[c] Sport fishery contributions are the sum of sport harvest from Copper River mainstem and Gulkana Rivers multiplied by Gulkana Hatchery contribution percentage to the Glennallen Subsistence and Chitina Personal Use fisheries for that year.
[d] Broodstock and escapement contributions are based on survey of release sites and hatchery reporting.
[e] 2008 Sport harvest from Copper River mainstem and Gulkana River is a 5-year average.

Appendix E8.–Gulkana Hatchery salmon fry releases, 1974–2009.

	Chinook salmon			Sockeye salmon					
Release Year	Monsoon Lake	Gulkana River (E. Fork)	Total Chinook salmon released	Gulkana I&II (Paxson Lake)	Summit Lake	Crosswind Lake	Harding Lake	Ten Mile Lake	Total sockeye salmon released
1974				79,691				99,620	179,311
1975				785,110				101,446	886,556
1976				626,007				101,600	727,607
1977				516,326				112,248	628,574
1978				479,864				104,058	583,922
1979				940,666				99,589	1,040,255
1980				1,105,397	1,340,660				2,446,057
1981				3,388,682	1,860,491				5,249,173
1982				5,985,270	2,047,947				8,033,217
1983				5,470,056	4,312,628				9,782,684
1984				6,079,838	4,739,293				10,819,131
1985				10,130,942	9,296,882	1,419,095			20,846,919
1986				8,586,509	14,999,085				23,585,594
1987				9,905,907	12,491,826				22,397,733
1988		1,388	1,388	6,389,963	12,026,642	2,487,396	503,375		21,407,376
1989	15,977		15,977	10,870,655	12,004,491	3,130,373	515,046		26,520,565
1990				14,127,313	6,445,011	4,906,005	505,305		25,983,634
1991	26,209		26,209	11,288,721	6,109,833	5,469,759			22,868,313
1992	30,488	34,842	65,330	11,640,000	7,049,000	8,420,000			27,109,000
1993				5,866,230	2,661,549	5,627,346			14,155,125
1994				11,008,964	7,637,009	9,144,382			27,790,355
1995				12,345,894	7,418,311	9,973,600			29,737,805
1996				12,241,896	8,400,148	9,732,911			30,374,955
1997				12,286,366	8,987,213	10,516,107			31,789,686
1998				11,589,845	10,162,655	10,512,299			32,264,799
1999				11,551,836	9,191,217	9,984,392			30,727,445
2000				10,705,795	3,300,504	8,331,080			22,337,379
2001				7,870,334	493,516	5,585,665			13,949,515
2002				11,922,685	5,805,231	8,174,754			25,902,670
2003				11,284,330	6,599,519	8,360,966			26,244,815
2004				12,408,512	6,574,962	8,359,115			27,342,589
2005				3,308,065	0	3,703,295			7,011,360
2006				5,523,920	4,681,325	10,017,211			20,222,456
2007				6,000,000	6,000,000	10,000,000			22,000,000
2008				6,000,000	6,000,000	10,000,000			22,000,000
10-Year Average				9,216,532	5,280,893	8,302,878			22,800,303
2009				6,000,000	6,000,000	10,000,000			22,000,000

Appendix E9.–Sockeye salmon hatchery and wild stock contributions to the Coghill District commercial common property fishery by period, 2009.

			Origin									
			Gulkana		Main Bay		Solf Lake		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1 [a]	60 [b]	ND	ND	12	0.5	1	0.0	12.4	10	0.4	22
05/28 - 05/31	2 [a]	84 [b]	ND	ND	13	0.5	1	0.0	13.5	10	0.4	24
06/01 - 06/03	3 [a]	60 [b]	ND	ND	89	0.5	4	0.0	93.1	72	0.4	165
06/04 - 06/07	4 [a]	84 [b]	ND	ND	596	0.5	28	0.0	624.5	483	0.4	1107
06/08 - 06/10	5 [a]	60 [d]	ND	ND	1,550	0.5	74	0.0	1623.5	1255	0.4	2878
06/11 - 06/14	6 [a]	84 [e]	ND	ND	4,588	0.7	0	0.0	4587.8	1682	0.3	6270
06/15 - 06/17	7 [a]	60 [f]	ND	ND	5,273	0.7	0	0.0	5272.8	1855	0.3	7128
06/18 - 06/21	8 [a]	84 [g]	ND	ND	6,783	0.7	0	0.0	6783.1	2609	0.3	9392
06/22 - 06/24	9 [a]	60	ND	ND	4,706	0.5	0	0.0	4705.9	4868	0.5	9574
06/25 - 06/28	10 [a]	84	ND	ND	1,285	0.3	0	0.0	1285.2	3133	0.7	4418
06/29 - 07/01	11 [a]	60	ND	ND	2,832	0.3	0	0.0	2831.6	6444	0.7	9276
07/02 - 07/05	12 [a]	84	ND	ND	2,437	0.2	0	0.0	2437.0	9071	0.8	11508
07/06 - 07/08	13 [a]	60	ND	ND	2,559	0.4	0	0.0	2558.7	3477	0.6	6036
07/09 - 07/11	14 [a]	60	ND	ND	3,924	0.5	0	0.0	3924.1	3401	0.5	7325
07/13 - 07/15	15 [a]	60	ND	ND	8,962	0.6	0	0.0	8962.3	5056	0.4	14018
07/16 - 07/19	16 [a]	84	ND	ND	6,070	0.6	0	0.0	6069.8	4750	0.4	10820
07/20 - 07/20	17 [a]	14	ND	ND	606	0.6	0	0.0	605.9	396	0.4	1002
07/21 - 07/21	18 [c]	14 [b]	ND	ND	287	0.6	0	0.0	286.7	183	0.4	470
07/22 - 07/22	19 [c]	14	ND	ND	345	0.6	0	0.0	345.3	220	0.4	565
07/23 - 07/23	20 [c]	14 [b]	ND	ND	112	0.6	0	0.0	112.4	72	0.4	184
07/24 - 07/24	21 [c]	14 [b]	ND	ND	229	0.6	0	0.0	228.6	145	0.4	374
07/25 - 07/25	22 [c]	14 [b]	ND	ND	180	0.6	0	0.0	180.3	115	0.4	295
07/26 - 07/26	23 [c]	14 [b]	ND	ND	76	0.6	0	0.0	76.4	49	0.4	125
08/11 - 08/11	24 [c]	14 [b]	ND	ND	178	0.6	0	0.0	177.8	113	0.4	291
08/12 - 08/12	25 [c]	14 [b]	ND	ND	91	0.6	0	0.0	91.1	58	0.4	149
08/13 - 08/13	26 [c]	14 [b]	ND	ND	145	0.6	0	0.0	144.8	92	0.4	237
08/14 - 08/14	27 [c]	14 [b]	ND	ND	103	0.6	0	0.0	103.3	66	0.4	169
08/15 - 08/15	28 [c]	14 [b]	ND	ND	102	0.6	0	0.0	102.1	65	0.4	167
08/16 - 08/16	29 [c]	14 [b]	ND	ND	90	0.6	0	0.0	89.8	57	0.4	147
08/17 - 08/17	30 [c]	14 [b]	ND	ND	76	0.6	0	0.0	75.8	48	0.4	124
08/18 - 08/18	31 [c]	14 [b]	ND	ND	66	0.6	0	0.0	66.0	42	0.4	108
08/19 - 08/19	32 [c]	14 [b]	ND	ND	45	0.6	0	0.0	45.2	29	0.4	74
08/20 - 08/20	33 [c]	14 [b]	ND	ND	32	0.6	0	0.0	32.4	21	0.4	53
08/21 - 08/21	34 [c]	14 [b]	ND	ND	23	0.6	0	0.0	22.6	14	0.4	37
08/22 - 08/22	35 [c]	14 [b]	ND	ND	25	0.6	0	0.0	25.1	16	0.4	41
08/23 - 08/23	36 [c]	14 [b]	ND	ND	11	0.6	0	0.0	11.0	7	0.4	18
08/24 - 08/24	37 [c]	14 [b]	ND	ND	46	0.6	0	0.0	45.8	29	0.4	75
08/25 - 08/25	38 [c]	12 [b]	ND	ND	35	0.6	0	0.0	35.4	23	0.4	58

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			Origin										
			Gulkana		Main Bay		Solf Lake		Hatchery	Wild			
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/26 - 08/26	39 [c]	12 [b]	ND	ND	6	0.6	0	0.0	5.5	4	0.4	9
08/27 - 08/27	40 [c]	12 [b]	ND	ND	3	0.6	0	0.0	3.1	2	0.4	5
08/28 - 08/28	41 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
08/29 - 08/29	42 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
08/30 - 08/30	43 [c]	12 [b]	ND	ND	2	0.6	0	0.0	2.4	2	0.4	4
08/31 - 08/31	44 [c]	12 [b]	ND	ND	6	0.6	0	0.0	5.5	4	0.4	9
09/01 - 09/01	45 [c]	12 [b]	ND	ND	1	0.6	0	0.0	0.6	0	0.4	1
09/02 - 09/02	46 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/03 - 09/03	47 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/04 - 09/04	48 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/05 - 09/05	49 [c]	12 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/07 - 09/08	50 [a]	24 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/10 - 09/11	51 [a]	24 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/14 - 09/15	52 [a]	24 [b]	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/17 09/18	53 [a]	24	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/21 09/22	54 [a]	24	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/24 09/25	55 [a]	24	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
09/28 09/30	56 [a]	48	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
10/01 10/04	57 [a]	72	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
10/05 10/07	58 [a]	48	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
10/08 10/11	59 [a]	72	ND	ND	0	0.0	0	0.0	0.0	0	0.0	0
Total			0	0.0	54,599	0.5	108	0.0	54,706	51,470	0.5	104,752

Note: The Gulkana Hatchery contribution is assumed to be zero based on historical data. No samples were examined for strontium chloride marks. ND = No data

[a] Drift gillnet gear only.

[b] No otolith contribution estimates. Proportions based on nearest sampled period or average of nearest adjacent sampled periods.

[c] Both drift gillnet and purse seine gear allowed.

[d] Non-PWS hatchery marks were found on 14 out of 53 otoliths collected during the period 5 opener in district 223: all 14 marked TRAILLAKES04MD.

[e] Non-PWS hatchery marks were found on 9 out of 91 otoliths collected during the period 6 opener in district 223: 3 marked BIGLAKE04, 6 marked TRAILLAKES04MD.

[f] Non-PWS hatchery marks were found on 4 out of 77 otoliths collected during the period 7 opener in district 223: all 4 marked TRAILLAKES04MD.

[g] Non-PWS hatchery marks were found on 1 out of 91 otoliths collected during the period 8 opener in district 223: marked TRAILLAKES04MD.

Appendix E10.–Pink salmon hatchery and wild stock contributions to the Coghill District commercial common property fishery by period, 2009.

			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
05/28 - 05/31	2 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/01 - 06/03	3 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/04 - 06/07	4 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/08 - 06/10	5 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	106	1.0	106
06/11 - 06/14	6 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	97	1.0	97
06/15 - 06/17	7 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/18 - 06/21	8 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/22 - 06/24	9 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	2	1.0	2
06/25 - 06/28	10 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	33	1.0	33
06/29 - 07/01	11 [a]	60 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	10	1.0	10
07/02 - 07/05	12 [a]	84 [b]	0	0.0	0	0.0	0	0.0	0	0.0	0	15	1.0	15
07/06 - 07/08	13 [a]	60	0	0.0	0	0.0	0	0.0	0	0.0	0	25	1.0	25
07/09 - 07/11	14 [a]	60	23	0.1	0	0.0	0	0.0	0	0.0	23	158	0.9	180
07/13 - 07/15	15 [a]	60 [e]	85	0.1	0	0.0	0	0.0	0	0.0	85	1,575	0.9	1,660
07/16 - 07/19	16 [a]	84	236	0.1	0	0.0	0	0.0	0	0.0	236	4,369	0.9	4,605
07/20 - 07/20	17 [a]	14 [e]	59	0.1	0	0.0	0	0.0	0	0.0	59	1,100	0.9	1,159
07/21 - 07/21	18 [c]	14	0	0.0	89	0.0	1,154	0.5	0	0.0	1,243	888	0.4	2,131
07/22 - 07/22	19 [c]	14	0	0.0	129	0.0	6,695	0.7	0	0.0	6,823	2,704	0.3	9,527
07/23 - 07/23	20 [c]	14 [f]	0	0.0	84	0.0	4,348	0.7	0	0.0	4,432	1,756	0.3	6,188
07/24 - 07/24	21 [c]	14 [g]	0	0.0	0	0.0	13,667	0.7	0	0.0	13,667	5,467	0.3	19,134
07/25 - 07/25	22 [c]	14	0	0.0	0	0.0	14,514	0.7	0	0.0	14,514	5,805	0.3	20,319
07/26 - 07/26	23 [c]	14	0	0.0	0	0.0	11,170	0.7	0	0.0	11,170	4,468	0.3	15,638
08/11 - 08/11	24 [c]	14 [h]	0	0.0	0	0.0	95,976	0.9	0	0.0	95,976	10,664	0.1	106,640
08/12 - 08/12	25 [c]	14	0	0.0	0	0.0	52,253	0.9	0	0.0	52,253	5,806	0.1	58,059
08/13 - 08/13	26 [c]	14	0	0.0	2,485	0.1	38,771	0.8	497	0.0	41,753	3,977	0.1	45,730

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			Origin												
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/14 - 08/14	27 [c]	14	0	0.0	3,644	0.1	25,507	0.7	0	0.0	29,150	5,466	0.2	34,616
08/15 - 08/15	28 [c]	14 [i]	0	0.0	5,427	0.1	37,989	0.7	0	0.0	43,416	8,141	0.2	51,557
08/16 - 08/16	29 [c]	14 [j]	0	0.0	3,421	0.1	55,868	0.9	0	0.0	59,289	2,280	0.0	61,569
08/17 - 08/17	30 [c]	14	0	0.0	5,879	0.1	96,020	0.9	0	0.0	101,899	3,919	0.0	105,818
08/18 - 08/18	31 [c]	14	0	0.0	9,859	0.1	98,594	0.9	0	0.0	108,453	0	0.0	108,453
08/19 - 08/19	32 [c]	14	1,214	0.0	36,428	0.3	69,213	0.6	3,643	0.0	110,499	6,071	0.1	116,570
08/20 - 08/20	33 [c]	14	0	0.0	44,169	0.2	204,281	0.8	0	0.0	248,450	5,521	0.0	253,971
08/21 - 08/21	34 [c]	14	0	0.0	3,838	0.1	65,243	0.9	0	0.0	69,081	0	0.0	69,081
08/22 - 08/22	35 [c]	14 [d]	0	0.0	1,321	0.0	46,232	1.0	0	0.0	47,553	0	0.0	47,553
08/23 - 08/23	36 [c]	14	0	0.0	0	0.0	16,327	1.0	0	0.0	16,327	0	0.0	16,327
08/24 - 08/24	37 [c]	14	0	0.0	1,833	0.0	40,334	0.9	0	0.0	42,168	1,833	0.0	44,001
08/25 - 08/25	38 [c]	12	0	0.0	0	0.0	34,266	0.9	3,807	0.1	38,073	0	0.0	38,073
08/26 - 08/26	39 [c]	12	0	0.0	1,190	0.1	16,656	0.8	1,190	0.1	19,035	1,190	0.1	20,225
08/27 - 08/27	40 [c]	12 [d]	0	0.0	595	0.1	10,114	0.9	0	0.0	10,709	0	0.0	10,709
08/28 - 08/28	41 [c]	12	0	0.0	519	0.1	8,829	0.9	0	0.0	9,348	0	0.0	9,348
08/29 - 08/29	42 [c]	12	0	0.0	0	0.0	10,714	1.0	0	0.0	10,714	0	0.0	10,714
08/30 - 08/30	43 [c]	12 [d]	0	0.0	0	0.0	7,687	1.0	0	0.0	7,687	0	0.0	7,687
08/31 - 08/31	44 [c]	12 [d]	0	0.0	0	0.0	5,019	1.0	0	0.0	5,019	0	0.0	5,019
09/01 - 09/01	45 [c]	12 [d]	0	0.0	0	0.0	2,278	1.0	0	0.0	2,278	0	0.0	2,278
09/02 - 09/02	46 [c]	12 [d]	0	0.0	0	0.0	518	1.0	0	0.0	518	0	0.0	518
09/03 - 09/03	47 [c]	12 [d]	0	0.0	0	0.0	199	1.0	0	0.0	199	0	0.0	199
09/04 - 09/04	48 [c]	12 [d]	0	0.0	0	0.0	170	1.0	0	0.0	170	0	0.0	170
09/05 - 09/05	49 [c]	12 [d]	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/07 09/08	50 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/10 09/11	51 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/14 09/15	52 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0

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				Origin											
				Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates		Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
09/17	09/18	53 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/21	09/22	54 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/24	09/25	55 [a]	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/28	09/30	56 [a]	48	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
10/01	10/04	57 [a]	72	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
10/05	10/07	58 [a]	48	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
10/08	10/11	59 [a]	72	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
	Totals			1,617		120,909		1,090,606		9,137		1,222,270	83,444		1,305,714

[a] Drift gillnet gear only.
[b] No otolith contribution estimates. Fish assigned to wild stock.
[c] Both drift gillnet and purse seine gear allowed.
[d] No otolith contribution estimates. Fish assigned to hatchery stock.
[e] No otolith contribution estimates. Proportions based on period 16 results.
[f] No otolith contribution estimates. Proportions based on period 19 results.
[g] No otolith contribution estimates. Proportions based on period 22 results.
[h] No otolith contribution estimate. Proportions based on period 25 results.
[i] No otolith contribution estimates. Proportions based on period 27 results.
[j] No otolith contribution estimates. Proportions based on period 30 results.

Appendix E11.–Chum salmon hatchery and wild stock contributions to the Coghill District commercial common property harvest, 2009.

			Wally Noerenburg		Port Chalmers		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1 [a]	60 [b]	17,958	1.0	781	0.0	18,739	0	0.0	18,739
05/28 - 05/31	2 [a]	84 [b]	12,237	1.0	532	0.0	12,769	0	0.0	12,769
06/01 - 06/03	3 [a]	60 [b]	33,194	1.0	1,443	0.0	34,637	0	0.0	34,637
06/04 - 06/07	4 [a]	84	54,707	1.0	2,379	0.0	57,086	0	0.0	57,086
06/08 - 06/10	5 [a]	60	92,030	0.9	6,574	0.1	98,604	0	0.0	98,604
06/11 - 06/14	6 [a]	84	151,327	1.0	1,965	0.0	153,293	1,965	0.0	155,258
06/15 - 06/17	7 [a]	60	129,166	0.8	22,389	0.1	151,555	6,889	0.0	158,444
06/18 - 06/21	8 [a]	84	168,904	0.9	18,538	0.1	187,442	10,299	0.1	197,741
06/22 - 06/24	9 [a]	60	149,327	0.9	8,389	0.1	157,716	3,356	0.0	161,072
06/25 - 06/28	10 [a]	84	43,164	1.0	928	0.0	44,092	464	0.0	44,556
06/29 - 07/01	11 [a]	60	58,486	0.9	1,444	0.0	59,930	2,166	0.0	62,096
07/02 - 07/05	12 [a]	84	61,458	0.9	3,377	0.1	64,835	0	0.0	64,835
07/06 - 07/08	13 [a]	60	34,328	0.9	2,367	0.1	36,696	789	0.0	37,485
07/09 - 07/11	14 [a]	60	64,649	0.9	4,510	0.1	69,160	2,255	0.0	71,415
07/13 - 07/15	15 [a]	60	55,123	0.8	9,429	0.1	64,552	3,626	0.1	68,178
07/16 - 07/19	16 [a]	84	34,507	0.8	4,540	0.1	39,048	4,540	0.1	43,588
07/20 - 07/20	17 [a]	14	18,837	1.0	614	0.0	19,451	205	0.0	19,656
07/21 - 07/21	18 [c]	14	4,956	0.7	1,859	0.3	6,815	620	0.1	7,434
07/22 - 07/22	19 [c]	14	4,590	0.6	2,448	0.3	7,038	918	0.1	7,956
07/23 - 07/23	20 [c]	14 [d]	1,628	0.6	868	0.3	2,496	326	0.1	2,821
07/24 - 07/24	21 [c]	14 [d]	1,368	0.6	730	0.3	2,097	274	0.1	2,371
07/25 - 07/25	22 [c]	14 [d]	1,173	0.6	626	0.3	1,799	235	0.1	2,034
07/26 - 07/26	23 [c]	14 [d]	542	0.6	289	0.3	831	108	0.1	939
08/11 - 08/11	24 [c]	14 [d]	129	0.6	69	0.3	198	26	0.1	224
08/12 - 08/12	25 [c]	14 [d]	3,550	0.6	1,893	0.3	5,443	710	0.1	6,153
08/13 - 08/13	26 [c]	14 [d]	48	0.6	26	0.3	73	10	0.1	83
08/14 - 08/14	27 [c]	14 [d]	63	0.6	34	0.3	97	13	0.1	110
08/15 - 08/15	28 [c]	14 [d]	37	0.6	20	0.3	57	7	0.1	64
08/16 - 08/16	29 [c]	14 [d]	34	0.6	18	0.3	52	7	0.1	59
08/17 - 08/17	30 [c]	14 [d]	26	0.6	14	0.3	40	5	0.1	45
08/18 - 08/18	31 [c]	14 [d]	23	0.6	12	0.3	35	5	0.1	40
08/19 - 08/19	32 [c]	14 [d]	21	0.6	11	0.3	32	4	0.1	36
08/20 - 08/20	33 [c]	14 [d]	20	0.6	11	0.3	31	4	0.1	35
08/21 - 08/21	34 [c]	14 [d]	18	0.6	10	0.3	27	4	0.1	31
08/22 - 08/22	35 [c]	14 [d]	8	0.6	4	0.3	12	2	0.1	14
08/23 - 08/23	36 [c]	14 [d]	5	0.6	3	0.3	8	1	0.1	9
08/24 - 08/24	37 [c]	14 [d]	5	0.6	3	0.3	8	1	0.1	9
08/25 - 08/25	38 [c]	12 [d]	9	0.6	5	0.3	13	2	0.1	15

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			Wally Noerenburg		Port Chalmers		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/26 - 08/26	39 [c]	12 [d]	3	0.6	2	0.3	4	1	0.1	5
08/27 - 08/27	40 [c]	12 [d]	1	0.6	1	0.3	2	0	0.1	2
08/28 - 08/28	41 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
08/29 - 08/29	42 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
08/30 - 08/30	43 [c]	12 [d]	2	0.6	1	0.3	3	0	0.1	3
08/31 - 08/31	44 [c]	12 [d]	2	0.6	1	0.3	3	0	0.1	3
09/01 - 09/01	45 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
09/02 - 09/02	46 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
09/03 - 09/03	47 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
09/04 - 09/04	48 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
09/05 - 09/05	49 [c]	12 [d]	0	0.0	0	0.0	0	0	0.0	0
09/07 09/08	50 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/10 09/11	51 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/14 09/15	52 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/17 09/18	53 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/21 09/22	54 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/24 09/25	55 [a]	24 [d]	0	0.0	0	0.0	0	0	0.0	0
09/28 09/30	56 [a]	48 [d]	0	0.0	0	0.0	0	0	0.0	0
10/01 10/04	57 [a]	72 [d]	0	0.0	0	0.0	0	0	0.0	0
10/05 10/07	58 [a]	48 [d]	0	0.0	0	0.0	0	0	0.0	0
10/08 10/11	59 [a]	72 [d]	0	0.0	0	0.0	0	0	0.0	0
Total			1,197,664	0.9	99,155	0.1	1,296,818	39,836	0.0	1,336,654

[a] Drift gillnet gear only.

[b] No otolith contribution estimates. Proportions based on nearest sampled period 4 results.

[c] Both drift gillnet and purse seine gear allowed.

[d] No otolith contribution estimates. Proportions based on nearest sampled period 19 results.

Appendix E12.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Wally Noerenberg Hatchery, 2009.

	Pink Salmon					Chum Salmon					Coho Salmon	
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	Sales Harvest	Sales Harvest cumulative
06/14	-----	0	0	0	0	30.4%	10,549	10,549	0	0	0	0
06/15	-----	0	0	0	0		0	10,549	0	0	0	0
06/16	-----	0	0	0	0	41.0%	5,210	15,759	0	0	0	0
06/17	-----	0	0	0	0		0	15,759	0	0	0	0
06/18	-----	0	0	0	0		0	15,759	0	0	0	0
06/19	-----	0	0	0	0		0	15,759	0	0	0	0
06/20	-----	0	0	0	0	31.8%	20,243	36,002	0	0	0	0
06/21	-----	0	0	0	0	44.0%	27,555	63,557	0	0	0	0
06/22	-----	0	0	0	0		0	63,557	0	0	0	0
06/23	-----	0	0	0	0	47.0%	32,599	96,156	0	0	0	0
06/24	-----	0	0	0	0	54.0%	21,934	118,090	0	0	0	0
06/25	-----	0	0	0	0	58.0%	9,361	127,451	0	0	0	0
06/26	-----	0	0	0	0		0	127,451	0	0	0	0
06/27	-----	0	0	0	0	51.0%	16,529	143,980	0	0	0	0
06/28	-----	0	0	0	0	49.6%	17,653	161,633	0	0	0	0
06/29	-----	0	0	0	0	60.4%	14,917	176,550	0	0	0	0
06/30	-----	0	0	0	0	56.9%	27,434	203,984	0	0	0	0
07/01	-----	0	0	0	0	60.2%	23,335	227,319	0	0	0	0
07/02	-----	0	0	0	0	64.9%	14,981	242,300	0	0	0	0
07/03	-----	0	0	0	0	68.3%	12,072	254,372	0	0	0	0
07/04	-----	0	0	0	0			254,372	0	0	0	0
07/05	-----	0	0	0	0	54.2%	2,655	257,027	3,079	3,079	0	0
07/06	-----	0	0	0	0	58.4%	12,141	269,168	6,299	9,378	0	0
07/07	-----	0	0	0	0	66.0%	48,650	317,818	7,779	17,157	0	0
07/08	-----	0	0	0	0	71.7%	19,277	337,095	11,459	28,616	0	0
07/09	-----	0	0	0	0	75.0%	18,185	355,280	7,695	36,311	0	0
07/10	-----	0	0	0	0	-----	15,550	370,830	10,021	46,332	0	0
07/11	-----	0	0	0	0	-----	16,308	387,138	9,935	56,267	0	0
07/12	-----	652	652	0	0	-----	22,477	409,615	9,685	65,952	0	0
07/13	-----	0	652	0	0	-----	1,884	411,499	11,483	77,435	0	0
07/14	-----	0	652	0	0	-----	2,677	414,176	10,133	87,568	0	0
07/15	-----	0	652	0	0	-----	1,124	415,300	9,965	97,533	0	0
07/16	-----	0	652	0	0	-----	1,070	416,370	10,581	108,114	0	0
07/17	-----	0	652	0	0	-----	1,348	417,718	11,107	119,221	0	0
07/18	-----	0	652	0	0	-----	1,488	419,206	10,762	129,983	0	0
07/19	-----	0	652	0	0	-----	1,628	420,834	10,203	140,186	0	0
07/20	-----	0	652	0	0	-----	685	421,519	10,583	150,769	0	0
07/21	-----	0	652	0	0	-----	14,301	435,820	367	151,136	0	0
07/22	-----	0	652	0	0	-----	10,244	446,064	245	151,381	0	0
07/23	-----	0	652	0	0	-----	12,290	458,354	454	151,835	0	0
07/24	-----	0	652	0	0	-----	2,210	460,564	0	151,835	0	0
07/25	-----	0	652	0	0	-----	0	460,564	0	151,835	0	0
07/26	-----	0	652	0	0	-----	0	460,564	0	151,835	0	0
07/27	10.0%	15,329	15,981	0	0	-----	0	460,564	0	151,835	0	0
07/28	13.7%	36,893	52,874	0	0	-----	0	460,564	0	151,835	0	0

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	Pink Salmon					Chum Salmon					Coho Salmon	
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	Sales Harvest	Sales Harvest cumulative
07/29	9.8%	61,014	113,888	0	0	-----	0	460,564	0	151,835	0	0
07/30	12.5%	63,298	177,186	0	0	-----	0	460,564	0	151,835	0	0
07/31	19.9%	68,440	245,626	0	0	-----	0	460,564	0	151,835	0	0
08/01	16.5%	68,942	314,568	0	0	-----	0	460,564	0	151,835	0	0
08/02	18.6%	90,637	405,205	0	0	-----	0	460,564	0	151,835	0	0
08/03	20.1%	74,095	479,300	0	0	-----	0	460,564	0	151,835	0	0
08/04	23.2%	55,339	534,639	0	0	-----	0	460,564	0	151,835	0	0
08/05	23.3%	71,393	606,032	0	0	-----	0	460,564	0	151,835	0	0
08/06	34.3%	51,711	657,743	0	0	-----	0	460,564	0	151,835	0	0
08/07	32.5%	110,752	768,495	0	0	-----	0	460,564	0	151,835	0	0
08/08	37.9%	75,865	844,360	0	0	-----	0	460,564	0	151,835	0	0
08/09	49.0%	130,475	974,835	0	0	-----	0	460,564	0	151,835	0	0
08/10	46.6%	49,713	1,024,548	0	0	-----	0	460,564	0	151,835	0	0
08/11	-----	0	1,024,548	0	0	-----	0	460,564	0	151,835	0	0
08/12	-----	0	1,024,548	0	0	-----	0	460,564	0	151,835	0	0
08/13	-----	0	1,024,548	0	0	-----	0	460,564	0	151,835	0	0
08/14	53.7%	59,123	1,083,671	0	0	-----	0	460,564	0	151,835	0	0
08/15	-----	0	1,083,671	0	0	-----	0	460,564	0	151,835	0	0
08/16	63.6%	5,650	1,089,321	0	0	-----	0	460,564	0	151,835	0	0
08/17	-----	8,963	1,098,284	0	0	-----	0	460,564	0	151,835	0	0
08/18	57.0%	86,311	1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/19	-----		1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/20	-----	0	1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/21	-----	0	1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/22	-----	0	1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/23	-----	0	1,184,595	0	0	-----	0	460,564	0	151,835	0	0
08/24	-----	3,067	1,187,662	14,539	14,539	-----	0	460,564	0	151,835	0	0
08/25	-----	4,815	1,192,477	15,175	29,714	-----	0	460,564	0	151,835	0	0
08/26	-----	9,016	1,201,493	13,751	43,465	-----	0	460,564	0	151,835	0	0
08/27	-----	7,364	1,208,857	15,187	58,652	-----	0	460,564	0	151,835	0	0
08/28	-----	4,440	1,213,297	15,167	73,819	-----	0	460,564	0	151,835	0	0
08/29	-----	11,680	1,224,977	15,672	89,491	-----	0	460,564	0	151,835	0	0
08/30	-----	8,088	1,233,065	14,464	103,955	-----	0	460,564	0	151,835	0	0
08/31	-----	4,288	1,237,353	14,726	118,681	-----	0	460,564	0	151,835	0	0
09/01	-----	8,752	1,246,105	19,248	137,929	-----	0	460,564	0	151,835	0	0
09/02	-----	7,423	1,253,528	23,495	161,424	-----	0	460,564	0	151,835	0	0
09/03	-----	4,810	1,258,338	15,664	177,088	-----	0	460,564	0	151,835	0	0
09/04	-----	1,020	1,259,358	5,511	182,599	-----	0	460,564	0	151,835	0	0
09/05	-----		1,259,358	5,177	187,776	-----	0	460,564	0	151,835	0	0
09/06	-----		1,259,358	1,569	189,345	-----	0	460,564	0	151,835	0	0
09/07	-----		1,259,358	0	189,345	-----	0	460,564	0	151,835	0	0

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Hatchery escapement summary[c]	Pink salmon	Chum Salmon	Coho Salmon
Purse seine whole fish harvest	1,184,595	393,875	0
Raceway harvest[d]	0	66,689	0
Viable broodstock (spawned, eggs in incubators)	184,569	143,114	1,948
Unviable broodstock (green/over-ripe/bad)	15,931	0	58
Unspawned fish (e.g., excess males/females)	59,440	0	16
Holding mortalities (raceway, pen mortalities)	4,776	8,721	42
Estimated unharvested return[e]	53,000	5,000	0
Estimated total return to hatchery	1,502,311	617,399	2,064

Sales Summary	Pink Salmon	Chum Salmon	Coho Salmon
Purse seine whole fish sales	1,184,595	393,875	0
Raceway sales[f]	74,763	66,689	0
Carcass sales[g]	183,961	144,061	0
Total sales	1,443,319	604,625	0

[a] Whole fish from purse seine and raceway sales.
[b] Broodstock daily harvest numbers include viable broodstock and holding mortalities.
[c] Determined by fish tickets and PWSAC egg-take log, and annual report.
[d] Raceway harvest includes whole fish as well as roe extraction not conducted as egg take.
[e] Fish remaining in saltwater and freshwater after all hatchery harvest is complete.
[f] Sum of raceway harvest, unviable broodstock and unspawned fish.
[g] Represents the sale of "viable broodstock" carcasses.

Appendix E13.–Sockeye salmon hatchery and wild stock contributions to the Eshamy District commercial common property fishery by period, 2009.

			Main Bay		Solf Lake		Gulkana [f]		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1 [a]	60	0	0.0	0	0.0	ND	--	0	0		0
05/28 - 05/31	2 [a]	84	43	0.9	0	0.0	ND	--	43	3	0.1	46
06/01 - 06/03	3 [a, e]	60	435	1.0	0	0.0	ND	--	435	23	0.1	458
06/04 - 06/07	4 [a, e]	84	1,689	1.0	0	0.0	ND	--	1,689	89	0.1	1,778
06/08 - 06/10	5 [b]	60	5,404	0.9	0	0.0	ND	--	5,404	331	0.1	5,735
06/11 - 06/14	6 [c]	84	17,454	1.0	0	0.0	ND	--	17,454	623	0.0	18,077
06/15 - 06/17	7	60	29,765	1.0	0	0.0	ND	--	29,765	327	0.0	30,092
06/18 - 06/21	8	84	57,798	0.9	0	0.0	ND	--	57,798	3,941	0.1	61,739
06/22 - 06/24	9	60	78,330	1.0	0	0.0	ND	--	78,330	3443	0.0	81,773
06/25 - 06/28	10 [d]	84	174,548	0.9	0	0.0	ND	--	174,548	16,050	0.1	190,598
06/29 - 06/30	11	24	48,399	1.0	0	0.0	ND	--	48,399	1561	0.0	49,960
07/02 - 07/02	12	12	28,049	0.9	0	0.0	ND	--	28,049	1,891	0.1	29,940
07/06 - 07/06	13	12	30,129	1.0	0	0.0	ND	--	30,129	641	0.0	30,770
07/09 - 07/09	14	12	12,483	0.5	0	0.0	ND	--	12,483	10,818	0.5	23,301
07/13 - 07/15	15	60	58,086	0.9	0	0.0	ND	--	58,086	4620	0.1	62,706
07/16 - 07/19	16	84	30,849	0.8	0	0.0	ND	--	30,849	9,297	0.2	40,146
07/20 - 07/22	17	60	13,827	0.7	0	0.0	ND	--	13,827	6312	0.3	20,139
07/23 - 07/24	18	24	3,158	0.9	0	0.0	ND	--	3,158	424	0.1	3,582
07/27 - 07/28	19	24	5,924	0.9	0	0.0	ND	--	5,924	1,034	0.1	6,958
07/30 - 07/30	20	12	2,686	0.9	0	0.0	ND	--	2,686	218	0.1	2,904
08/03 - 08/03	21 [a]	12	2,497	0.9	0	0.0	ND	--	2,497	202	0.1	2,699
08/06 - 08/07	22 [a]	24	16,653	0.9	0	0.0	ND	--	16,653	1,350	0.1	18,003
08/10 - 08/11	23 [a]	24	660	0.9	0	0.0	ND	--	660	54	0.1	714
08/13 - 08/14	24 [a]	36	7,858	0.9	0	0.0	ND	--	7,858	637	0.1	8,495
08/17 - 08/18	25 [a]	36	818	0.9	0	0.0	ND	--	818	66	0.1	884
08/20 - 08/21	26 [a]	36	247	0.9	0	0.0	ND	--	247	20	0.1	267
08/24 - 08/25	27 [a]	36	102	0.9	0	0.0	ND	--	102	8	0.1	110
08/27 - 08/28	28 [a]	36	56	0.9	0	0.0	ND	--	56	5	0.1	61
08/31 - 09/01	29 [a]	36	0	0.0	0	0.0	ND	--	0	0	0.0	0
09/03 - 09/04	30 [a]	36	0	0.0	0	0.0	ND	--	0	0	0.0	0
09/07 - 09/08	31 [a]	36	0	0.0	0	0.0	ND	--	0	0	0.0	0
09/10 - 09/11	32 [a]	24	0	0.0	0	0.0	ND	--	0	0	0.0	0
09/14 - 09/15	33 [a]	24	0	0.0	0	0.0	ND	--	0	0	0.0	0
09/17 - 09/17	34 [a]	12	0	0.0	0	0.0	ND	--	0	0	0.0	0
Total			627,945	0.9	0	0.0		--	627,945	63,990	0.1	691,935

ND=No data

[a] No otolith contribution estimates. Proportions based on nearest sampled period or average of nearest adjacent periods.

[b] Non-PWS hatchery marks were found on 2 out of 54 otoliths sampled for period 5 in district 225: both marked TRAILLAKES04MD.

[c] Non-PWS hatchery marks were found on 6 out of 93 otoliths sampled for period 6 in district 225: all marked TRAILLAKES04MD.

[d] Non-PWS hatchery marks were found on 1 out of 96 otoliths sampled for period 10 in district 225: marked TRAILLAKES04MD.

[e] Proportions were rounded manually to ensure the sum of each category was equal to the number of fish caught.

[f] The Gulkana Hatchery contribution is assumed to be zero based on historical data. No samples were examined for strontium chloride marks.

Appendix E14.–Pink salmon hatchery and wild stock contributions to the Eshamy District commercial common property fishery by period, 2009.

				Origin											
				Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours		Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1	60		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
05/28 - 05/31	2	84		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/01 - 06/03	3	60		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/04 - 06/07	4	84		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/08 - 06/10	5	60		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/11 - 06/14	6	84		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/15 - 06/17	7	60		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/18 - 06/21	8 [a]	84		0	0.0	0	0.0	0	0.0	0	0.0	0	2	1.0	2
06/22 - 06/24	9	60		0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/25 - 06/28	10 [b]	84		10	0.1	0	0.0	0	0.0	0	0.0	10	77	0.9	87
06/29 - 06/30	11 [b]	24		9	0.1	0	0.0	0	0.0	0	0.0	9	65	0.9	74
07/02 - 07/02	12 [b]	12		19	0.1	0	0.0	0	0.0	0	0.0	19	140	0.9	159
07/06 - 07/06	13 [b]	12		41	0.1	0	0.0	0	0.0	0	0.0	41	302	0.9	343
07/09 - 07/09	14	12		143	0.1	0	0.0	0	0.0	0	0.0	143	1,046	0.9	1,189
07/13 - 07/15	15	60		135	0.0	0	0.0	135	0.0	0	0.0	271	8,927	1.0	9,198
07/16 - 07/19	16	84		240	0.0	0	0.0	0	0.0	0	0.0	240	11,782	1.0	12,022
07/20 - 07/22	17	60		0	0.0	0	0.0	911	0.1	228	0.0	1,139	8,653	0.9	9,792
07/23 - 07/24	18	24		0	0.0	0	0.0	47	0.1	0	0.0	47	706	0.9	753
07/27 - 07/28	19 [c]	24		0	0.0	0	0.0	71	0.1	0	0.0	71	1,071	0.9	1,142
07/30 - 07/30	20 [c]	12		0	0.0	0	0.0	5	0.1	0	0.0	5	70	0.9	75
08/03 - 08/03	21 [c]	12		0	0.0	0	0.0	38	0.1	0	0.0	38	567	0.9	605
08/06 - 08/07	22 [c]	24		0	0.0	0	0.0	51	0.1	0	0.0	51	769	0.9	820
08/10 - 08/11	23 [c]	24		0	0.0	0	0.0	40	0.1	0	0.0	40	596	0.9	636
08/13 - 08/14	24 [c]	36		0	0.0	0	0.0	1,204	0.1	0	0.0	1,204	18,057	0.9	19,261
08/17 - 08/18	25 [c]	36		0	0.0	0	0.0	864	0.1	0	0.0	864	12,963	0.9	13,827

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				Origin											
				Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates		Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/20 -	08/21	26 [c]	36	0	0.0	0	0.0	438	0.1	0	0.0	438	6,570	0.9	7,008
08/24 -	08/25	27 [c]	36	0	0.0	0	0.0	105	0.1	0	0.0	105	1,578	0.9	1,683
08/27 -	08/28	28 [c]	36	0	0.0	0	0.0	195	0.1	0	0.0	195	2,919	0.9	3,114
08/31 -	09/01	29	36	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/03 -	09/04	30	36	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/07 -	09/08	31	36	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/10 -	09/11	32	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/14 -	09/15	33	24	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/17 -	09/17	34	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
Total				598	0.0	0	0.0	4,104	0.1	228	0.0	4,930	76,860	0.9	81,790

ND=No data

[a] No otolith contribution estimates. Allocated to wild stock.

[b] No otolith contribution estimates. Proportions based on period 14 results.

[c] No otolith contribution estimates. Proportions based on period 18 results.

Appendix E15.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Main Bay Hatchery, 2009.

	Sockeye Salmon				
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative
07/02	-----	16,612	16,612	0	0
07/03	-----	18,138	34,750	0	0
07/04	-----	16,591	51,341	0	0
07/05	-----	12,648	63,989	0	0
07/06	-----	14,768	78,757	0	0
07/07	-----	11,471	90,228	0	0
07/08	-----	12,925	103,153	52	52
07/09	-----	9,067	112,220	56	108
07/10	-----	8,886	121,106	20	128
07/11	-----	7,465	128,571	7	135
07/12	-----	4,989	133,560	15	150
07/13	-----	0	133,560	11	161
07/14	-----	0	133,560	3	164
07/15	-----	0	133,560	24	188
07/16	-----	0	133,560	12	200
07/17	-----	0	133,560	23	223
07/18	-----	0	133,560	12	235
07/19	-----	0	133,560	25	260
07/20	-----	0	133,560	29	289
07/21	-----	0	133,560	10	299
07/22	-----	0	133,560	8	307
07/23	-----	0	133,560	2	309
07/24	-----	0	133,560	8	317
07/25	-----	0	133,560	6	323
07/26	-----	0	133,560	25	348
07/27	-----	0	133,560	16	364
07/28	-----	0	133,560	39	403
07/29	-----	0	133,560	42	445
07/30	-----	0	133,560	67	512
07/31	-----	0	133,560	0	512
08/01	-----	0	133,560	69	581
08/02	-----	0	133,560	351	932
08/03	-----	0	133,560	38	970
08/04	-----	0	133,560	837	1,807
08/05	-----	0	133,560	46	1,853
08/06	-----	0	133,560	988	2,841
08/07	-----	0	133,560	39	2,880
08/08	-----	0	133,560	910	3,790
08/09	-----	0	133,560	25	3,815
08/10	-----	0	133,560	977	4,792
08/11	-----	0	133,560	25	4,817
08/12	-----	0	133,560	990	5,807
08/13	-----	0	133,560	0	5,807
08/14	-----	0	133,560	662	6,469
08/15	-----	0	133,560	0	6,469
08/16	-----	0	133,560	0	6,469
08/16	-----	0	133,560	2346	8,815

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Hatchery escapement summary[c]	Sockeye salmon
Purse seine whole fish harvest	133,560
Raceway harvest[d]	0
Viable broodstock (spawned, eggs in incubators)	5,346
Unviable broodstock (green/over-ripe/bad)	237
Unspawned fish (e.g., excess males/females)	2,922
Holding mortalities (raceway, pen mortalities)	310
Estimated unharvested return[e]	2,000
Estimated total return to hatchery	144,375

Sales Summary	
Purse seine whole fish sales	133,560
Raceway sales[f]	0
Carcass sales[g]	0
Total sales	133,560

[a] Whole fish from purse seine and raceway sales.
[b] Broodstock daily harvest numbers include viable broodstock and holding mortalities.
[c] Determined by fish tickets and PWSAC egg-take log, and annual report.
[d] Raceway harvest includes whole fish as well as roe extraction not conducted as egg take.
[e] Fish remaining in saltwater and fresh water after all hatchery harvest is complete.
[f] Sum of raceway harvest, unviable broodstock and unspawned fish.
[g] Represents the sale of "viable broodstock" carcasses.

Appendix E16.–Sockeye salmon hatchery and wild stock contributions to Main Bay Hatchery cost recovery by statistical week, 2009.

				Origin							
			Stat	Main Bay		Solf Lake		Hatchery	Wild		
Dates			Week	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
6/28	-	7/4	27	50,260	1.0	540	0.0	50,801	540	0.0	51,341
7/5	-	7/11	28	75,551	1.0	0	0.0	75,551	1,679	0.0	77,230
7/12	-	7/18	29	4,861	1.0	0	0.0	4,861	128	0.0	4,989
Total				130,672	1.0	540	0.0	131,213	2,347	0.0	133,560

Appendix E17.–Main Bay sockeye salmon harvests and total contribution, 1990–2009.

	Hatchery Contributions					Total
Year	Commercial	Subsistence/ Personal Use[a]	Sport	Broodstock/ Escapement	Cost Recovery	Hatchery Contribution
1990	9,000	0	0	0	0	9,000
1991	480,200	0	0	4,700	0	484,900
1992	368,427	0	0	6,185	158,893	533,505
1993	208,709	0	0	8,020	97,594	314,323
1994	214,737	0	0	72,335	85,511	372,583
1995	134,778	0	0	11,148	62,782	208,708
1996	406,100	0	0	7,979	83,430	497,509
1997	845,871	0	0	16,498	236,031	1,098,400
1998	128,702	0	6,738	10,596	111,026	257,062
1999	143,511	0	7,150	7,104	0	157,765
2000	339,305	200	2,360	5,426	0	347,291
2001	770,884	400	3,500	10,508	50,458	835,750
2002	846,534	2,971	4,000	7,352	93,794	954,651
2003	1,047,133	0	4,000	6,878	366,768	1,424,779
2004	355,821	0	1,200	17,578	279,139	653,738
2005	233,089	0	750	44,366	188,904	467,109
2006	668,780	0	500	15,854	350,742	1,035,876
2007	819,244	0	500	20,285	321,330	1,161,359
2008	835,241	0	500	15,659	0	851,400
10-Year Average	605,954	357	2,446	15,101	165,114	788,972
2009	756,130	0	500	10,815	131,553	898,998

[a] Commercial proportion from otolith marks, Sport and Sub/PU from average proportion of previous estimates.

Appendix E18.–Main Bay Hatchery salmon fry releases, 1983–2009.

		Sockeye salmon				Pink salmon	Chum salmon
Release Year	Primary Return Years	Coghill Lake stock	Eshamy Lake stock	Eyak Lake stock	Total Released	Total Released	Total Released
1983						25,751,531	8,644,179
1984						41,945,403	7,490,291
1985						29,286,498	11,033,065
1986	1990/91					32,728,663	5,258,175
1987	1991/92					2,660,000	76,646,750
1988	1992/93	330,025			330,025		
1989	1993/94	3,925,357			3,925,357	10,200,000	
1990	1994/95	2,616,498			2,616,498		
1991	1995/96	1,960,774	1,843,176		3,803,950		
1992	1996/97	1,546,929	2,475,390	47,609	4,069,928		
1993	1997/98	3,288,689	966,750	63,822	4,319,261		
1994	1998/99	3,289,824	691,633		3,981,457		
1995	1999/00	4,049,763	1,546,011	90,348	5,686,122		
1996	2000/01	4,194,174	114,475	82,514	4,391,163		
1997	2001/02	239,023	845,190	131,503	1,215,716		
1998	2002/03		2,485,000	181,000	2,666,000		
1999	2003/04		4,165,786	2,913,460	7,079,246		
2000	2004/05	8,401,117			8,401,117		
2001	2005/06	7,612,350			7,612,350		
2002	2006/07	7,858,190			7,858,190		
2003	2008/08	6,576,535			6,576,535		
2004	2008/09	9,057,829			9,057,829		
2005	2009/10	10,868,642			10,868,642		
2006	2010/11	9,516,461			9,516,461		
2007	2011/12	9,393,000			9,393,000		
2008	20012/13	9,384,000			9,384,000		
10-Year Average		8,783,376			8,783,376		
2009	20013/14	9,419,000			9,419,000		

Appendix E19.–Pink salmon hatchery and wild stock contributions to the Eastern District commercial common property fishery by period, 2009.

			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/11 - 08/11	1 [a]	14	173	0.1	346	0.1	173	0.1	605	0.2	1,297	1,642	0.6	2,939
08/12 - 08/12	2	14	213	0.1	426	0.1	213	0.1	745	0.2	1,596	2,022	0.6	3,618
08/13 - 08/13	3	14	1,424	0.0	6,173	0.2	5,223	0.2	11,396	0.3	24,216	9,496	0.3	33,712
08/14 - 08/14	4	14	0	0.0	0	0.0	5,756	0.2			5,756	31,658	0.8	37,414
08/15 - 08/15	5	14	344	0.0	344	0.0	1,375	0.2			2,062	5,843	0.7	7,905
08/16 - 08/16	6	14	209	0.0	1,464	0.3	628	0.1			2,301	3,347	0.6	5,648
08/17 - 08/17	7 [b]	14	0		0		0				0	0		0
08/18 - 08/18	8 [b]	14	142	0.0	994	0.3	426	0.1			1,562	2,273	0.6	3,835
08/19 - 08/19	9 [b]	14	0		0		0				0	0		0
08/29 - 08/29	10 [b]	12	0		0		0				0	0		0
08/30 - 08/30	11 [b]	12	0		0		0				0	0		0
08/31 - 08/31	12 [b]	12	0		0		0				0	0		0
09/01 - 09/12	13-24 [b]	12/day	0		0		0				0	0		0
Total			2,505	0.0	9,746	0.1	13,793	0.1	12,746	0.1	38,790	56,281	0.6	95,071

[a] No otolith contribution estimates. Proportions based on period 2 results.

[b] No otolith contribution estimates. Proportions based on period 7 results.

Appendix E20.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Solomon Gulch Hatchery, 2009.

	Pink Salmon					Coho Salmon	
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	Sales Harvest	Sales Harvest cumulative
06/26		855	855	0	0	0	0
06/29	8.0%	17,174	18,029	0	0	0	0
06/30	7.0%	20,748	38,777	0	0	0	0
07/01	10.0%	24,169	62,946	0	0	0	0
07/02	10.0%	28,361	91,307	0	0	0	0
07/03	11.0%	51,973	143,280	0	0	0	0
07/04	12.0%	139,533	282,813	0	0	0	0
07/05	19.0%	49,260	332,073	0	0	0	0
07/06	29.0%	111,470	443,543	0	0	0	0
07/07	31.0%	106,656	550,199	0	0	0	0
07/08		105,512	655,711	0	0	0	0
07/10	44.6%	4,860	660,571	0	0	0	0
07/12		4,688	665,259	0	0	0	0
07/14		10,781	676,040	0	0	0	0
07/22		8,850	684,890	0	0	0	0
07/23		10,148	695,038	0	0	0	0
07/24		0	695,038	0	0	0	0
07/25		0	695,038	0	0	0	0
07/26		0	695,038	0	0	0	0
07/27		0	695,038	21,128	21,128	0	0
07/28		0	695,038	7,865	28,993	0	0
07/29		0	695,038	16,146	45,139	0	0
07/30		0	695,038	0	45,139	0	0
07/31		0	695,038	25,035	70,174	0	0
08/01		0	695,038	0	70,174	0	0
08/02		0	695,038	0	70,174	0	0
08/03		0	695,038	27,315	97,489	0	0
08/04		0	695,038	21,191	118,680	0	0
08/05		0	695,038	25,110	143,790	0	0
08/06		0	695,038	21,374	165,164	0	0
08/07		0	695,038	17,034	182,198	0	0
08/08		0	695,038	0	182,198	0	0
08/09		0	695,038	0	182,198	0	0
08/10		0	695,038	21,775	203,973	0	0
08/11		0	695,038	18,535	222,508	0	0
08/12		0	695,038	15,815	238,323	0	0
08/13		0	695,038	14,982	253,305	0	0
08/14		0	695,038	14,401	267,706	0	0
08/15		0	695,038	15,017	282,723	0	0
08/16		0	695,038	0	282,723	0	0
08/17		0	695,038	18,191	300,914	0	0
08/18		0	695,038	18,891	319,805	0	0

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	Pink Salmon					Coho Salmon	
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative	Sales Harvest	Sales Harvest cumulative
08/19		0	695,038	22,179	341,984	0	0
08/20		0	695,038	16,606	358,590	0	0
08/21		0	695,038	19,755	378,345	0	0
08/22		0	695,038	16,977	395,322	0	0
08/23		0	695,038	0	395,322	0	0
08/24		2,957	697,995	16,839	412,161	0	0
08/25		9,794	707,789	7,311	419,472	0	0
08/26		10142	717,931	0	419,472	0	0
08/27		8,138	726,069	0	419,472	0	0
08/28		6311	732,380	0	419,472	0	0
09/01		0	732,380	0	419,472	1,578	1,578
09/02		0	732,380	0	419,472	1,501	3,079
09/04		0	732,380	0	419,472	1,032	4,111
09/05		0	732,380	0	419,472	1,508	5,619
09/08		0	732,380	0	419,472	2,308	7,927
09/09		0	732,380	0	419,472	2,010	9,937
09/10		0	732,380	0	419,472	1,526	11,463
09/11		0	732,380	1,134	420,606	1,591	13,054
09/14		0	732,380	0	420,606	1,962	15,016
09/15		0	732,380	0	420,606	1,353	16,369
09/16		0	732,380	0	420,606	690	17,059
09/17		0	732,380	0	420,606	345	17,404

Hatchery escapement summary[c]	Pink salmon	Coho Salmon
Purse seine whole fish harvest	695,038	0
Raceway harvest[d]	37,342	17,404
Viable broodstock (spawned, eggs in incubators)	226,735	1,317
Unviable broodstock (green/over-ripe/bad)	11,151	40
Unspawned fish (excess males)	177,058	1,590
Holding mortalities (raceway, pen mortalities)	5,662	463
Estimated unharvested return[e]	28,747	500
Estimated total return to hatchery	1,181,733	21,314

Sales Summary	Pink salmon	Coho Salmon
Purse seine whole fish sales	695,038	0
Roe and milt recovery whole fish sales	37,342	17,404
Carcass sales[f]	419,537	0
Total sales	1,151,917	17,404

[a] Whole fish from purse seine and raceway harvest.

[b] Broodstock daily harvest numbers include viable broodstock and holding mortalities.

[c] Determined by fish tickets and VFDA egg-take log, and annual report.

[d] Raceway harvest includes whole fish as well as roe/milt extraction not conducted as egg take.

[e] Fish remaining in saltwater and freshwater after all hatchery harvest is complete.

[f] Represents the sale of "viable broodstock" carcasses.

Appendix E21.–Chum salmon hatchery and wild stock contributions to the Montague District commercial common property fishery by period, 2009.

			Origin							
			Port Chalmers		Wally Noerenberg		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1	60 [a]	3,373	1.0	0	0.0	3,373	0	0.0	3,373
05/28 - 05/31	2	84 [a]	1,436	1.0	0	0.0	1,436	0	0.0	1,436
06/01 - 06/03	3	60 [a]	2,229	1.0	0	0.0	2,229	0	0.0	2,229
06/04 - 06/07	4	84	5,457	1.0	0	0.0	5,457	0	0.0	5,457
06/08 - 06/10	5	60	13,711	1.0	428	0.0	14,139	0	0.0	14,139
06/11 - 06/14	6	84	8,459	0.7	3,076	0.3	11,535	0	0.0	11,535
06/15 - 06/17	7	60	20,387	0.9	2,399	0.1	22,786	0	0.0	22,786
06/18 - 06/21	8	84	52,822	0.9	4,012	0.1	56,834	0	0.0	56,834
06/22 - 06/24	9	60	48,053	1.0	559	0.0	48,612	0	0.0	48,612
06/25 - 06/28	10	84	108,889	1.0	0	0.0	108,889	2,317	0.0	111,206
06/29 - 07/01	11	60	135,277	1.0	3,006	0.0	138,283	1,503	0.0	139,786
07/02 - 07/05	12	84	89,390	0.9	10,642	0.1	100,032	1,064	0.0	101,096
07/06 - 07/08	13	60	68,955	1.0	1,532	0.0	70,487	0	0.0	70,487
07/09 - 07/12	14	84	38,567	1.0	488	0.0	39,055	488	0.0	39,543
07/13 - 07/15	15	60	18,790	1.0	0	0.0	18,790	254	0.0	19,044
07/16 - 07/19	16	84	16,565	1.0	0	0.0	16,565	0	0.0	16,565
07/20 - 07/22	17	60	5,202	1.0	0	0.0	5,202	116	0.0	5,318
07/23 - 07/26	18	84	3,422	1.0	0	0.0	3,422	50	0.0	3,472
07/27 - 07/27	19	14 [b]	0	0.0	0	0.0	0	0	0.0	0
07/29 - 07/29	20	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/15 - 08/15	21	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/16 - 08/16	22	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/17 - 08/17	23	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/18 - 08/18	24	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/19 - 08/19	25	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/20 - 08/20	26	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/21 - 08/21	27	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/22 - 08/22	28	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/23 - 08/23	29	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/24 - 08/24	30	14 [b]	0	0.0	0	0.0	0	0	0.0	0
08/25 - 08/25	31	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/26 - 08/26	32	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/27 - 08/27	33	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/28 - 08/28	34	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/29 - 08/29	35	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/30 - 08/30	36	12 [b]	0	0.0	0	0.0	0	0	0.0	0
08/31 - 08/31	37	12 [b]	0	0.0	0	0.0	0	0	0.0	0
09/01 - 09/12	38-49	12/day [b]	0	0.0	0	0.0	0	0	0.0	0
Total			640,985	1.0	26,142	0.0	667,127	5,791	0.0	672,918

[a] No otolith contribution estimates. Proportions based on period 4 results.

[b] No otolith contribution estimates. Proportions based on period 18 results.

Appendix E22.–Pink salmon hatchery and wild stock contributions to the Montague District commercial common property fishery by period, 2009.

				Origin											
				Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates		Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 -	05/27	1	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
05/28 -	05/31	2	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/01 -	06/03	3	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/04 -	06/07	4	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/08 -	06/10	5	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/11 -	06/14	6	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/15 -	06/17	7	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/18 -	06/21	8	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/22 -	06/24	9	60	0	0.0	0	0.0	0	0.0	0	0.0	0	2	0.0	2
06/25 -	06/28	10	84	0	0.0	0	0.0	0	0.0	0	0.0	0	24	0.0	24
06/29 -	07/01	11	60	2,446	0.6	0	0.6	0	0.6	0	0.6	2,446	1,922	0.6	4,368
07/02 -	07/05	12	84	11,942	0.6	0	0.6	0	0.6	0	0.6	11,942	8,171	0.6	20,113
07/06 -	07/08	13	60	1,282	0.5	0	0.5	0	0.5	0	0.5	1,282	1,515	0.5	2,797
07/09 -	07/12	14	84	102	0.3	0	0.3	0	0.3	26	0.3	128	281	0.3	408
07/13 -	07/15	15 [a]	60	27	0.1	0	0.1	0	0.1	11	0.1	39	179	0.1	218
07/16	07/19	16	84	0	0.0	0	0.0	0	0.0	15	0.0	15	337	0.0	352
07/20	07/22	17	60	0	0.0	0	0.0	0	0.0	5	0.0	5	72	0.0	77
07/23	07/26	18	84	78	0.1	0	0.1	0	0.1	0	0.1	78	863	0.1	941
07/27	07/27	19 [b]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
07/29	07/29	20 [b]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/15	08/15	21 [b]	14	843	0.1	0	0.1	0	0.1	0	0.1	843	9,268	0.1	10,111
08/16	08/16	22 [b]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/17	08/17	23 [c]	14	73	0.0	0	0.0	0	0.0	587	0.0	660	1,174	0.0	1,834
08/18	08/18	24 [c]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/19	08/19	25 [c]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/20	08/20	26 [d]	14	0	0.0	0	0.0	0	0.0	4,229	0.0	4,229	2,379	0.0	6,608

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			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/21 - 08/21	27 [d]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/22 - 08/22	28 [d]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/23 - 08/23	29 [d]	14	0	0.0	0	0.0	0	0.0	9,401	0.0	9,401	5,288	0.0	14,689
08/24 - 08/24	30	14	0	0.0	0	0.0	0	0.0	9,430	0.0	9,430	5,305	0.0	14,735
08/25 - 08/25	31 [d]	12	0	0.0	0	0.0	0	0.0	5,331	0.0	5,331	2,998	0.0	8,329
08/26 - 08/26	32 [d]	12	0	0.0	0	0.0	0	0.0	1,501	0.0	1,501	845	0.0	2,346
08/27 - 08/27	33 [d]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/28 - 08/28	34 [d]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/29 - 08/29	35 [d]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/30 - 08/30	36 [d]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/31 - 08/31	37 [d]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/01 - 09/12	38-42 [d]	12 /day	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
Total			16,794	0.2	0	0.0	0	0.0	30,536	0.3	47,329	40,623	0.5	87,952

[a] No otolith contribution estimates. Proportions based on an average of period 14 and period 16 results.

[b] No otolith contribution estimates. Proportions based on period 18 results.

[c] No otolith contribution estimates. Proportions based on an average of period 18 and period 30 results.

[d] No otolith contribution estimates. Proportions based on period 30 results.

Appendix E23.–Pink salmon hatchery and wild stock contributions to the Northern District commercial common property fishery by period, 2009.

			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
07/21 - 07/21	1 [a]	14	0	0.0	0	0.0	0	0.0	0	0.0	0	273	1.0	273
08/11 - 08/11	2 [b]	14	0	0.0	364,259	0.9	36,835	0.1	0	0.0	401,094	8,186	0.0	409,280
08/12 - 08/12	3 [b]	14	0	0.0	211,254	1.0	4,356	0.0	0	0.0	215,610	2,178	0.0	217,788
08/13 - 08/13	4	14	2,353	0.0	214,128	1.0	0	0.0	2,353	0.0	218,834	4,706	0.0	223,540
08/14 - 08/14	5	14	0	0.0	126,401	0.9	3,416	0.0	5,124	0.0	134,942	11,957	0.1	146,899
08/15 - 08/15	6 [c]	14	0	0.0	42,983	0.7	11,036	0.2	581	0.0	54,600	3,485	0.1	58,085
08/16 - 08/16	7 [d]	14	1,475	0.0	85,572	0.6	47,212	0.3	0	0.0	134,259	5,902	0.0	140,161
08/17 - 08/17	8 [e]	14	911	0.0	52,843	0.6	29,155	0.3	0	0.0	82,909	3,644	0.0	86,553
08/18 - 08/18	9 [f]	14	0	0.0	37,715	1.0	0	0.0	393	0.0	38,107	1,179	0.0	39,286
08/19 - 08/19	10	14	0	0.0	470,097	1.0	0	0.0	4,274	0.0	474,371	17,094	0.0	491,465
08/20 - 08/20	11	14	0	0.0	27,459	0.9	1,664	0.1	0	0.0	29,124	2,496	0.1	31,620
08/21 - 08/21	12	14	0	0.0	12,306	0.6	1,538	0.1	6,922	0.3	20,766	769	0.0	21,535
08/22 - 08/22	13	14	0	0.0	45,981	1.0	1,045	0.0	0	0.0	47,026	0	0.0	47,026
08/23 - 08/23	14 [g]	14	0	0.0	12,933	1.0	294	0.0	0	0.0	13,227	0	0.0	13,227
08/24 - 08/24	15 [h]	14	0	0.0	67,511	1.0	768	0.0	0	0.0	68,278	823	0.0	69,101
08/25 - 08/25	16 [i]	12	0	0.0	7,533	1.0	0	0.0	0	0.0	7,533	184	0.0	7,717
08/26 - 08/26	17	12	0	0.0	16,387	1.0	0	0.0	0	0.0	16,387	400	0.0	16,787
08/27 - 08/27	18	12	0	0.0	4,442	1.0	0	0.0	0	0.0	4,442	0	0.0	4,442
08/28 - 08/28	19 [j]	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
08/29 - 08/29	20 [j]	12	0	0.0	25,424	1.0	0	0.0	0	0.0	25,424	0	0.0	25,424
08/30 - 08/30	21 [j]	12	0	0.0	262	1.0	0	0.0	0	0.0	262	0	0.0	262
08/31 - 08/31	22 [j]	12	0	0.0	14,400	1.0	0	0.0	0	0.0	14,400	0	0.0	14,400
09/01 - 09/12	23-34 [j]	12/day	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
Totals			4,740	0.0	1,839,890	0.9	137,319	0.1	19,647	0.0	2,001,596	63,275	0.0	2,064,871

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[a] No otolith contribution estimates. Proportions based on period 2 results.

[b] Proportions were recalculated to ensure the number of otoliths were proportional to tender weights.

[c] No otolith contribution estimates. Proportions based on an average of period 5 and period 7 results.

[d] Includes the Hidden Bay (222-35) otoliths and harvest. Hidden Bay proportions were 3% SGH and 97% WNH, Unakwik Inlet proportions were 89% CCH, 4% WNH, and 7% wild.

[e] No otolith contribution estimates. Proportions based on period 7 results.

[f] No otolith contribution estimates. Proportions based on period 10 results.

[g] No otolith contribution estimates. Proportions based on period 14 results

[h] No otolith contribution estimates. Proportions based on an average of period 13 and period 17 results.

[i] No otolith contribution estimates. Proportions based on period 17 results.

[j] No otolith contribution estimates. Proportions based on period 18 results.

Appendix E24.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Cannery Creek Hatchery, 2009.

	Pink Salmon				
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative
08/04	14.1%	49,335	49,335	0	0
08/05	15.9%	51,044	100,379	0	0
08/06	17.4%	27,629	128,008	0	0
08/08	23.8%	134,975	262,983	0	0
08/09	25.3%	93,569	356,552	0	0
08/10	36.7%	87,819	444,371	0	0
08/23	-----	0	444,371	19	19
08/24	-----	0	444,371	0	19
08/25	-----	6,498	450,869	7,728	7,747
08/26	-----	8,400	459,269	12,176	19,923
08/27	-----	6,850	466,119	7,556	27,479
08/28	-----	12,279	478,398	14,582	42,061
08/29	-----	6,809	485,207	4,864	46,925
08/30	-----	0	485,207	225	47,150
08/31	-----	4,772	489,979	6,981	54,131
09/01	-----	6,279	496,258	10,555	64,686
09/02	-----	4,418	500,676	19,313	83,999
09/03	-----	12,190	512,866	23,225	107,224
09/04	-----	5,841	518,707	31,080	138,304
09/05	-----	6,975	525,682	27,761	166,065
09/06	-----	5,672	531,354	24,131	190,196
09/07	-----	6,320	537,674	28,687	218,883
09/08	-----	12,718	550,392	19,395	238,278
09/09		21,531	571,923	5,815	244,093
09/10	-----	25,368	597,291	1,032	245,125
09/11	-----	15,172	612,463	236	245,361
09/12	-----	0	612,463	0	245,361
09/13	-----	0	612,463	3	245,364
09/14	-----	0	612,463	500	245,864

Hatchery escapement summary[c]	Pink salmon
Purse seine whole fish harvest	444,371
Raceway harvest[d]	27,500
Viable broodstock (spawned, eggs in incubators)	234,777
Unviable broodstock (green/over-ripe/bad)	34,779
Unspawned fish (e.g., excess males/females)	105,813
Holding mortalities (raceway, pen mortalities)	11,087
Estimated unharvested return[e]	95,000
Estimated total return to hatchery	953,327

Sales Summary	Pink salmon
Purse seine whole fish sales	444,371
Raceway sales[f]	168,092
Carcass sales[g]	234,777
Total sales	

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[a] Whole fish from purse seine and raceway sales.
[b] Broodstock daily harvest numbers include viable broodstock and holding mortalities.
[c] Determined by fish tickets and VFDA egg-take log, and annual report.
[d] Raceway harvest includes whole fish as well as roe extraction not conducted as egg take.
[e] Fish remaining in saltwater and freshwater after all hatchery harvest is complete.
[f] Sum of raceway harvest, unviable broodstock and unspawned fish.
[g] Represents the sale of "viable broodstock" carcasses.

Appendix E25.–Sockeye salmon hatchery and wild stock contributions to the Southwestern District commercial common property fishery by period, 2006.

				Origin							
				Gulkana [d]		Wally Noerenberg Main Bay Hatchery			Wild		
Dates	Period	Hours		Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1 [a]	60		ND	ND	0	0.0	0	0	0.0	0
05/28 - 05/31	2 [a]	84		ND	ND	0	0.0	0	0	0.0	0
06/01 - 06/03	3 [a]	60		ND	ND	0	0.0	0	0	0.0	0
06/04 - 06/07	4 [a]	84		ND	ND	1	0.9	1	0	0.1	1
06/08 - 06/10	5 [a]	60		ND	ND	7	0.9	7	1	0.1	8
06/11 - 06/14	6 [b]	84		ND	ND	501	0.9	501	53	0.1	554
06/15 - 06/17	7 [a]	60		ND	ND	1,961	0.9	1,961	172	0.1	2,133
06/18 - 06/21	8 [c]	84		ND	ND	6,429	0.9	6,429	453	0.1	6,882
06/22 - 06/24	9	60		ND	ND	5,209	1.0	5,209	240	0.0	5,449
06/25 - 06/28	10	84		ND	ND	11,010	1.0	11,010	138	0.0	11,148
06/29 - 07/05	11	156		ND	ND	16,195	0.9	16,195	1,065	0.1	17,260
07/06 - 07/08	12	60		ND	ND	2,722	0.9	2,722	194	0.1	2,916
07/09 - 07/12	13	84		ND	ND	10,218	0.9	10,218	1,490	0.1	11,708
07/13 - 07/15	14	60		ND	ND	3,090	0.9	3,090	441	0.1	3,531
07/16 - 07/19	15	84		ND	ND	2,504	1.0	2,504	0	0.0	2,504
07/20 - 07/22	16 [a]	60		ND	ND	1,188	1.0	1,188	0	0.0	1,188
07/23 - 07/23	17 [a]	14		ND	ND	882	0.9	882	144	0.1	1,025
07/26 - 07/26	18 [a]	14		ND	ND	231	0.7	231	92	0.3	323
07/28 - 07/28	19	14		ND	ND	388	0.7	388	155	0.3	543
08/11 - 08/11	20 [a]	14		ND	ND	154	0.7	154	61	0.3	215
08/12 - 08/12	21 [a]	14		ND	ND	12	0.7	12	5	0.3	17
08/13 - 08/13	22 [a]	14		ND	ND	29	0.7	29	12	0.3	41
08/14 - 08/14	23 [a]	14		ND	ND	51	0.7	51	20	0.3	71
08/15 - 08/15	24 [a]	14		ND	ND	10	0.7	10	4	0.3	14
08/16 - 08/16	25 [a]	14		ND	ND	86	0.7	86	34	0.3	120
08/17 - 08/17	26 [a]	14		ND	ND	11	0.7	11	4	0.3	15
08/18 - 08/18	27 [a]	14		ND	ND	48	0.7	48	19	0.3	67
08/19 - 08/19	28 [a]	14		ND	ND	14	0.7	14	6	0.3	20
08/20 - 08/20	29 [a]	14		ND	ND	1	0.7	1	1	0.3	2
08/21 - 08/21	30 [a]	14		ND	ND	0	0.0	0	0	0.0	0
08/22 - 08/22	31 [a]	14		ND	ND	0	0.0	0	0	0.0	0
08/23 - 08/23	32 [a]	14		ND	ND	29	0.7	29	12	0.3	41
08/24 - 08/24	33 [a]	14		ND	ND	1	0.7	1	0	0.3	1
08/25 - 08/25	34 [a]	12		ND	ND	1	0.7	1	1	0.3	2
08/26 - 08/26	35 [a]	12		ND	ND	1	0.7	1	0	0.3	1
08/27 - 08/27	36 [a]	12		ND	ND	0	0.0	0	0	0.0	0
08/28 - 08/28	37 [a]	12		ND	ND	0	0.0	0	0	0.0	0
08/29 - 08/29	38 [a]	12		ND	ND	1	0.7	1	0	0.3	1
08/30 - 08/30	39 [a]	12		ND	ND	0	0.0	0	0	0.0	0

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			Origin							
			Gulkana [d]		Wally Noerenberg Main Bay Hatchery			Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/31 - 08/31	40 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/01 - 09/01	41 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/02 - 09/02	42 [a]	12	ND	ND	1	0.7	1	0	0.3	1
09/03 - 09/03	43 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/04 - 09/08	44-48 [a]	12/day	ND	ND	0	0.0	0	0	0.0	0
09/09 - 09/09	49 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/10 - 09/10	50 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/11 - 09/11	51 [a]	12	ND	ND	0	0.0	0	0	0.0	0
09/12 - 09/12	52 [a]	12	ND	ND	0	0.0	0	0	0.0	0
Total			0	0.0	62,984	0.9	62,984	4,818	0.1	67,802

ND: No data

[a] No otolith contribution estimates. Proportions based on nearest sampled period or average of nearest adjacent periods.

[b] Non-PWS hatchery marks were found on 2 out of 23 otoliths sampled for period 6:both TRAILLAKES04MD.

[c] Non-PWS hatchery marks were found on 1 out of 77 otoliths sampled for period 8:TRAILLAKES04MD.

[d] The Gulkana Hatchery contribution is assumed to be zero based on historical data. No samples were examined for strontium chloride marks.

Appendix E26.–Pink salmon hatchery and wild stock contributions to the Southwestern District commercial common property fishery by period, 2009.

			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
05/25 - 05/27	1	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
05/28 - 05/31	2	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/01 - 06/03	3	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/04 - 06/07	4	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/08 - 06/10	5	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/11 - 06/14	6	84	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/15 - 06/17	7	60	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
06/18 - 06/21	8 [a]	84	0	0.0	0	0.0	0	0.0	0	0.0	0	5	1.0	5
06/22 - 06/24	9 [b]	60	24	0.5	0	0.0	0	0.0	2	0.0	26	23	0.5	49
06/25 - 06/28	10 [b]	84	173	0.5	0	0.0	0	0.0	17	0.0	190	165	0.5	355
06/29 - 07/05	11 [b]	156	1,720	0.5	0	0.0	0	0.0	172	0.0	1,892	1,634	0.5	3,526
07/06 - 07/08	12	60	241	0.5	0	0.0	0	0.0	24	0.0	266	229	0.5	495
07/09 - 07/12	13	84	613	0.2	0	0.0	0	0.0	0	0.0	613	2,696	0.8	3,309
07/13 - 07/15	14	60	166	0.1	0	0.0	0	0.0	1,077	0.4	1,243	1,243	0.5	2,485
07/16 - 07/19	15 [c]	84	179	0.0	75	0.0	187	0.0	2,882	0.5	3,323	2,053	0.4	5,376
07/20 - 07/22	16	60	0	0.0	697	0.0	1,743	0.1	16,038	0.6	18,479	6,624	0.3	25,103
07/23 - 07/23	17	14	0	0.0	434	0.0	434	0.0	36,889	0.9	37,757	3,472	0.1	41,229
07/26 - 07/26	18	14	0	0.0	0	0.0	1,094	0.0	124,721	0.9	125,815	7,658	0.1	133,473
07/28 - 07/28	19	14	0	0.0	260	0.0	1,038	0.1	4,413	0.5	5,711	2,336	0.3	8,047
08/11 - 08/11	20	14	0	0.0	57,421	0.1	50,243	0.0	839,784	0.8	947,448	107,665	0.1	1,055,113
08/12 - 08/12	21	14	0	0.0	5,684	0.0	36,946	0.1	207,464	0.8	250,094	17,052	0.1	267,146
08/13 - 08/13	22	14	0	0.0	13,460	0.1	43,072	0.2	185,747	0.7	242,278	16,152	0.1	258,430
08/14 - 08/14	23	14	0	0.0	8,238	0.0	21,967	0.1	211,429	0.8	241,633	21,967	0.1	263,600
08/15 - 08/15	24	14	0	0.0	9,502	0.0	19,005	0.1	269,232	0.9	297,739	6,335	0.0	304,074
08/16 - 08/16	25	14	0	0.0	31,183	0.0	77,958	0.1	1,294,098	0.9	1,403,239	93,549	0.1	1,496,788
08/17 - 08/17	26	14	0	0.0	2,940	0.0	8,820	0.1	133,771	0.9	145,531	7,350	0.0	152,881

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			Origin											
			Solomon Gulch		Cannery Creek		W. Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates	Period	Hours	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Nr.	Proportion	Total	Nr.	Proportion	Total
08/18 - 08/18	27	14	0	0.0	53,671	0.0	80,507	0.1	1,046,587	0.8	1,180,765	107,342	0.1	1,288,107
08/19 - 08/19	28	14	0	0.0	6,573	0.0	10,955	0.1	190,616	0.9	208,144	2,191	0.0	210,335
08/20 - 08/20	29	14	0	0.0	3,976	0.0	1,988	0.0	176,927	0.9	182,891	7,952	0.0	190,843
08/21 - 08/21	30	14	0	0.0	3,967	0.0	7,935	0.0	168,613	0.9	180,515	7,935	0.0	188,450
08/22 - 08/22	31	14	0	0.0	1,719	0.0	8,593	0.1	130,613	0.9	140,925	6,874	0.0	147,799
08/23 - 08/23	32	14	0	0.0	63,614	0.1	23,855	0.0	636,140	0.8	723,609	39,759	0.1	763,368
08/24 - 08/24	33	14	0	0.0	13,211	0.1	8,807	0.1	90,272	0.7	112,289	13,211	0.1	125,500
08/25 - 08/25	34	12	0	0.0	2,656	0.0	1,328	0.0	74,374	0.9	78,358	6,641	0.1	84,999
08/26 - 08/26	35	12	0	0.0	0	0.0	3,951	0.1	47,408	0.8	51,359	11,852	0.2	63,211
08/27 - 08/27	36	12	0	0.0	9,507	0.1	4,754	0.0	85,566	0.8	99,827	14,261	0.1	114,088
08/28 - 08/28	37 [d]	12	0	0.0	2,627	0.1	994	0.0	30,243	0.8	33,863	3,621	0.1	37,484
08/29 - 08/29	38	12	0	0.0	4,346	0.1	869	0.0	66,061	0.9	71,277	5,215	0.1	76,492
08/30 - 08/30	39 [e]	12	0	0.0	1,207	0.1	241	0.0	18,344	0.9	19,792	1,448	0.1	21,240
08/31 - 08/31	40 [e]	12	0	0.0	1,823	0.1	365	0.0	27,715	0.9	29,903	2,188	0.1	32,091
09/01 - 09/01	41 [e]	12	0	0.0	976	0.1	195	0.0	14,842	0.9	16,013	1,172	0.1	17,185
09/02 - 09/02	42 [e]	12	0	0.0	575	0.1	115	0.0	8,744	0.9	9,435	690	0.1	10,125
09/03 - 09/03	43 [e]	12	0	0.0	171	0.1	34	0.0	2,602	0.9	2,808	205	0.1	3,013
09/04 - 09/08	44-48	12/day	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/09 - 09/09	49 [e]	12	0	0.0	4,556	0.1	911	0.0	69,252	0.9	74,720	5,467	0.1	80,187
09/10 - 09/10	50 [e]	12	0	0.0	333	0.1	67	0.0	5,063	0.9	5,462	400	0.1	5,862
09/11 - 09/11	51	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
09/12 - 09/12	52	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0
Total			3,116	0.0	305,403	0.0	418,970	0.1	6,217,743	0.8	6,945,232	536,631	0.1	7,481,863

[a] No otolith contribution estimates. Allocated to wild stocks.

[b] No otolith contribution estimates. Proportions based on period 12 results.

[c] No otolith contribution estimates. Proportions based on an average of period 16 and period 14 results.

[d] No otolith contribution estimates. Proportions based on an average of period 36 and period 38 results.

[e] No otolith contribution estimates. Proportions based on period 38 results.

Appendix E27.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Armin F. Koerning Hatchery, 2009.

	Pink Salmon				
Date	% Female	Sales Harvest[a]	Sales Harvest cumulative	Brood Stock[b]	Brood Stock cumulative
07/27	12.6%	33,979	33,979	0	0
07/28	14.9%	73,990	107,969	0	0
07/29	13.2%	147,045	255,014	0	0
07/30	17.3%	179,779	434,793	0	0
07/31	21.0%	152,106	586,899	0	0
08/01	24.6%	293,163	880,062	0	0
08/02	25.4%	371,173	1,251,235	0	0
08/03	31.0%	302,687	1,553,922	0	0
08/04	32.1%	309,706	1,863,628	0	0
08/05	38.5%	296,875	2,160,503	0	0
08/06	40.7%	449,825	2,610,328	0	0
08/07	46.9%	322,667	2,932,995	0	0
08/08	49.0%	272,505	3,205,500	0	0
08/09	46.6%	362,065	3,567,565	0	0
08/10	47.9%	315,858	3,883,423	0	0
08/24		5,065	3,888,488	8,794	8,794
08/25		2,109	3,890,597	13,845	22,639
08/26		3,100	3,893,697	13,980	36,619
08/27		3,745	3,897,442	15,715	52,334
08/28		4,606	3,902,048	16,101	68,435
08/29		7,864	3,909,912	15,282	83,717
08/30		7,589	3,917,501	14,376	98,093
08/31		9,359	3,926,860	8,955	107,048
09/01		5,368	3,932,228	11,005	118,053
09/02		7,376	3,939,604	11,054	129,107
09/03		3,607	3,943,211	19,105	148,212
09/04		2,891	3,946,102	23,736	171,948
09/05		2,670	3,948,772	22,705	194,653
09/06		4,166	3,952,938	23,072	217,725
09/07		7,035	3,959,973	14,823	232,548
09/08		32,126	3,992,099	0	232,548
09/09		30,511	4,022,610	16	232,564
09/10		48,291	4,070,901	20	232,584
09/11		43,710	4,114,611	7	232,591
09/12		18,975	4,133,586	29	232,620

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Hatchery escapement summary[c]	Pink salmon
Purse seine whole fish harvest	3,883,423
Raceway harvest[d]	173,613
Viable broodstock (spawned, eggs in incubators)	231,898
Unviable broodstock (green/over-ripe/bad)	71,428
Unspawned fish (e.g., excess males/females)	27,590
Holding mortalities (raceway, pen mortalities)	722
Estimated unharvested return[e]	19,500
Estimated total return to hatchery	4,408,174

Sales Summary	Pink salmon
Purse seine whole fish sales	3,883,423
Raceway sales[f]	272,631
Carcass sales[g]	231,898
Total sales	4,387,952

[a] Whole fish from purse seine and raceway sales.
[b] Broodstock daily harvest numbers include viable broodstock and holding mortalities.
[c] Determined by fish tickets and VFDA egg-take log, and annual report.
[d] Raceway harvest includes whole fish as well as roe extraction not conducted as egg take.
[e] Fish remaining in saltwater and freshwater after all hatchery harvest is complete.
[f] Sum of raceway harvest, unviable broodstock and unspawned fish.
[g] Represents the sale of "viable broodstock" carcasses.

APPENDIX F

Appendix F1.–Salmon harvest and effort in the Copper River District subsistence drift gillnet fishery 1961 to 2009.

	Permits				Reported Harvest[b]			
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Total
1961	14	0	0	0	60	137	99	296
1962	14	0	0	0	44	135	3	182
1963	8	0	0	0	3	13	157	173
1964	5	0	0	2	14	0	0	14
1965	31	20	15	5	12	459	85	556
1966	45	31	21	10	47	175	0	222
1967	61	56	37	19	83	153	0	236
1968	17	15	7	8	11	36	0	47
1969	49	33	20	13	16	63	85	164
1970	32	27	24	3	66	179	0	245
1971	29	26	17	9	10	32	4	46
1972	104	80	75	5	149	569	53	771
1973	94	89	89	N/A	153	326	180	659
1974	9	5	3	2	5	4	2	11
1975	2	2	2	N/A	0	5	0	5
1976	27	14	14	N/A	1	10	0	11
1977	23	22	22	N/A	10	71	0	81
1978	34	28	9	19	37	18	12	67
1979	49	41	21	20	45	26	17	88
1980	39	35	18	17	19	27	17	63
1981	72	51	30	21	48	145	104	297
1982	108	90	48	42	60	634	106	800
1983	87	73	31	42	79	107	57	243
1984	118	104	57	47	68	324	135	527
1985	94	94	67	27	88	261	83	432
1986	88	85	57	28	86	348	47	481
1987	95	89	39	50	49	359	14	422
1988	114	97	57	40	59	226	42	327
1989	75	64	32	32	56	339	51	446
1990	88	76	40	39	60	469	82	611
1991	129	115	71	44	136	830	38	1,004
1992	126	114	67	47	142	785	42	969
1993	111	93	50	43	120	428	29	577
1994	101	97	60	37	164	474	67	705
1995	126	113	72	41	154	692	31	877
1996	176	158	101	57	276	969	47	1,292
1997	269	243	165	78	200	1,001	1,777	2,978
1998	245	231	144	87	295	850	680	1,825
1999	294	275	175	100	353	1,330	682	2,365
2000	416	400	293	107	689	4,360	44	5,093
2001	468	439	288	151	826	3,072	70	3,968
2002	355	331	199	132	549	3,067	28	3,644
2003	384	365	225	140	710	1,607	36	2,353
2004	511	482	321	161	1,106	1,822	46	2,974

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	Permits				Reported Harvest[b]			
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Total
2005	237	224	121	103	260	830	15	1,105
2006	421	399	300	121	779	4,355	1	5,135
2007	469	440	295	145	1,145	6,148	15	7,308
2008	506	480	248	232	470	3,969	53	4,492
10-Year Average	406	384	247	139	689	3,056	99	3,844
2009	323	293	128	165	212	1,764	22	1,998

[a] As reported on returned permits.

[b] Reported harvest only.

Appendix F2.–Salmon harvest and effort in the Prince William Sound general area subsistence fishery, 1965–2009.

	Permits				Reported Harvest[b]						
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
1965	22	16	0	0	0	0	0	179	25	0	204
1966	3	3	0	0	0	3	19	20	50	0	92
1967	4	3	0	0	0	0	4	4	0	0	8
1968	4	3	0	0	0	0	20	156	0	22	198
1969	7	3	0	0	0	0	16	0	0	0	16
1970	1	1	0	0	0	0	0	0	0	0	0
1971	3	2	0	0	0	0	0	46	0	0	46
1972	0	0	0	0	0	0	0	0	0	0	0
1973	19	16	0	0	0	0	289	0	0	0	289
1974	3	1	0	0	0	0	0	0	0	0	0
1975	2	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	4	4	0	0	0	0	0	0	0	0	0
1978	3	2	0	0	0	0	0	0	0	0	0
1979	15	2	0	0	0	0	0	0	0	0	0
1980	26	15	0	0	0	7	6	0	0	0	13
1981	12	8	0	0	0	3	29	0	2	0	34
1982	35	27	0	0	0	84	4	31	24	0	143
1983	26	21	0	0	0	22	36	9	79	0	146
1984	8	8	0	0	0	10	0	11	2	0	23
1985	22	16	0	0	1	27	16	14	26	0	84
1986	25	14	0	0	0	5	15	0	0	0	20
1987	18	17	0	0	5	31	6	0	16	0	58
1988	7	7	0	0	2	51	7	10	9	0	79
1989	11	7	0	0	0	0	0	0	3	0	3
1990	8	7	0	0	0	0	7	4	0	0	11
1991	9	5	2	3	0	2	0	0	0	0	2
1992	10	6	1	5	0	20	0	0	0	0	20
1993	6	6	4	2	1	104	10	0	0	0	115
1994	5	4	2	2	0	0	0	0	0	0	0
1995	4	2	0	2	0	0	0	0	0	0	0
1996	10	7	0	7	0	0	0	0	0	0	0
1997	4	3	1	2	0	3	0	0	0	0	3
1998	4	3	0	3	0	0	0	0	0	0	0
1999	3	3	0	3	0	0	0	0	0	0	0
2000	3	3	0	3	0	0	0	0	0	0	0
2001	5	5	0	5	0	0	0	0	0	0	0
2002	11	9	2	7	0	31	0	9	7	0	47
2003	3	3	0	3	0	48	0	0	3	0	51
2004	12	11	5	6	0	8	0	0	3	0	11
2005	14	13	1	12	0	4	0	0	0	0	4
2006	11	9	2	7	0	20	0	30	0	0	50
2007	3	3	1	2	0	30	0	0	0	0	30
2008	11	10	4	6	1	32	0	0	0	0	33
10-Year Average	8	7	2	5	0	17	0	4	1	0	23
2009	1	1	0	1	0	0	0	0	0	0	0

[a] As reported on returned permits.

[b] Reported harvest only and includes harvest from Prince William Sound, exclusive of the Copper River District and customary and traditional subsistence locations within PWS.

Appendix F3.–Salmon harvest and effort in the Tatitlek and Chenega subsistence fisheries, 1988 to 2009.

	Permits				Reported Harvest[b]						
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
					Tatitlek						
1988	17	13	9	4	2	210	211	143	245	0	811
1989	14	10	7	3	1	107	653	33	43	0	837
1990	13	6	3	3	0	5	241	10	4	0	260
1991	17	10	7	3	0	107	984	320	28	0	1,439
1992	16	7	5	2	2	441	369	30	49	0	891
1993	18	11	7	4	2	512	305	144	74	180	1,217
1994	14	5	4	1	0	50	143	50	70	0	313
1995	15	3	0	3	0	0	0	0	0	0	0
1996	6	3	1	2	0	0	38	0	0	0	38
1997	6	4	3	1	0	107	45	0	54	0	206
1998	11	4	3	1	0	2	321	4	28	0	355
1999	17	10	8	2	0	344	541	31	31	0	947
2000	12	3	3	0	0	140	468	40	40	0	688
2001	14	9	8	1	0	114	230	60	12	0	416
2002	19	6	5	1	0	375	136	28	36	0	575
2003	15	8	6	2	0	81	185	20	12	0	298
2004	18	12	9	3	2	322	315	46	28	0	713
2005	16	3	2	1	0	98	286	200	16	0	600
2006	12	2	1	1	0	3	18	35	25	0	81
2007	14	0	NR	NR	NR	NR	NR	NR	NR	NR	0
2008	2	1	1	NR	0	60	0	0	0	0	60
10-Year Average	14	5	5	1	0	171	242	51	22	0	486
2009	12	4	3	1	0	170	131	0	0	0	301
					Chenega						
1988	10	6	5	1	1	50	8	251	294	0	604
1989	8	7	7	0	0	322	0	554	180	0	1,056
1990	7	4	2	2	1	36	5	20	2	0	64
1991	12	7	4	3	3	345	42	195	53	0	638
1992	14	6	6	0	1	526	23	313	99	0	962
1993	22	19	17	2	2	875	60	232	124	0	1,293
1994	16	10	8	2	5	192	77	402	161	0	837
1995	10	7	5	2	2	152	67	67	41	0	329
1996	7	6	4	2	0	135	9	125	46	0	315
1997	5	4	4	0	44	193	30	110	272	0	649
1998	4	3	3	0	13	114	20	65	119	0	331
1999	14	10	7	3	57	499	62	168	101	0	887
2000	12	8	6	2	24	39	229	211	143	0	646

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	Permits				Reported Harvest[b]						
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
				Chenega							
2001	16	9	8	1	2	119	92	95	146	0	454
2002	10	5	4	1	10	142	123	83	60	0	418
2003	13	7	5	2	6	219	156	149	147	0	677
2004	8	5	4	1	3	535	44	56	84	0	722
2005	13	8	6	2	10	516	84	124	174	0	908
2006	11	6	4	2	0	159	1	28	111	0	299
2007	4	3	2	1	2	293	27	4	55	0	381
2008	15	3	1	2	4	97	75	70	30	0	276
10-Year Average	12	6	5	2	12	262	89	99	105	0	567
2009	4	4	3	1	2	168	26	5	84	0	285

[a] As reported on returned permits.

[b] Reported harvest only.

Appendix F4.–Personal use and subsistence salmon harvests by year, district and gear types for the Upper Copper River subsistence and personal use fisheries, 1997–2009.

					Reported Harvest				Expanded Harvest					
			Permits		Salmon				Salmon				other species	
Year	District	Gear	Issued	Returned	Chinook	Sockeye	Coho	Total	Chinook	Sockeye	Coho	Total	Steelhead	other
1997	Glennallen	Dip net	286	259	253	7,711	0	7,964	2,583	82,807	187	85,577	105	61
	Glennallen	Fish wheel	847	795	2,155	69,677	177	72,009						
	Chitina	Dip net	9,086	8,913	5,336	145,881	155	151,372	5,447	148,727	160	154,334	3	12
	total		10,219	9,967	7,744	223,269	332	231,345	8,030	231,534	347	239,911	108	73
1998	Glennallen	Dip net	272	244	232	7,640	96	7,968	1,842	64,463	533	66,838	35	78
	Glennallen	Fish wheel	738	703	1,520	53,723	424	55,667						
	Chitina	Dip net	10,006	9,747	6,610	132,929	1,999	141,538	6,723	137,161	2,145	146,029	0	46
	total		11,016	10,694	8,362	194,292	2,519	205,173	8,565	201,624	2,678	212,867	35	124
1999	Glennallen	Dip net	336	295	351	8,937	86	9,374	3,278	77,369	1,121	81,768	31	320
	Glennallen	Fish wheel	765	712	2,707	63,964	206	66,877						
	Chitina	Dip net	9,944	8,966	5,755	137,729	2,095	145,579	5,913	141,658	2,128	149,699	0	29
	total		11,045	9,973	8,813	210,630	2,387	221,830	9,191	219,027	3,249	231,467	31	349
2000	Glennallen	Dip net	464	422	537	8,368	78	8,983	4,856	59,497	532	64,885	52	169
	Glennallen	Fish wheel	787	757	4,245	49,873	433	54,551						
	Chitina	Dip net	8,151	7,617	3,037	103,329	3,540	109,906	2,899	107,856	3,657	114,412	0	203
	total		9,402	8,796	7,819	161,570	4,051	173,440	7,755	167,353	4,189	179,297	52	372
2001	Glennallen	Dip net	408	367	280	7,992	17	8,289	3,553	83,787	1,144	88,484	64	19
	Glennallen	Fish wheel	832	809	2,974	68,345	1,010	72,329						
	Chitina	Dip net	9,462	9,311	2,731	117,440	2,274	122,445	3,113	132,108	2,720	137,941	0	484
	total		10,702	10,487	5,985	193,777	3,301	203,063	6,666	215,895	3,864	226,425	64	503
2002	Glennallen	Dip net	460	384	409	6,855	142	7,406	470	7,641	148	8,259	87	1
	Glennallen	Fish wheel	662	626	3,015	41,037	382	44,434	3,183	43,209	382	46,774		
	Chitina	Dip net	6,805	6,748	1,763	75,881	1,761	79,405	2,023	85,968	1,934	89,925	0	317
	total		7,927	7,758	5,187	123,773	2,285	131,245	5,676	136,818	2,464	144,958	87	318

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					Reported Harvest				Expanded Harvest					
			Permits		Salmon				Salmon				other species	
Year	District	Gear	Issued	Returned	Chinook	Sockeye	Coho	Total	Chinook	Sockeye	Coho	Total	Steelhead	other
2003	Glennallen	Dip net	399	343	318	6,132	58	6,508	345	6,934	58	7,337	48	0
	Glennallen	Fish wheel	613	580	2,077	38,077	392	40,546	2,193	40,073	409	42,675		
	Chitina	Dip net	6,418	0	1,870	80,134	2,409	84,413	1,902	80,796	2,533	85,231	0	264
	total		7,430	923	4,265	124,343	2,859	131,467	4,440	127,803	3,000	135,243	48	264
2004	Glennallen	Dip net	330	262	273	4,851	76	5,200	310	5,315	112	5,737	76	0
	Glennallen	Fish wheel	626	594	2,893	47,279	465	50,637	3,036	50,195	465	53,696		
	Chitina	Dip net	8,386	6,285	2,108	93,182	2,304	97,594	2,495	107,312	2,860	112,667	0	509
	total		9,342	7,141	5,274	145,312	2,845	153,431	5,841	162,822	3,437	172,100	76	509
2005	Glennallen	Dip net	363	303	264	6,305	0	6,569	310	7,486	0	7,796	19	41
	Glennallen	Fish wheel	598	557	1,816	54,661	97	56,574	1,919	56,727	154	58,800		
	Chitina	Dip net	8,230	8,131	1,776	108,868	1,562	112,206	2,043	120,013	1,869	123,925	0	478
	total		9,191	8,991	3,856	169,834	1,659	175,349	4,272	184,226	2,023	190,521	19	519
2006	Glennallen	Dip net	338	273	266	6,520	10	6,796	335	7,170	10	7,515	37	83
	Glennallen	Fish wheel	646	605	2,178	48,972	200	51,350	2,434	50,540	202	53,176		
	Chitina	Dip net	8,566	6,831	2,071	102,443	1,886	106,400	2,663	123,261	2,715	128,639	0	464
	total		9,550	7,709	4,515	157,935	2,096	164,546	5,432	180,971	2,927	189,330	37	547
2007	Glennallen	Dip net	467	383	432	8,155	28	8,615	496	9,416	28	9,940	0	1
	Glennallen	Fish wheel	707	654	2,674	53,322	203	56,199	2,780	56,298	210	59,288	0	55
	Chitina	Dip net	8,490	7,187	2,388	112,753	1,492	116,633	2,694	125,126	1,742	129,562	0	660
	total		9,664	8,224	5,494	174,230	1,723	181,447	5,970	190,840	1,980	198,790	0	716
2008	Glennallen	Dip net	536	447	445	6,517	35	6,997	496	7,177	35	7,708	0	0
	Glennallen	Fish wheel	650	600	1,793	33,697	437	35,927	1,885	35,980	458	38,323	0	68
	Chitina	Dip net	8,258	7,078	1,690	70,885	2,346	74,921	1,999	81,359	2,711	86,069	0	407
	total		9,444	8,125	3,928	111,099	2,818	117,845	4,380	124,516	3,204	132,100	0	475

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					Reported Harvest				Expanded Harvest					
			Permits		Salmon				Salmon				other species	
Year	District	Gear	Issued	Returned	Chinook	Sockeye	Coho	Total	Chinook	Sockeye	Coho	Total	Steelhead	other
1999-2008 10-year Average	Glennallen	Dip net	410	348	358	7,063	53	7,506	3,188	60,481	547	64,216	41	76
	Glennallen	Fish wheel	689	649	2,637	49,923	383	56,497						
	Chitina	Dip net	8,271	6,815	2,519	100,264	2,167	115,086	2,774	110,546	2,487	115,807	0	382
	total		9,370	7,813	5,514	157,250	2,602	179,089	5,962	171,027	3,034	180,023	41	457
2009	Glennallen	Dip net	469	391	342	6,030	8	6,380	394	6,950	19	7,363	0	1
	Glennallen	Fish wheel	621	575	1,988	37,708	186	39,882	2,099	39,899	209	42,207	19	72
	Chitina	Dip net	7,958	6,908	199	81,432	1,452	83,083	214	90,035	1,712	91,961	0	267
	total		9,048	7,874	2,529	125,170	1,646	129,345	2,707	136,884	1,940	141,531	19	340

Appendix F5.–Salmon harvest and effort in the Batzulnetas subsistence harvests, 1987 to 2009.

	Permits				Reported Harvest[b]			
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Total
1987	0	0	0	0	0	22	0	22
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0
1993	1	0	0	0	0	160	0	160
1994	5	0	0	0	0	997	0	997
1995	4	0	0	0	0	16	0	16
1996	0	0	0	0	0	0	0	0
1997	3	0	0	0	0	427	0	427
1998	1	0	0	0	0	582	0	582
1999	1	0	0	0	0	55	0	55
2000	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	62	0	62
2002	1	1	1	0	0	208	0	208
2003	1	1	1	0	0	164	0	164
2004	1	1	1	0	0	182	0	182
2005	1	1	0	1	0	0	0	0
2006	0	NA	NA	NA	0	0	0	0
2007	1	1	1	0	0	1	0	1
2008	1	1	1	0	0	1	0	1
10-Year Average	1	1	1	0	0	67	0	67
2009	0	0	0	0	0	0	0	0

[a] As reported on returned permits.
[b] Reported harvest only.

Appendix F6.–Salmon harvest and effort in the PWS and upper Copper River Federal subsistence fisheries, 2002 to 2009.

	Permits				Reported Harvest[b]			
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Total
				Chitina Subdistrict				
2002	122	89	NA	NA	33	575	0	608
2003	100	82	NA	NA	18	717	70	805
2004	109	83	NA	NA	7	1,215	18	1,240
2005	76	64	NA	NA	22	1,265	0	1,287
2006	75	64	NA	NA	13	1,379	20	1,412
2007	98	87	75	12	26	929	40	995
2008	82	70	0	0	22	789	74	885
2009	68	62	27	35	8	817	11	836
				Glennallen Subdistrict				
2002	201	162	NA	NA	564	7,950	81	8,595
2003	221	184	NA	NA	554	13,616	152	14,322
2004	262	206	NA	NA	636	17,704	152	18,492
2005	267	229	NA	NA	345	19,973	126	20,444
2006	254	222	NA	NA	430	16,711	28	17,169
2007	281	237	223	14	569	15,225	34	15,828
2008	270	219	0	0	705	11,347	156	12,208
2009	274	233	177	56	494	11,822	34	12,350
				PWS/Chugach Subdistrict				
2005	46	45	22	23	0	109	141	250
2006	49	48	23	25	0	150	100	250
2007	33	33	17	16	0	36	68	104
2008	45	45	23	22	0	32	119	151
2009	39	38	22	16	0	46	185	231
				Total federal subsistence harvests				
2002	323	251	NA	NA	597	8,525	81	9,203
2003	321	266	NA	NA	572	14,333	222	15,127
2004	371	289	NA	NA	643	18,919	170	19,732
2005	389	338	NA	NA	367	21,347	267	21,981
2006	378	334	NA	NA	443	18,240	148	18,831
2007	412	357	315	42	595	16,190	142	16,927
2008	397	334	23	22	727	12,168	349	13,244
2009	381	333	226	107	502	12,685	230	13,417

NA = data not available

[a] As reported on returned permits.

[b] Reported harvest only.

Appendix F7.–Salmon retained from the commercial harvest for personal use (homepack) by district, species, and gear type, in Prince William Sound and the Copper River and Bering River districts,1994 to 2009.

Prince William Sound (drift gillnet, set gillnet and purse seine)

		Chinook			Sockeye			Coho			Pink			Chum		
Year	Permits	Seine	Drift gillnet	Set gillnet	Seine	Drift gillnet	Set gillnet	Seine	Drift gillnet	Set gillnet	Seine	Drift gillnet	Set gillnet	Seine	Drift gillnet	Set gillnet
1994	5	0	5	0	0	0	12	0	32	0	0	0	0	0	0	0
1995	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	14	0	18	0	19	28	0	18	0	0	0	0	0	0	4	0
1999	6	0	5	1	18	43	0	13	0	0	0	0	0	0	0	0
2000	9	1	1	0	4	47	0	0	2	0	0	0	0	0	6	0
2001	11	1	6	1	0	46	18	0	20	0	0	0	0	0	2	0
2002	8	0	6	5	0	51	5	0	0	0	0	0	0	0	0	0
2003	14	0	24	0	0	23	0	0	0	0	0	0	0	0	1	0
2004	4	0	0	0	0	129	0	0	0	0	0	0	0	0	1	0
2005	5	0	1	0	0	60	0	0	107	0	0	0	0	0	20	0
2006	7	2	0	0	0	58	0	0	19	0	0	7	0	0	2	0
2007	9	1	7	0	0	63	1	0	13	0	0	7	0	0	1	0
2008	18	3	65	1	0	171	72	0	26	0	0	0	0	0	0	0
10-Year Average	9	1	12	1	2	69	10	1	19	0	0	1	0	0	3	0
2009	16	0	4	0	0	104	7	0	30	0	0	0	0	0	8	0

Copper River District (all drift gillnet)

Year	Permits	Chinook	Sockeye	Coho
1994	192	751	947	21
1995	318	1,688	0	0
1996	345	2,169	0	0
1997	284	1,243	0	0
1998	309	1,411	1,435	14
1999	297	1,115	1,333	36
2000	245	740	651	0
2001	289	935	2,113	24
2002	247	773	1,138	187
2003	287	1,073	4,077	0
2004	174	539	525	2
2005	228	760	1,785	119
2006	264	779	1,539	137
2007	280	1,019	2,023	340
2008	223	537	2,172	423
10-Year Average	253	1,281	931	127
2009	328	876	6,528	717

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	Bering River District (all drift gillnet)			
Year	Permits	Chinook	Sockeye	Coho
1994	3	12	0	0
1995	5	11	0	0
1996	7	31	0	0
1997	1	3	0	0
1998	5	7	0	0
1999	2	2	20	102
2000	1	3	0	0
2001	2	2	0	0
2002	1	1	0	0
2003	6	6	52	0
2004	2	0	1	10
2005	2	2	0	0
2006	4	9	6	0
2007	0	0	0	0
2008	0	0	0	0
10-Year Average	2	5	10	11
2009	1	0	0	20

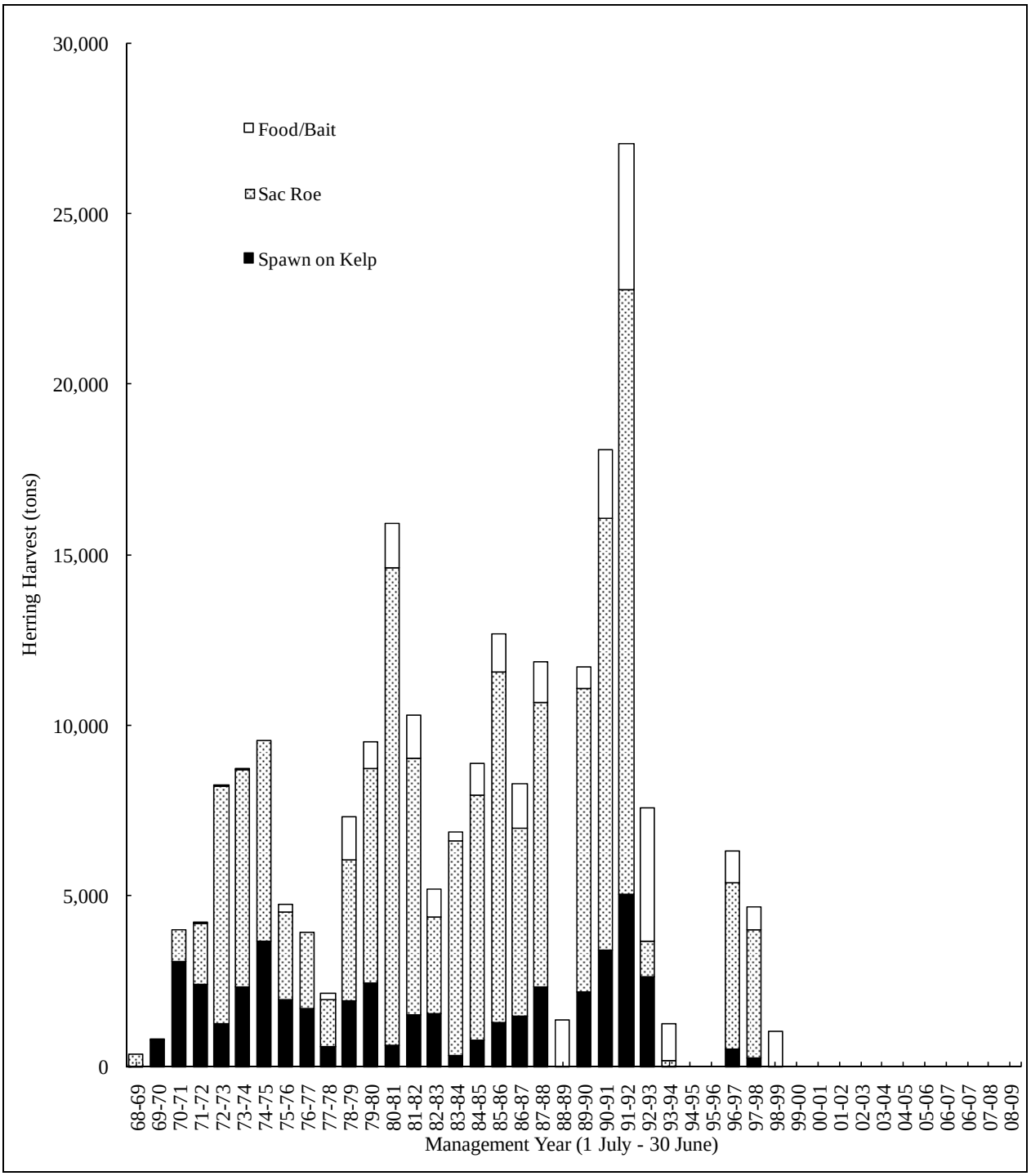
Appendix F8.–Area E commercial homepack and subsistence harvests by permit holder community of residence, 2009.

		Commercial Homepack[a]					
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Anchor Point	1	7	16	1	0	0	24
Anchorage	17	21	143	9	0	5	178
Big Lake	1	0	1	0	0	0	1
Circle City	1	1	10	0	0	0	11
Cordova	195	634	3,950	314	4	31	4,933
Delta Junction	2	2	24	21	0	0	47
Eagle River	1	1	0	0	0	0	1
Homer	22	15	273	215	0	5	508
Juneau	1	1	43	0	0	0	44
Kasilof	1	8	14	0	0	0	22
Kenai	1	0	12	0	0	0	12
Palmer	2	4	69	0	0	0	73
Seward	5	9	0	0	0	0	9
Sutton	1	0	10	0	0	0	10
Tatitlek	2	4	26	0	0	0	30
Valdez	3	15	58	0	0	3	76
Wasilla	6	2	35	1	0	0	38
Whittier	1	0	3	3	0	4	10
Willow	1	0	1	0	0	0	1
USA balance	71	152	1,840	203	57	19	2,271
Total	335	876	6,528	767	61	67	8,299
		Area E Subsistence[b]					
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Anchor Point	1	0	0	0	0	0	0
Anchorage	19	6	12	0	0	0	18
Chenega	4	2	168	26	5	84	285
Chugiak	3	0	1	0	0	0	1
Cordova	266	200	1,643	10	0	1	1,854
Eagle River	1	0	26	0	0	0	26
Fairbanks	2	0	0	0	0	0	0
Glennallen	1	4	3	0	0	0	7
Homer	8	0	0	12	0	0	12
Kasilof	1	0	0	0	0	0	0
Kenai	1	0	0	0	0	0	0
Kodiak	1	0	0	0	0	0	0
North Pole	1	0	0	0	0	0	0
Palmer	3	1	6	0	0	0	7
Seward	1	0	0	0	0	0	0
Soldotna	2	0	50	0	0	0	50
Tatitlek	14	0	170	131	0	0	301
Valdez	6	1	20	0	0	0	21
Wasilla	2	0	0	0	0	0	0
Whittier	3	0	3	0	0	0	3
Total	340	214	2,102	179	5	85	2,585

[a] Homepack fish are defined in 39.010 as finfish retained from lawfully taken commercial catch for that fisherman's own use.

[b] Combined harvests from the Copper River District, Tatitlek, Chenega and PWS subsistence areas. Includes permit holders who reported not or unsuccessful fishing.

APPENDIX G



Appendix G1.–Prince William Sound commercial Pacific herring harvest by management year and fishery, 1968–2009.

Appendix G2.–Pacific herring sac roe purse seine and drift gillnet fishery effort, anticipated harvest, and actual harvest, 1969 to 2009.

	Purse Seine Fishery							Drift Gillnet Fishery							Total
Calendar Year	Opening Dates	Hours	Effort (Boats)	Guideline Harvest [a]	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Opening Dates	Hours	Effort (Boats)	Guideline Harvest [a]	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Harvest (tons)
1969	03/01 - 06/30		5		325.4										325.4
1970	03/01 - 06/30														
1971	03/01 - 06/30		12		919.2										919.2
1972	03/01 - 06/30		18		1,777.2										1,777.2
1973	04/23 - 05/09		31		6,991.9										6,991.9
1974	04/10 - 04/17		72		6,371.0			04/10 - 04/17		3		3.8			6,374.8
1975	04/15 - 04/22	14.0	76		5,853.8	5.50			14.0						5,853.8
1976	05/08 & 06/01	13.0	66		2,584.2	3.01			13.0						2,584.2
1977	04/09 - 04/10	38.0	58		2,265.6	1.03		04/09 - 04/10	38.0	1		1.6	0.04		2,267.1
1978	04/17 - 04/21[b]	106.0	75	5,000	1,329.5	0.17		04/17 - 04/21	106.0	38		61.7	0.02		1,391.2
1979	04/07 - 04/19	215.5	89	5,000	4,138.0	0.22		CLOSED [c]							4,138.0
1980	04/01 - 04/09	162.0	76	5,000	6,042.2	0.49		04/17 - 05/05		16		264.4			6,306.7
1981	04/01 - 04/09	60.0	106	5,000	13,768.2	2.16		04/16 - 04/18	53.0	18		234.5	0.25		14,002.8
1982	04-23	2.0	95	5,000	7,148.3	37.62	10-14%	04/24 - 04/26	54.0	18		393.9	0.41	12-15%	7,542.2
1983	04-13	1.0	103	5,000	2,728.5	26.49	11.0%	04/21 - 04/22	24.0	22		105.4	0.20	11.0%	2,833.9
1984	04-14	3.0	105	5,000	5,946.1	18.88	10-11%	04/18 - 04/22	59.0	23	250	342.7	0.25	8-14%	6,288.8
1985	04/28 - 04/29	4.0	103	5,000	6,764.1	16.42	10-12%	04/29 - 05/01	34.0	21	250	413.3	0.58	10-12%	7,177.4
1986	04-17	3.0	106	5-7,000	9,828.1	30.91	11.0%	04/24 - 04/28	90.0	24	3-400	448.6	0.21	11.4%	10,276.7
1987	04/08 - 04/09	1.5	96	3-5,000	4,982.2	34.60	10.0%	04/10 - 04/11	24.0	24	2-300	533.3	0.93	9.5%	5,515.5
1988	04/21 - 04/22	2.0	105	4-5,000	7,977.3	37.99	10.5%	04-23	5.5	24	275	353.0	2.67	10.0%	8,330.3
1989	Season Closed [g]			6,400							375				0

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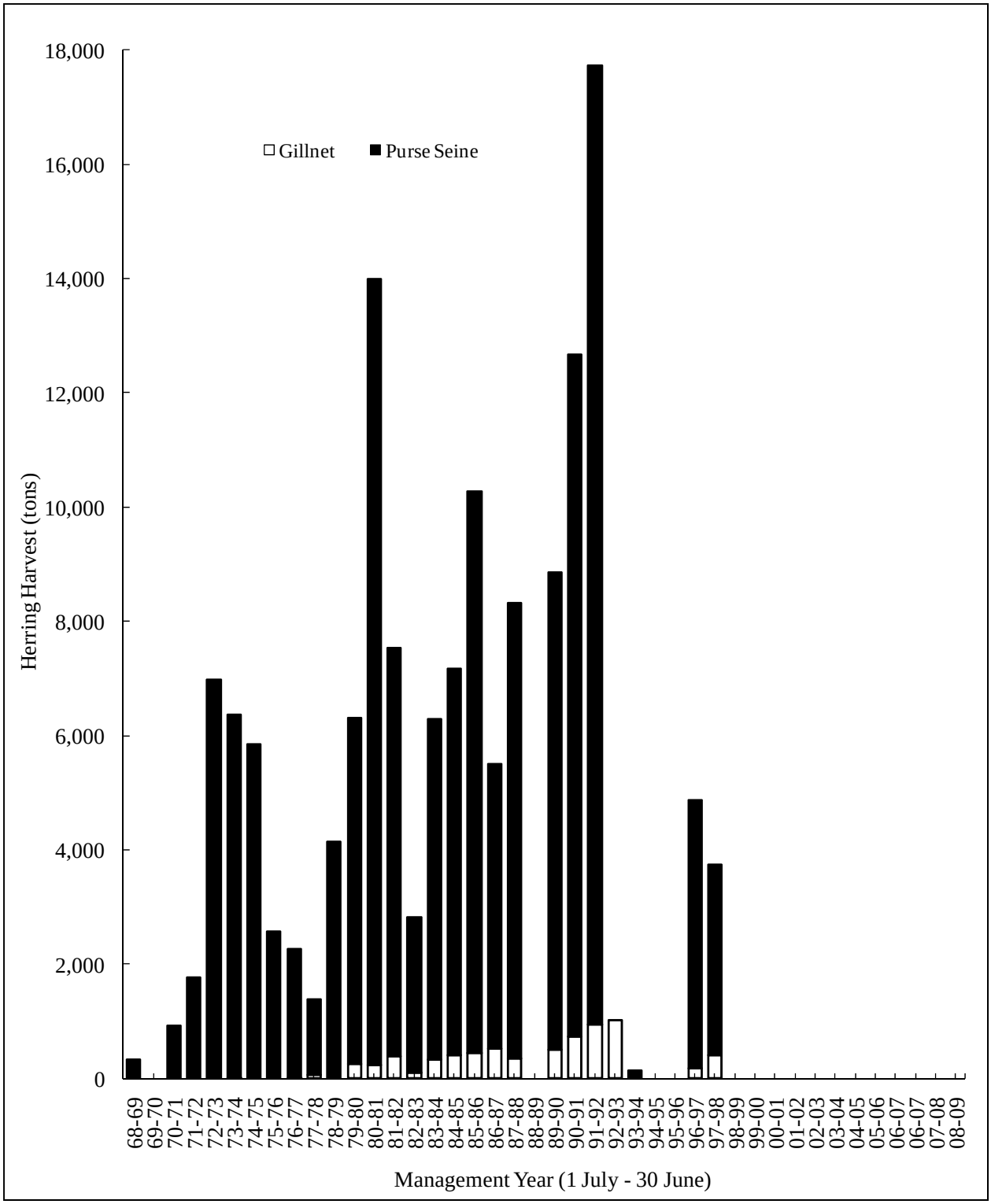
	Purse Seine Fishery							Drift Gillnet Fishery							Total
Calendar Year	Opening Dates	Hours	Effort (Boats)	Guideline Harvest [a]	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Opening Dates	Hours	Effort (Boats)	Guideline Harvest [a]	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Harvest (tons)
1990	04/12	0.3	96	6,038	8,362.1	290.35	10.0%	04/13	4.0	24	353	505.4	5.26	10.6%	8,867.5
1991	04/09, 04/10, & 04/19	1.3	104	11,233	11,923.0	85.32	10.5%	04/18	10.5	24	657	742.0	2.94	11.06%	12,665.1
1992	04/13, 04/17, & 04/21	2.0	104	14,100	16,784.2	80.69	10.0%	04/23 - 04/24	11.0	24	825	940.6	3.56	10.8%	17,724.8
1993	No Harvest			15,586				04/15, 04/17-04/19	36.0	24	912	1,029.9	1.19	11.01%	1,029.9
1994	Season Closed [j]			0	151.0						0				151.0
1995	Season Closed [j]			0							0				0
1996	Season Closed [j]			0							0				0
1997	04/13,04/15	1.8	71	2,965	4,703.5	36.80	9.75%	04/09	2.5	22	175	175.7	3.19	8.00%	4,879.2
1998	04/06	0.5	46	3,367	3,329.7	144.77	9.6%	04/11, 04/12	6.5	20	197	415.1	3.19	11.0%	3,744.8
1999	Season Closed [j]			3,447							202				0
2000	Season Closed [j]			0							0				
2001	Season Closed [j]			0							0				
2002	Season Closed [j]			0							0				
2002	Season Closed [j]			0							0				
2004	Season Closed [j]			0							0				
2005	Season Closed [j]			0							0				
2006	Season Closed [j]			0							0				
2007	Season Closed [j]			0							0				
2008	Season Closed [j]			0							0				
2009	Season Closed [j]			0							0				

[a] Guideline harvest based on preseason harvest projection beginning in 1986.
[b] An additional opening on 6/14 for 6 hours resulted in no harvest.
[c] Drift gillnet fishery closed by Board of Fisheries action.
[d] Of 103 permit holders participating, 72 actually made deliveries.
[e] Of 105 permit holders participating, 101 actually made deliveries.
[f] Of 103 permit holders participating, 62 made deliveries at Montague Island and 90 made deliveries in the north-shore area.
[g] All herring commercial fisheries in PWS were closed during spring 1989 because of the potential for contamination from the T/V Exxon Valdez oil spill.
[h] Total for 1991 includes a 92.2 ton test fishing set made by ADF&G for aerial survey calibration.
[i] Total for 1992 includes a 192.5 ton test fishing harvest made by ADF&G for aerial survey calibration.
[j] Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.
[k] Harvest for 1994 consisted of a single test fishing harvest made by ADF&G for aerial survey calibration.



Appendix G3.–Prince William Sound commercial Pacific herring sac roe purse seine and gillnet harvest by management year, 1968–2009.

Appendix G4.–Pacific herring spawn-on-kelp harvest produced in pounds, 1979–2009.

Calendar Year	Fishery Dates [c]	Effort: CFEC Permits [d]	Effort: Permits Committed [e]	Effort: Producing Permits [a] Closed [f]	Effort: Producing Permits [a] Open [g]	Guideline Harvest (tons)	Blades per Permit Holder: Closed [f]	Blades per Permit Holder: Open [g]	Spawn-on-Kelp Harvest (tons): Ribbon	Spawn-on-Kelp Harvest (tons): Macrocystis	Spawn-on-Kelp Harvest (tons): Total	Herring Utilized [b] (tons)
1979		2	0									
1980	04-14	14	4	2		8			0.9	0.4	1.3	16.6
1981	04-14	18	18	7		16			8.6	1.1	9.7	120.7
1982	04/29 - 05/10	25	20	18		26			25.1	0.5	25.5	319.2
1983	04/30 - 05/04	47	38	26		26			17.7	10.1	27.7	346.7
1984	04/24 - 05/08	65	45	37		26			6.4	18.8	25.2	315.1
1985	04/25 - 05/07	81	59	50		40			12.1	28.1	40.2	502.1
1986	04/21 - 04/28	104	82	81		60			0	72.2	72.2	903.0
1987	04/10 - 04/21	111	111	108		85			0	61.2	61.2	765.1
1988	04/12 - 04/23	122	122	119		85			0	123.2	123.2	1,540.5
1989	Season Closed [h]											
1990	04/11 - 04/26	128	128	122		118			0	98.8	98.8	1,235.3
1991	04/07 - 04/20	126	126	119		220	1200		0	202.4	202.4	2,530.5
1992	04/07 - 04/24	127	127	127		276	1770		0	242.2	242.2	3,027.7
1993	04/10 - 04/22	128	124	52		305	1950		0	106.4	106.4	1,330.5
1994	Season Closed [i]											
1995	Season Closed [i]											
1996	Season Closed [i]											
1997	04/10 - 05/06	128	116	7	84	725	410	640	0	34.3	34.3	290.5
1998	[j]	128	36	13	20	823	425	660	0	10.7	10.7	104.3
1999	[k]	128	27	7	2	843	435	680	0	6.2	6.2	48.8

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Calendar Year	Fishery Dates [c]	Effort: CFEC Permits [d]	Effort: Permits Committed [e]	Effort: Producing Permits [a] Closed [f]	Effort: Producing Permits [a] Open [g]	Guideline Harvest (tons)	Blades per Permit Holder: Closed [f]	Blades per Permit Holder: Open [g]	Spawn-on-Kelp Harvest (tons): Ribbon	Spawn-on-Kelp Harvest (tons): Macrocystis	Spawn-on-Kelp Harvest (tons): Total	Herring Utilized [b] (tons)
2000	Season Closed [i]											
2001	Season Closed [i]											
2002	Season Closed [i]											
2003	Season Closed [i]											
2004	Season Closed [i]											
2005	Season Closed [i]											
2006	Season Closed [i]											
2007	Season Closed [i]											
2008	Season Closed [i]											
2009	Season Closed [i]											

[a] Number of permits successful in producing product. Because of group cooperation, production is often reported for some individuals whose pounds did not produce product.
[b] The equivalent harvest of herring due to stress mortality and the removal of reproductive capacity from the population based on the assumption that 12.5 tons of herring are used to produce each ton of spawn-on-kelp product.
[c] Dates that the fishery was opened to purse seines for the capture and placement of herring into pounds.
[d] Prior to 1994, Commissioner's permits issued to applicants registering prior to the March 1 deadline. After 1994, the number of permits represents limited entry permits. Beginning in 1997 permit holders could operate pounds in open or closed configuration, but were required to state intended configuration prior to season.
[e] The number of individuals receiving an equal allocation of the guideline harvest. Prior to 1994 this represents the number of individual pounds constructed by the April 1 deadline. Beginning in 1997, this number represents permit holders stating intended configuration prior to season.
[f] A pound fished in a closed configuration consists of a rectangular floating frame with webbing suspended below, that encloses herring and kelp for period of time during spawning.
[g] A pound fished in an open configuration consists of a rectangular floating frame with either no webbing suspended below, or with webbing that permits volitional entry and exit of herring on at least one side
[h] All herring commercial fisheries in Prince William Sound were closed spring 1989 because of the potential for contamination from the *T/V Exxon Valdez* oil spill.
[i] Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.
[j] Opening dates for each area were: Montague Island 4/04, Eastern 4/05, Northern 4/09, and Southeastern 4/13. All areas closed by regulation on 12/31/1998.
[k] Opening dates for each area were: Montague Island 04/01, St. Matthews Bay 04/20. All areas closed by emergency order on 04/25/1999.

Appendix G5.–Natural spawning pacific herring spawn-on-kelp harvests, 1969 to 2009.

Calendar Year	Fishery Dates	Effort Hours	Effort (Nr. of Divers)	Guideline Harvest (tons)	Harvest by Kelp Species and Grounds Price ($/lb) Ribbon Percent	Ribbon Price	Sieve Percent	Sieve Price	Fucus Percent	Fucus Price	Other Percent	Other Price	Spawn-on-Kelp Harvest lbs.	Spawn-on-Kelp Harvest tons	Herring Utilized [a] tons
1969	05/18 - 05/31		3										5,424	2.7	21.7
1970	04/19 - 06/06		34										190,374	95.2	761.5
1971	04/18 - 05/15		159										769,481	384.7	3,077.9
1972	04/30 - 05/20		397										600,453	300.2	2,401.8
1973	04/23 - 05/26		176										306,358	153.2	1,225.4
1974	04/22 - 05/04		143		Mostly Ribbon - Some Sieve and Hair					$0.60-0.75			580,588	290.3	2,322.4
1975	04/25 - 05/10		328										916,919	458.5	3,667.7
1976	04/21- ?		279										485,043	242.5	1,940.2
1977	04/27 - 12/31		104										417,000	208.5	1,668.0
1978	04/20 - 04/30		66	165	23%		50%				27% [b]		141,268	70.6	565.1
1979	04/25 - 05/03		97	200									474,242	237.1	1,897.0
1980	04/23 - 04/30	10	458	200	60%	$1.25	40%	$0.85					603,880	301.9	2,415.5
1981	04-25	12	196	200	38%	$1.25	60%	$0.85			2% [b]	$0.60	122,532	61.3	490.1
1982	05/05 - 05/08	73	152	187	83%	$1.42	11%	$0.95			6% [b]	$0.74	291,430	145.7	1,165.7
1983	04/27	12	185	187	51%	$2.00-2.45	35%	$1.50-1.70			14% [c]		298,362	149.2	1,193.4
1984	Season Closed [d]		225	187											
1985	05/06 & 05/08	20	106	169	51%	$1.25	49%	$0.50					60,832	30.4	243.3
1986	04/30 - 05/03	86	29	142	97%	$1.75		$0.80			[b]	$0.80	95,205	47.6	380.8
1987	04/15 - 04/17	44	59	103	90%	$1.70		$0.85			[b]	$0.80	176,485	88.2	705.9
1988	04/29 & 04/30	12	159	103	64%	$1.50	24%	$0.75-1.00			12% [b]	$0.75-1.00	194,762	97.4	779.0
1989	Season Closed f			110											
1990	04/21 - 04/22	16	134	104	37%	$0.99	6%	$0.52			57% [b]	$0.88	237,575	118.8	950.3
1991	05/11 - 05/17	95	48	195					100%	$0.75-0.85			215,147	107.6	860.8
1992	04/24 - 04/30	101	217	243	21%	$0.70			76%	$0.40	3%		504,663	252.3	2,018.7
1993	04/19 - 04/24	114	83	268					100%	$0.55			325,181	162.6	1,300.7
1994	Season Closed g			110											

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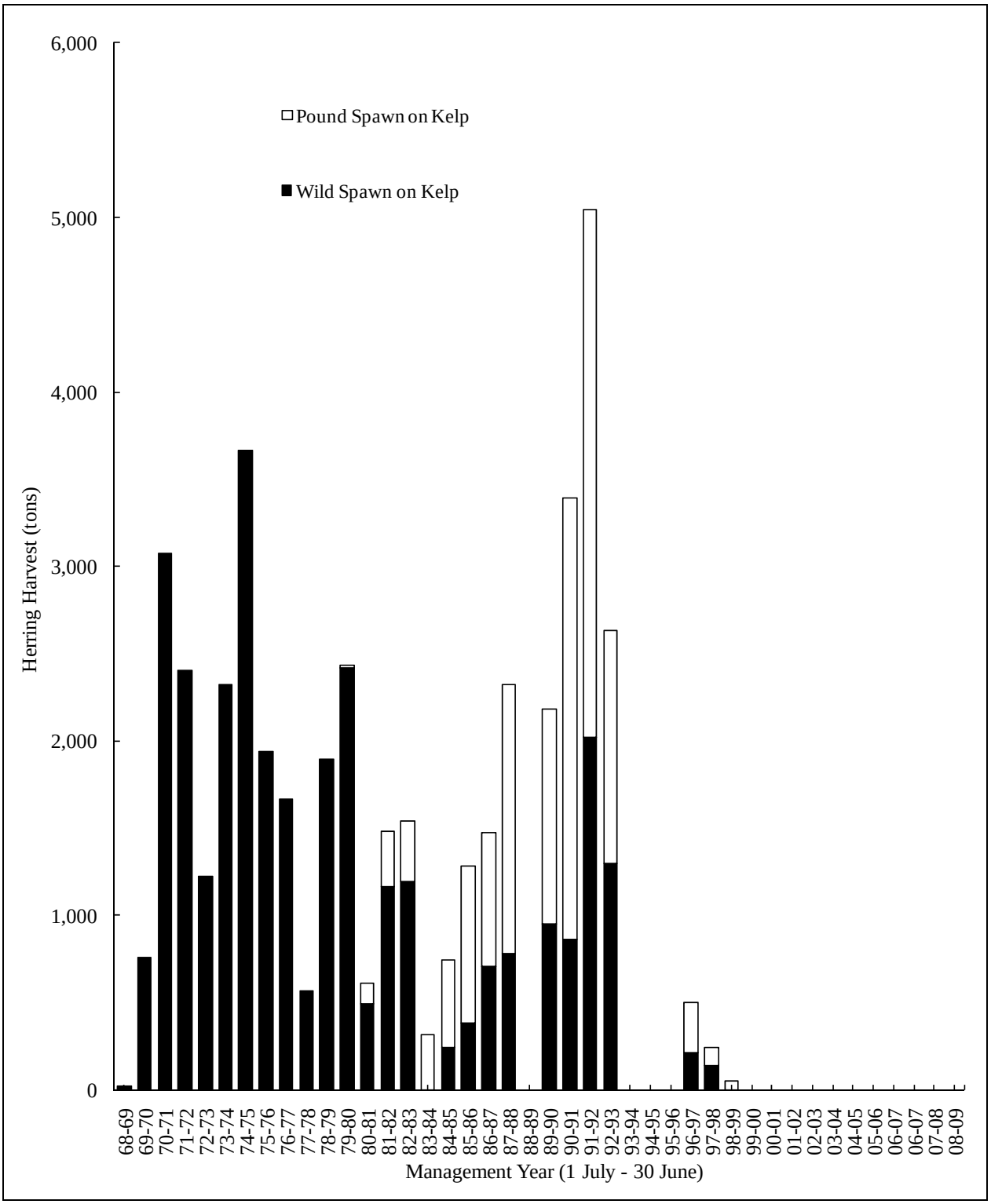
Calendar Year	Fishery Dates	Effort Hours	Effort (Nr. of Divers)	Guideline Harvest (tons)	Harvest by Kelp Species and Grounds Price ($/lb) Ribbon Percent	Ribbon Price	Sieve Percent	Sieve Price	Fucus Percent	Fucus Price	Other Percent	Other Price	Spawn-on-Kelp Harvest lbs.	Spawn-on-Kelp Harvest tons	Herring Utilized [a] tons
1995	Season Closed [g]														
1996	Season Closed [g]														
1997	04/25 & 04/26	26.4	45	56.4					100%				52,800	26.4	211.2
1998	04/22 - 04/27	62	35	464	16%	$0.80			84%	$0.50			34,695	17.3	138.8
1999	Season Closed [g]			475											
2000	Season Closed [g]														
2001	Season Closed [g]														
2002	Season Closed [g]														
2004	Season Closed [g]														
2005	Season Closed [g]														
2006	Season Closed [g]														
2007	Season Closed [g]														
2008	Season Closed [g]														
2009	Season Closed [g]														

[a] Indicates the annual removal of reproductive capacity from the population based on the assumption that average fish roe recovery is 10%, and 80% of spawn-on-kelp harvest weight consists of eggs.
[b] Hair kelp.
[c] Mostly *Macrocystis*. Some hair kelp.
[d] Season remained closed due to lack of suitable spawn.
[e] Permits issued.
[f] All herring commercial fisheries in Prince William Sound were closed spring 1989 because of the potential for contamination of catches from the *T/V Exxon Valdez* oil spill.
[g] Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.



Appendix G6.–Prince William Sound commercial spawn-on-kelp Pacific herring usage by management year, 1968 to 2009.

Appendix G7.–Prince William Sound commercial Pacific herring food/bait fishery effort and harvests, management years 1969 to 2009.

Harvest Management Year	Fishing Dates Opened	Fishing Dates Closed	Guideline Harvest	Purse Seine Effort (Boats)	Purse Seine Harvest (tons)	Pair Trawl Effort (Boats)	Pair Trawl Harvest (tons)	Mid-Water Trawl Effort (Boats)	Mid-Water Trawl Harvest (tons)	Otter Trawl Effort (Boats)	Otter Trawl Harvest (tons)	Total Harvest (tons)
1969-1970	10/01/69	06/30/70 [a]		-	14.0							14.0
1970-1971	10/01/70	06/30/71 [a]										0
1971-1972	10/01/71	06/30/72 [a]		-	20.0							20.0
1972-1973	10/01/72	05/09/73 [a]		-	9.0							9.0
1973-1974	08/27/73	04/17/74 [a]	[b]	-	8.5							8.5
1974-1975	07/15/74	03/10/75	[b]									0
1975-1976	06/01/75	06/25/75 [c]	[b]	4	226.7							226.7
1976-1977	02/01/77	03/09/77	[b]									0
1977-1978	10/01/77	02/28/78	[b]	-	17.0	-	145.3					162.3
1978-1979	10/16/78	? [d]	[b]	-	195.4	7	988.7	-	9.4	-	81.0	1,274.4
1979-1980	09/16/79	02/28/80 [e]	1,400	-	510.8	4	145.1	-	103.2	-	2.6	761.7
1980-1981	09/15/80	11/07/80	1,400	-	1,030.4	6	275.7					1,306.1
1980-1982	09/15/81	09/30/81	1,400	7	1,189.4	-	73.1					1,262.5
1982-1983	09/15/82	01/31/83	1,400	6	797.3							797.3
1983-1984	09/15/83	01/31/84	1,400	-	257.6							257.6
1984-1985	09/15/84	01/31/85	1,400	-	936.2							936.2
1985-1986	09/01/85	02/15/86	1,400	6	1,118.1							1,118.1
1986-1987	09/01/86	10/24/86	1,400	6	1,276.2							1,276.2
1987-1988	09/02/87	11/12/87 [f]	1,400	7	1,189.4							1,189.4
1988-1989	11/01/88	11/05/88	1,400	8	1,335.3							1,335.3
1989-1990	11/01/89	01/31/90	1,694	-	646.1							646.1
1990-1991	09/21/90	11/24/90 [g]	3,151	5	1,955.0			-	60.8			2,015.9
1991-1992	10/01/91	10/14/91	3,956	14	4,258.5							4,258.5
1992-1993	10/01/92	10/22/92	3,416 [h]	17	3,900.3							3,900.3
1993-1994	10/07/93	10/10/93	978 [i]	8	1,087.0							1,087.0
1994-1995	Season Closed [j]											0
1995-1996	Season Closed [j]											0

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Harvest Management Year	Fishing Dates Opened	Fishing Closed	Guideline Harvest	Purse Seine Effort (Boats)	Purse Seine Harvest (tons)	Pair Trawl Effort (Boats)	Pair Trawl Harvest (tons)	Mid-Water Trawl Effort (Boats)	Mid-Water Trawl Harvest (tons)	Otter Trawl Effort (Boats)	Otter Trawl Harvest (tons)	Total Harvest (tons)
1996-1997	11/01/96	11/03/96	825	6	933.9							933.9
1997-1998 [k]	11/1/97, 02/19/98 -	02/28/98	945	12	679.7							679.7
1998-1999	11/02/98,	11/04/98, 11/06/98	967	11 [l]	1,003.3	-	-					1,003.3
1999-2000	Season Closed [j]											
2000-2001	Season Closed [j]											
2001-2002	Season Closed [j]											
2002-2003	Season Closed [j]											
2003-2004	Season Closed [j]											
2004-2005	Season Closed [j]											
2005-2006	Season Closed [j]											
2006-2007	Season Closed [j]											
2007-2008	Season Closed [j]											
2008-2009	Season Closed [j]											

[a] Openings set by regulation. Ending date coincides with regulatory ending of sac roe season.

[b] No official quota, but unofficial goal was 1,500 tons.

[c] Harvest from special June food-and-bait fishery opening. Although this harvest actually occurred at the end of the 1975 management year, it is included in the 1976 harvest management year to be consistent with other food-and-bait harvests that occur after spring sac roe fisheries.

[d] Fishery closed from 1 January to 6 January 1979.

[e] Fishery closed from 1 January to 15 February 1980.

[f] Fishing season opened by regulation on September 1, 1987 in the District. The north-shore and east-shore herring districts opened on September 23. The season was closed by emergency order on October 6 for a period of five weeks, reopened on November 9, and closed for the duration of the 1987-88 season on November 12, 1987.

[g] Fishery open from September 21 until November 24. The Montague Island area was open from September 24 until November 24.

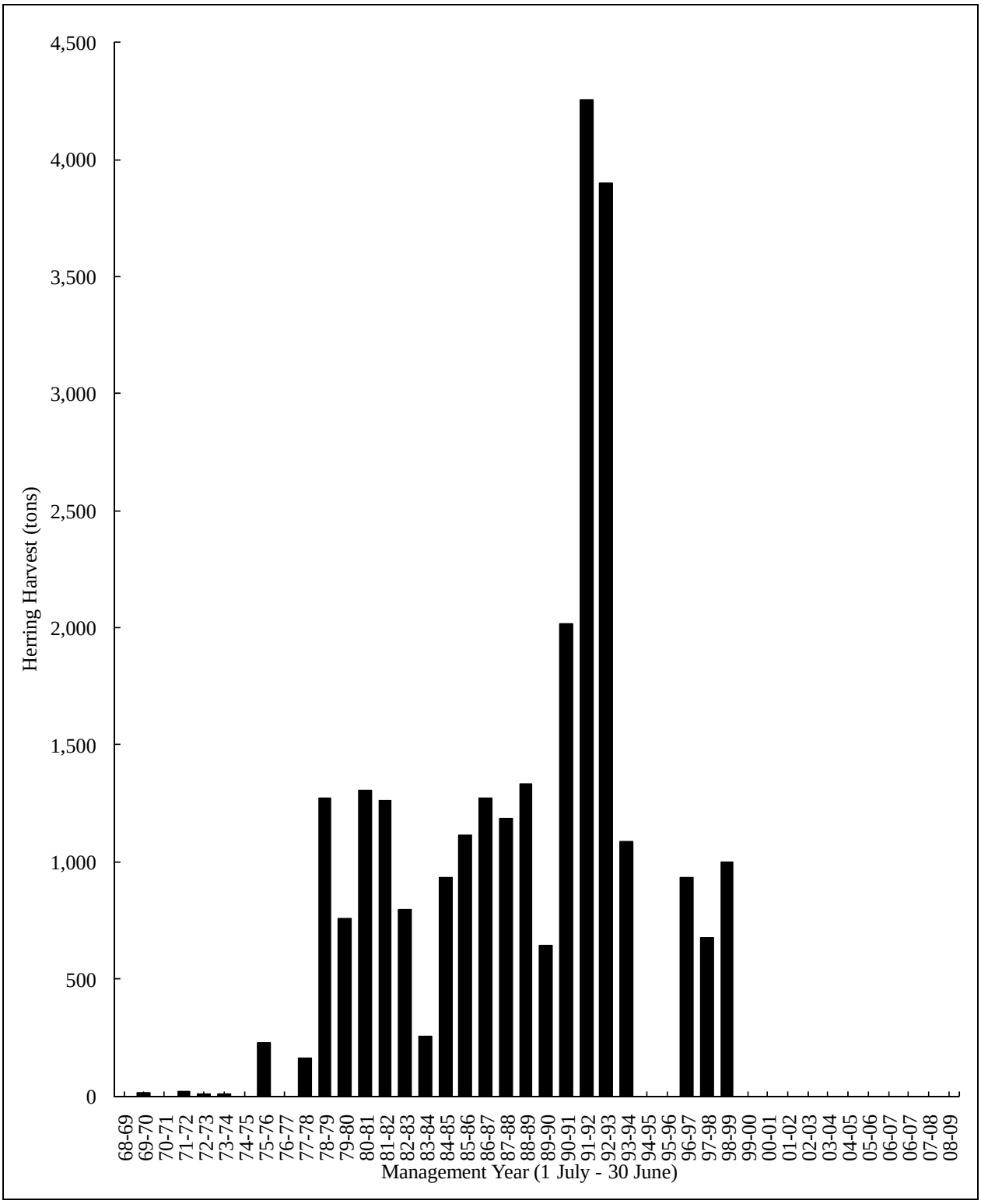
[h] Preseason guideline harvest level based on spawn deposition biomass estimate. Final guideline harvest based on age-structured analysis was issued in January 1993 and was 4,373 tons.

[i] Preseason guideline harvest level based on preliminary aerial survey biomass estimate of 40,000 tons.

[j] Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.

[k] Season reopened in spring 1998 based on final age structured assessment modeling. Of the total harvest, 578.1 tons were taken in November 1997 and 101.6 tons were taken in February 1998.

[l] Includes sale from ADF&G test fishing near Knowles Head, 31 October 1998.



Appendix G8.–Prince William Sound commercial food/bait Pacific herring harvest, management years 1968–2009.

Appendix G9.–Mean price and estimated exvessel value of the commercial Pacific herring harvest by gear type based on verbal post season estimates from processors and permit holders, 1978–2009.

	Sac Roe Fisheries				Spawn on Kelp Fisheries				Food-and-Bait Fishery		
	Purse Seine		Drift Gillnet		Wild Spawn on Kelp		Pounds		Mixed Gear		
Calendar Year	Price per ton	Total Value	Price per ton	Total Value	Price per lb	Total Value	Price per lb [a]	Total Value	Price per ton	Total Value	TOTAL VALUE
1978	$ 720	$ 956,800			$ 1.25	$ 175,000			$ 380	$ 489,820	$ 1,621,700
1979	$ 1,260	$ 5,213,880			$ 1.74	$ 821,280			$ 300	$ 196,800	$ 6,231,960
1980	$ 320	$ 1,933,760			$ 1.09	$ 667,080			$ 300	$ 424,800	$ 3,025,640
1981	$ 400	$ 5,508,000	$ 580	$ 135,720	$ 1.00	$ 122,000			$ 260	$ 328,120	$ 6,093,840
1982	$ 380	$ 2,716,240	$ 640	$ 251,520	$ 1.29	$ 397,320			$ 220	$ 194,260	$ 3,559,340
1983	$ 600	$ 1,634,400	$ 1,040	$ 109,200	$ 2.10	$ 634,200			$ 260	$ 70,980	$ 2,448,780
1984	$ 760	$ 4,435,360	$ 640	$ 218,880	NO HARVEST		$ 3.50	$ 176,439	$ 260	$ 265,460	$ 5,096,139
1985	$ 760	$ 5,380,800	$ 900	$ 371,700	$ 0.48	$ 19,200	$ 7.09	$ 569,058	$ 250	$ 279,500	$ 6,620,258
1986	$ 820	$ 8,058,960	$ 920	$ 412,160	$ 1.70	$ 159,800	$ 8.00	$ 1,155,200	$ 180	$ 229,680	$ 10,015,800
1987	$ 1,100	$ 5,480,200	$ 960	$ 511,680	$ 1.70	$ 299,200	$ 15.00	$ 1,836,000	$ 300	$ 356,700	$ 8,483,780
1988	$ 840	$ 6,600,000	$ 1,400	$ 537,000	$ 1.20	$ 232,000	$ 18.00	$ 4,500,000	$ 300	$ 400,590	$ 12,236,500
1989	SEASON CLOSED								$ 300	$ 193,830	$ 193,830
1990	$ 640	$ 5,351,744	$ 640	$ 323,456	$ 0.90	$ 213,840	$ 11.40	$ 2,305,080	$ 300	$ 605,130	$ 8,799,250
1991	$ 600	$ 7,153,800	$ 600	$ 445,200	$ 0.80	$ 172,160	$ 9.00	$ 2,880,000	$ 250	$ 1,064,625	$ 11,715,785
1992	$ 400	$ 6,713,680	$ 800	$ 752,480	$ 0.46	$ 232,116	$ 8.00	$ 3,875,200	$ 200	$ 780,060	$ 12,353,536
1993	NO HARVEST		$ 400	$ 411,960	$ 0.55	$ 178,860	$ 10.00	$ 2,000,000	$ 200	$ 217,400	$ 2,808,220
1994	SEASON CLOSED								SEASON CLOSED		
1995	SEASON CLOSED								SEASON CLOSED		
1996	SEASON CLOSED								$ 200	$ 187,000	$ 187,000

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	Sac Roe Fisheries				Spawn on Kelp Fisheries				Food-and-Bait Fishery		
	Purse Seine		Drift Gillnet		Wild Spawn on Kelp		Pounds		Mixed Gear		
Calendar Year	Price per ton	Total Value	Price per ton	Total Value	Price per lb	Total Value	Price per lb [a]	Total Value	Price per ton	Total Value	TOTAL VALUE
1997	$ 200	$ 940,600	$ 80	$ 14,080	$ 0.61	$ 32,000	$ 8.00	$ 426,816	$ 250	$ 170,000	$ 1,583,496
1998	$ 300	$ 999,000	$ 375	$ 156,000	$ 0.65	$ 23,000	$ 5.00	$ 107,000	$ 295	$ 296,000	$ 1,581,000
1999	SEASON CLOSED						$ 8.00	$ 99,000	SEASON CLOSED		
2000	SEASON CLOSED								SEASON CLOSED		
2001	SEASON CLOSED								SEASON CLOSED		
2002	SEASON CLOSED								SEASON CLOSED		
2004	SEASON CLOSED								SEASON CLOSED		
2005	SEASON CLOSED								SEASON CLOSED		
2006	SEASON CLOSED								SEASON CLOSED		
2007	SEASON CLOSED								SEASON CLOSED		
2008	SEASON CLOSED								SEASON CLOSED		
2009	SEASON CLOSED								SEASON CLOSED		

[a] The price per pound for spawn on kelp in pounds is based on the final product weight, not harvest weight.

Appendix G10.–Annual Pacific herring biomass indices for harvest management years 1973–2009.

Harvest Management Year	Total Spring Use and Harvest Mortality [a] (tons)	Aerial Survey Estimates: Peak Biomass Estimate [b] (tons)	Aerial Survey Estimates: Maximum Possible Observed Biomass [c]	Aerial Survey Estimates: Miles of Spawn [d]	Aerial Survey Estimates: Mile Days of Spawn [e]	Unexploitated Esc. Biomass: Age Structured Analysis [f] (tons)	Pre-Fishery Run Biomass: Age Structured Analysis [f] (tons)	Observed Peak Acoustic Biomass Estimates: Fall (tons)	Observed Peak Acoustic Biomass Estimates: Spring (tons)	Prior Year Forecast (tons)
1973-1974	6,375	41,080	107,290	38.5	96.0	ND	ND	ND	ND	ND
1974-1975	5,854	ND	ND	34.2	54.0	ND	ND	ND	ND	ND
1975-1976	2,584	7,330	25,247	32.8	41.2	ND	ND	ND	ND	ND
1976-1977	2,267	16,830	17,460	39.3	78.2	ND	ND	ND	ND	ND
1977-1978	1,391	13,410	36,540	28.7	50.8	ND	ND	ND	ND	ND
1978-1979	4,138	42,100	107,390	54.5	89.0	ND	ND	ND	ND	ND
1979-1980	6,323	62,110	122,050	50.5	95.5	60,259	65,478	ND	ND	ND
1980-1981	14,124	77,810	161,690	85.4	144.0	61,265	74,728	ND	ND	ND
1981-1982	7,861	68,790	97,620	49.0	85.5	56,518	64,067	ND	ND	ND
1982-1983	3,181	41,850	107,710	67.4	93.5	67,705	70,526	ND	ND	ND
1983-1984	6,604	58,870	158,760	60.1	104.8	77,437	83,448	ND	ND	ND
1984-1985	7,679	20,830	60,954	101.2	156.7	92,759	100,010	ND	ND	ND
1985-1986	11,180	15,180	54,820	72.4	146.8	73,573	84,217	ND	ND	ND
1986-1987	6,281	26,530	52,192	65.3	186.8	80,191	85,483	ND	ND	ND
1987-1988	9,871	34,270	67,175	166.3	269.8	108,941	117,966	ND	ND	43,992
1988-1989	[h]	56,915	186,708	98.4	228.1	115,564	115,564	ND	ND	54,899
1989-1990	10,103	57,900	145,013	94.1	164.4	90,112	100,244	ND	ND	51,692
1990-1991	15,196	42,765	141,375	58.0	71.5	73,313	87,529	ND	ND	96,666
1991-1992	20,752	53,835	130,569	74.7	119.8	78,343	97,028	ND	ND	121,342

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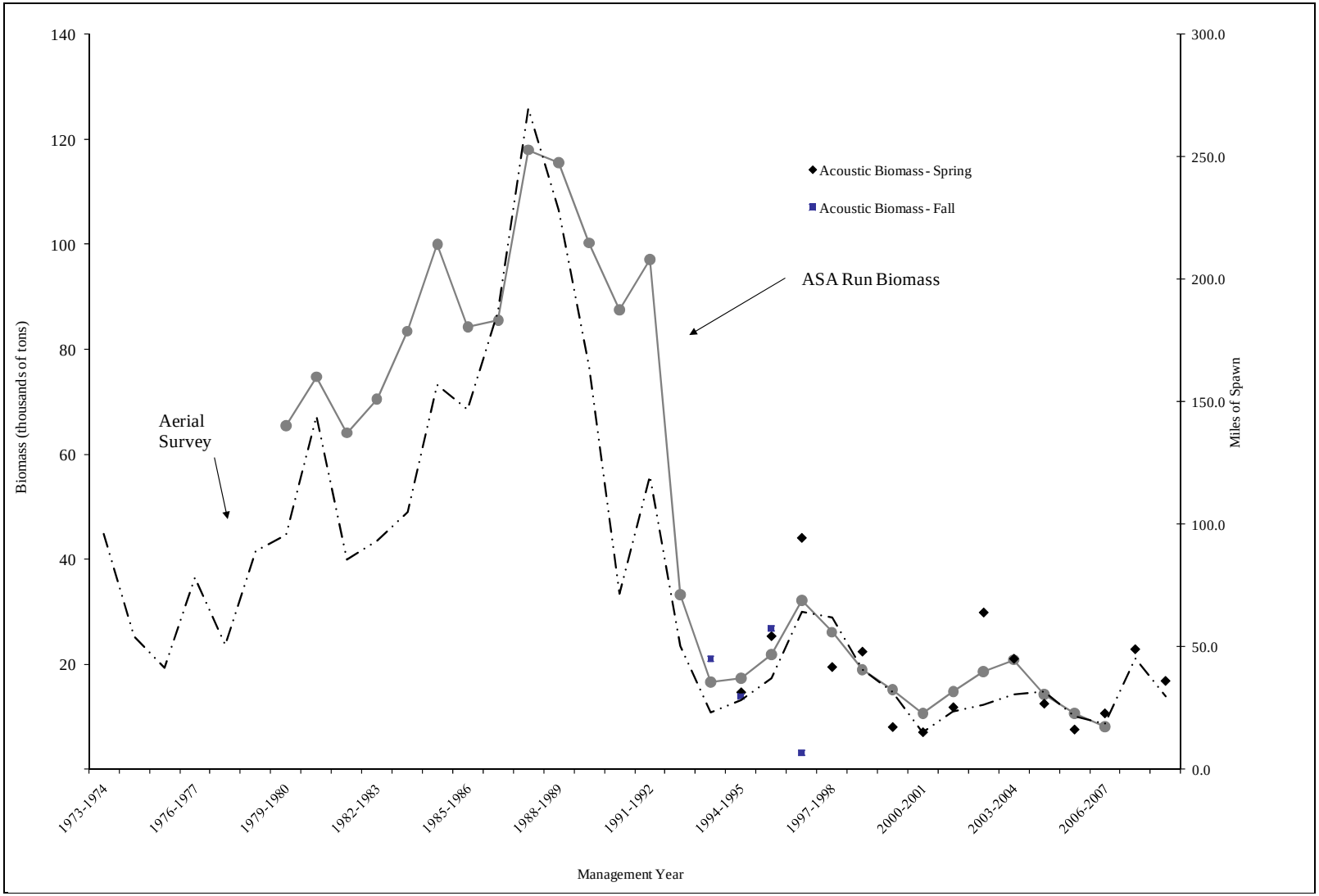
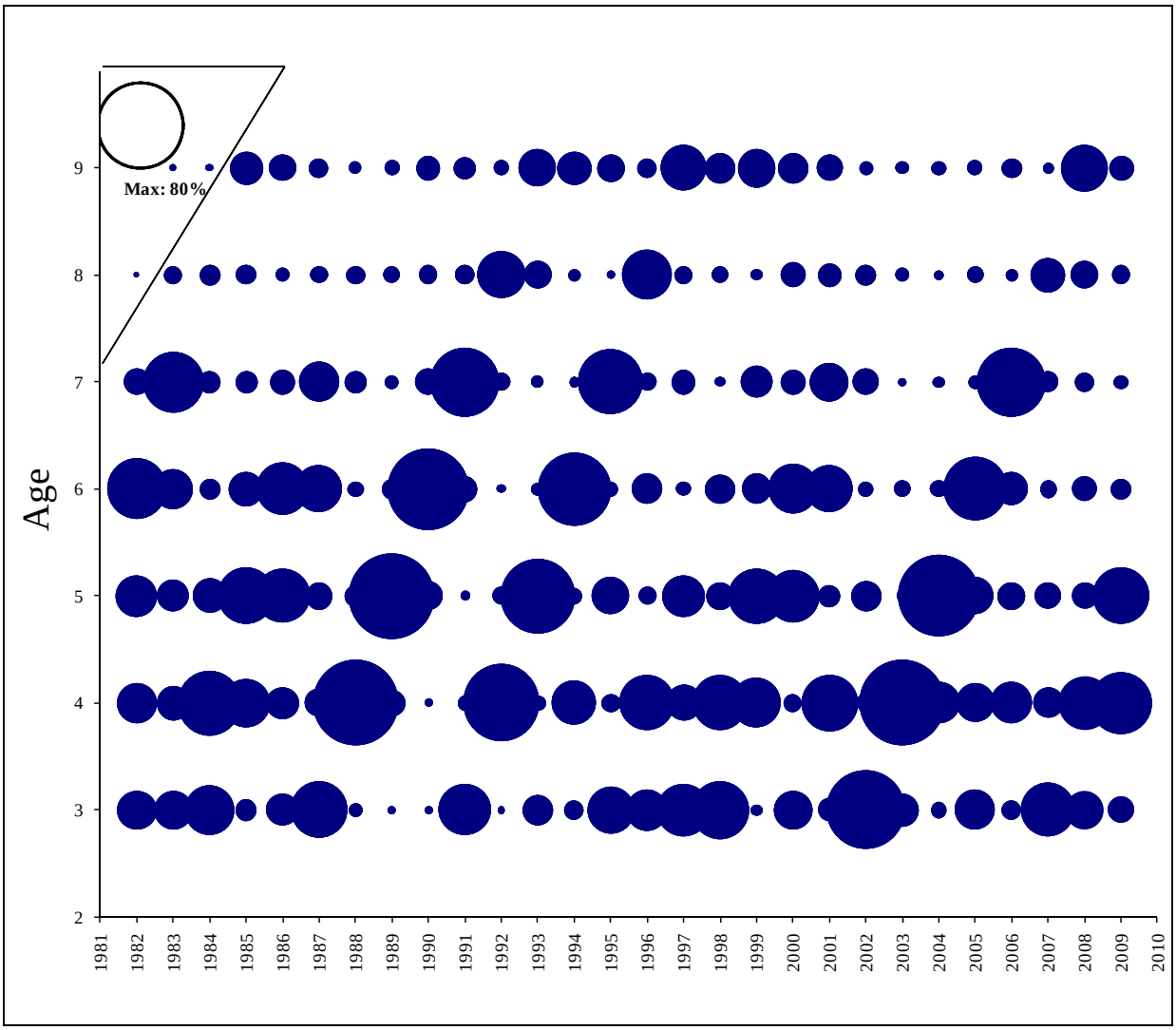
Harvest Management Year	Total Spring Use and Harvest Mortality [a] (tons)	Aerial Survey Estimates: Peak Biomass Estimate [b] (tons)	Aerial Survey Estimates: Maximum Possible Observed Biomass [c]	Aerial Survey Estimates: Miles of Spawn [d]	Aerial Survey Estimates: Mile Days of Spawn [e]	Unexploitated Esc. Biomass Age Structured Analysis [f] (tons)	Pre-Fishery Run Biomass Age Structured Analysis [f] (tons)	Observed Peak Acoustic Biomass Estimates: Fall (tons)	Observed Peak Acoustic Biomass Estimates: Spring (tons)	Prior Year Forecast (tons)
1992-1993	2,360	20,725	109,865	20.4	50.3	31,172	33,272	ND	ND	134,133
1993-1994	151	19,640	154,008	14.6	23.1	16,631	16,631	20,998	ND	29,787
1994-1995	0	7,113	20,868	20.4	28.2	17,269	17,269	13,840	14,639	19,009
1995-1996	0	10,691	37,771	27.2	37.3	21,829	21,829	26,776	25,346	24,332
1996-1997	5,170	10,858	57,114	42.7	64.3	27,508	32,118	3,086	44,082	37,599
1997-1998	3,849	13,817	50,124	38.7	62.0	22,530	26,104	ND	19,456	38,640
1998-1999	49	6,366	10,872	25.4	40.7	18,915	18,966	ND	22,397	39,557
1999-2000	0	1,610	2,889	19.5	31.7	15,196	15,196	ND	8,024	23,987
2000-2001	0	587	1,075	16.0	14.8	10,572	10,572	ND	7,035	NA
2001-2002	0	646	1,433	21.5	23.6	14,734	14,734	ND	11,791	NA
2002-2003	0	5,600	8,951	25.2	26.1	18,627	18,627	ND	29,864	NA
2003-2004	0	12,305	17,650	29.7	30.4	20,831	20,831	ND	21,046	NA
2004-2005	0	4,773	5,230	29.9	31.7	14,280	14,280	ND	12,480 [i]	21,064
2005-2006	0	540	609	19.9	21.7	10,630	10,630	ND	7,551 [i]	17,554
2006-2007	0	770	1,615	NA[j]	18.3	8,055	8,055	ND	10,635 [i]	15,830
2007-2008	0	10,700	13,740	NA[j]	45.4	NA	NA	ND	22,853 [i]	10,252
2008-2009	0	1,933	2,913	NA[j]	29.8	NA	NA	ND	16,820 [i]	17,903

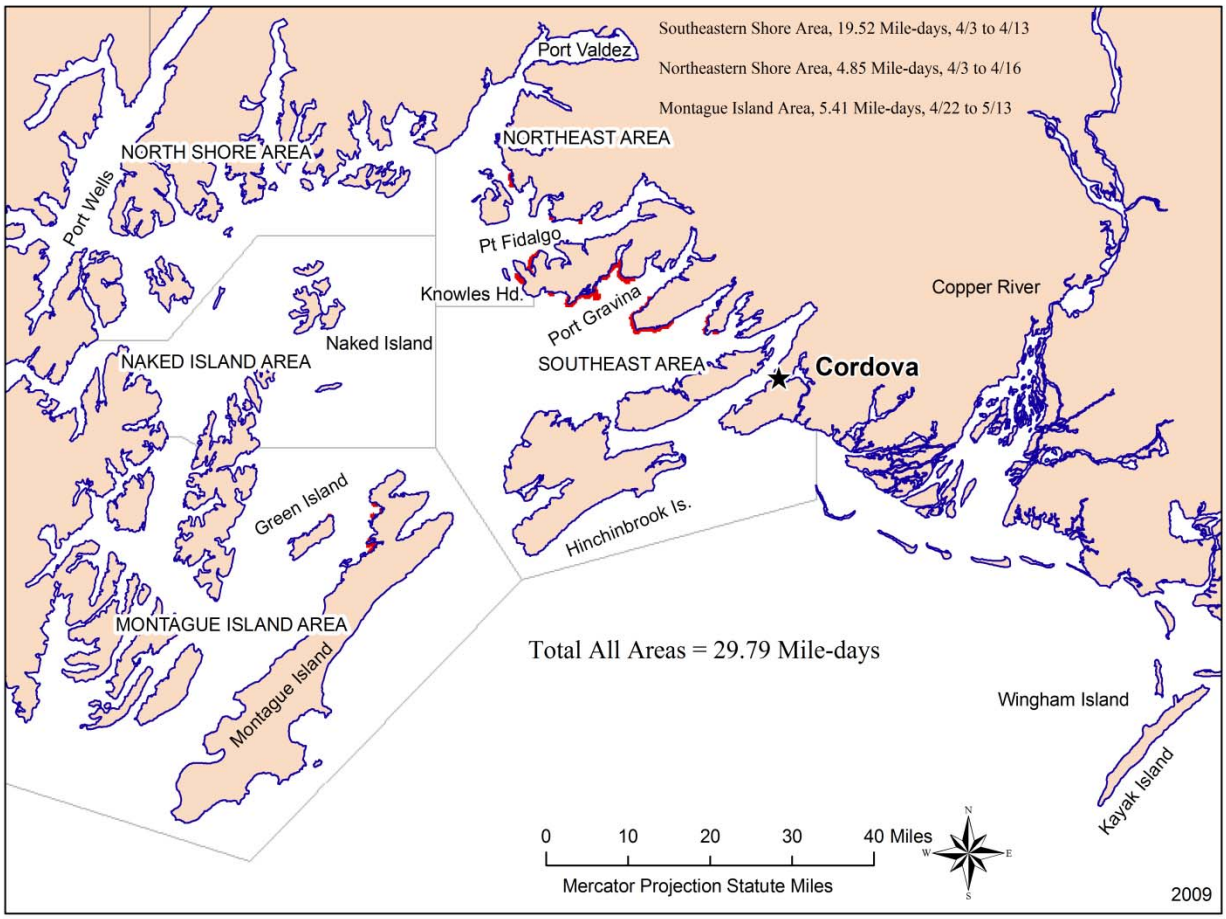
[a] Represents the common property seine and gillnet sac roe harvest, and equivalent use of herring in closed pound SOK fisheries.
[b] Largest single day aerial estimate of herring biomass in short tons (2,000 lbs.).
[c] The sum of all daily aerial biomass estimates for a given year.
[d] Total linear miles of spawn (statute miles).
[e] The sum of the daily observed linear miles of herring spawn was calculated in ArcMap from digitized hand-annotated paper maps and data collected electronically with ArcPad (statute miles).
[f] Unexploited escapement and run biomass estimates from age structured analysis, September 2007. The 2009 numbers are projections from the 2007 run of the model.
[g] Partial estimate of spawning biomass from feasibility study.
[h] All herring commercial fisheries in PWS were closed in the spring of 1989 because of the potential for the contamination of harvests from the *T/V Exxon Valdez* oil spill.
[i] The acoustics estimates for 2005-2009 are from ADF&G surveys only. Estimates from the Prince William Sound Science Center surveys were not available. Additionally, these estimates are not adjusted for maturity or subsequent harvest. Therefore, they represent the total biomass and not the spawning biomass.
[j] Miles of spawn estimate for 2007, 2008, and 2009 are not available.



Appendix G11.–Prince William Sound annual Pacific herring biomass indices by management year, 1973–2009, and forecast run biomass from 2009 run of the ASA model.



Appendix G12.–Pacific herring percentage contribution by number of each age group to the spring run biomass, 1982–2009.



Appendix G13.–Location of spawning herring and miles of spawn observed during aerial surveys in Prince William Sound, 2009.