Fishery Management Report No. 17-37

2016 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

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

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. 17-37

2016 PRINCE WILLIAM SOUND AREA FINFISH MANAGEMENT REPORT

by
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ABSTRACT

The 2016 Prince William Sound (PWS) management area commercial salmon harvest was 18.54 million fish. The harvest included 12.88 million pink *Oncorhynchus gorbuscha*, 1.99 million sockeye *O. nerka*, 3.17 million chum *O. keta*, 483,930 coho *O. kisutch*, and 13,467 Chinook salmon *O. tshawytscha*. Approximately 13.33 million fish were commercial common property harvest and 5.80 million fish were sold for hatchery cost recovery. The estimated value of the combined commercial salmon harvest, including hatchery sales, was approximately $62.64 million. During the 2016 season, 517 drift gillnet, 29 set gillnet, and 210 purse seine permit holders fished in at least 1 fishing period. Drift gillnet exvessel harvest value was an estimated $34.78 million (average permit earnings of $67,266); set gillnet exvessel harvest value was an estimated $2.10 million (average permit earnings at $72,466); and purse seine exvessel harvest value was an estimated $11.55 million (average permit earnings at $54,982). Revenue generated for hatchery operations was approximately $14.21 million. The PWS management area personal use and subsistence fisheries (including upper Copper River personal use and subsistence fisheries) harvested an approximate total of 232,000 fish in 2016. For these fisheries, approximately 14,000 subsistence and personal use permits were issued to Alaska residents. The commercial Pacific herring *Clupea pallasii* fishery in the PWS management area was closed in 2016 for the 16th consecutive year because age structure and available surplus in the spawning biomass did not support a fishery.

Key words: Pacific salmon *Oncorhynchus* spp., Pacific herring *Clupea pallasii*, harvest, hatchery, 2016, area management report AMR, Copper River, Prince William Sound

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 PWS, the management area includes the Bering and Copper rivers 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 the local geography and distribution of the 5 species of salmon harvested by the commercial fishery (Figure 2). The management objective for all districts is to achieve spawning escapement goals for the major salmon species and stock groupings 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.

Six hatcheries contribute to the area's fisheries. Five are operated by the regional aquaculture association, Prince William Sound Aquaculture Corporation (PWSAC). Gulkana Hatchery (GH) in Paxson augments production of sockeye salmon *Oncorhynchus nerka* to the Copper River. Cannery Creek Hatchery (CCH), located on the north shore of the sound, and Armin F. Koernig Hatchery (AFK) in the southwestern sound produce pink salmon *O. gorbuscha*; Wally Noerenberg Hatchery (WNH) in the northwestern sound produces pink, chum *O. keta*, and coho *O. kisutch* salmon; and Main Bay Hatchery (MBH) in the western sound produces sockeye salmon. Valdez Fisheries Development Association (VFDA) operates Solomon Gulch Hatchery (SGH) in Port Valdez and produces pink and coho salmon.

ADF&G forecasts PWS wild salmon runs, and PWS hatchery run projections are provided by PWSAC and VFDA and are summarized in hatchery annual management plans (AMP). Hatchery AMPs provide guidance for the harvest management of PWS hatchery returns and are

referenced throughout this document (PWSAC 2016a and VFDA 2016a). PWS hatchery permit holders are required (AS 16.10.470) to submit an annual report to ADF&G that includes details of egg takes, releases, and adult returns. Data provided through PWS hatchery operator annual reports are referenced throughout this document (PWSAC 2016b and VFDA 2016b) and are summarized in Stopha (2017). Additional information regarding hatchery production in PWS may be found in Sheridan et al. (2013) and Stopha (2013a-e).

Gear for the salmon fishery includes purse seine, drift gillnet, and set gillnet. Drift gillnet permits are the most numerous and are allowed in the Bering River, Copper River, Coghill, Unakwik, and Eshamy districts. In 2016, 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 allowed only in the Eshamy District. Purse seine gear is allowed in the Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague, and Southeastern districts.

As an avenue for the commercial fishing industry to formally provide management recommendations to 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). When the SHTF does not meet, a less formal public "Fishermen's" meeting is held to discuss management strategy for the upcoming fishing season.

When Pacific herring *Clupea pallasii* 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) is intended to provide an optimum sustained yield and an equitable allocation for all user groups in PWS. The management objective for PWS herring is to target fisheries on a high quality portion of the biomass while maintaining a threshold spawning biomass.

OVERVIEW OF AREAWIDE SALMON AND HERRING FISHERIES

The 2016 PWS management area commercial salmon harvest was 18.54 million fish. The harvest included 12.88 million pink, 1.99 million sockeye, 3.17 million chum, 483,930 coho, and 13,467 Chinook salmon *O. tshawytscha* (Table 1; Figure 3). Combined area hatchery runs of sockeye, coho, and pink salmon were well below forecast; combined area hatchery runs of chum salmon were above forecast (Appendix E1). Approximately 71.8% of the commercial harvest (13.3 million fish) was attributed to the commercial common property fishery (CCPF) and 28.1% (5.8 million fish) was attributed to the hatchery cost-recovery fishery (Table 1). The 2016 preliminary exvessel value estimates by gear group from the CCPF, including both wild and enhanced salmon, are $11.55 million (23.8%) for purse seine, $34.78 million (71.8%) for drift gillnet, and $2.1 million (4.4%) for set gillnet (Table 2; Figure 4). The average price per pound paid to fishermen was above the recent 10-year (2006–2015) average for all species except pink salmon and gillnet chum salmon harvested in PWS (Table 3). The purse seine gear group harvest value was the second lowest in the last 10 years and 24% of the recent 10-year average. Drift gillnet and set gillnet harvest values were 86.1% and 95.5% of the recent 10-year average, respectively and the lowest harvest value for drift gillnet since 2009 (Table 4).

No commercial fisheries for herring occurred in 2016; the projected spawning biomass of 19,700 short tons for spring 2015 was below the regulatory minimum spawning biomass of 22,000 short tons. Aerial surveys resulted in the third lowest estimate of annual mile days of spawn (21.6) on record (1974–2015, Appendices G1 and G2). Given the current estimates of PWS herring spawning population size and age structure, a commercial harvest was not anticipated in 2016.

SALMON SEASON SUMMARY BY DISTRICT

COPPER RIVER DISTRICT

The Copper River District includes all waters of the Gulf of Alaska between Hook Point and Point Martin (Figure 1). Average 10 year commercial harvest from the Copper River District for 2006–2015 was 17,200 Chinook, 1.46 million sockeye, and 201,000 coho salmon. The 25-year average for 1991–2015 was 34,300 Chinook, 1.44 million sockeye, and 273,000 coho salmon. The 2016 harvest was 12,300 Chinook, 1.18 million sockeye, and 368,000 coho salmon (Appendix A4).

ADF&G, with direction from the Alaska Board of Fisheries (BOF), manages salmon runs to the Copper River District to assure sustained yield and meet all user group allocations, as outlined in 5 AAC 24.360, *Copper River District Salmon Management Plan*. In 2003, the Chinook salmon spawning escapement goal was changed to 24,000 or more fish (Table 5; Bue et al. 2002). At the December 2011 BOF meeting, the *Copper River Chinook Salmon Management Plan* was amended to limit the number of commercial openings inside of the barrier islands in Statistical Weeks 20 and 21 to no more than 1 during the entire 2 week period to increase the probability of making the Chinook salmon escapement goal.

Achieving escapement goals and satisfying management plan provisions remain the primary management objectives of ADF&G. Management tools such as inriver sonar, aerial survey observations, Chinook salmon mark–recapture estimates, and harvest data provide ADF&G fishery managers with indices of abundance used to regulate Copper River fisheries. ADF&G relies primarily on the inriver passage index provided by dual-frequency identification sonar (DIDSON) units at Miles Lake (e.g., Malherek et al. 2015) to manage the commercial fishery and provide for upriver escapement and fishery allocations. Additionally, upper river aerial escapement observations, thermal and strontium chloride ($SrCl_2$) marked otolith data, and weir and tower data have provided supporting information on the relative success of ADF&G in meeting provisions of the *Copper River District Salmon Management Plan*.

In 2016, combined upriver subsistence and personal use sockeye salmon harvest (federal and state) totaled 232,000 fish, approximately 100,000 fish less than the previous year's record harvest. From 2006 to 2015 the combined upriver subsistence and personal use sockeye salmon harvest (federal and state) ranged from 140,000 fish (in 2008) to 334,000 fish (in 2015), for a 10-year average of 221,000 sockeye salmon (Appendix A1). A general increasing trend in subsistence and personal use harvest is reflected annually through additions to the inriver goal within the allocated ranges for each fishery.

The Copper River District commercial fishing season opens in mid-May. Commercial fishing periods are established inseason by emergency order (EO). In general, fishing time has steadily been reduced over the years in response to increased efficiency of the commercial fleet and reallocations by the BOF. Two evenly spaced commercial fishing periods per week on Mondays

and Thursdays has been the recent schedule, and the duration of each fishing period is dependent upon trends in escapement, harvest, and environmental conditions.

The current sustainable escapement goal (SEG) is a range of 360,000–750,000 wild sockeye salmon for the upper Copper River (Fair et al. 2011).

The components of the 2016 inriver goal from 5 AAC 24.360 were as follows:

- Spawning escapement: 360,000
- Other salmon: 17,500 salmon
- Subsistence harvest: 82,500 salmon
- Personal use harvest: 150,000 salmon
- Sport fishery: 15,000 salmon
- Gulkana Hatchery broodstock: 20,000 sockeye salmon (estimated annually)
- Gulkana Hatchery surplus: 66,550 sockeye salmon (estimated annually)
- Total: 712,000

The daily inriver goal is the anticipated number of salmon counted daily at the Miles Lake sonar necessary to meet the overall inriver goal. For 6 of the 7 inriver goal components, the daily inriver goal is calculated using both wild and enhanced salmon 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...."

Preseason Outlook and Harvest Strategy

The 2016 commercial harvest forecast for the Copper River District was 21,000 Chinook, 1.62 million sockeye, and 201,000 coho salmon (Appendix A9). The GH enhanced sockeye salmon run was forecast by ADF&G to be 202,000 fish (Table 6). PWSAC requires approximately 20,000 fish for broodstock, and ADF&G includes hatchery surplus in the inriver goal. All GH fish beyond these categories are available for commercial, subsistence, personal use, and sport harvests. The 2016 inriver goal for salmon passing the Miles Lake sonar was 712,000. This number equated to a sonar goal of 663,000 salmon by July 28, which was the season ending date for sonar counting at Miles Lake in 2015 (Appendix A6).

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. 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 indices 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 range for Copper River Delta sockeye salmon stocks is 55,000 to 130,000 fish (Table 5; Bue et al. 2002).

Typically, coho salmon management begins in the second week of August. The historical precedent is to provide an initial single 24 hour period per week. If harvest or aerial survey numbers warrant, the duration of this fishing period may be increased to 36, 48, or 60 hours, or a second fishing period may be added during the week. Aerial escapement indices for the early

portion of the coho salmon run probably underestimate salmon abundance due to other species of salmon remaining in tributaries, making accurate species identification problematic. Additionally, stormy fall weather makes weekly survey flights difficult. The SEG range for the Copper River Delta is 32,000 to 67,000 coho salmon (Table 5; Bue et al. 2002).

Sockeye and Chinook Salmon Fishery Season Summary

The 2016 Copper River sockeye salmon total run was 2.07 million fish: 1.18 million (56.6%) commercially harvested and sold, 232,000 (11.2%) harvested by upriver subsistence and personal use fishermen, and an estimated 18,100 (0.9%) harvested by upriver sport fishermen. Harvest distributions among other harvest categories were consistent with past years. Upriver and Copper River Delta wild sockeye salmon escapement was 606,000 (29.2%) fish, and 32,300 (1.6%) fish returned to the GH sites (Appendix A1). Overall, 1.58 million (76.3%) of the sockeye salmon originated from upriver wild stock systems, 259,000 (12.5%) from Copper River Delta wild stock systems, and 233,000 (11.2%) came from the GH (Appendix A2).

The 2016 Chinook salmon total run was 29,200 fish; 12,300 (40.6%) were commercially harvested and sold, 159 (0.5%) were harvested through educational and subsistence permits in the Copper River District, and 727 (2.5%) were retained by commercial permit holders as homepack. A total of 3,200 (10.9%) were harvested by upriver personal use and subsistence users, an estimated 948 (3.2%) were harvested by sport fishermen, and the remaining 11,900 (40.6%) represent spawning escapement (Appendix A3). Spawning escapement was approximately half the lower bound SEG of 24,000 for Copper River Chinook salmon.

The Copper River commercial common property sockeye salmon harvest of 1.18 million was 27.2% below the projected 1.62 million and 19.2% below the previous 10-year average of 1.46 million sockeye salmon. The commercial harvest of 12,300 Chinook salmon was 28.1% below the previous 10-year average of 17,200 fish. The overall commercial harvest of Chinook salmon was the 8th lowest since 1971 (Appendix A4). The overall commercial sockeye salmon harvest from the Copper River District was the 21st largest harvest in the history of the fishery. In general, the Copper River District run entry shifted east in 2016. Fish and harvest effort concentrated on the east line and Martin Islands, and there was poorer fishing offshore and in the western portion of the district.

A total of 520 of 532 drift gillnet permits were active in the Copper River District in 2016. Fishing effort peaked during the second fishing period that began May 19 when 473 permits were fished, though harvest did not peak until the 14th period with 92,000 sockeye salmon (Appendix A5).

The 2016 cumulative Miles Lake sonar count on July 28 (last day of operation) was 802,000 salmon, which was within the range of the inriver goal and approximately 50,000 fish above the long-term average (1978–2015;Appendices A6, A7, and A8). River height climbed steadily throughout the season with the exception of a rapid increase and sharp decrease in water stage height between July 14 and July 24 when Van Cleave Lake, a glacier-dammed lake, had a breakout event, or Jökulhlaup, releasing large amounts of water into the Copper River from under Miles Glacier (Appendix A7).

Final escapement index count for the Copper River Delta systems was 51,600 sockeye salmon; 3,400 fish below the SEG range of 55,000–130,000 fish (Appendix A10; Table 5) and 23,700 fish below the recent 10-year average. However, pilot availability and poor survey conditions

probably contributed to the lower counts and it is likely that the goal was achieved. Since 2006, the escapement index has ranged from a low of 51,600 in 2016 to a high of 98,900 in 2006 (Appendix A11). The management objective of meeting the long-term average escapement of 84,400 sockeye salmon for Copper River Delta was also not achieved and may be due in part to increased commercial fishing effort on the GH sockeye salmon run. In 2016, 2 aerial surveys of upper Copper River index streams were conducted (Appendix A12).

Based on $SrCl_2$ otolith mark analysis, an estimated 157,000 GH sockeye salmon were harvested in the Copper River District commercial fishery in 2016, which accounted for 13.4% of the total sockeye salmon commercial harvest (Appendix E2). This is 22% less than the previous 10-year average commercial harvest of 201,000 GH sockeye salmon (Appendix E3). Additionally, there were an estimated 17,400 MBH sockeye salmon in the Copper River District commercial harvest (Appendix E2).

In 2016, the sockeye salmon run produced by the Gulkana hatcheries totaled 208,000 fish (Appendix E3). This was 34.2% below the PWSAC total run forecast of 316,000 fish (PWSAC 2016a). A total of 32,100 sockeye salmon were reported as collected for broodstock or escaped into the watershed (Appendix E3). Of these fish, 10,400 were harvested for broodstock and an estimated 18,200 sockeye salmon returned to release locations and were not harvested (PWSAC 2016b).

Miles Lake sonar became fully operational on May 10, although the north and south bank had been operated daily for short periods starting May 8 and May 9, respectively. The first observed salmon were enumerated on May 8, when the north bank passed 10 fish (Appendices A6 and A7).

The combination of a below average Chinook salmon forecast (12th smallest run since 1980) and lower than anticipated inseason harvest, inside waters as described in 5 AAC 24.350(1)(B) were closed for all or a portion of the first 12 periods, ending with the fishing period beginning June 20 (Appendix A5). This closure covered the majority of historical Chinook salmon run entry timing and was 9 fishing periods beyond the regulatory requirement in 5 AAC 24.361(b). Starting the third fishing period, the inside closure area was expanded to include waters inside the bar at Softuk and Little Softuk. This reduction in channelized shallow water fishing area was intended to reduce Chinook salmon harvest potential while allowing for a more aggressive sockeye salmon fishery in outside waters. Actual Chinook salmon harvest was below semi-weekly harvest projections throughout the season, with the exception of 1 semi-weekly time period when an additional fishing period was added to the fishing schedule.

The level of anticipated harvest in the preseason forecast for both Chinook and sockeye salmon prompted ADF&G to open the inside waters for portions of fishing periods starting May 23. The strategy with these partial inside openings was to time the fishery around high water in the inside area to increase sockeye salmon exploitation while minimizing Chinook salmon harvest potential. Chinook salmon tend to be deeper in the water column than sockeye salmon and are much more susceptible to harvest on the bottom half of the ebb tide as they back out of deep water holes. As the season progressed and it became apparent that the Chinook salmon run may be well below anticipated, partial inside openings became increasingly limited in duration. These inside openings were limited to 39 hours out of 132 hours fished during the last 8 days of May, 20 hours out of 48 hours fished during the first week of June, 0 hours out of 48 hours fished during the second week of June, and 12 hours out of 72 hours fished in the third week of June.

The first Copper River District commercial fishing period on Thursday, May 16 was for 12 hours, and 455 commercial drift gillnet permit holders fished. Harvest from this period was 23,500 sockeye salmon and 1,370 Chinook salmon. The anticipated harvest was 33,500 sockeye and 3,560 Chinook salmon (Appendices A5 and A9). Processors reported paying a grounds base price of approximately $9.00 per pound for Chinook and $6.00 per pound for sockeye salmon. Harvest increased during the following 24 hour period when 473 permit holders landed and sold 59,000 sockeye and 1,970 Chinook salmon (Appendices A5 and A9). Increased sockeye salmon run entry through the east and central portion of the district, outside of the barrier islands, accounted for a majority of the harvest.

Spring tides with a range of 13–14 feet began on May 20, the day after the second opening. These large tidal cycles typically contribute to salmon movement and passage, frequently correlating to above-expected commercial harvests and counts at the Miles Lake sonar station. Along with warm weather and early ice-out in the river, these tides helped push inriver passage above the maximum daily inriver target 5 days later (Appendices A6 and A7).

The third period was announced Saturday, May 21, and Miles Lake sonar had been counting for 11 full days. With a cumulative count of 41,400 salmon versus a maximum escapement objective of 17,400 salmon, it was clear that an average to large run was likely (Appendix A7). In response, fishing time for the third period was increased to 48 hours. Sockeye salmon harvest of 65,300 fish from this period was less than half the expected harvest. Chinook salmon harvest of 2,910 fish was roughly 200 fish below expected (Appendices A5 and A9). The continued mix of above anticipated sonar counts and below anticipated sockeye salmon harvest was perplexing, especially when considering that favorable weather to this point in the season had allowed consistent fishing near shore along the outer beaches of the barrier islands. With no indication that inriver passage was slowing down, the fishery continued to be liberalized over the coming fishing periods. With consideration for the aggressive fishing schedule, the Chinook salmon inside closure area was expanded to include inside waters east of Coffee Creek.

The 4th and 5th periods were each 24 hours in duration and occurred back-to-back with 1 starting Thursday, May 26, and the other starting Saturday, May 28. Sockeye salmon harvest from these 2 periods was above anticipated and about 50% greater than the previous 48-hour period and Chinook salmon harvest climbed above expected inseason bi-weekly harvest projections(Appendix A9).

This harvest trend – near anticipated sockeye and Chinook salmon harvest – did not continue into the first half of June. Sockeye salmon harvest steadily declined to a harvest of 34,100 fish during the period starting June 9. Also during this fishing period, fishing effort declined by more than 100 permits from the previous fishing period. Chinook salmon harvest also declined over this time period and individual period harvest was consistently less than half of the anticipated harvest (Appendix A9). This, combined with Miles Lake sonar passage that fluctuated around the minimum daily objective through the middle of June, prompted a reduction in fishing time to 24 hours per period. Along with the reduction in fishing period duration, the short duration inside openings of the district, bracketed around high water, were halted after the June 6 period to facilitate Chinook salmon conservation because it became apparent that the run was probably much weaker than anticipated (Appendices A5–A7).

Participation in the fishery declined from over 400 permits at the beginning of June to approximately 200 permits starting June 20 through the middle of July (Appendix A5). This

trend in participation was a combination of continued weaker than anticipated sockeye salmon harvest and fishermen leaving the Copper River District to participate in fisheries on the western side of PWS (primarily near MBH and WNH).

The aerial survey program on the Copper River Delta began the second week of June. Aerial surveys became an increasingly important sockeye salmon management tool during late June and throughout much of July. The Copper River Delta aerial escapement survey weekly index was near the lower end of the anticipated range during the week ending June 18 (Appendix A10). Fishing time was increased from 24 hours to 36 hours per period beginning June 16 to match exploitation potential with decreased fishing effort and meter adequate sockeye salmon escapement into delta systems (Appendices A5 and A10). Gulkana Hatchery contribution estimates were a critical management tool during June and July and allowed tracking of hatchery run strength relative to wild stock run strength. As Chinook salmon run timing through the district passed 90% completion, a stepwise relaxing of the inside closure area restrictions began. Beginning June 20, the inside closure area was opened for 12 of 36 hours fished and starting with the following period, the entire inside closure area was open for the duration of the period (Appendix A5).

The decision to maintain a consistent and moderately aggressive fishing schedule was tied to low, but increasing numbers of GH sockeye salmon and higher than anticipated Copper River Delta sockeye salmon escapement indices through the beginning of July (Appendices A5 and A10). Fishing time and area were primarily based on inseason indices of available wild stock surplus and by abundance of GH sockeye salmon. This strategy was also supported by historical run timing of the wild and enhanced stocks and by increasing numbers of $SrCl_2$ marked GH fish harvested in the commercial fishery. GH sockeye salmon were near peak abundance in the fishery, representing an average of 28.9% of the harvest through the historical average time period of peak abundance, during the last week of June and first week of July. During the fishing period that started on July 7, the GH sockeye salmon proportion climbed to 36.5% and then slowly declined over the next 2 weeks. Higher than anticipated sonar passage and near anticipated aerial survey indices (during surveys with good observational conditions), along with strong wild stock sockeye salmon contributions in the fishery allowed for 36 and 48 hour periods through the third week of July (Appendices A6, A7, A10, and E2).

Copper River Delta survey conditions were marginal at times and pilot availability was sporadic from mid-July through mid-August. The sockeye salmon escapement index fluctuated above and below the minimum anticipated index through mid-August, resulting in the eventual reduction of fishing time to 24 hours per period starting July 25 continuing through the beginning of coho salmon season (Appendices A5 and A10). Fleet participation declined from mid-July through mid-August, from an average of 119 permits July 18–29 to an average of 79 permits August 1–12. Low fleet participation in the fishery in late July and early August was largely the result of low harvest rates and high fuel prices.

Typically, 5-year-old sockeye salmon make up 70–85% of the Copper River run and 5-year-old Chinook salmon make up 50–80% of the run. The majority of the sockeye salmon harvested commercially (82.2%) were 5-year-old fish from brood year 2011, followed by 4-year-old fish (14.0%) and 6-year-old fish (3.1%). Just over half of the sockeye salmon harvested (53.0%) were males (Appendix A13). The majority of commercially harvested Chinook salmon (58.1%) were 5-year-old fish from brood year 2011, followed by 4-year-old fish (20.2%) and 6-year-old fish (20%). Approximately 1% of the run were 7-year-old fish and 0.7% of the run were 3-year-old

fish from brood year 2013. Less than half of the Chinook salmon harvested (38.8%) were males (Appendix A14). Coded wire tag recoveries indicated that about 4.9% of Chinook salmon harvested in the Copper River District in 2016 originated out of area. Out of area fish originated from Southeast Alaska, British Columbia, Washington, Oregon, and Idaho.

Coho Salmon Fishery Season Summary

The 2016 coho salmon run was estimated to be 543,000 fish. Total run size for coho salmon in the Copper River does not include upriver spawning escapement because the number of coho salmon migrating upriver is not assessed. In the lower Copper River state managed fisheries, a total of 368,000 coho salmon were harvested and sold commercially; 1,350 were reported retained as homepack; no fish were harvested from the Copper River District in the subsistence gillnet fishery; and an estimated 19,200 were harvested by sport fisherman on the Copper River Delta near Cordova. In the upper Copper River state managed fisheries, 1,190 were harvested by personal use and subsistence dip net fishermen in the Chitina Subdistrict; 56 were harvested in the Glennallen Subdistrict dip net and fish wheel subsistence fisheries; and an estimated 30 fish were harvested by upriver sport fisherman. Finally, 606 coho salmon were harvested in the federally-managed Copper River Delta subsistence fishery (Appendices A15 and F6). The Copper River Delta spawning escapement index was 76,200 coho salmon and was above the SEG index range of 32,000–67,000 (Appendix A16). This index value was substantially higher than the low index values from 2009 to 2012 (Table 5; Appendix A17).

The coho salmon commercial harvest of 368,000 was 82.7% above the projected harvest of 201,000 fish (Appendix A9). Peak fishing effort for the coho salmon season was during the 12-hour period that occurred on September 1 when 303 permit holders delivered 51,400 coho salmon. Peak harvest occurred on the period preceding and following peak effort, when 260 and 290 permit holders, respectively, delivered 57,400 coho salmon in each of these periods (Appendix A5). Rough seas and inclement weather probably had a negative impact on harvest levels of coho salmon.

The coho salmon season began with a 24-hour period on Monday, August 15 (Appendix A5). This was the third consecutive period that coho salmon harvest exceeded sockeye salmon harvest. Furthermore, this shift in species harvest dominance was 1 week earlier than the previous year and an early sign of a larger than anticipated coho salmon run. An aerial survey flown during the week ending August 20 under good conditions produced a count of 5,850 coho salmon in index streams, which was at the lower end of the target range for this statistical week (Appendix A16). Harvest from the August 15 fishing period was 21,000 coho salmon and 160 permit holders reported deliveries. This period yielded a harvest that was 36.6% less than the anticipated weekly harvest of 33,100 coho salmon and prompted a fishery closure for the rest of the week (Appendices A5 and A9). The 24-hour and 12-hour fishing periods that started on August 22 and August 25 resulted in 36,400 and 39,900 coho salmon delivered by 190 and 251 permit holders, respectively (Appendix A5). The anticipated harvest for this statistical week was 43,100 coho salmon (Appendix A9). An aerial survey flown under windy conditions on August 30 documented 23,100 coho salmon in index streams, which was above the average anticipated range for that date (Appendix A16). Effort and harvest increased the following fishing period, starting August 29, in which 263 permit holders harvested 57,400 coho salmon. During the next period, effort increased and harvest remained steady; 303 permit holders participated and 51,400 coho salmon were harvested. The actual harvest for this statistical week totaled 109,000 versus an expected harvest of 41,700 fish. An aerial survey flown on September 10 under good

conditions documented 41,200 coho salmon in index streams, which was near the upper anticipated index for the date. The escapement index remained above the lower anticipated index for the next survey and allowed the fishery to remain on a schedule of 2 periods per week until the season closed October 11 (Appendices A5, A9, and A16).

Harvest averaged 27,300 coho salmon per period and effort averaged near 200 permits per period during the first 3 weeks of September. Harvest was more than double the historical harvest average during this 3 week stretch. During the period beginning September 22, effort declined to 22 permit holders and harvest declined to 1,000 coho salmon. This rapid decline signaled the end of the season for most of the fleet because all major processors stopped buying fish at the end of the previous period. A total of 3,900 coho salmon were harvested during the last 3 weeks of the season, and an average of 11 boats fished during each opening (Appendices A5 and A9).

As is typical, stormy weather in the fishing district and Copper River Delta hampered the aerial survey program throughout coho salmon season. No surveys were flown during statistical weeks ending August 13, August 27, September 19, September 24, October 1, or October 8. However, the increasingly robust escapement trends observed during the surveys that were completed, combined with strong effort and harvest, provided enough information to continue a regular fishing schedule throughout most of the season (Appendices A9 and A16).

The majority of the coho salmon harvested commercially (58.6%) were 4-year-old fish, with 3-year-old (37.4%) and 5-year-old (4.0%) fish contributing most of the remaining harvest. An estimated 58.6% of the coho salmon harvested were males (Appendix A18).

BERING RIVER DISTRICT

Preseason Outlook and Harvest Strategy

Historically, this district has opened to sockeye salmon harvest in early June and is managed concurrently with the Copper River District (Appendix A19). Given that the minimum sockeye salmon SEG of 20,000 (as measured by aerial survey) was not met between 2006 and 2010, ADF&G announced at the preseason fishermen's meeting that the district would probably not open until escapement levels were within the anticipated weekly escapement index.

Sockeye Salmon Season Summary

In an attempt to reduce enforcement concerns associated with the line fishery on the eastern edge of the Copper River District, the western edge of the Bering River District, west of a longitude line at 144°28.20′W was opened concurrently with the start of Copper River District periods starting May 19. Whenever possible, openings in the Bering River District are concurrent with openings in the Copper River District, but limited and poor escapement data warranted a precautionary approach. To provide some information with minimal potential for a large harvest, the open area in the district was expanded to waters west of 144°33.60′W starting June 6 (Appendix A20). The first aerial survey of the Bering River District was flown during the week ending June 11. The total index count from this survey was 6,090 sockeye salmon, within the anticipated range of 3,250–7,150 sockeye salmon for this date. Because the escapement count was above anticipated levels, the fishery remained open on the western edge of the district. The next survey was flown during the week ending June 20 and resulted in an incomplete index count of 800 (Appendix A20). Most of the Bering River drainage was unsurveyable during this flight due to high water and associated turbidity and the survey number of 800 was not meaningful

compared to the anticipated count. Sockeye salmon harvest during the expanded area Bering River District fishery was 1,380 fish (Appendix A21).

The third aerial survey flown under good observational conditions was conducted the week ending July 16. The index of 10,600 sockeye salmon was within 400 fish of the lower anticipated index of 11,000 fish for the week. Sockeye salmon escapement continued to increase through the fourth survey. The index count during this survey was 15,600 fish, representing the peak sockeye salmon count of the season, and exceeding the SEG lower bound of 15,000 fish. (Appendix A20). No harvest was reported from June 13 until coho salmon season began in mid-August (Appendix A21).

Due to inaccurate reporting, it is often difficult to estimate Bering River District harvest inseason. Often, a fisherman will deliver catch from the Bering River District to a tender in the Copper River District and the harvest will be reported in the Copper River District. This error is often resolved when fish tickets are entered.

The final season escapement index was 16,300 sockeye salmon, 1,300 fish above the 15,000 salmon lower SEG. Total sockeye salmon harvest in the district was 9,800 fish (Appendix A21).

Coho Salmon Season Summary

Late-season weather conditions prohibited several aerial surveys in the Bering River District. For the eighth year in a row, the Bering River District coho salmon run was late, but final escapement was within the SEG range for the district (Appendix A22). Commercial harvest of 80,100 was the largest since 2010 and was nearly 100% greater than the 10-year average (Appendix A19).

Indices from an aerial survey flown the week ending August 20 were near the lower end of the anticipated range for the week (Appendix A22). Harvest from the period that began August 22 was 4,800 coho salmon and 14 permit holders participated (Appendix A20). Low effort was not unusual for this time period because most effort is focused on earlier-timed coho salmon stocks in the Copper River District in mid-August.

The aerial survey flown the week ending September 3 yielded an index of 5,930 coho salmon, which was below the range of 8,730–22,200 for that date (Appendix A22). Harvest during this statistical week was 42,400 coho salmon and more than 48 permits fished during each of the fishing periods, which indicated that run entry was increasing (Appendix A20). This pattern of continued strong run entry was apparent during the following aerial survey when the index of 13,400 was near the midpoint of the anticipated range for the date. Aerial survey indices continued to rise through the end of the season, though poor weather prevented several surveys from taking place. The highest aerial survey index was observed the week ending October 15. At 23,400 coho salmon, the index from this survey was nearly 9 times the upper end of the anticipated range for the date. The total drainage aerial index for the season was 26,200 coho salmon, versus an SEG range of 13,000–33,000 (Appendix A22).

The coho salmon fishing period schedule in the Bering River District followed the schedule implemented in the Copper River District. Harvest and effort followed a similar pattern to aerial survey observations, peaking about 4 to 6 weeks before the highest escapement observation. The Bering River District experienced high fishing pressure during the 2016 season. A total of 149 permits fished during the 2016 season, and peak effort of 85 permits fished during the 24 hour period that began September 5, harvesting 17,100 coho salmon. Peak harvest occurred during the

previous fishing period, September 1, when 25,200 coho salmon were sold by 64 permit holders. Harvest and effort declined rapidly after September 13 and less than 400 coho salmon were harvested after this date (Appendix A20).

COGHILL DISTRICT

Preseason Outlook and Harvest Strategy

The forecast point estimate for 2016 Coghill Lake sockeye salmon total run was 110,000 fish, with a range of 70,000–210,000. Meeting the median historical escapement estimate of 30,000 sockeye salmon (SEG range of 20,000–60,000; Table 5; Fair et al. 2011) would leave 80,000 fish (forecast range 40,000–180,000) for the common property fishery (Moffitt and Haught 2016). The enhanced chum salmon run to WNH was forecast to be 2.15 million fish. PWSAC's projection for cost-recovery and broodstock requirements was approximately 1.38 million fish, leaving 762,000 chum salmon for the CCPF. An estimated run of 20,700 coho salmon was projected to return to WNH. A total of 2,700 were anticipated to be harvested for broodstock, and the remaining 18,000 fish would be available to the CCPF (PWSAC 2016b).

Season Summary

Early season management of the Coghill District is largely based on Coghill Lake wild sockeye salmon escapement past the Coghill River weir. Escapement was assessed from June 10 to July 27, 2016. Daily passage rates did not exceed 400 sockeye salmon until July 1, and only 6 days in the 2016 season saw sockeye salmon daily run entry of over 400 fish. Peak daily sockeye salmon passage occurred July 9, and 565 passed the weir on that date (Appendix B1). Pickets were removed from the weir July 25–July 26 due to high water; no counts are available for these dates. An estimated 18,591 pink salmon passed the Coghill River weir in 2016. Coghill District escapement goals were met for chum salmon and exceeded for pink salmon by roughly 20,000 fish. The final sockeye salmon escapement count into Coghill Lake was 8,708 sockeye salmon; below the lower SEG bound of 20,000 fish and the second lowest escapement on record, behind the 1994 escapement of 7,264 sockeye salmon (Table 5; Appendices B1–B2).

Total combined CCPF purse seine and drift gillnet salmon harvest for the Coghill District was 63,169 sockeye (99.9% drift gillnet), 1.63 million chum salmon (93.8% drift gillnet), 13,545 pink salmon (66.2% drift gillnet), and 11 coho salmon (45.5% drift gillnet) (Table 1). Total Coghill District commercial drift gillnet harvest was 63,125 sockeye, 1.53 million chum, 8,962 pink, and 5 coho salmon, from 268 permit holders (Table 1; Appendices B4–B6).

In 2016, PWSAC reported a WNH chum salmon purse seine cost recovery harvest of 679,209 fish, raceway sales of 127,732 fish, and broodstock carcass sales of 151,472 fish. The broodstock goal for chum salmon was 216,000 fish. Of the 174,593 chum salmon collected for broodstock, 169,458 were viable. PWSAC estimated that 2,000 chum salmon were not harvested. PWSAC reported harvesting 6 viable coho salmon as part of broodstock collection; 239 coho salmon were lost due to holding mortalities. The broodstock goal for coho salmon was 2,700 fish (Appendix E5; PWSAC 2016a-b)

Based on otolith thermal mark data, it is estimated that enhanced salmon made up 86.8% of the sockeye salmon, 99.1% of the chum salmon, and 80.6% of the pink salmon harvested by the CCPF harvest in the Coghill District (Appendices E6–E8). There were approximately 54,806 MBH and 8,363 wild sockeye salmon harvested in the Coghill District commercial fishery for a total of 63,169 sockeye salmon (Appendix E6). Of the 13,545 pink salmon harvested in this

district by the CCPF, 9,864 (72.8%) were released at WNH and 221 (1.6%) were released at SGH (Appendix E6). Of the 1,631,484 chum salmon harvested in the Coghill district in the CCPF, approximately 1,617,291 (99.1%) originated from WNH, AFK, and the Port Chalmers remote release site (Appendix E5).

The Coghill District drift gillnet fishery began on May 30, and 2 periods weekly coincided with openings in the Copper River and Eshamy districts. Initially, two 12-hour periods were opened in the Coghill District, excluding the WNH Special Harvest Area (SHA) and Terminal Harvest Area (THA), on May 30 and June 2. From June 6 through June 17, four 36-hour periods were opened in Coghill District, excluding the WNH SHA and THA, with 12 hours in Granite Bay and Esther subdistricts per period. For the 36-hour period beginning on June 16, waters of Port Wells north of the north end of Esther passage were closed. Despite the reduction in fishing area during the June 16–17 opener, 2,108 wild sockeye salmon were harvested, the peak single fishing period wild stock harvest of the season. Chum salmon cost recovery at WNH began on June 8 (Appendix B4).

By June 18, sockeye salmon passage at the Coghill weir was well below anticipated levels and only 85 fish passed versus and minimum anticipated count of 339. To reduce harvest of wild sockeye salmon, beginning June 20, fishing was restricted to Granite Bay and Esther subdistricts only, excluding waters within 0.5 miles of Culross Island. Ninety-six hours of fishing time was permitted in these subdistricts from June 20 to June 28. The WNH SHA remained closed for these periods, while the THA was open for 60 hours total from June 20 to June 28. PWSAC had achieved their assigned chum salmon revenue goal by June 22. The largest daily cost-recovery harvest occurred June 17 with a harvest of 91,784 chum salmon (Appendix E5).

By June 29, the sockeye salmon weir count of 1,727 continued to be well below the expected range of 3,465–10,396 (Appendices B1 and B2). In order to reduce harvest of Coghill Lake sockeye salmon and focus effort on hatchery chum salmon, the fishing area was reduced in Granite Bay and Esther subdistricts by excluding all waters of Esther Passage, waters of Granite Bay Subdistrict north of a latitude line at 60°54.94′N waters of the Esther Subdistrict east of a longitude line at 147°57.30′W and waters within 0.5 nautical miles of Culross Island. Continued low weir counts prompted continued area and time reductions for the duration of the season.

From June 30 through July 6, 156 hours were fished in the WNH THA and SHA , and 84 hours in the Hatchery Escapement Exclusion Zone (HEEZ; west of a line from 60°47.81′N, 148°05.31′W to 60°48.04′N, 148°05.65′W) and 36 hours in the reduced area Granite Bay and Esther subdistricts. By July 6, a cumulative 4,407 sockeye salmon had passed the Coghill weir, versus an expected 9,631–28,894 fish. From July 7 through July 20, fishing area was primarily limited to the WNH THA and SHA (240 hours SHA, 216 hours THA) and daily 12-hour periods in the HEEZ. Granite Bay subdistrict was opened for short duration, limited area periods on July 11 (6 hours, excluding all waters of Esther Passage and waters of north of a latitude line at 60°54.94′N, and waters of Esther Bay north of a latitude line at 60°48.17′N), July 14 (36-hour period in the Granite Bay subdistrict within Esther Passage and west of a line from 60°52.38′N, 147°55.86′W to 60°50.4′N, 147°55.86′W, prompted by observed concentrations of chum in Esther Passage), and July 18 (6 hours, excluding all waters of the Esther Passage and waters of north of a latitude line at 60°54.94′N, and waters of Esther Bay north of a latitude line at 60°48.17′N). No harvest was reported from July 21 through September 9, the final fishing period of the season (Appendices B4 and B5).

Peak drift gillnet fishing effort and chum salmon harvest occurred during the 156-hour period beginning on June 30 when 175 permit holders harvested 12,760 sockeye salmon and 741,736 chum salmon. Peak drift gillnet sockeye salmon harvest occurred during the previous 36-hour period that began on June 16, when 159 permit holders harvested 13,699 sockeye salmon (Appendix B4). Overall, 63,125 sockeye salmon and 1.53 million chum salmon were harvested by 268 drift gillnet permit holders during the 2016 season. This is 40.8% and 108.3% of the 10-year average harvest of 154,770 sockeye salmon and 1.41 million chum salmon, respectively. The 2016 harvest of 5 coho salmon by the drift gillnet fleet was less than 1% of the previous 10-year average of 57,111 fish (Appendix B6).

Purse seine fishing in the Coghill District began on July 9 with a 12-hour period in the WNH SHA followed by a similar 12-hour period in the WNH SHA on July 11. These 2 periods were the result of a buildup of poor quality chum salmon in the WNH terminal area and subsequent loss of drift gillnet market for these fish. The majority of the seine harvest in the Coghill District in 2016 was from these 2 early fishing periods. Two additional 12-hour periods on August 8 and August 15 resulted in low participation and harvest (Appendix B5).

UNAKWIK DISTRICT

Preseason Outlook and Harvest Strategy

Unakwik District, located in the northern portion of Unakwik Inlet, is the smallest district in the PWS management area. Both drift gillnet and purse seine gears are allowed during all fishing periods. CCH, a pink salmon hatchery, borders the southern boundary of the district. This district was established for management of sockeye salmon runs to Cowpen and Miners lakes. Escapement enumeration is by aerial survey; however, water is quite turbid in Miners Lake. The management strategy in this district has been adjusted in recent years, reducing period duration to allow for uncertainty in sockeye salmon stock assessment.

Season Summary

Unakwik District opened for the 2016 fishing season on June 16 and followed a schedule of 2 evenly spaced periods per week, concurrent with other districts in PWS, until the district was closed for the season on July 23 (Appendix B8). The total 2016 Unakwik District drift gillnet CCPF harvest was 259 sockeye and 481 chum salmon from 4 permit holders. The 2016 sockeye salmon harvest was 8.6% of the previous 10-year average of 3,001 fish, while chum salmon harvest was about 3.5 times the previous 10-year average of 139 fish (Appendix B9). Peak daily sockeye salmon harvest and drift gillnet harvest effort are confidential because of low participation. Purse seine effort, peak harvest, and season total harvest are also confidential due to low participation (Appendix B8).

PORT CHALMERS SUBDISTRICT

Preseason Outlook and Harvest Strategy

PWSAC forecast a run of 330,000 chum salmon to Port Chalmers Subdistrict in 2016 (PWSAC 2016a). The 5-year rolling average allocation calculation used to guide 2016 fisheries management was 55.3% purse seine, 44.7% drift gillnet, and 4.5% set gillnet. Based on the *Prince William Sound Management and Allocation Plan* (5 AAC 24.370), the drift gillnet fleet had exclusive access to the Port Chalmers Subdistrict from June 1 to July 30 in 2016.

Season Summary

The total 2016 Port Chalmers Subdistrict drift gillnet harvest was 196,377 chum, 19,360 pink, 3,009 sockeye, 81 Chinook, and 13 coho salmon and 132 drift gillnet permit holders reported deliveries (Appendix B10). The 2016 chum salmon harvest was 40.5% below forecast and 22.4% below the 5-year average of 253,084 fish (Appendix B11). Out of a total Montague District CCPF harvest of 196,377 chum salmon, thermal mark contributions estimated 140,634 (71.6%) were released at Port Chalmers, 23,141 (11.8%) were released at WNH, and 10,279 (5.2%) were released at AFK. Wild chum salmon harvest composed 11.4% (22,323 fish) of the total harvest (Appendix E14). Port Chalmers Subdistrict was open 7 days per week for the duration of the drift gillnet fishery from May 30 until July 30. Effort peaked during the June 13–15 period and 76 permit holders reported deliveries. Drift gillnet harvest peaked during the June 20–22 period when 39,226 chum salmon were harvested by 48 permit holders (Appendix B10).

ESHAMY DISTRICT

Preseason Outlook and Harvest Strategy

No preseason forecast of the sockeye salmon run to Eshamy Lake was developed in 2016. PWSAC projected the total run of enhanced sockeye salmon to MBH to be 1.60 million fish, of which 8,940 fish were required for broodstock and the remaining 1.59 million fish would be available for harvest in the CCPF (PWSAC 2016a). This is the largest MBH sockeye salmon forecast on record based on the second year of returns from a production increase implemented in 2010 (Appendix E14). According to the *Prince William Sound Management and Salmon Enhancement Allocation Plan* (5 AAC 24.370), fishing time for the set gillnet group was not limited to 36 hours per week beginning July 10 (Appendix E10).

Season Summary

The 2016 total Eshamy District CCPF harvest was 661,736 sockeye, 99,240 chum, 59,883 pink, and 375 coho salmon (Table 1 and Appendices C1–C3). Thermal marked otolith contributions estimated that 96.8% (640,350) of the sockeye salmon commercially harvested in the Eshamy District in 2016 were of MBH origin (Appendix E9), and 91.3% (90,597) of the chum salmon harvested in the district were released at AFK and WNH (Appendices E11–E12). PWSAC harvested 9,846 sockeye salmon for broodstock, of which 7,431 were viable (Appendix E13).

Sockeye salmon began arriving at the MBH in late May and a schedule of 2 fishing periods per week of 36 or 48 hours in duration was initiated May 30. The entire Eshamy District was initially opened to commercial fishing to allow the fleet to focus on the enhanced run to MBH while run timing overlap with Eshamy River wild sockeye salmon was minimal. The alternating gear zone (AGZ) was closed to commercial fishing June 16 to June 21. Fishing time was reduced to 24 hours in the Eshamy District but with 48-hour or 36-hour periods in the Main Bay Subdistrict from June 23 through July 8. Because of poor returns to Coghill Lake and high proportions of wild sockeye in the Eshamy District, fishing time was reduced to a 12-hour period in Eshamy District and a 36-hour period in the Main Bay Subdistrict on July 11 to reduce wild sockeye harvest and target MBH origin fish.

Continued high numbers of wild sockeye in the Eshamy District harvest prompted further time and area restrictions and from July 14 through July 27. The Eshamy District was limited to a single 12-hour period per week, with alternating 60 and 84-hour periods in the MBH THA, SHA,

and AGZ. From July 28 through August 13 fishing was limited to 2 weekly periods of 48 hours in the MBH THA, SHA, and AGZ, and 24 hours in the remainder of the Main Bay Subdistrict. By August 15, participation was low and Eshamy District excluding waters south of Loomis Creek was open to 24-hour periods twice weekly until the season closed on September 6.

Peak sockeye salmon harvest occurred during a 48-hour period beginning June 23 when 26 set gillnet and 122 drift gillnet permit holders harvested 29,189 and 68,620 sockeye salmon, respectively (Appendices C1 and C2). Peak effort occurred during a 36-hour period beginning June 27; 193 drift gillnet and 28 set gillnet permit holders participated. Chum salmon harvest peaked during a 36-hour period on June 20; total CCPF harvest was 20,694 chum salmon. Peak pink salmon harvest occurred during the 36-hour period beginning July 7 when 116 drift gillnet and 27 set gillnet permit holders caught a total of 8,915 pink salmon (Appendices C1 and C2).

Wild sockeye salmon stock harvest proportions fluctuated throughout the season, beginning at about 28% from May 30 through June 10 before dropping to between 1% and 7.5% from June 13 to July 27. From August 11 through August 19, 100% of sockeye salmon harvest in the Eshamy District were of wild origin (Appendix E11). Pink salmon harvested in the Eshamy District were predominantly wild stocks and most fish were assumed to be returning to streams outside of the district (Appendix E14). Only 8.7% of chum salmon harvested in the Eshamy District in 2016 were from wild stocks, with the remaining chum salmon harvest attributed to AFK (44.8%), WNH (43.3%), and Port Chalmers (3.2%, Appendix E12).

In 2016 a total of 288 drift gillnet permit holders and 29 set gillnet permit holders participated in the Eshamy District fishery. Drift gillnet harvests of 443,723 sockeye, 362 coho, 51,872 pink, and 78,409 chum salmon were all below the most recent 10-year averages of 680,787 sockeye, 2,627 coho, 102,886 pink, and 186,982 chum salmon. Set gillnet harvests of 218,013 sockeye, 13 coho, 8,011 pink, and 20,831 chum salmon were all below the most recent 10-year averages of 225,345 sockeye, 296 coho, 19,493 pink, and 33,267chum salmon (Appendix C3).

GENERAL PURSE SEINE DISTRICTS

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 throughout the season by weekly aerial surveys of 134 index streams. This was the second year the number of streams surveyed was reduced from 215 streams after a review of the statistical design of the program. Pink and chum salmon escapement trends determine the area and duration of fishing periods within districts. Run projections are the basis for early inseason management of all districts. Inseason modifications to harvest projections, season opening dates, and strategies for weekly fishing periods occur as fisheries develop and wild salmon escapement goals are met.

The 2016 pink salmon preseason forecast was for an above average run with liberal time and area fishing opportunity anticipated if returns were as strong as expected. The 2016 pink salmon total run preseason forecast for PWS was 40.90 million fish. This estimate included 3.80 million wild fish, 19.60 million PWSAC fish, and 17.40 million VFDA fish. Approximately 4.70 million (24%) of PWSAC's pink salmon preseason forecast was projected for cost recovery and broodstock. The remaining 14.90 million PWSAC fish were expected to be available for CCPF harvest. Approximately 3.40 million (20%) of VFDA's pink salmon preseason forecast were projected for cost recovery and broodstock. The remaining 14.00 million VFDA fish were

expected to be available for CCPF harvest. A total harvest of 2.70 million wild stock pink salmon was forecasted for CCPF harvest in PWS, leaving 1.20 million fish for escapement.

The 2016 chum salmon preseason forecast total run in PWS was 3.30 million fish. The majority, 2.90 million (87%), were forecast from PWSAC hatchery production and 394,000 fish were forecast to return to AFK. Based on ADF&G's wild chum salmon preseason forecast of 426,000 fish, there was a potential common property harvest of 226,000 wild chum salmon. ADF&G actively manages for each district's escapement goal, aiming for each district's long-term average, which is a combined total of 200,000 chum salmon (Table 5).

2016 SEASON SUMMARY

The 2016 PWS pink salmon fishery came in well below the preseason forecast, was the second lowest total run in 20 years, and resulted in limited CCPF opportunities throughout PWS during 2016. PWS purse seine CCPF salmon harvest was 8.98 million fish, of which, 8.50 million were pink, 379,066 were chum, 64,548 were sockeye, 29,229 were coho, and 47 were Chinook salmon. The CCPF harvest of 8.50 million pink salmon is the lowest harvest since 2002 and the second lowest in the last 20 years, or 73% below the 31.6 million CCPF preseason forecast. PWS purse seine CCPF fishery participation was 210 permits in 2016 (Table 1). Total pink salmon harvest was 13.00 million fish, including 4.50 million fish for hatchery cost recovery (2.40 million for PWSAC and 2.10 million for VFDA). Pink salmon thermal marked otolith contribution estimates from CCPF harvests were 25.7% wild stock fish, 68.9% SGH fish, and 5.5% PWSAC fish.

During the 2016 season bad weather and limited pilot availability resulted in incomplete aerial survey escapement data. When surveys were completed, escapement indices were above anticipated escapements in most districts for most of the season. This allowed for some opportunity to target surplus wild pink salmon. Escapements were below anticipated counts within the Northern District for most of the season and a conservative management approach was taken in Northern District migration corridors to ensure escapement goals were met. The 2016 PWS pink salmon escapement aerial index was 1.32 million (Appendix D1); the Southwestern, Montague, and Eshamy districts were excluded from the total aerial index number due to incomplete survey coverage during the 2016 season. Chum salmon escapement goals were also achieved in all districts (Appendix D1).

It is estimated that hatchery pink salmon represented 75% of the total run of 14.3 million fish (harvest, broodstock, and escapement); VFDA and PWSAC contributed 55% and 20%, respectively. Wild stock pink salmon harvest of 2.20 million fish combined with an escapement index of 1.32 million resulted in a total wild pink salmon return of 3.52 million fish. VFDA cost recovery and broodstock harvest of 2.10 million fish was approximately 25% of the total pink salmon run of 7.90 million fish to SGH (VFDA 2016b). PWSAC cost recovery and broodstock harvest of 2.40 million fish was approximately 84% of the total PWSAC pink salmon run of 2.80 million PWSAC hatchery fish. Pink salmon egg-take goals were met at WNH and AFK, but were not met at CCH during 2016 (PWSAC 2016b).

EASTERN DISTRICT

Eastern District pink and chum salmon escapement indices were slightly above anticipated levels throughout the season. The Eastern District pink salmon escapement index of 663,113 fish was above the upper bound of the district's even-year SEG index range of 250,000 to 580,000 fish.

The Eastern District chum salmon escapement index of 112,000 fish was more than double the district's lower bound SEG of 50,000 fish (Appendix D1).

VFDA pink salmon cost-recovery harvest began on June 28 and was conducted throughout Port Valdez in 2016. Two 12-hour CCPF periods in waters outside of Port Valdez and Valdez Arm on June 27 and July 1 resulted in a harvest of 175,326 pink salmon (Appendix E16). An Eastern District CCPF targeting VFDA pink salmon started on July 6 with a harvest of 2.20 million fish followed by a CCPF on July 8, July 12, and July 13 with a combined harvest of 2.30 million fish. It became apparent that the return was well below forecast due to declining harvest, low wild stock escapement, and hatchery broodstock concerns. Because of the poor outlook, the next CCPF did not occur in the Eastern District until July 27 and subsequent CCPFs were primarily focused on wild stock returns within other portions of the Eastern District. The total Eastern District pink salmon CCPF harvest was 7.5 million fish. VFDA pink salmon contributed nearly 80% or 5.70 million of the total Eastern District CCPF harvest (Appendix E16). The PWS total VFDA return (CCPF, cost recovery, and brood stock) was 7.95 million fish 54.3% below the forecast of 17.4 million fish.

Pink salmon egg-take operations at SGH were successful in 2016; VFDA reached its 2016 pink salmon egg-take goal at SGH on August 23, which is comparable to the recent 10-year average end date of August 21 (VFDA 2016a). VFDA harvested a total of 1.65 million pink salmon for cost-recovery and an additional 56,102 fish via the SGH fishway, for a total cost-recovery harvest of 1.70 million pink salmon. VFDA reported that 318,339 pink salmon were utilized at SGH for broodstock, and an additional 30,000 fish went unharvested (VFDA 2016b).

The 2016 SGH coho salmon run was also below forecast and few surplus fish were available for CCPF harvest. Enhanced coho salmon runs to SGH have been less than the preseason forecast 7 out of the past 10 years. VFDA reached its 2016 coho salmon egg-take goal at SGH on October 14. VFDA harvested 1,620 coho salmon for cost-recovery from the SGH fishway and utilized an additional 4,527 fish for broodstock. VFDA took additional coho broodstock for PWSAC due to low brood numbers at the WNH (VFDA 2016b).

There were 22 Eastern District CCPF fishing periods in 2016 and 209 purse seine permit holders reported deliveries (Table 1). Eastern District CCPF harvest was 7.5 million pink, 56,563 chum, 6,354 sockeye, 26,714 coho, and 26 Chinook salmon (Table 1). Eastern District CCPF pink salmon harvest included 76.1% VFDA fish, 22.9% wild fish, and 1% PWSAC fish (Appendix E16).

NORTHERN DISTRICT

Northern District pink salmon escapement indices were below anticipated levels for much of the 2016 season. The Northern District pink salmon escapement index of 150,767 fish was slightly above the even-year SEG of 140,000 fish (range: 140,000–210,000 fish). The Northern District chum salmon escapement index of 43,179 fish was 2 times greater than the district's lower bound SEG of 20,000 fish (Appendix D1).

The 2016 CCH pink salmon forecast was 7.00 million fish. PWSAC anticipated utilizing 357,000 pink salmon for broodstock and 1.34 million for cost recovery, leaving 5.30 million pink salmon for CCPF harvest (PWSAC 2016a).

Due to low pink salmon wild stock escapement and hatchery returns to CCH, there was no directed Northern District CCPF during the 2016 season. Portions of the Northern District were

opened at times during the 2016 season to target surplus VFDA and PWSAC pink salmon. The Northern District CCPF began on July 12 with one 14-hour period in a small portion of the district in the Valdez Arm to provide opportunity on VFDA pink salmon, with a harvest of 60,000 pink salmon (Appendix E18). Fishing periods were sporadic throughout the season with only 7 during 2016; CCPF from July 12 to August 15 yielded a harvest of 417,000 pink salmon of which 40% were SGH fish (Appendix E17).

PWSAC harvested 241,233 fish for broodstock. This broodstock total includes 10,683 pink salmon that were identified by PWSAC as holding mortalities. PWSAC was only able to achieve 95% of the brood stock goal at the CCH due to a lack of viable broodstock (PWSAC 2016b). In 2016, a total of 61 purse seine permits reporting harvest (Table 1). Northern District CCPF harvest was 417,218 pink, 896 coho, 6,839 chum, 1,972 sockeye, and 1 Chinook salmon (Table 1). Northern District pink salmon harvest included 40.4% SGH fish, 28.5% WNH fish, 25.0% wild fish, 5.8% CCH fish, and 0.4% AFK fish (Appendix E17). The 2016 CCH pink salmon CCPF harvest of 115,432 fish was well below PWSAC's total preseason projection of 5.3 million fish.

COGHILL DISTRICT

Coghill District pink and chum salmon escapement indices were above anticipated levels for much of the season. The Coghill District pink salmon escapement index of 171,000 fish was above the upper bound of the district's even-year SEG index range of 60,000 to 150,000 fish. The Coghill District chum salmon escapement index of 15,444 fish was 2 times greater than the district's lower bound SEG of 8,000 fish (Appendix D1).

PWSAC's 2016 preseason forecast for pink salmon returning to WNH was 6.40 million fish. PWSAC's 2016 pink salmon requirements for WNH included a broodstock goal of 283,000 fish and a cost-recovery goal of 1.23 million fish. The preseason forecast for CCPF harvest of WNH pink salmon was 4.89 million fish (PWSAC 2016a).

Purse seine fishing in the Coghill District began on July 9 with a 12-hour period in the WNH SHA followed by a similar 12-hour period in the WNH SHA on July 11. These 2 periods were the result of a buildup of poor quality chum salmon in the WNH terminal area and subsequent loss of drift gillnet market for these fish. The majority of the seine harvest in the Coghill District in 2016 was from these 2 early fishing periods.

The 2016 WNH pink salmon run of 737,320 fish was 89% less than PWSAC's preseason projection of 6.40 million fish. Pink salmon returns to WNH have been less than the preseason forecast 6 out of the past 10 years. The Coghill District pink salmon CCPF consisted of eight 12-hour periods from July 31 to September 9, and were sporadic throughout the season (Appendix E7). Due to the low abundance of WNH and wild stock pink salmon, harvest was minimal throughout the season.

PWSAC harvested 408,408 pink salmon for cost recovery and 162,214 fish for broodstock. PWSAC estimates that 1,000 pink salmon went unharvested at WNH in 2016 (PWSAC 2016b).

There were 8 Coghill District purse seine CCPF periods and a total of 29 commercial purse seine permit holders reported harvest in 2016 (Table 1; Appendix B5). Coghill District purse seine CCPF harvest was 4,583 pink, 6 coho, 100,547 chum, and 44 sockeye salmon (Table 1). Coghill District pink salmon harvest included 78.1% WNH fish, 19.4% wild fish, and 2.5% SGH fish (Appendix E7).

NORTHWESTERN DISTRICT

Northwestern District pink and chum salmon escapement indices were greater than anticipated during the 2016 season. The Northwestern District pink salmon escapement index of 171,633 fish was above the district's even-year SEG range of 70,000 to 140,000 fish. The Northwestern District chum salmon escapement index of 7,321 fish was greater than the district's lower bound SEG of 5,000 fish (Appendix D1).

There were 4 Northwestern District purse seine CCPF periods focusing on wild pink salmon returns and a total of 36 commercial purse seine permit holders reported harvest in 2016 (Table 1; Appendix B5). Northwestern District purse seine CCPF harvest was 172,360 pink, 256 coho, 4,126 chum, and 3,053 sockeye salmon (Table 1). Northwestern District pink salmon harvest included 80% wild fish, 12.6% WNH fish, 4.9% CCH fish, and 2.6% AFK fish (Appendix E18).

SOUTHWESTERN DISTRICT

Only 2 aerial surveys were completed in the Southwestern District in 2016. Pink salmon escapements were above the anticipated levels for both survey dates. Poor weather and limited pilot availability for much of the season led to an inability to use the area-under-the-curve methodology to calculate the pink salmon escapement index (Appendix D1). There is no chum salmon escapement goal for the Southwestern District.

PWSAC's 2016 preseason forecast for pink salmon returning to AFK was 6.20 million fish. PWSAC's 2016 pink salmon requirements for AFK included a broodstock goal of 309,000 fish and a cost-recovery goal of 1.19 million fish. The preseason forecast for CCPF harvest of AFK pink salmon was 4.70 million fish. PWSAC's 2016 preseason forecast for chum salmon returning to AFK was 394,000 fish, all of which were projected to be available for CCPF harvest (PWSAC 2016a).

Fishing to target enhanced chum salmon at the AFK THA and SHA started June 2 with a weekly schedule of 60-hour and 84-hour purse seine fishing periods, which continued until June 23. From June 23 through July 19 fishing periods were gradually restricted from daily 14-hour periods to every other day 8-hour periods to limit incidental catch of wild salmon destined for other areas of PWS. The AFK THA and SHA harvest during that time was 210,155 chum (including 5,752 wild stock chum salmon), and 52,090 sockeye salmon (including 3,149 wild stock sockeye salmon assumed to be Coghill origin based on run timing; Appendix E19). Incidental sockeye salmon harvest in this chum salmon targeted terminal area fishery dropped by half from the all-time high of 120,000 fish in 2015, probably due to low returns to MBH and time restrictions placed on the fishery during the season.

PWSAC harvested 1.08 million AFK pink salmon for cost-recovery and 217,837 fish for broodstock. PWSAC estimates that 5,000 pink salmon went unharvested at AFK in 2016 (PWSAC 2016b).

Southwestern District CCPF harvest was 345,842 pink, 210,600 chum, 52,924 sockeye, 1,236 coho, and 15 Chinook salmon by 137 permits (Table 1). Due to weak wild stock pink salmon returns throughout PWS and hatchery returns to AFK, the Southwestern District was only open for 2 CCPF periods during the 2016 season. The first Southwestern District CCPF for pink salmon began on August 18 with one 6-hour period and resulted in 328,000 pink salmon harvested. This CCPF period provided opportunity on surplus Southwestern District wild stocks

and opportunity to cleanup AFK pink salmon holding in areas outside of hatchery subdistricts while also limiting harvest of salmon destined for other areas of PWS. This mixed stock harvest was composed of 50.3% AFK, 39.2% wild, 2% WNH, 7% CCH, and 1.4% VFDA fish. This distribution of stocks is the result of conducting the fishery in the Southwestern District which is the primary migration corridor for pink salmon traveling to other areas of PWS. The 2016 Southwestern District chum salmon harvest included 82.8% AFK fish, 10.8% WNH fish, 3.7% Port Chalmers, and 2.7% wild fish (Appendix E19). Southwestern District sockeye salmon harvest in 2016 included 49,776 MBH fish and 3,148 wild fish (Appendix E20). The total CCPF harvest estimate of 210,600 AFK enhanced chum salmon was less than the preseason forecast harvest of 394,000 fish. The 2016 AFK pink salmon run of 1.48 million fish was 77% less than PWSAC's preseason projection of 6.20 million fish (PWSAC 2016b).

MONTAGUE DISTRICT

Only 2 aerial surveys were completed in the Montague District in 2016 and pink salmon escapements were above the anticipated levels for both survey dates. Poor weather and limited pilot availability for much of the season led to an inability to use the area-under-the-curve methodology to calculate the pink salmon escapement index (Appendix D1). There is no chum salmon escapement goal for the Montague District. Montague District was open for 2 purse seine CCPF periods in 2016, with no reported harvest (Table 1).

SOUTHEASTERN DISTRICT

Southeastern District pink and chum salmon escapement indices were greater than anticipated during the 2016 season. The Southeastern District pink salmon escapement index of 169,660 fish was slightly below the midpoint of the district's even-year SEG range of 150,000 to 310,000 fish. The Southeastern District chum salmon escapement index of 52,031 fish was 6 times greater than the district's lower bound SEG of 8,000 fish (Appendix D1).

The Southeastern District commercial fishing season began with two 12-hour periods on June 27 and July 1. The purpose of these openers was to provide opportunity on early season pink and chum salmon and to gauge run entry. Harvest was low due to lack of run entry and participation in the Southeastern District during these early time periods. Early season opportunity was provided in the Southeastern District concurrent with Eastern District fisheries targeting the 2016 SGH pink salmon return.

Southeastern District was open to commercial purse seine CCPF for 8 periods and 21 purse seine permits reported a total salmon harvest of 38,618 fish in 2016 (Table 1). The purse seine CCPF harvest was composed of 37,970 pink, 325 chum, 201 sockeye, 121 coho, and 1 Chinook salmon (Table 1). Southeastern District pink salmon harvest included 63.8% wild fish and 36.2% SGH fish (Appendix E18).

PRINCE WILLIAM SOUND AND COPPER RIVER SUBSISTENCE, PERSONAL USE, AND HOME PACK FISHERIES

The PWS 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. Lingcod *Ophiodon elongatus* may be taken

for subsistence purposes only from July 1 through December 31. Herring *Clupea pallasii*, smelt, rockfish *Sebastes* spp., and other groundfish may also be harvested for subsistence purposes in the PWS Area. 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. For a detailed history of regulation governing the subsistence fisheries within the Copper River and Prince William Sound, see Botz and Somerville (2011).

LOWER COPPER RIVER AND PRINCE WILLIAM SOUND

Subsistence fishing is allowed 7 days per week in the Copper River District from May 15 until 2 days before the opening of the commercial fishery. 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 generally allowed only during commercial fishing periods. 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 2016, 195 subsistence permits were issued for the Copper River District, of which 6 (3.1%) were not returned. Of the 195 permits that were issued, 112 permit holders reported not fishing. A harvest of 73 Chinook, 1,075 sockeye, and 2 coho salmon was reported from the 77 permits that reported fishing (Appendix F1). In addition, 5 subsistence permits were issued for the PWS general subsistence district, of which 5 were returned, 4 permit holders reported not fishing, and 1 permit holder reported a harvest of 1 sockeye salmon (Appendix F2). Overall, 213 Alaskan residences in 13 communities received permits for the PWS saltwater subsistence fisheries (see below for details of the Tatitlek and Chenega subsistence fisheries) with a total harvest of 1,210 fish (Appendix F8).

During the 2016 commercial fishing season in the Copper River District, 9,600 sockeye, 727 Chinook, and 1,350 coho salmon were reported as retained for personal use by 340 commercial permit holders (Appendices A1, A3, A15, and F3). In PWS districts, 62 commercial permit holders reported retaining 1,890 sockeye, 44 Chinook, 35 pink, 61 coho, and 17 chum salmon as homepack from their commercial harvests. Overall in Area E, 383 commercial permit holders from more than 22 Alaska communities and the other 49 states reported retaining 14,700 salmon for homepack from their commercial catches (Appendices F3 and F4).

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 2016, a total of 102 federal permits were issued; 65 permits were returned, with 152 sockeye and 606 coho salmon reported as harvested (Appendix F5).

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 the 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)).

Permit holders are allowed to fish in these areas from May 15, 7 days per week, until 2 days before the initial commercial fishing period in the associated commercial fishing districts. Once the commercial fishing season is established, area and time within the subsistence areas is defined by the area and time in the associated commercial fishing district. After a 2 day wait 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 2016, 7 permits were issued for the Chenega subsistence area, of which 6 were returned. Of those returned permits, 1 reported fishing and 5 reported not fishing for a total harvest of 32 sockeye and 1 coho salmon. In the Tatitlek area, 5 permits were issued of which 5 were returned. Of those returned permits, none reported fishing (Appendix F6).

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 1 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 1 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 2016, a total of 1,300 dip net permits and 469 fish wheel permits were issued to subsistence users in the Glennallen Subdistrict. Of these, 326 (18.4%) permits were not returned. A combined total estimate of 2,080 Chinook, 62,500 sockeye, and 45 coho salmon were harvested in the Glennallen Subdistrict. Comparatively, the previous 10-year average was 3,250 Chinook and 64,600 sockeye, and 256 coho salmon for this subdistrict. Fish wheel effort has remained somewhat constant over the last 10 years, with an average number of 622 permits issued. The number of dip net permits issued has increased over the past few years. The 10-year average of 700 dip net permits is 46.2% less than the number of permits issued in 2015 (Appendix F4). Historically, sockeye salmon dominate the harvest, representing approximately 97.4% of the estimated harvest in the Glennallen Subdistrict subsistence fishery, followed by Chinook and coho salmon (Appendices A1, A3, A15, and F7). Harvest from the Glennallen Subdistrict subsistence fisheries was approximately 9.3% GH sockeye salmon (Appendix E4).

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, rod and reel, and spear. In 2016, a total of 320 federal permits were issued for the Glennallen Subdistrict. Of these, 246 permits were returned (Appendix F5). A total 15,000 sockeye, 336 Chinook, and 9 coho salmon were reported harvested (Appendices A1, A3, A15, and F5).

Batzulnetas Subsistence Fishery

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 EO, starting June 1 when fishing periods are limited to one 48-hour period per week; beginning in July, fishing time is increased to one 84-hour period each week until September 1, when the fishery closes. There were no permits issued in 2016 (Appendices A1 and F8).

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 1 Chinook salmon per household. In December 2014, the Alaska BOF changed annual bag limits from 15 salmon for a household of 1 and 30 salmon for a household of 2 or more individuals to 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder. In addition the BOF removed the allowance of supplemental permits for 10 additional fish that were given to permit holders that already achieved their annual limit when the department determined a weekly harvestable surplus of 50,000 salmon were in the Chitina Subdistrict. Inseason adjustments to the fishery, as necessitated by fluctuations in salmon escapement, are made by EO.

In 2016, there were 11 EOs issued to make adjustments to the dip net fishery. The first period started on Thursday, June 2, and the last period closed on Tuesday, August 9. The fishery was then open continuously from August 15 to September 30. Lower than anticipated Chinook salmon commercial harvest rates and escapement indices from Native Village of Eyak's fish wheel mark–recapture program led to the Chinook salmon fishery only remaining open through June 19. There were 11,400 permits issued for the Chitina personal use fishery in 2016. Of these, 2,090 (18.4%) were not returned. The number of permits issued was above the 10-year average of 9,715 permits issued (Appendix F7). Expanded harvest for the Chitina Subdistrict personal use fishery in 2016 was 711 Chinook, 149,000 sockeye, and 1,180 coho salmon. The previous 10-year average expanded harvests were 1,290 Chinook, 137,000 sockeye, and 1,680 coho salmon (Appendices A1, A3, A18, and F4). Harvest from the Chitina Subdistrict personal use fishery was approximately 9.3% GH sockeye salmon (Appendix E4).

In 2002, the federal government began issuing permits allowing subsistence harvests on federal lands in the Chitina Subdistrict. Federal subsistence users are allowed to use either a dip net or fish wheel in the Chitina Subdistrict. In 2016, a total of 128 federal permits were issued, of which 95 were returned (Appendix F5). The reported harvest was 1,320 sockeye, 15 Chinook, and 11 coho salmon (Appendices A1, A3, A15, and F5).

2016 PRINCE WILLIAM SOUND HERRING FISHERIES

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 latitude. 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 additional background, including a review of historical and recent PWS herring management, harvest strategies, and harvest by fishery and gear, see Botz et al. (2013).

SEASON SUMMARY

Based on herring stock assessment information, all Pacific herring fisheries between July 1, 2015, and June 30, 2016, were closed. An age structured assessment model projection was not completed for 2016; however, aerial survey estimates of mile-days of spawn and biomass indicated the population was below the regulatory threshold (Appendices G1 and G2). Therefore, all commercial herring fisheries were closed for the 2015–2016 herring management year.

Net sampling and aerial surveys were used in 2016 to assess herring biomass, disease prevalence, age composition, and growth. Beginning in early April 2016, the ADF&G vessel R/V *Solstice* searched for herring to sample for age, sex, and size; and disease assessment. Broad scale surveys were conducted in eastern PWS including Sheep Bay, Port Gravina, and Port Fidalgo. No detailed acoustics data were collected in 2016 by ADF&G because of the scattered distribution of herring biomass; however, the Prince William Sound Science Center collected acoustics data and results will be reported in an *Exxon Valdez* Trustee Council report.

Age composition samples collected during spring 2016 varied by location and sampling gear; however, age 3 and 4 were predominate for all samples combined by area (Southeast PWS; 70.6% and Montague Island; 53%; Appendix G3). Both gillnet and cast net samples collected in the Southeast area between April 8 and 14 were predominately age 3 and 4 (range = 60% to 78%). Gillnet samples were collected by Prince William Sound Science Center (PWSSC) staff.

Herring disease assessment has been included as part of the annual age, sex, and size assessment completed each spring since 1993, mostly as part of research funded by the Exxon Valdez Trustee Council. In adult herring, the prevalence of *Ichthyophonus hoferi* was within the normal range, approximately 33% in Southeast PWS (60 of 180 fish). No results are currently available for viral hemorrhagic septicemia virus (VHSV) or viral erythrocytic necrosis virus (VENV).

ADF&G conducted 14 aerial surveys between March 23 and April 27, 2016. ADF&G surveys documented spawn in eastern PWS between St. Matthews Bay and Knowles Head (April 13–15); just west of Gravina Point in Sheep Bay (April 12); and on the north shore of Hawkins Island west of Canoe Passage (April 12). No surveys of the Kayak Island area were flown by ADF&G in 2016; surveys of the area funded by the PWSSC are not included here. Preliminary mile-days of milt were estimated at 9.89 mile-days in the Southeast area, south of Knowles Head (Appendix G1). No spawn was documented in other areas of the sound (Appendix G4). This is the fewest mile-days of spawn since 1973. No fish or spawn were documented in Port Fidalgo, Fairmont Bay, Naked Island, Green Island, or Montague Island. Additional spawn was documented on Kayak Island but is not included in our assessment for PWS.

Prince William Sound herring schools observed in 2016 prior to 10 April were less aggregated, deeper, and smaller than observed in recent years. The change in distribution, depth, and size of observed herring schools in 2016 compared to recent years may be related to an increase in water

temperature, a decrease in fish abundance, and a significant proportion of new recruits to the spawning population. Similar to the spring of 2015, the NOAA west Orca Bay buoy, water temperatures averaged 1.2°C warmer than the recent 10-year average through mid-February (http://www.ndbc.noaa.gov/station_page.php?station=46060).

2016–2017 HERRING SEASON OUTLOOK

Given the PWS herring spawning population, current fish size, and age structure, a commercial harvest will not occur in 2017. Consecutive years of low recruitment will further delay the recovery of the herring population to a biomass large enough to support a sustainable commercial harvest. Most state funding for herring monitoring was lost for fiscal year 2016, however, funding was provided by the *Exxon Valdez* Trustee Council for 2016 and 2017. ADF&G will continue to monitor the PWS herring biomass to assess growth and recruitment as funding is available. An ongoing disease study funded by the *Exxon Valdez* Trustee Council will continue to examine the incidence of VHSV and *I. hoferi* in the PWS herring population.

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TABLES AND FIGURES

Table 1.–Prince William Sound Area commercial salmon harvest by gear type and district, 2016.

District	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Eastern	209	26	6,354	26,714	7,536,820	56,563	7,626,477
Northern	61	1	1,972	896	417,218	6,839	426,926
Coghill	29	0	44	6	4,583	100,547	105,180
Northwestern	36	4	3053	256	172360	4126	179,799
Southwestern	137	15	52,924	1,236	345,842	210,600	610,617
Montague	0	0	0	0	0	0	0
Southeastern	21	1	201	121	37,970	325	38,618
Unakwik	1	0	0	0	0	66	66
Purse seine total		47	64,548	29,229	8,514,793	379,066	8,987,683
Bering River	148	52	9,809	80,094	22	122	90,099
Copper River	509	12,348	1,175,100	367,630	34,430	5,476	1,594,984
Coghill	269	83	63,125	5	8,962	1,530,937	1,603,112
Eshamy	288	44	443,801	362	51,872	78,409	574,488
Montague	133	81	3,009	13	19,360	196,688	219,151
Unakwik	6	1	259	0	0	481	741
Drift gillnet total		12,609	1,695,103	448,104	114,646	1,812,113	4,082,575
Eshamy	29	34	218,013	13	8,011	20,831	246,902
Set gillnet total		34	218,013	13	8,011	20,831	246,902
Solomon Gulch	1	0	0	4,915	2,027,834	0	2,032,749
Cannery Creek	1	0	0	0	351,268	0	351,268
Wally Noerenberg	1	0	42	0	575,221	958,888	1,534,151
Main Bay	1	0	0	0	0	0	0
Armin F. Koernig	1	0	0	0	1,291,998	0	1,291,998
Hatchery total [a]		0	42	4,915	4,246,321	958,888	5,210,166
Test fishery	0	0	0	0	0	0	0
Home pack	382	777	11,519	1,669	721	64	15,132
Confiscated fish	4	0	20	0	0	782	806
Donated fish	0	0	0	0	0	0	0
Misc. total		777	11,539	1,669	721	846	15,938
Prince William Sound total		13,467	1,989,245	483,930	12,884,492	3,171,744	18,543,264

[a] Hatchery sales for hatchery operating costs.

Table 2.–Mean price and estimated exvessel value of the total commercial salmon harvest by gear type, Prince William Sound Area, 2016.

Purse seine [a]						
	Species	Fish ticket number	Fish ticket pounds	Average weight	Price	Value
	Chinook	47	687	14.62	$1.28	$879
	Sockeye	64,548	357,938	5.55	$1.54	$551,225
	Coho	29,229	245,977	8.42	$0.79	$194,322
	Pink	8,514,793	32,844,471	3.86	$0.28	$9,196,452
	Chum	379,066	2,672,403	7.05	$0.60	$1,603,442
		8,987,683	36,121,476			$11,546,319
Drift gillnet [a]						
	Species	Number	Pounds	Average weight	Price	Value
	Chinook	12,603	223,026	17.70	$6.03	$1,344,847
	Sockeye	1,695,103	8,911,819	5.26	$2.30	$20,497,184
	Coho	448,104	4,051,591	9.04	$1.47	$5,955,839
	Pink	114,646	424,557	3.70	$0.18	$76,420
	Chum	1,812,113	12,325,066	6.80	$0.56	$6,902,037
		4,082,569	25,936,059			$34,776,326
Set gillnet [a]						
	Species	Number	Pounds	Average weight	Price	Value
	Chinook	33	603	18.27	$4.47	$2,695
	Sockeye	218,013	1,113,861	5.11	$1.79	$1,993,811
	Coho	13	90	6.92	$0.60	$54
	Pink	8,011	32,364	4.04	$0.18	$5,826
	Chum	20,831	154,881	7.44	$0.64	$99,124
		246,901	1,301,799			$2,101,510
Hatchery sales [a]						
	Species	Number	Pounds	Average weight	Price	Value
	Chinook	0	0			$0
	Sockeye	42	200	4.76	$1.50	$300
	Coho	4,915	42,070	8.56	$0.38	$15,987
	Pink	4,403,008	18,299,114	4.16	$0.46	$8,456,683
	Chum	958,888	6,818,968	7.11	$0.84	$5,740,327
		5,366,853	25,160,352			$14,213,297

-continued-

Table 2.–Page 2 of 2.

Combined

Species	Number	Pounds	Average weight	Price	Value
Chinook	12,683	224,316	17.69	$6.01	1,348,422
Sockeye	1,977,706	13,797,065	6.98	$1.67	23,042,519
Coho	482,261	4,339,728	9.00	$1.42	6,166,201
Pink	13,040,458	51,600,506	3.96	$0.34	17,735,381
Chum	3,170,898	21,971,318	6.93	$0.65	14,344,930
	18,684,006	91,932,933			$62,637,452

Gear type	Value of catch	No. of permits	Average earnings
Purse seine	$11,546,319	210	$54,982
Drift gillnet	$34,776,326	517	$67,266
Set gillnet	$2,101,510	29	$72,466
Subtotal Value of CPF catch	$48,424,156		
Hatchery	$14,213,297		
Grand Total	$62,637,452		

[a] Number and pounds from fish ticket data. Value from statewide season summary.

Table 3.–Average price paid to permit holders for salmon, Prince William Sound Area, 1989–2016.

	Chinook salmon		Sockeye salmon			Coho salmon			Pink salmon			Chum salmon		
	Gillnet		Gillnet			Gillnet			Gillnet			Gillnet		
Year	Copper and Bering	PWS	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine	Copper and Bering	PWS	Purse seine
1989	$2.25	$0.00	$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	$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	$1.28	$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	$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	$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	$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	$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	$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	$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	$1.49	$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	$1.84	$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	$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	$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	$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	$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	$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	$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	$1.83	$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	$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	$3.12	$1.24	$1.17	$1.23	$1.24	$1.12	$0.27	$0.33	$0.34	$0.21	$0.55	$0.57
2009	$5.29	$2.06	$2.09	$1.42	$1.32	$1.30	$1.13	$0.42	$0.22	$0.27	$0.24	$0.28	$0.52	$0.53
2010	$5.50	$2.13	$2.58	$1.72	$1.79	$1.27	$0.58	$0.70	$0.29	$0.34	$0.35	$0.36	$0.80	$0.78
2011 [a]	$5.66	$3.97	$2.08	$1.56	$1.43	$1.24	$1.09	$1.04	$0.31	$0.40	$0.45	$0.38	$0.90	$0.86
2012	$5.39	$1.44	$1.94	$1.40	$1.42	$1.10	$1.04	$0.69	$0.29	$0.38	$0.42	$0.28	$0.66	$0.68
2013	$5.79	$2.83	$2.47	$1.86	$1.69	$1.39	$1.29	$0.95	$0.27	$0.35	$0.42	$0.11	$0.57	$0.59
2014	$6.43	$2.94	$2.44	$1.97	$1.90	$1.17	$1.00	$0.81	$0.13	$0.30	$0.29	$0.22	$0.68	$0.65
2015	$5.76	$1.33	$2.42	$1.40	$1.38	$0.74	$0.19	$0.29	$0.10	$0.17	$0.20	$0.19	$0.53	$0.49
10-year average	$5.53	$2.16	$2.28	$1.48	$1.40	$1.13	$0.85	$0.72	$0.24	$0.28	$0.30	$0.25	$0.59	$0.59
2016	$6.06	$3.93	$2.57	$1.82	$1.54	$1.47	$0.97	$0.79	$0.16	$0.19	$0.28	$0.41	$0.56	$0.60

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 (COAR). These prices are estimates and do not reflect postseason adjustments and bonuses. Caution should be used when estimating values from these prices.

[a] Values are from COAR 2011.

Table 4.–Estimated exvessel value of the total commercial salmon harvest by gear type and previous 10-year average, Prince William Sound Area, 2006–2016.

Purse seine Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Previous 10-year avg.	2016
Chinook	4,940	9,330	2,487	985	634	6,120	3,279	15,444	11,317	6,990	6,153	879
Sockeye	219,984	338,262	540,113	584,595	705,231	560,497	1,449,007	796,220	646,931	1,766,313	760,715	551,225
Coho	1,426,736	546,805	2,056,932	22,522	48,476	633,076	117,259	1,608,923	192,659	83,371	673,676	194,322
Pink	6,688,126	28,839,799	39,059,344	7,890,237	78,063,374	35,834,331	37,732,043	100,334,069	36,393,753	60,318,284	43,115,336	9,196,452
Chum	3,007,947	3,499,189	8,002,952	1,123,335	1,019,498	691,520	2,450,017	2,157,525	1,901,811	1,436,478	2,529,027	1,603,442
	$11,347,734	$33,233,386	$49,661,828	$9,621,674	$79,837,212	$37,725,543	$41,751,606	$104,912,182	$39,146,471	$63,611,435	$47,084,907	$11,546,319
Drift gillnet Species												
Chinook	3,145,401	3,886,795	1,511,402	956,053	1,025,380	2,148,066	1,352,540	973,720	1,175,457	2,250,068	1,842,488	1,344,847
Sockeye	19,375,916	26,169,047	11,533,354	17,386,798	18,486,735	36,356,087	37,444,516	29,389,403	40,966,814	29,962,566	26,707,124	20,497,184
Coho	3,972,107	1,391,204	3,937,198	3,197,336	3,523,008	2,031,963	1,646,222	3,986,567	5,138,204	862,745	2,968,655	5,955,839
Pink	54,070	82,356	1,195,812	363,373	3,446,356	1,025,474	1,659,983	2,465,469	1,361,065	569,851	1,222,381	76,420
Chum	845,703	2,542,327	10,853,908	9,227,837	11,973,968	8,669,206	13,170,829	11,654,134	3,728,785	3,426,951	7,609,365	6,902,037
	$27,393,197	$34,071,729	$29,031,674	$31,131,396	$38,455,447	$50,230,797	$55,274,091	$48,469,293	$52,370,325	$37,072,182	$40,350,013	$34,776,326
Set gillnet Species												
Chinook	143	1,267	533	1,302	756	1,832	230	3,015	769	1,239	1,109	2,695
Sockeye	822,232	1,318,799	1,238,739	1,451,897	3,103,081	2,993,318	2,454,505	2,278,575	2,887,961	1,888,979	2,043,809	1,993,811
Coho	1,869	873	1,414	241	250	2,297	509	2,556	451	1,015	1,148	54
Pink	8,325	5,416	20,966	3,419	20,573	21,931	28,480	17,062	35,588	14,827	17,659	5,826
Chum	29,925	53,380	231,785	197,332	450,989	163,884	121,995	188,004	106,662	69,027	161,298	99,124
	$862,493	$1,379,735	$1,493,437	$1,654,191	$3,575,649	$3,183,261	$2,605,720	$2,489,211	$3,031,431	$1,975,088	$2,225,022	$2,101,510
Hatchery sales Species												
Chinook	0	0	0	0	0	0	59	0	0	0	6	0
Sockeye	2,173,808	1,790,819	0	1,088,363	0	0	7,749	110	0	1,160,000	622,085	300
Coho	102,792	161,995	67,879	145,267	44,808	280,215	217	214,752	19,035	30,000	106,696	15,987
Pink	7,300,390	6,809,392	7,574,535	5,208,870	8,911,203	11,867,472	12,381,620	8,765,309	10,482,055	9,873,200	8,917,405	8,456,683
Chum	2,893,174	2,105,903	2,465,426	1,816,012	2,894,835	2,802,681	2,952,252	3,424,927	1,573,976	3,457,442	2,638,663	5,740,327
												$14,213,297
	$12,470,164	$10,868,110	$10,107,840	$8,258,512	$11,850,846	$14,950,368	$15,341,896	$12,405,098	$12,075,066	$14,520,642	$12,284,854	

-continued-

Table 4.–Page 2 of 2.

Other gear Species	2006	2007	2008	2009	2010	2011	2012[a]	2013[a]	2014	2015	Previous 10-year avg.	2016[a]
Chinook	81	0	0	0	0	0	0	0	0	0	8	0
Sockeye	289	0	0	0	0	0	16	159	0	0	46	241
Coho	0	0	0	0	0	0	0	0	0	0	0	0
Pink	0	0	0	0	0	0	11,123	27	0	0	1,115	0
Chum	0	0	0	0	0	0	1,169	1,090	243	0	250	2,979
	$370	$0	$0	$0	$0	$0	$12,308	$1,275	$243	$0	$1,420	$3,220
Average earnings												
Purse seine	$299,400	$447,404	$352,212	$518,423	$216,813	$206,151	$186,391	$497,214	$176,335	$289,143	$318,949	$54,982
Drift gillnet	$68,971	$57,375	$57,262	$75,255	$96,784	$97,916	$105,889	$92,853	$99,753	$71,293	$82,335	$67,266
Set gillnet	$53,067	$57,440	$59,737	$132,431	$109,768	$109,768	$89,852	$88,900	$104,532	$63,713	$86,921	$72,466
Number of permits fished												
Purse seine	111	111	141	154	174	183	224	211	222	220	175	210
Drift gillnet	494	506	507	511	519	513	522	522	525	520	514	517
Set gillnet	26	26	25	27	29	29	29	28	29	31	28	29

[a] Confiscated fish.

Table 5.–Spawning escapement goals for Prince William Sound Area salmon stocks, 2016.

Species/stock	Goal Lower	Goal Upper	Long-term target [a]	Type [b]	Year implemented [c]	Evaluation method
Chinook salmon						
Copper River	24,000 and up		27,000	SEG [d]	2003	Mark-recapture
Coho salmon						
Bering River	13,000 – 33,000		Not used	SEG	2003	Aerial surveys
Copper River Delta	32,000 – 67,000		Not used	SEG	2003	Aerial surveys
Sockeye salmon						
Bering River	15,000 – 33,000		Not used	SEG	2012	Aerial surveys
Upper Copper River [e]	360,000 – 750,000		450,000	SEG	2012	DIDSON sonar
Copper River Delta [f]	55,000 – 130,000		84,500	SEG	2003	Aerial surveys
Coghill Lake	20,000 – 60,000		Not used	SEG	2012	Weir
Eshamy Lake	13,000 – 28,000		Not used	BEG	2009	Video
Pink Salmon [g]						
Even-year Broodline						
Eastern District	250,000 – 580,000		390,000	SEG	2012	Aerial surveys
Northern/Unakwik districts	140,000 – 210,000		160,000	SEG	2012	Aerial surveys
Coghill District	60,000 – 150,000		100,000	SEG	2012	Aerial surveys
Northwestern District	70,000 – 140,000		100,000	SEG	2012	Aerial surveys
Eshamy District	3,000 – 11,000		6,000	SEG	2012	Aerial surveys
Southwestern District	70,000 – 160,000		130,000	SEG	2012	Aerial surveys
Montague District	50,000 – 140,000		70,000	SEG	2012	Aerial surveys
Southeastern District	150,000 – 310,000		200,000	SEG	2012	Aerial surveys
Odd–year Broodline						
Eastern District	310,000 – 640,000		410,000	SEG	2013	Aerial surveys
Northern/Unakwik districts	90,000 – 180,000		130,000	SEG	2013	Aerial surveys
Coghill District	60,000 – 250,000		130,000	SEG	2013	Aerial surveys
Northwestern District	50,000 – 110,000		80,000	SEG	2013	Aerial surveys
Eshamy District	4,000 – 11,000		9,000	SEG	2013	Aerial surveys
Southwestern District	70,000 – 190,000		120,000	SEG	2013	Aerial surveys
Montague District	140,000 – 280,000		210,000	SEG	2013	Aerial surveys
Southeastern District	270,000 – 620,000		360,000	SEG	2013	Aerial surveys
Chum salmon [h]						
Eastern District	50,000 and up		103,100	SEG [d]	2006	Aerial surveys
Northern District	20,000 and up		40,100	SEG [d]	2006	Aerial surveys
Coghill District	8,000 and up		18,750	SEG [d]	2006	Aerial surveys
Northwestern District	5,000 and up		13,000	SEG [d]	2006	Aerial surveys
Southeastern District	8,000 and up		25,000	SEG [d]	2006	Aerial surveys

Note: DIDSON is dual-frequency identification sonar.

[a] Managed for escapements that on average match the historical average escapement listed. However, long-term targets for pink salmon are the median escapement values.

[b] Goal types include biological escapement goal (BEG) and sustainable escapement goal (SEG) as defined in 5 AAC 39.222 Policy for the management of sustainable salmon fisheries.

[c] Goals are generally adopted the year before they are implemented.

[d] Goals are lower bound SEG goals (5 AAC 39.222).

[e] The Upper Copper River is managed for an inriver goal evaluated by the Miles Lake sonar. Upriver harvests and hatchery contributions are subtracted to estimate the spawning escapement.

[f] Copper River Delta sockeye salmon goal is managed for escapements that, on average, match the long-term escapement index of 84,500.

[g] Pink and chum salmon escapements are indexed by the area under the curve (AUC) of weekly aerial surveys adjusted for stream life.

[h] There are no chum salmon goals for Unakwik, Eshamy, Southwestern, or Montague districts, but streams are surveyed.

Table 6.–Preseason harvest projections for the 2016 common property salmon fishery by district and species, Prince William Sound Area.

		Chinook		Sockeye		Coho [c]		Pink		Chum	
District/facility [a]	Forecast type [b]	Point estimate	Range	Point estimate	Range	Point estimate	Range	Point estimate	Range	Point estimate	Range
Copper River [d]	CPF harvest	40	14 - 66	1,660	970 - 2,350	207	170 - 244				
Bering River [e]	CPF harvest			4	2 - 7	48	35 - 61				
Coghill [f]	CPF harvest			80	40 - 180						
Eshamy [f]	CPF harvest			NA	NA - NA						
Unakwik [g]	CPF harvest			3	1 - 5						
General districts	CPF harvest							2,680	540 - 4,820	226	111 - 341
Total wild stock		40	14 - 66	1,743	1,013 - 2,542	255	205 - 305	2,680	540 - 4,820	226	111 - 341
SGH	CPF harvest					52		14,041			
AFK	CPF harvest							4,704		390	
WNH [h]	CPF harvest					18		4,892		378	
CCH	CPF harvest							5,303			
MBH [i]	CPF harvest			1,591							
GH	CPF harvest			200	120 - 290						
Total hatchery				1,791		70		28,940		768	
Total hatchery and wild		40		3,534		387		31,620		994	

Note: All values are in thousands. NA is not available. Harvest estimates are made only for areas and species that constitute a significant portion of the catch. Prince William Sound Area hatchery facility abbreviations include SGH (Solomon Gulch Hatchery), AFK (Armin F. Koernig Hatchery), WNH (Wally Noerenberg Hatchery), CCH (Cannery Creek Hatchery), MBH (Main Bay Hatchery), and GH (Gulkana Hatchery).

[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.

[b] Alaska Department of Fish and Game (ADF&G) provides common property fishery (CPF) harvest forecasts for all wild stocks and Gulkana Hatchery sockeye salmon. Hatchery operators provide CPF forecasts for PWS hatchery runs and Gulkana Hatchery sockeye salmon. Harvest projections do not include salmon harvested by hatcheries for cost recovery.

[c] ADF&G provides commercial common property (CCPF) harvest forecasts for Copper River and Bering River districts coho salmon runs.

[d] 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).

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

[f] Formalized sibling model forecast procedures are used for Coghill and Eshamy districts sockeye salmon runs. Coghill District's wild pink and chum salmon harvests are included in the “General (PWS) districts” projection.

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

[h] Wally Noerenberg Hatchery chum and coho salmon harvest estimates include all on-site and remote release runs.

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

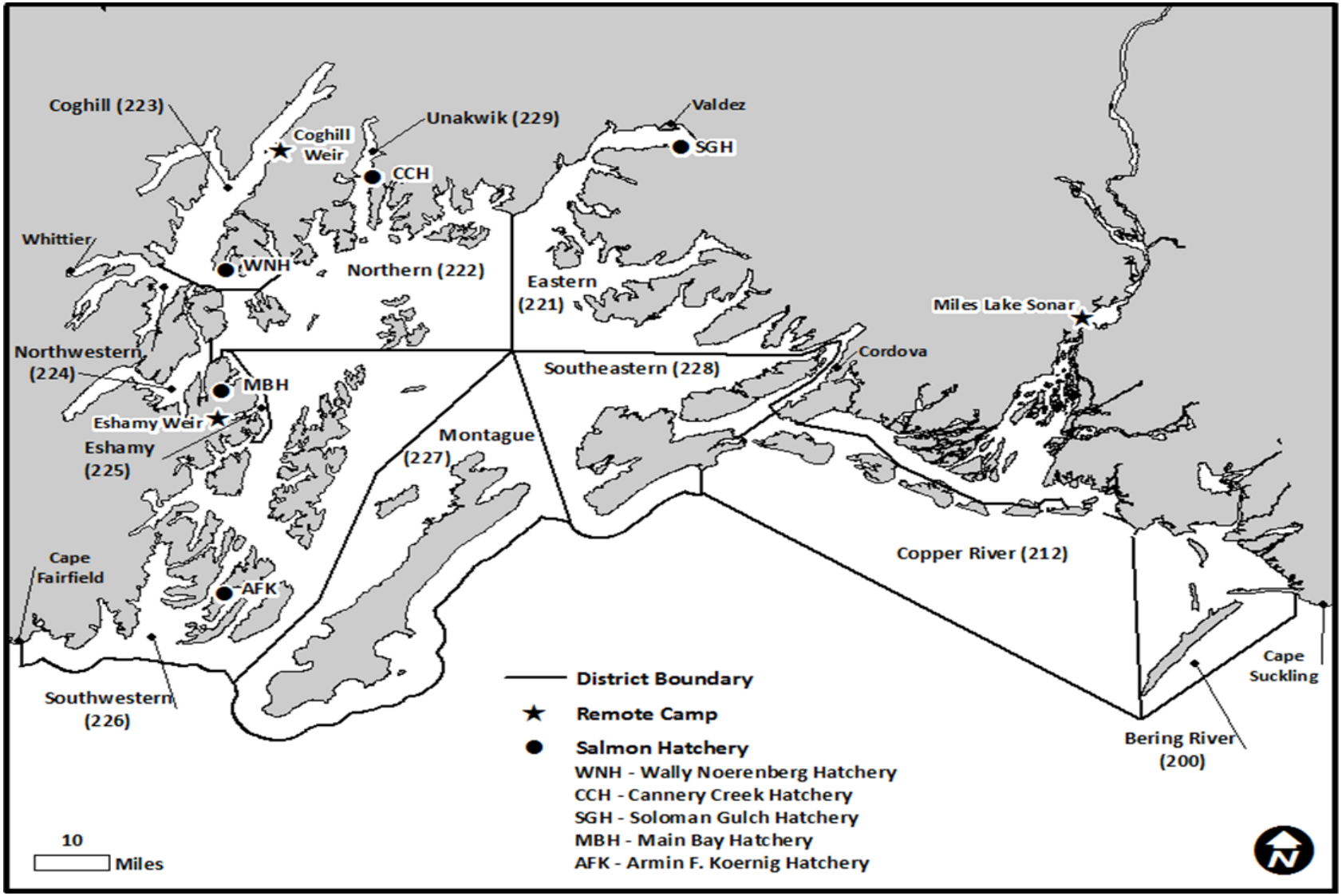

Figure 1.–Prince William Sound Area showing commercial fishing districts, salmon hatcheries, weir locations, and Miles Lake sonar camp.

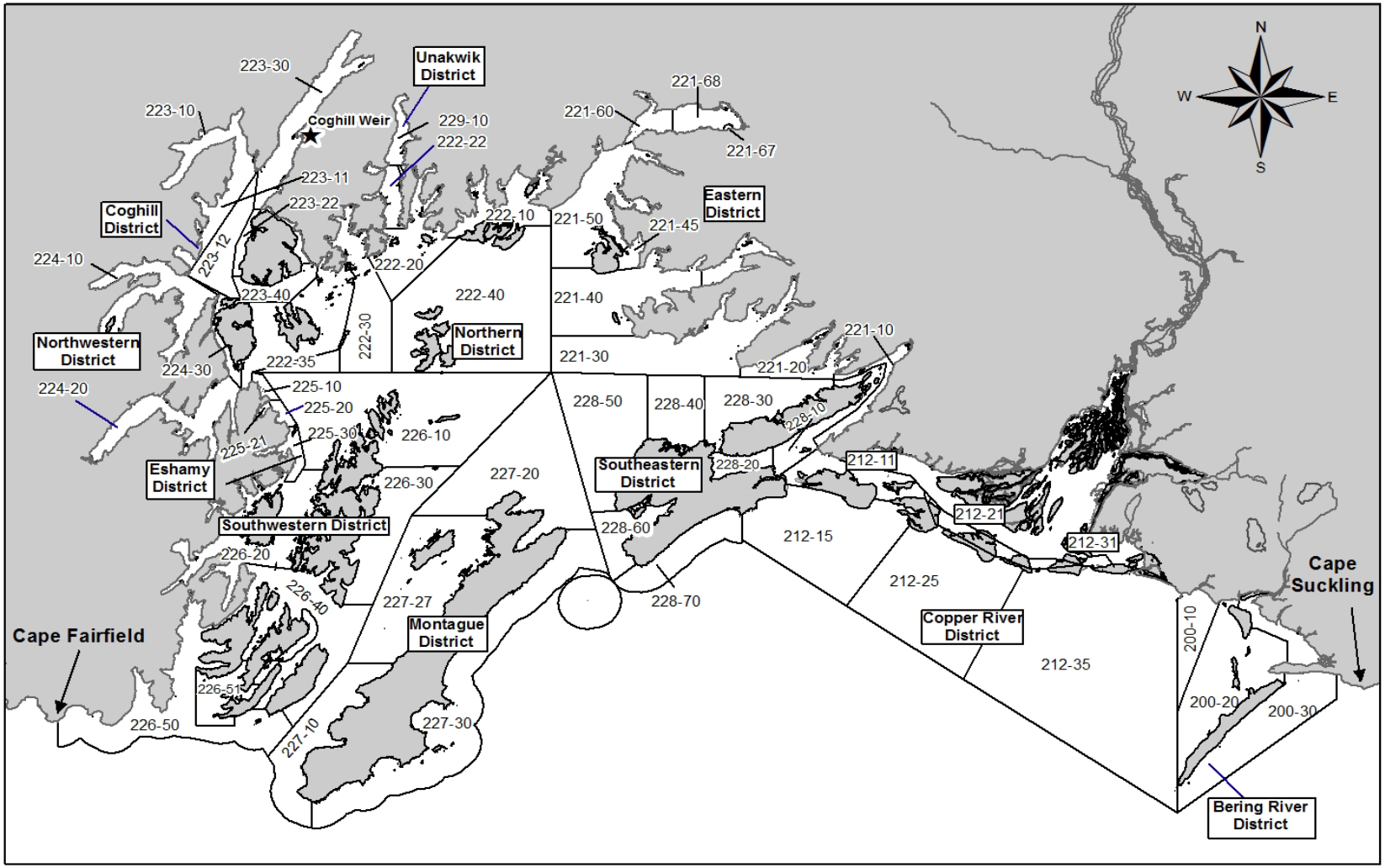

Figure 2.–Prince William Sound Area showing commercial fishing districts and statistical reporting areas.

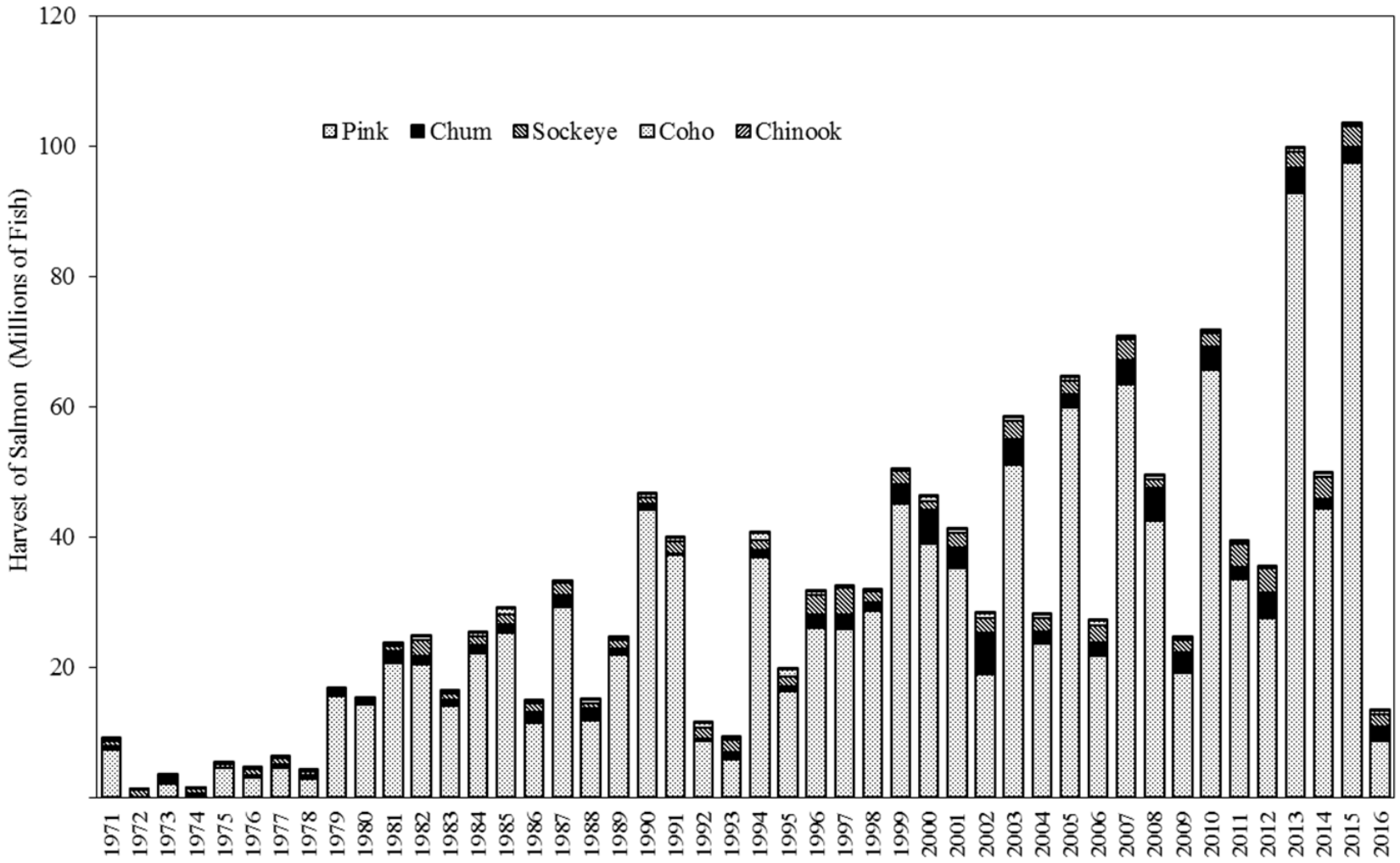

Figure 3.–Commercial salmon harvests in Prince William Sound Area, 1971–2016.

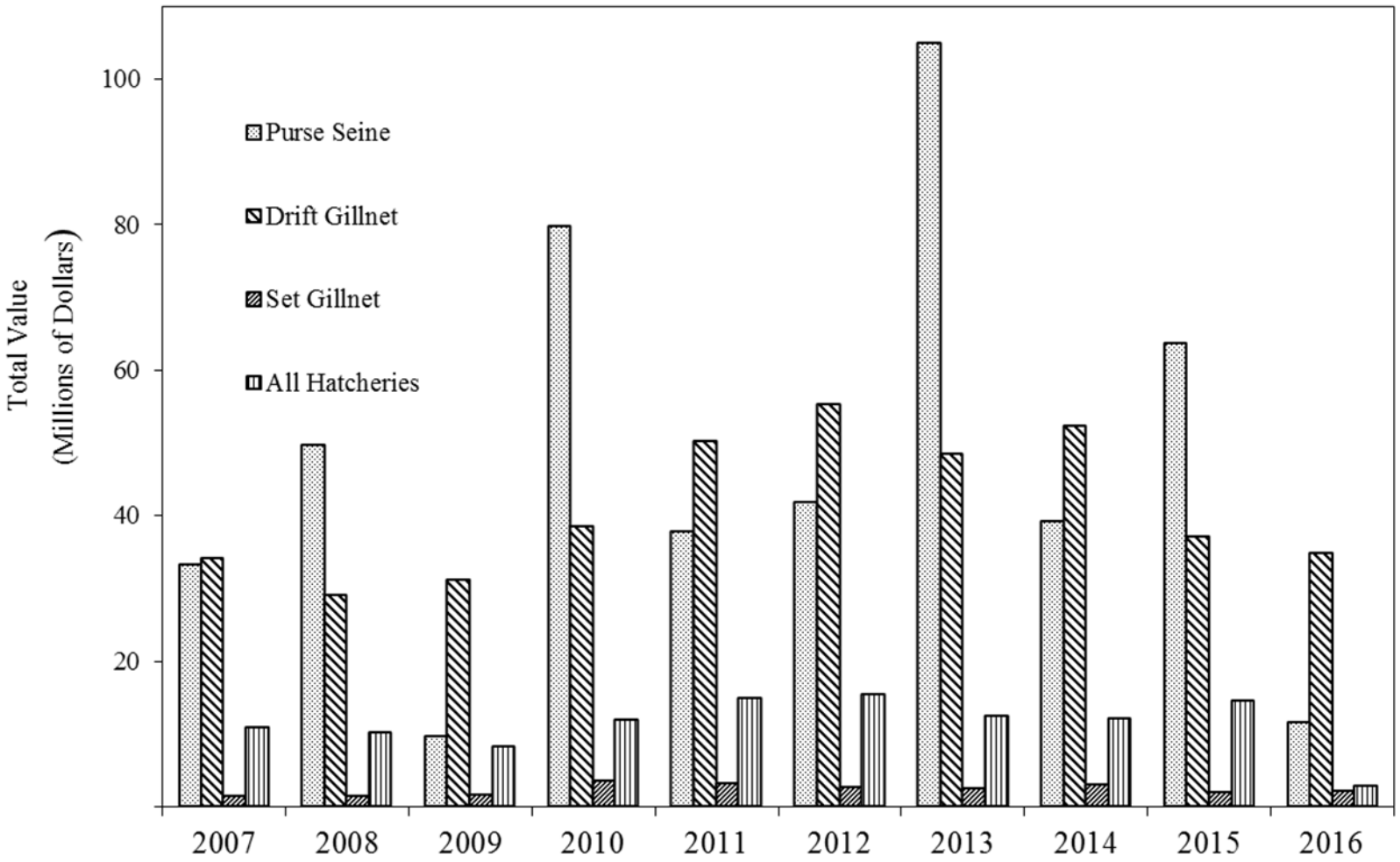

Figure 4.–Exvessel value of the commercial salmon harvest in the Prince William Sound Area by gear type, 2007–2016.

APPENDIX A: COPPER RIVER

Appendix A1.–Total estimated sockeye salmon runs to the Copper River by end user or destination and the 10-year average, 2006–2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-year Average	2016
Commercial harvest[a]	1,496,754	1,901,773	320,815	896,621	636,214	2,052,432	1,866,541	1,608,117	2,050,007	1,750,762	1,458,004	1,175,100
Commercial, homepack[a]	1,539	2,023	2,172	6,528	7,064	9,070	7,985	9,448	12,072	10,590	6,849	9,598
Commercial, donated[a]	114	180	80	47	0	0	0	0	0	0	42	0
Educational drift gillnet permit[a]	16	62	29	8	61	23	200	152	186	91	83	203
Subsistence (Cordova, drift gillnet)[b]	4,355	6,148	3,969	1,764	1,980	1,783	4,270	5,639	1,675	1,403	3,299	1,075
Federal subsistence (PWS/Chugach Nat'l Forest, dip net, spear, rod and reel)[b]	150	36	32	46	36	35	64	102	76	152	73	110
Subsistence (Batzulnetas, dip net, fish wheel or spear)[b]	0	1	1	0	106	9	101	867	116	0	120	0
Subsistence (Glennallen Subdistrict, dip net, fish wheel or spear)[c]	57,710	65,714	43,157	46,849	70,719	59,622	76,305	73,728	75,501	81,800	65,111	62,474
Federal subsistence (Glennallen subdistrict, dip net, fish wheel or spear)[d]	16,711	15,225	11,347	11,822	14,134	15,753	16,487	17,060	23,034	26,897	16,847	19,365
Personal use reported (Chitina Subdistrict, dip net)[c]	123,261	125,126	81,359	90,035	138,487	128,052	127,143	180,663	157,215	223,080	137,442	148,982
Federal subsistence (Chitina Subdistrict, dip net)[d]	1,379	929	789	817	2,324	1,933	915	2,252	1,664	2,310	1,531	1,321
Upriver sport harvest[e]	14,297	23,028	11,431	13,415	14,743	7,727	23,404	26,711	18,005	9,489	16,225	18,068
Delta sport harvest[e]	113	1,704	1,225	959	1,342	838	764	386	87	130	755	201
Upriver spawning escapement[f]	579,550	612,065	480,597	468,724	502,995	607,657	953,245	860,829	864,988	930,095	686,075	503,033
Delta spawning escapement[g]	197,792	176,570	135,900	138,584	167,810	153,014	133,700	151,410	128,410	132,390	151,558	103,100
Hatchery broodstock/excess	97,202	28,648	45,022	43,409	157,980	59,589	65,348	72,369	53,737	40,123	66,343	32,341
Total estimated sockeye salmon run size	2,590,943	2,959,232	1,137,925	1,719,628	1,715,995	3,097,537	3,276,472	3,009,733	3,386,773	3,209,312	2,610,355	2,074,971

[a] Numbers are from fish ticket data. Homepack numbers for sockeye salmon are voluntarily reported, but are legally required.

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

[c] Data are expanded harvest from returned state and federal subsistence permits.

[d] Data are reported harvest (2002–2004) and expanded harvest (2005–2014) from returned state and federal subsistence permits.

[e] Upriver and Copper River Delta sport harvest data are from statewide sport fish harvest surveys.

[f] Beginning in 1999, sockeye salmon spawning escapement was based on the total number of fish past 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 salmon only) minus upriver subsistence, personal use, sport, hatchery broodstock, and onsite hatchery surplus. The number of sockeye salmon past the Miles Lake sonar was determined by multiplying the total number of fish past the sonar by the percentage of sockeye salmon in the total upriver subsistence and personal use fisheries.

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

Appendix A2.–Total estimated sockeye salmon runs to the Copper River by origin and the previous 10-year average, 2006–2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-year Average	2016
Upriver wild contribution[a]	1,773,503	2,264,569	852,316	1,260,717	991,791	2,004,078	2,503,278	2,224,817	2,633,272	2,679,815	1,918,816	1,608,098
Delta wild contribution[b]	531,312	564,546	202,811	324,744	289,313	512,515	333,445	351,004	350,493	310,313	377,050	259,058
Gulkana contribution[c]	287,935	132,633	86,095	136,443	434,891	580,944	439,749	433,912	403,008	219,184	315,479	207,815
Total estimated sockeye salmon run size	2,592,750	2,961,748	1,141,223	1,721,904	1,715,995	3,097,537	3,276,472	3,009,733	3,386,773	3,209,312	2,611,345	2,074,971

[a] Beginning in 1999, the upriver wild sockeye contribution was estimated as the sum of the total number of sockeye salmon past the Miles Lake sonar (total number of fish past the Miles Lake sonar minus the Chinook salmon inriver abundance estimate) and sockeye salmon captured in the Copper River commercial and subsistence harvests minus Gulkana Hatchery contributions to the Copper River (CR) commercial and subsistence fisheries, CR Delta wild stock, and CR Delta sport harvests. Prior to 1999, upriver wild sockeye salmon contribution was estimated as the sum of the total number of sockeye salmon past the Miles Lake sonar (total number of fish past the Miles Lake sonar multiplied by the percent of sockeye salmon harvested in upriver subsistence fisheries) and sockeye salmon captured in the CR 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 salmon contribution was estimated as the total CR district harvest multiplied by proportion CR Delta sockeye salmon (delta escapement divided by the total number of sockeye salmon passed the Miles Lake sonar plus CR Delta escapement) then adding CR Delta escapement and CR Delta sport harvest.

[c] Gulkana Hatchery sockeye salmon contributions from 1995 to 2003 are based on coded wire tag–recovery; contributions from 2004 to 2011 are based on strontium marks from commercial, personal use, subsistence samples applied to reported harvest, and the historical average of mainstem and upper Copper River sport harvest multiplied by Gulkana Hatchery percent in personal use and subsistence fisheries. Gulkana Hatchery personal use and subsistence contribution estimates were calculated with reported harvest.

Appendix A3.–Total estimated Chinook salmon run to the Copper River by end user or destination and the previous 10-year average, 2006–2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-year Average	2016
Commercial harvest[a]	30,278	39,095	11,437	9,457	9,645	18,500	11,764	8,826	10,207	22,506	17,172	12,348
Commercial, homepack[a]	779	1,019	537	876	906	1,282	853	564	768	1,145	873	727
Commercial, donated[a]	3	0	4	0	0	0	0	0	0	0	1	0
Educational drift gillnet permit[a]	11	70	47	50	31	6	6	55	36	50	36	86
Subsistence (Cordova, drift gillnet)[b]	779	1,145	470	212	276	212	237	854	153	167	451	73
Subsistence (Batzulnetas, dip net, fish wheel or spear)[b]	0	0	0	0	0	0	0	5	0	0	1	0
Subsistence (Glennallen Subdistrict, dip net, fish wheel or spear)[c]	2,769	3,276	2,381	2,493	2,099	2,319	2,095	2,148	1,365	2,212	2,316	2,075
Federal subsistence (Glennallen Subdistrict, dip net, fish wheel or spear)[d]	430	569	705	494	326	744	415	374	420	402	488	396
Personal use harvests (Chitina Subdistrict, dip net)[c]	2,663	2,694	1,999	214	700	1,067	567	744	719	1,570	1,294	711
Federal subsistence (Chitina Subdistrict, dip net)[d]	13	26	22	8	18	13	5	18	14	15	15	015
Sport harvest[e]	3,425	5,123	3,618	1,355	2,409	1,753	459	570	931	1,343	2,099	948
Upriver spawning escapement[f]	58,454	34,565	32,485	27,781	16,771	27,993	27,911	28,727	20,709	26,764	30,216	11,864
Total estimated Chinook salmon run size	99,604	87,582	53,705	42,940	33,181	53,889	44,312	42,885	35,322	56,174	54,959	29,243

[a] Numbers are from fish ticket data.

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

[c] Data are expanded harvest from returned state and federal subsistence permits.

[d] Data are reported harvest (2002–2004) and expanded harvest (2005–2011) from returned state and federal subsistence permits.

[e] Upriver Chinook salmon sport harvest only; there is no Copper River Delta Chinook salmon sport harvest. The sport harvest numbers are generated from the statewide sport fish harvest survey.

[f] Upriver Chinook salmon spawning escapement was 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, 1971–2016.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
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	537,589
2009	9,457	896,621	207,776	16,759	8,629	1,139,242
2010	9,645	636,214	210,621	21,149	15,694	893,323
2011	18,500	2,052,432	127,511	24,050	13,231	2,235,724
2012	11,764	1,866,541	130,261	6,011	2,733	2,017,310
2013	8,826	1,608,117	244,985	65,366	10,169	1,937,463
2014	10,207	2,050,007	315,776	43,534	11,703	2,431,227
2015	22,506	1,750,762	136,981	84,692	15,650	2,010,591
10-year average	17,172	1,458,004	201,200	37,456	10,595	1,724,426
25-year average	34,276	1,437,450	272,757	21,631	13,411	1,779,525
2016	12,348	1,175,100	367,630	34,430	5,476	1,594,984

Appendix A5.–Copper River District commercial drift gillnet salmon harvest by period, 2016.

						Chinook		Sockeye		Coho		Pink		Chum	
Period [a]	Date	News release dates[b]	Hours	Permits fished	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01[c]	05/16-05/16	05/07	12	455	523	1,367	22,698	23,509	117,661	0	0	0	0	432	2,956
02[c]	05/19-05/20	05/18	24	473	754	1,968	31,421	59,047	284,845	1	2	0	0	996	6,149
03[c]	05/23-05/25	05/21	48	469	1,015	2,912	51,033	65,278	319,506	0	0	0	0	828	5,086
04[c]	05/26-05/27	05/25	24	451	652	1,116	20,619	48,787	240,391	1	7	0	0	198	1,356
05[c]	05/28-05/29	05/25	24	424	636	1,017	18,602	48,506	240,142	1	7	0	0	75	429
06[c]	05/30-05/31	05/28	36	402	756	988	18,589	78,385	397,327	12	78	0	0	265	1,687
07[c]	06/02-06/03	06/01	24	423	629	904	16,222	57,767	296,325	9	61	1	3	802	5,002
08[c]	06/06-06/07	06/04	24	402	536	624	11,617	44,985	228,807	12	91	0	0	181	985
09[c]	06/09-06/10	06/08	24	261	383	346	6,483	34,115	174,819	9	68	0	0	68	452
10[c]	06/13-06/14	06/11	24	275	447	303	5,852	53,921	287,706	6	45	0	0	147	1,015
11[c]	06/16-06/17	06/15	36	271	498	238	4,830	58,995	321,642	31	229	0	0	259	1,684
12[c]	06/20-06/21	06/18	36	202	444	167	3,501	88,415	476,651	247	1,511	9	31	263	1,859
13	06/23-06/25	06/22	48	238	490	137	2,735	80,259	435,697	22	141	32	100	45	330
14	06/27-06/28	06/25	36	214	458	98	2,128	92,006	508,036	18	101	216	722	83	600
15	06/30-07/02	06/29	48	247	501	52	1,151	65,548	360,409	56	429	180	652	91	640
16	07/04-07/05	07/02	36	194	358	42	895	55,380	302,950	69	495	1,686	6,235	63	389
17	07/07-07/09	07/06	48	212	401	19	417	57,812	303,800	124	936	4,560	17,359	79	529
18	07/11-07/12	07/09	36	222	345	19	416	38,154	202,113	25	182	2,103	8,318	124	903
19	07/14-07/16	07/13	48	210	351	4	66	38,322	204,768	52	362	5,606	21,426	91	581
20	07/18-07/19	07/16	36	190	322	8	73	28,844	159,487	224	1,611	12,610	49,863	133	827
21	07/21-07/22	07/20	36	140	210	8	103	22,601	122,343	126	918	2,917	11,247	86	654
22	07/25-07/26	07/23	24	76	83	2	47	8,870	47,980	197	1,361	1,255	4,483	63	428
23	07/28-07/29	07/27	24	70	73	0	0	6,025	33,205	546	4,020	737	2,678	34	194
24	08/01-08/02	07/30	24	69	74	1	13	6,165	34,970	1,062	7,631	1,361	4,781	41	311
25	08/04-08/05	08/03	24	64	68	1	6	5,345	29,507	2,842	22,610	727	2,235	6	47
26	08/08-08/09	08/06	24	74	79	0	0	3,876	21,393	4,996	39,085	352	1,234	11	85
27	08/11-08/12	08/10	24	107	123	2	25	2,384	12,836	10,257	82,726	45	163	7	49
28	08/15-08/16	08/13	24	160	209	2	31	794	4,100	20,987	177,028	20	85	5	36
29	08/22-08/23	08/17 and 08/20	24	190	251	0	0	277	1,851	36,419	315,041	3	13	0	0
30	08/25-08/25	08/24	12	251	290	3	18	615	3,241	39,908	363,451	2	8	0	0

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Period [a]	Date	News release dates[b]	Hours	Permits fished	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
31	08/29-08/30	08/26	24	263	446	0	0	95	521	57,350	539,906	1	4	0	0
32	09/01-09/01	08/31	12	303	402	0	0	11	56	51,421	464,777	6	21	0	0
33	09/05-09/06	09/02	24	290	445	0	0	3	15	57,423	536,795	0	0	0	0
34	09/08-09/08	09/07	12	200	225	0	0	0	0	27,380	248,084	0	0	0	0
35	09/12-09/13	09/10	24	160	200	0	0	2	11	24,430	227,157	1	4	0	0
36	09/15-09/16	09/14	24	179	212	0	0	1	6	17,205	160,242	0	0	0	0
37	09/19-09/20	09/14	24	118	146	0	0	1	8	10,277	94,287	0	0	0	0
38	09/22-09/23	09/21	24	22	22	0	0	0	0	1,035	9,614	0	0	0	0
39	09/26-09/27	09/21	36	24	25	0	0	0	0	1,807	15,391	0	0	0	0
40	09/29-09/30	09/21	36	13	13	0	0	0	0	574	4,889	0	0	0	0
41	10/03-10/04	09/21	36	6	6	0	0	0	0	308	2,622	0	0	0	0
42	10/06-10/07	10/05	36	3	3		–		–		–		–		–
43	10/10-10/11	10/05 and 10/12	36	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,608	520	14,104	12,348	219,591	1,175,100	6,175,125	367,630	3,325,367	34,430	131,665	5,476	35,263
Average weights							17.78		5.25		9.05		3.82		6.44

Note: En dash indicates confidential data. Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters to search the ADF&G Commercial Fishing News Release System include: Effective Year = 2015; Species Group = Salmon; Management Area = Prince William Sound.

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

[b] Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

[c] Waters of the inside closure area described in 5 AAC 24.350(1)(B) were closed for all or a portion of the fishing period, see corresponding news release for more detail.

Appendix A6.–Daily salmon counts at Miles Lake sonar, 2016.

Date	Water level	Daily sonar counts						Minimum inriver passage objective		Maximum inriver passage objective	
		North bank	South bank	Daily	Cumulative	0600 count	Projected daily	Daily	Cumulative	Daily	Cumulative
05/08 [a]	N/A	10	N/A	10	10	N/A	N/A	N/A	N/A	N/A	N/A
05/09 [b]	N/A	54	29	83	93	N/A	N/A	N/A	N/A	N/A	N/A
05/10	38.91	144	54	198	291	48	192	N/A	N/A	N/A	N/A
05/11	38.95	138	132	270	561	60	240	N/A	N/A	N/A	N/A
05/12	39.01	402	198	600	1,161	108	432	N/A	N/A	N/A	N/A
05/13	39.15	516	571	1,087	2,248	132	528	N/A	N/A	N/A	N/A
05/14	39.44	885	667	1,552	3,800	240	960	N/A	N/A	N/A	N/A
05/15	39.78	744	1,549	2,293	6,093	312	1,248	0	0	0	0
05/16	40.14	1,255	1,783	3,038	9,131	691	2,764	395	395	612	612
05/17	40.45	1,782	2,170	3,952	13,083	619	2,476	622	1,018	963	1,575
05/18	40.52	1,836	2,875	4,711	17,794	702	2,808	1,895	2,913	2,934	4,509
05/19	40.47	3,330	5,361	8,691	26,485	1,488	5,952	3,371	6,284	5,218	9,726
05/20	40.46	4,728	10,191	14,919	41,404	2,586	10,344	4,955	11,239	7,669	17,395
05/21	40.58	4,356	10,256	14,612	56,016	3,208	12,832	5,519	16,758	8,542	25,938
05/22	40.74	2,964	6,900	9,864	65,880	2,203	8,812	8,590	25,348	13,296	39,233
05/23	40.93	2,268	5,640	7,908	73,788	1,152	4,608	9,845	35,194	15,238	54,471
05/24	41.09	4,584	10,680	15,264	89,052	2,046	8,184	10,915	46,108	16,893	71,364
05/25	41.12	8,712	14,088	22,800	111,852	3,810	15,240	12,466	58,574	19,294	90,658
05/26	41.05	4,260	9,629	13,889	125,741	3,045	12,180	15,466	74,040	23,937	114,595
05/27	41.05	1,626	6,963	8,589	134,330	2,013	8,052	14,801	88,841	22,909	137,504
05/28	41.10	3,066	8,572	11,638	145,968	1,885	7,540	15,745	104,586	24,369	161,873
05/29	41.23	1,578	9,980	11,558	157,526	2,299	9,196	15,739	120,324	24,360	186,233
05/30	41.37	1,476	11,276	12,752	170,278	2,713	10,852	17,299	137,623	26,774	213,007
05/31	41.39	2,304	9,081	11,385	181,663	3,001	12,004	15,169	152,792	23,478	236,485
06/01	41.40	3,294	11,970	15,264	196,927	2,238	8,952	17,246	170,039	26,693	263,178
06/02	41.45	1,854	7,504	9,358	206,285	2,712	10,848	15,618	185,656	24,172	287,350
06/03	41.58	1,182	5,815	6,997	213,282	1,068	4,272	15,640	201,296	24,207	311,556
06/04	41.65	2,886	15,060	17,946	231,228	3,721	14,884	14,530	215,826	22,489	334,045
06/05	41.73	1,938	9,412	11,350	242,578	2,948	11,792	15,735	231,561	24,354	358,400
06/06	41.75	1,152	8,302	9,454	252,032	1,685	6,740	13,613	245,174	21,069	379,469
06/07	41.72	3,000	14,408	17,408	269,440	3,045	12,180	14,941	260,116	23,126	402,595

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Date	Water level	Daily sonar counts: North bank	South bank	Daily	Cumulative	0600 count	Projected daily	Minimum inriver passage objective: Daily	Cumulative	Maximum inriver passage objective: Daily	Cumulative
06/08	41.61	3,972	19,256	23,228	292,668	4,648	18,592	15,600	275,715	24,144	426,739
06/09	41.50	2,136	12,944	15,080	307,748	3,584	14,336	13,409	289,124	20,754	447,493
06/10	41.60	1,344	14,032	15,376	323,124	3,101	12,404	12,240	301,365	18,945	466,438
06/11	41.79	1,446	19,969	21,415	344,539	5,222	20,888	11,124	312,489	17,218	483,655
06/12	41.91	720	12,758	13,478	358,017	3,727	14,908	9,843	322,331	15,234	498,889
06/13	41.89	1,224	10,926	12,150	370,167	1,922	7,688	8,618	330,950	13,339	512,228
06/14	41.79	1,884	17,477	19,361	389,528	2,972	11,888	8,338	339,288	12,905	525,133
06/15	41.98	1,944	20,169	22,113	411,641	4,287	17,148	8,707	347,995	13,477	538,610
06/16	42.17	942	13,892	14,834	426,475	3,832	15,328	8,298	356,294	12,844	551,454
06/17	42.39	1,044	12,124	13,168	439,643	2,568	10,272	8,299	364,593	12,845	564,299
06/18	42.68	516	12,522	13,038	452,681	2,904	11,616	8,007	372,600	12,393	576,692
06/19	42.86	978	12,147	13,125	465,806	3,751	15,004	8,205	380,805	12,700	589,392
06/20	42.99	228	6,053	6,281	472,087	1,503	6,012	7,806	388,611	12,082	601,474
06/21	43.01	210	5,812	6,022	478,109	1,029	4,116	7,715	396,326	11,941	613,415
06/22	42.92	798	11,117	11,915	490,024	1,980	7,920	7,385	403,711	11,429	624,845
06/23	42.99	936	15,341	16,277	506,301	3,378	13,512	6,820	410,531	10,556	635,401
06/24	43.08	996	15,601	16,597	522,898	4,374	17,496	6,778	417,309	10,491	645,892
06/25	43.13	1,200	13,328	14,528	537,426	4,206	16,824	6,344	423,654	9,819	655,711
06/26	43.01	984	11,666	12,650	550,076	3,108	12,432	7,069	430,723	10,941	666,653
06/27	42.91	474	9,917	10,391	560,467	3,000	12,000	7,025	437,747	10,872	677,525
06/28	42.80	354	9,203	9,557	570,024	1,994	7,976	6,687	444,435	10,350	687,875
06/29	42.67	744	12,963	13,707	583,731	2,127	8,508	6,400	450,835	9,906	697,781
06/30	42.85	630	18,208	18,838	602,569	4,272	17,088	6,020	456,855	9,317	707,098
07/01	42.96	768	12,984	13,752	616,321	3,918	15,672	6,027	462,881	9,328	716,426
07/02	42.96	786	10,621	11,407	627,728	2,042	8,168	5,585	468,466	8,644	725,069
07/03	42.98	1,182	13,503	14,685	642,413	3,546	14,184	6,051	474,516	9,365	734,434
07/04	42.97	750	9,488	10,238	652,651	2,952	11,808	6,132	480,649	9,491	743,925
07/05	42.93	612	8,745	9,357	662,008	2,172	8,688	6,584	487,232	10,190	754,115
07/06	42.95	570	10,439	11,009	673,017	1,849	7,396	6,110	493,342	9,456	763,571
07/07	43.05	1,176	11,120	12,296	685,313	2,546	10,184	6,356	499,698	9,838	773,409
07/08	43.10	546	9,325	9,871	695,184	2,718	10,872	6,263	505,961	9,693	783,102
07/09	43.19	528	9,284	9,812	704,996	1,566	6,264	6,395	512,356	9,898	793,001
07/10	43.42	930	9,058	9,988	714,984	2,364	9,456	7,086	519,442	10,967	803,968

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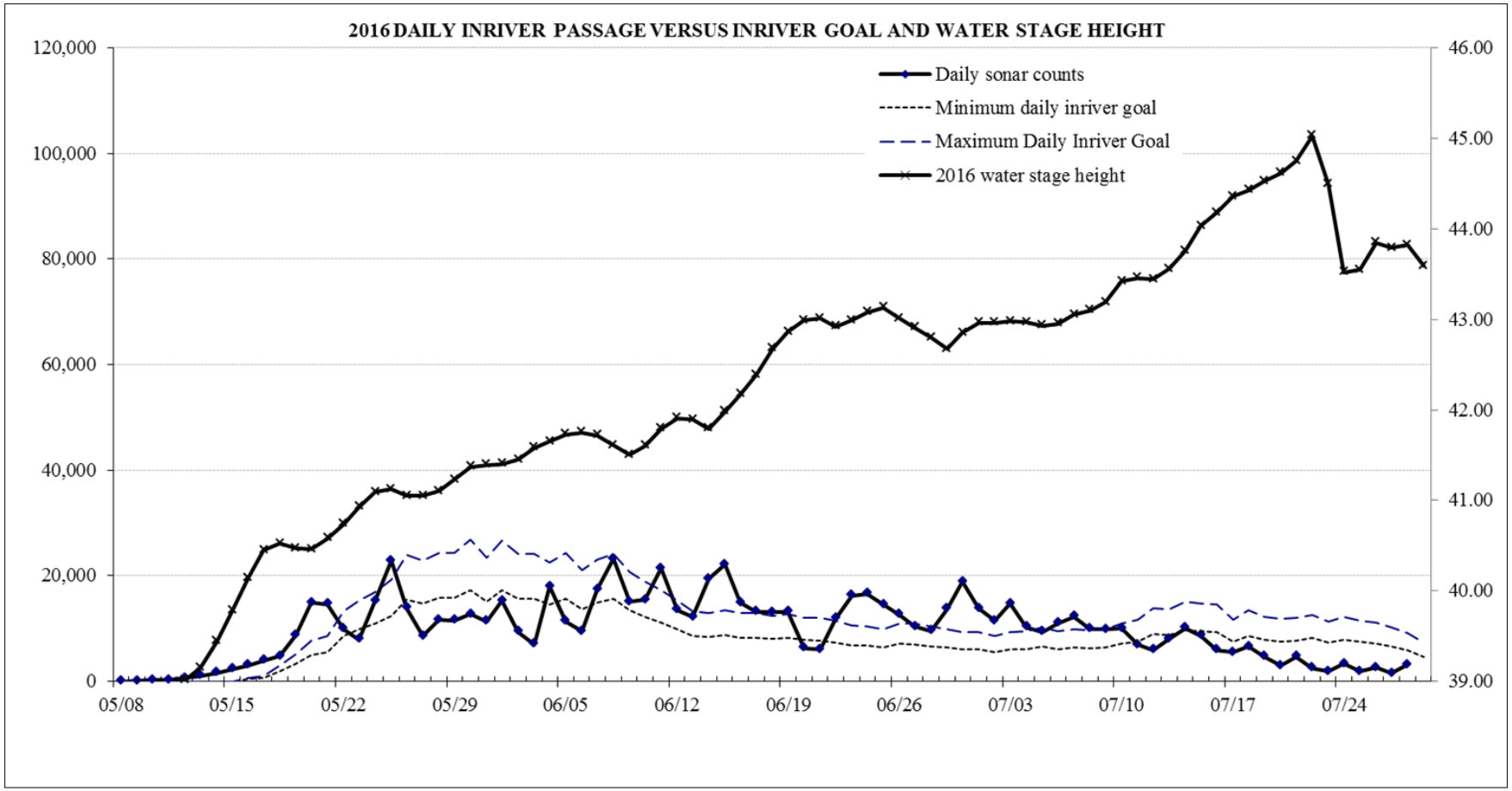
Date	Water level	Daily sonar counts: North bank	South bank	Daily	Cumulative	0600 count	Projected daily	Minimum inriver passage objective: Daily	Minimum inriver passage objective: Cumulative	Maximum inriver passage objective: Daily	Maximum inriver passage objective: Cumulative
07/11	43.46	570	6,358	6,928	721,912	2,513	10,052	7,485	526,927	11,584	815,552
07/12	43.44	522	5,421	5,943	727,855	1,369	5,476	8,909	535,835	13,789	829,341
07/13	43.56	588	7,434	8,022	735,877	1,174	4,696	8,860	544,695	13,713	843,054
07/14	43.76	408	9,636	10,044	745,921	2,172	8,688	9,718	554,414	15,041	858,095
07/15	44.03	540	8,118	8,658	754,579	2,112	8,448	9,477	563,890	14,668	872,763
07/16	44.18	702	5,228	5,930	760,509	1,476	5,904	9,355	573,246	14,480	887,243
07/17	44.36	798	4,649	5,447	765,956	1,158	4,632	7,541	580,787	11,672	898,915
07/18	44.43	642	5,937	6,579	772,535	1,291	5,164	8,677	589,464	13,430	912,345
07/19	44.53	588	4,104	4,692	777,227	1,171	4,684	7,924	597,388	12,265	924,610
07/20	44.62	750	2,192	2,942	780,169	576	2,304	7,599	604,987	11,761	936,371
07/21	44.75	1,529	3,091	4,620	784,789	1,007	4,028	7,746	612,734	11,989	948,360
07/22	45.03	1,020	1,472	2,492	787,281	571	2,284	8,179	620,912	12,659	961,019
07/23	44.49	792	1,100	1,892	789,173	540	2,160	7,260	628,172	11,236	972,255
07/24	43.52	828	2,475	3,303	792,476	409	1,636	7,832	636,004	12,122	984,377
07/25	43.55	318	1,544	1,862	794,338	918	3,672	7,478	643,482	11,574	995,951
07/26	43.85	528	2,037	2,565	796,903	756	3,024	7,202	650,684	11,147	1,007,097
07/27	43.79	552	991	1,543	798,446	187	748	6,641	657,325	10,279	1,017,376
07/28	43.82	624	2,523	3,147	801,593	468	1,872	5,937	663,261	9,188	1,026,564
07/29	43.59	Sonar Removed			801,593			4,699	667,960	7,272	1,033,837

Note: Anticipated counts are not available prior to May 15 because the sonar was deployed prior to this date only during 2003, 2004, 2005.

[a] North bank was deployed for 11 hours.

[b] North bank was deployed for 14 hours and south bank was deployed for 15 hours.

Appendix A7.–Minimum and maximum inriver sonar goal and water stage height versus actual daily salmon passage, Miles Lake sonar, 2016.



Appendix A8.–Inriver salmon passage at the Miles Lake sonar, 1978–2016.

Year	Total	Rank
1978	107,011	38
1979	328,090	37
1980	374,091	36
1981	576,681	30
1982	517,885	33
1983	592,563	29
1984	618,732	26
1985	466,190	35
1986	481,628	34
1987	523,022	32
1988	528,940	31
1989	643,367	22
1990	624,922	25
1991	593,185	28
1992	604,898	27
1993	819,700	16
1994	738,011	18
1995	637,293	23
1996	907,267	10
1997	1,164,791	5
1998	865,896	12
1999	850,597	14
2000	636,837	24
2001	878,205	11
2002	830,263	15
2003	747,091	17
2004	684,103	21
2005	855,125	13
2006	959,706	6
2007	919,601	8
2008	718,344	19
2009	709,748	20
2010	923,811	7
2011	914,231	9
2012	1,294,400	2
2013	1,267,060	3
2014	1,218,418	4
2015	1,346,100	1
Previous 10-year average	1,027,142	
2016	801,593	17

Appendix A9.–Anticipated and actual semi-weekly sockeye and Chinook salmon harvest and weekly coho salmon harvest in the Copper River District drift gillnet fishery, 2016.

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
5/18	Wed	12	33,476	23,509	3,559	1,367		
5/21	Sat	24	67,677	59,047	2,270	1,968	3	1
5/25	Wed	48	147,413	65,278	3,139	2,912		
5/28	Sat	48	90,801	97,293	1,985	2,133	22	2
6/01	Wed	36	152,943	78,385	2,452	988		
6/04	Sat	24	111,406	57,767	1,848	904	35	21
6/08	Wed	24	120,444	44,985	1,826	624		
6/11	Sat	24	62,695	34,115	932	346	35	21
6/15	Wed	24	82,961	53,921	1,169	303		
6/18	Sat	36	62,722	58,995	566	238	91	37
6/22	Wed	36	83,400	88,415	475	167		
6/25	Sat	48	57,148	80,259	242	137	251	269
6/29	Wed	36	76,803	92,006	196	98		
7/02	Sat	48	54,675	65,548	98	52	334	74
7/06	Wed	36	79,944	55,380	92	42		
7/09	Sat	48	58,800	57,812	43	19	570	193
7/13	Wed	36	69,407	38,154	35	19		
7/16	Sat	48	48,241	38,322	21	4	1,292	77
7/20	Wed	36	52,243	28,844	15	8		
7/23	Sat	36	30,059	22,601	7	8	1,283	350
7/27	Wed	24	24,162	8,870	7	2		
7/30	Sat	24	15,686	6,025	2	0	2,745	743
8/03	Wed	24	14,129	6,165	5	1		
8/06	Sat	24	6,389	5,345	2	1	7,966	3,904
8/10	Wed	24	6,667	3,876	4	0		
8/13	Sat	24	3,511	2,384	3	2	18,510	15,253

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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
8/17	Wed	24	2,863	4,100	2	2		
8/20	Sat	0	1,135	0	1	0	33,120	20,987
8/24	Wed	24	880	1,851	1	0		
8/27	Sat	12	490	3,241	0	3	43,145	76,327
8/31	Wed	24	373	521	0	0		
9/03	Sat	12	182	56	0	0	41,697	108,771
9/07	Wed	24	159	15	0	0		
9/10	Sat	12	53	0	0	0	30,214	84,803
9/14	Wed	24	25	11	0	0		
9/17	Sat	24	12	6	0	0	14,433	41,635
9/21	Wed	24	22	8	0	0		
9/24	Sat	24	1	0	0	0	4,577	11,312
9/28	Wed	36	1	0	0	0		
10/01	Sat	36	1	0	0	0	703	2,381
10/05	Wed	36	0	0	0	0		
10/08	Sat	36	0	0	0	0	180	469
10/12	Wed	36	0	0	0	0		
10/15	Sat	0	0	0	0	0	1	0
Total		1,260	1,620,000	1,183,110	21,000	12,348	201,207	367,630

[a] Sockeye salmon anticipated harvest was based on the midpoint preseason forecast (2,200,000) and the 1998–2007 harvest timing.

[b] Chinook salmon anticipated harvest was based on the preseason harvest forecast (5,580) and the 1998–2007 harvest timing. This harvest forecast is the total run forecast minus the lower bound sustainable escapement goal (SEG) multiplied by the mean commercial exploitation rate. Therefore, the Chinook salmon harvest should be considered a maximum harvest because the escapement goal is a lower bound SEG.

[c] Coho salmon anticipated harvest was based on the midpoint preseason harvest forecast (214,000) and the 1973–2009 harvest timing.

Appendix A10.–Aerial escapement indices by statistical week and location for sockeye salmon returning to the Copper River Delta, 2016.

System [a]	Weekly escapement indices (statistical week ending date listed)[b] 6/11	6/18	6/25	7/02	7/16	7/23	8/06	8/20	9/03	9/10	Site[c]	System[d]	Anticipated, (by drainage)
Eyak River													
Eyak River	500	100	250	350	5	20	100	0	0	0	100	12,700	9,972 to 23,571
West Shore Beaches	0	0	1,200	3,700	1,500	1,200	4,100	200	0	10	4,100		
East Shore Beaches	30	400	500	1,800	1,100	1,500	3,100	1,300	1,050	400	3,100		
Middle Arm Beaches [e]	350	1,200	1,500	2,000	800	2,000	3,000	4,500	NS	500	4,500		
North Shore Beaches	2,000	NS	0	3,400	1,400	300	900	300	100	50	900		
Hatchery Creek Delta	0	NS	100	1,300	60	500	200	0	100	0	200	500	
Hatchery Creek	0	NS	0	150	20	600	300	100	300	0	300		
Power Creek Delta	0	NS	0	400	40	0	200	0	10	0	200	3,200	
Power Creek	0	NS	0	600	1,000	3,000	1,000	500	NS	1,000	3,000		
Ibeck Creek													
Ibeck Creek	NS	NS	NS	NS	NS	NS	NS	50	30	0	50	50	
Alaganik Slough													
Alaganik Slough	0	0	0	NS	0	50	0	0	0	0	0	4,500	8,359 to 19,758
McKinley Lake	0	0	0	0	400	1,500	700	800	NS	250	700		
Salmon Creek West Fork	0	0	0	0	100	1,200	2,700	1,600	NS	400	2,700		
Salmon Creek East Fork	0	0	0	0	0	50	1,100	175	NS	0	1,100		
26/27 Mile Creek													
26/27 Mile Creek	0	0	0	200	750	900	700	140	450	200	900	900	2,182 to 5,157
39 Mile Creek													
39 Mile Creek	0	20	100	250	0	350	2,450	2,500	NS	200	2,500	2,500	5,772 to 13,642
Goat Mountain													
Goat Mountain Creek	0	0	0	150	200	150	100	50	0	0	200	200	549 to 1,298
Pleasant Creek													
Pleasant Creek	600	1,300	1,250	1,500	2,020	800	450	0	0	0	2,020	2,020	1,075 to 2,542
Martin River													
Martin River - Lower	20	100	60	NS	0	NS	NS	NS	NS	0	0	0	
Ragged Point River	0	0	0	800	100	150	150	0	0	0	0	3,200	
Ragged Point Lake Outlet	0	0	0	100	0	200	100	0	0	0	0		
Ragged Point Lake	0	0	0	0	0	500	400	3,200	1,500	1,200	3,200		
Martin River - Upper [e]	200	1,210	1,800	650	600	1,000	50	0	0	0	1,000	1,000	
Martin Lake Outlet	50	100	0	50	0	0	200	0	0	0	200	10,100	17,598 to 41,596
Martin Lake	5,500	5,500	7,200	7,300	3,800	1,200	250	200	200	300	7,300		

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System [a]	Weekly escapement indices (statistical week ending date listed)[b] 6/11	6/18	6/25	7/02	7/16	7/23	8/06	8/20	9/03	9/10	Site[c]	System[d]	Anticipated, (by drainage)
Martin Lake Feeders	0	200	1,900	2,600	2,000	4,700	1,100	300	100	0	2,600		
Pothole River	NS	NS		NS	550	200	0	0	50	0	0		
Pothole Lake	NS	NS	NS	NS	0	0	500	1,500	600	400	0		
Little Martin River	0	0	0	0	0	0	30	0	0	0	30	1,530	
Little Martin Lake	0	300	0	200	40	1,500	1,100	1,500	800	300	1,500		
Tokun													
Tokun Springs	0	0	0	0	0	100	100	0	100	25	25	5,550	5,352 to 12,649
Tokun River	400	1,300	180	200	80	600	400	250	300	425	425		
Tokun Lake Outlet	0	100	0	0	0	0	0	100	0	0	0		
Tokun Lake	200	200	300	300	0	200	2,500	1,200	3,600	5,100	5,100		
Martin River Slough													
Martin River Slough	1,450	NS	1,800	3,600	750	1,000	200	100	0	0	3,600	3,600	4,141 to 9,787
Total	11,300	12,030	18,140	31,600	17,315	25,470	28,180	20,565	9,290	10,760	51,550	51,550	
Lower SEG	7,270	14,273	17,627	28,229	31,424	32,059	24,976	24,382	17,446	12,467			55,000
Average SEG, (avg. antic. esc.)	11,157	21,902	27,050	43,318	48,222	49,196	38,326	37,415	26,772	19,131			84,400
Upper SEG	17,184	33,736	41,665	66,722	74,276	75,775	59,034	57,630	41,236	29,467			130,000

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

[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] 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.

[d] The sum of the indices by site within a system.

[e] Site typically has a protracted run timing or 2 temporally segregated spawning populations at 1 location. Aerial counts from more than 1 day may be used in the escapement index if the surveyor indicates these counts represented different fish.

Appendix A11.–Copper River and Bering River area sockeye salmon escapement indices, 2006–2016.

Stream/Lake [a,]	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-yr Average	2016
Eyak Lake	26,290	28,640	9,290	11,980	25,000	22,775	23,350	19,205	20,400	14,400	20,133	12,700
Hatchery Creek	2,700	980	560	680	870	100	1,000	300	300	1,400	889	500
Power Creek	2,320	1,030	220	260	1,853	2,600	3,300	1,000	750	1,450	1,478	3,200
Ibeck Creek	620	142	41	100	10	475	870	200	400	800	366	50
McKinley Lake	4,306	3,740	3,510	3,520	2,980	3,950	7,750	5,700	5,575	1,800	4,283	700
Salmon Creek	4,660	2,630	820	500	1,370	1,910	75	2,200	75	5,500	1,974	3,800
26/27 Mile Creek	3,200	700	8	0	0	870	350	950	750	920	775	900
39 Mile Creek	2,700	2,710	2,950	160	620	1,500	3,000	2,000	1,075	2,400	1,912	2,500
Goat Mountain	1,450	363	100	30	140	50	1,925	300	900	950	621	200
Pleasant Creek	6,600	4,860	4,920	2,610	3,460	7,600	2,300	5,900	4,700	8,300	5,125	2,020
Martin River	1,570	9,270	6,440	2,610	2,992	2,300	0	150	500	0	2,583	1,000
Ragged Pt. River/Lake	3,050	3,870	3,430	610	1,010	2,700	2,500	3,500	1,700	3,000	2,537	3,200
Martin Lake	23,300	4,200	8,970	19,071	19,660	10,200	3,850	22,000	16,085	100	12,744	10,100
Pothole Lake	5,600	2,430	5,800	2,540	4,440	0	6,900	900	250	15,420	4,428	0
Little Martin Lake	600	450	1,060	421	680	3,700	3,510	5,800	2,050	6,000	2,427	1,530
Tokun Lake/River	4,280	16,920	18,321	22,680	15,480	9,637	5,500	4,000	5,825	2,650	10,529	5,550
Martin River Slough	5,650	5,350	900	1,520	2,270	2,000	670	1,600	2,870	1,575	2,441	3,600
Copper River Delta total	98,896	88,285	67,340	69,292	82,835	72,367	66,850	75,705	64,205	66,665	75,244	51,550
Upper Copper River [b]	600,378	624,438	491,516	477,327	524,692	621,545	970,622	889,939	885,024	930,095	701,558	503,873
Copper River District total	699,274	712,723	558,856	546,619	607,527	693,912	1,037,472	965,644	949,229	996,760	776,802	555,423
Bering River/Lake	9,310	8,550	17,545	11,250	3,280	15,060	15,950	19,100	13,600	20,400	13,405	15,300
Shepherd Creek	60	0	180	91	46	4,800	1,400	750	750	625	870	700
Stillwater Creek	140	450	111	190	81	175	170	1,200	100	500	312	100
Kushtaka Lake	61	40	100	90	140	530	370	850	35	180	240	190
Katalla River	5,100	12,130	260	1,850	820	7,965	400	2,000	400	1,000	3,193	100
Bering River Area total	14,671	21,170	18,196	13,471	4,367	28,530	18,290	23,900	14,485	21,705	17,879	16,290
Copper/Bering River total	713,945	733,893	577,052	560,090	611,894	722,442	1,055,762	989,544	963,714	1,018,465	794,680	571,713

[a] This table is based on peak aerial survey indices and sonar counts for the majority of known sockeye salmon spawning areas in the Copper and Bering river deltas. 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] Upriver escapement index from Miles Lake sonar counts minus Chinook salmon inriver abundance estimate, upriver harvests, and hatchery escapement and broodstock.

Appendix A12.–Aerial survey indices of sockeye salmon escapement to the upper Copper River drainage, 2001–2016.

Location	Yearly survey indices [a]																Anticipated indices [b]
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Mentasta Lake	13,000	5,400	4,800	6,000	7,090	7,790	8,507	3,379	3,320	2,870	27,000	9,000	6,000	10,100	4,230	2,700	3,277
Fish Creek–Mentasta	3,500	900	–	–	3,330	3,700	323	1,440	680	400	91	300	900	350	800	175	963
Bad Crossing 1 & 2	2,000	157	90	30	5,120	620	1,683	520	1,691	1,390	742	261	4,100	470	4,650	5	2,604
Suslota Lake	2,500	1,500	2,750	1,975	1,230	1,300	30	86	320	6	350	55	500	2,500	5,500	2,300	1,416
Tanada Lake[c]	200	950	0	3,950	683	30	563	986	1,290	NS	800	1,715	2,600	1,000	1,100	1,300	3,849
Dickey Lake	1	0	0	10	55	185	71	37	20	3	59	26	30	251	300	80	115
Keg Creek	1	30	38	0	7	190	0	1	423	0	0	15	15	10	5	0	725
Swede Lake	500	150	325	225	7	2,570	731	343	109	320	137	400	60	175	160	85	531
Mahlo Creek	400	5,000	6,850	500	1,950	5,000	14,512	10,261	11,735	4,570	292	10,100	3,800	7,600	6,700	650	2,648
Mendeltna Creek	800	1,875	1,200	50	318	700	473	727	1,945	1,550	760	1,085	850	300	1,050	335	2,470
St. Anne Creek	300	3,500	3,750	970	1,692	6,560	11,970	14,000	8,123	2,420	1,751	5,800	3,200	1,650	2,600	515	4,888
Tonsina Lake	–	–	–	0	–	20	20	3	0	–	0	15	0	0	0	0	1,080
Long Lake[c]	–	–	–	–	–	1,400	505	382	14	10	290	375	5	10	20	0	1,577
Tana River	–	–	250	–	–	1,392	312	434	19	100	40	410	65	145	83	97	1,345
Salmon Creek (Bremner)	1,500	1,400	300	–	217	790	750	3,500	530	340	276	1,000	1,500	610	400	400	825
Fish Lake	5,000	125	1,300	0	281	7,250	1,066	158	0	89	1,008	35	20	4	6	60	6,418
Mud Creek.– Summit Lake	450	2,800	3,900	40	–	1,800	2,705	11,410	0	2,759	211	870	600	320	225	100	7,445
Paxson Inlet–Mud Creek	7,000	4,800	2,800	2,200	363	2,470	9,317	4,665	2,720	2,301	1,520	7,900	9,900	3,100	850	500	6,560
Mud Creek and Lake	300	30	75	5	145	310	2	10	0	20	2	10	11	100	30	6	172
Paxson Lake Outlet	200	140	–	5	155	270	324	596	0	560	1,700	350	2,000	350	125	100	2,661
Totals	37,652	28,757	28,428	15,960	22,643	44,347	53,864	52,938	32,939	19,708	37,029	39,722	36,156	29,045	28,834	9,408	51,569

[a] Escapement numbers are based on peak aerial survey indices 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] Calculated using the 1983–1992 average.

[c] Weir counts.

Appendix A13.–Estimated age and sex composition of sockeye salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2016.

Strata combined:	05/16 - 07/25	Brood year and age class											
Sampling dates:	05/16 - 07/23	2014	2013		2012		2011			2010		2009	
Sample size:	4,599	0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Female	Percentage of sample	0	0	0.0	1.6	4.7	0.0	38.2	0.1	0.3	1.1	0.0	46
	Number in harvest	431	1,807	227	18,489	54,166	215	439,190	1,017	3,278	12,591	0	531,410
Male	Percentage of sample	0	0	0.0	2.1	5.5	0.0	43.2	0.1	0.3	1.4	0.0	53.0
	Number in harvest	215	5,020	321	23,668	62,994	0	496,721	1,318	3,043	15,874	215	609,389
Total	Percentage of sample	0	1	0.0	3.7	10.2	0.0	82.0	0.2	0.6	2.5	0.0	100.0
	Number in harvest	646	6,887	547	42,863	117,735	215	942,305	2,335	6,321	28,740	215	1,148,810
	Standard error	372	1,456	285	3,643	5,888	215	7,367	800	1,520	2,502	215.4	

Appendix A14.–Estimated age and sex composition of Chinook salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2016.

Strata combined:	05/16 - 08/25	Brood year and age class										
Sampling dates:	05/16 - 06/07	2013	2012			2011			2010		2009	
Sample size:	1,775	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	1.5	2.4	Total
Female	Percentage of sample	0.2	0.2	13.2	0.0	0.0	35.3	0.0	8.6	0.4	0.2	0.1	58.2
	Number in harvest	30	22	1,720	0	5	4,611	5	1,130	49	24	15	7,610
Male	Percentage of sample	0.5	0.0	6.3	0.1	0.0	20.8	0.1	10.0	0.3	0.6	0.1	38.8
	Number in harvest	63	0	824	8	5	2,718	15	1,311	34	83	15	5,075
Total[a]	Percentage of sample	0.7	0.2	19.9	0.1	0.1	57.8	0.2	19.4	0.6	0.8	0.2	100.0
	Number in harvest	93	22	2,607	8	9	7,554	29	2,533	83	107	29	13,075
	Standard error	27	11	130	8	7	160	15	128	25	27	15	

[a] Sex could not be determined for some fish. Thus, the number of female plus male sampled do not always equal the total.

Appendix A15.–Total estimated coho salmon run to the Copper River by end user or destination and the previous 10-year average, 2006–2016.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-year average	2016
Commercial harvest[a]	318,285	117,182	202,621	207,776	210,621	127,511	130,261	244,985	315,776	136,981	201,200	367,630
Commercial, homepack[a]	137	340	423	767	1,026	543	1,037	249	1,146	1,423	709	1,353
Commercial, donated[a]	0	0	154	0	0	0	0	0	0	0	15	0
Educational drift gillnet permit[a]	0	0	0	0	0	0	0	0	0	0	0	0
Subsistence (Cordova, drift gillnet)[b]	1	15	53	22	27	34	0	1	0	10	16	2
Federal subsistence (PWS/Chugach Nat'l Forest, dip net, spear, rod and reel)[b]	100	68	119	185	68	581	392	310	630	878	333	606
Subsistence (Batzulnetas, fish wheel, dip net or spear)[b]	0	NA	NA	0	0	0	0	0	0	0	0	0
Subsistence (Glennallen Subdistrict, dip net or fish wheel)[c]	212	238	493	228	293	372	335	144	233	77	262	45
Federal subsistence (Glennallen Subdistrict, dip net or fish wheel)[d]	NA	34	156	34	81	223	173	21	29	78	92	11
Personal use (Chitina Subdistrict, dip net)[c]	2,715	1,742	2,711	1,712	2,013	1,702	1,385	797	1,129	841	1,675	1,182
Federal subsistence (Chitna Subdistrict, dip net)[d]	20	40	74	11	30	10	8	8	69	14	28	11
Delta sport harvest[e]	5,477	6,749	7,706	14,384	15,752	14,283	15,230	17,053	16,137	24,515	13,729	19,235
Upriver sport harvest[e]	54	0	57	36	114	21	0	0	89	0	37	30
Upriver spawning escapement[f]	–	–	–	–	–	–	–	–	–	–	–	–
Delta spawning escapement[g]	178,140	102,430	153,784	82,588	82,154	76,290	74,020	69,360	86,020	83,330	98,812	152,400
Total estimated coho salmon run size	505,141	228,838	368,351	307,743	312,179	221,570	222,841	332,928	421,258	248,147	316,900	542,505

[a] Numbers are from fish ticket data.

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

[c] Data are expanded harvest from returned state and federal subsistence permits.

[d] Data are reported harvest (2002–2004) and expanded harvest (2005–2011) from returned state and federal subsistence permits.

[e] Upper Copper River and Copper River Delta sport harvest data are from statewide sport fish harvest surveys.

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

[g] The Copper River Delta spawning escapement index is calculated by doubling the final peak aerial survey index.

Appendix A16.–Aerial escapement indices by statistical week and location for the coho salmon run to Copper River Delta, 2016.

		Weekly escapement indices (statistical week ending date)[b]							
Drainage	System[a]	8/6	8/20	9/3	9/10	10/15	Site[c]	System[d]	Anticipated (by drainage)
Eyak River	Eyak River	150	100	100	200	60	200	3,200	6,916
	East Shore Beaches	0	100	100	150	0	150		
	West Shore Beaches	0	200	450	150	0	150		
	Middle Arm Beaches	0	0	NS	2,700	0	2,700		
	North Shore Beaches	0	0	200	0	0	0		
	Hatchery Creek Delta	0	0	0	0	0	0	500	
	Hatchery Creek	0	0	0	500	0	500		
	Power Creek Delta	0	0	0	0	0	0	4,500	
	Power Creek	0	50	NS	1,100	4,500	4,500		
Ibeck Creek	Ibeck Creek	0	750	8,200	11,500	31,500	31,500	31,500	6,227
Scott River	Scott Lake	0	0	NS	NS	NS	NS	NS	1,429
	Scott River	0	0	NS	0	NS	0		
	Elsner Lake [e]	0	0	10	200	NS	200		
Alaganik Slough	Alaganik Slough	0	0	NS	450	0	450		2,591
	18/20 Mile Creek	0	25	70	250	0	250	250	
	McKinley Lake	0	50	NS	200	0	200	650	
	Salmon Creek West Fork	0	100	NS	250	1,000	1,000	2,500	
	Salmon Creek East Fork	0	10	NS	300	1,500	1,500		
26/27 Mile Creek	26/27 Mile Creek	0	15	0	150	4,000	4,000	4,000	829
39 Mile Creek	39 Mile Creek	0	2,700	NS	1,450	7,500	7,500	7,500	3,831
Goat Mountain Cr.	Goat Mountain Creek	0	0	300	250	200	250	250	1,181
Pleasant Creek	Pleasant Creek	0	50	2,050	1,850	1,500	1,850	1,850	
Martin River	Martin River - Lower	0	0	NS	200	0	200	6,000	6,522
	Ragged Point River	0	300	100	50	0	50	1,050	849
	Ragged Point Lake Outlet	0	300	400	0	0	0		
	Ragged Point Lake	0	200	2,000	1,000	0	1,000		
	Martin River - Upper	0	700	500	5,800	0	5,800		

-continued-

Drainage	System[a]	Weekly escapement indices (statistical week ending date)[b] 8/6	8/20	9/3	9/10	10/15	Site[c]	System[d]	Anticipated (by drainage)
Martin River	Martin Lake Outlet	0	0	500	500	500	500	1,100	1,936
	Martin Lake	0	0	350	200	0	200		
	Martin Lake Feeders	0	0	150	400	2,000	400		
	Pothole River	0	0	700	200	10	200	800	1,370
	Pothole Lake	0	0	900	600	1,000	600		
	Little Martin River	0	200	1,500	2,300	NS	2,300	2,300	5,413
	Little Martin Lake	0	0	0	0	NS	0		
Tokun	Tokun Springs	0	0	800	800	NS	800	900	1,376
	Tokun River	0	0	100	100	NS	100		
	Tokun Lake Outlet	0	0	50	0	NS	0		
	Tokun Lake	0	0	50	0	NS	0		
Martin River Slough	Martin River Slough	0	0	3,500	7,350	10,500	7,350	7,350	9,531
Copper River aerial survey daily total		1,300	150	5,850	23,080	41,150	65,770	76,200	76,200
Lower SEG		1,225	5,846	16,147	21,447	8,474			32,000
Average SEG, (average anticipated escapement)		3,164	1,914	9,134	25,229	33,510	13,241		
Upper SEG		2,565	12,239	33,807	44,904	17,743			67,000

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

[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] 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.

[d] The sum of the index counts by site within the index systems.

[e] This stream is not included in the estimated deltawide escapement; it is a non-index stream.

Appendix A17.–Copper River Delta and Bering River coho salmon escapement indices, 2006–2016.

Stream/Lake [a,b]	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-yr Average	2016
Eyak Lake	1,940	5,810	17,030	950	13,360	640	3,950	3,880	4,450	5,075	5,709	3,200
Hatchery Creek	160	710	370	2,320	640	2,000	100	40	1,300	950	859	500
Power Creek	360	800	1,140	990	350	2,520	150	50	760	225	735	4,500
Ibeck Creek	36,300	13,200	10,265	9,963	3,381	14,200	7,600	9,150	12,500	8,100	12,466	31,500
Scott & Elsner River [c]	200	1,520	3,281	1,170	700	380	575	50	360	100	834	200
18/20 Mile	740	550	161	150	144	310	450	120	400	600	363	250
McKinley Lake	1,400	280	300	450	630	75	100	400	450	300	439	650
Salmon Creek	200	150	700	1,540	730	1,620	1,300	850	1,950	1,900	1,094	2,500
26/27 Mile	60	480	10	100	0	1,150	475	1,800	1,600	290	597	4,000
39 Mile	4,400	3,300	5,460	1,570	1,340	2,800	2,400	2,300	2,600	1,700	2,787	7,500
Goat Mountain	3,100	1,400	920	1,220	331	210	400	900	1,200	350	1,003	250
Pleasant Creek	7,030	500	2,800	680	1,700	245	440	1,500	1,110	400	1,641	1,850
Martin River	9,100	8,830	9,323	1,651	5,560	2,100	1,420	350	3,820	4,475	4,663	6,000
Ragged Point River/Lake	360	260	302	590	690	1,100	4,000	2,500	1,050	3,600	1,445	1,050
Martin Lake	2,900	4,775	2,770	1,360	3,511	450	2,350	2,750	2,150	3,250	2,627	1,100
Pothole Lake	120	870	3,661	2,750	2,000	1,400	2,300	120	550	750	1,452	800
Little Martin Lake	7,500	2,700	8,760	2,810	460	4,500	4,700	3,800	2,900	4,750	4,288	2,300
Tokun River/Lake	700	830	3,020	850	1,370	1,350	3,200	620	1,175	1,050	1,417	900
Martin River Slough	12,700	5,770	7,780	10,180	4,180	1,475	1,400	3,500	4,075	4,300	5,536	7,350
Copper River Delta total	89,270	52,735	78,053	41,294	41,077	38,525	37,310	34,680	44,400	42,165	49,951	76,400
Katalla River												
Bering River/Lake	12,100	8,900	5,510	3,340	1,590	1,430	950	800	1,550	1,000	3,717	750
Dick Creek	15,040	13,052	4,910	8,491	6,320	5,520	5,700	7,750	10,675	4,300	8,176	2,300
Shepherd Creek	362	1,660	530	1,410	1,210	2,050	2,000	2,800	1,300	1,750	1,507	0
Nichawak River	100	60	130	370	10	20	150	0	0	0	84	8,000
Gandil River	6,900	3,200	11,900	10,120	4,690	6,800	3,750	3,800	6,500	5,100	6,276	300
Controller Bay	4,450	640	2,650	840	1,610	820	500	1,100	1,500	700	1,481	8,500
Bering River Area total	5,590	5,680	7,332	4,251	6,330	2,250	2,555	2,570	4,950	2,700	4,421	6,300
Copper/Bering total	44,542	33,192	32,962	28,822	21,760	18,890	15,605	18,820	26,475	15,550	25,662	26,150

[a] This table is based on peak aerial survey index counts from the majority of known coho salmon spawning areas in the Copper and Bering river deltas. 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/lake in this table represents combined survey sites corresponding to the system designations for the current year survey results.

[c] Not an index stream.

Appendix A18.–Estimated age and sex composition of coho salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2016.

Strata combined:	05/19 - 10/07	Brood year and age class			
Sampling dates:	08/16 - 09/09	2013	2012	2011	
Sample size:	821	1.1	2.1	3.1	Total
Female	Percentage of sample	17.2	26.0	2.0	45.2
	Number in harvest	63,240	95,619	7,293	166,152
Male	Percentage of sample	20.2	32.5	2.0	54.8
	Number in harvest	74,353	119,663	7,462	201,478
Total	Percentage of sample	37.4	58.6	4.0	100.0
	Number in harvest	137,593	215,283	14,754	367,630
	Standard error	7,535	7,729	3,359	

Appendix A19.–Total commercial salmon harvest by species in the Bering River District, 1974–2016.

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	[a]	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	[b]	330	91,784	214,632	309	20,408	327,463
1985	[b]	215	26,561	419,276	214	9,642	455,908
1986	[c]	128	19,038	115,809	15	243	135,233
1987	[c]	34	16,926	15,864	54	7	32,885
1988	[c]	19	7,152	86,539	23	181	93,914
1989	[c]	30	9,225	26,952	7	2	36,216
1990	[c]	14	8,332	42,952	2	1	51,301
1991	[c]	28	19,181	110,951	4	195	130,359
1992	[c]	21	19,721	125,616	4	1	145,363
1993	[c]	130	33,951	115,833	82	22	150,018
1994	[c]	121	27,926	259,003	34	63	287,147
1995	[c]	44	21,585	282,045	26	229	303,929
1996	[c]	111	37,712	93,763	0	30	131,616
1997	[c]	23	9,651	97	2	0	9,773
1998	[c]	70	8,439	12,284	5	2	20,800
1999	[c]	42	13,697	9,852	204	96	23,891
2000	[c]	5	1,279	56,329	0	0	57,613
2001	[c]	76	5,450	2,715	0	0	8,241
2002	[c]	14	235	108,522	0	0	108,771
2003	[c]	151	18,266	59,481	33	0	77,931
2004	[c]	87	13,165	95,595	2	21	108,870
2005	[c]	277	77,464	43,030	9,327	14	130,112
2006	[c]	238	36,867	56,713	54	39	93,911
2007	[c]	88	16,470	9,305	6	1	25,870
2008	[c]	42	1,175	40,380	8	1	65,601
2009	[c]	15	4,157	45,522	1	5	49,700
2010	[c]	0	51	80,560	2	0	80,613
2011	[c]	1	6	19,956	8	0	19,971
2012	[c]	1	0	46,169	1	0	46,171
2013	[c]	16	3,286	46,959	2	16	50,279
2014	[c]	0	50	97,637	4	0	97,691
2015	[c]	13	2,137	12,106	10	1	14,267
10-year average		41	6,420	45,531	10	6	52,008
2016	[c]	52	9,809	80,094	22	122	90,099

[a] In 1980 fishing was prohibited before August 11.

[b] A new Kayak Island Subdistrict management plan that allowed earlier opening date (June 10) and set a closure of the subdistrict on July 10 or when a total of 93,000 sockeye salmon were harvested.

[c] The Alaska Board of Fisheries closed the Kayak Island Subdistrict due to interceptions of non-local stocks.

Appendix A20.–Bering River District commercial drift gillnet salmon harvest by period, 2016.

Period	Date	News release dates	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01	05/19-05/20	05/18	12	0	0	0	0	0	0	0	0	0	0	0	0
02	05/23-05/25	05/21	24	0	0	0	0	0	0	0	0	0	0	0	0
03	05/26-05/27	05/25	24	0	0	0	0	0	0	0	0	0	0	0	0
04	05/28-05/29	05/28	12	2	2	0	0	173	944	0	0	0	0	0	0
05	05/30-05/31	05/28	24	40	45	45	777	8,211	41,071	0	0	0	0	1	7
06	06/06-06/07	06/04	24	4	4	3	68	1,178	6,062	1	8	0	0	115	577
07	06/09-06/10	06/08	24	2	2	3	84	199	941	0	0	0	0	6	12
08	06/13-06/14	06/11	24	0	0	0	0	0	0	0	0	0	0	0	0
09	06/16-06/17	06/15	36	0	0	0	0	0	0	0	0	0	0	0	0
10	06/20-06/21	06/18	36	0	0	0	0	0	0	0	0	0	0	0	0
11	06/23-06/25	06/22	48	0	0	0	0	0	0	0	0	0	0	0	0
12	06/27-06/28	06/25	36	0	0	0	0	0	0	0	0	0	0	0	0
13	06/30-07/02	06/29	48	0	0	0	0	0	0	0	0	0	0	0	0
14	07/04-07/05	07/02	36	0	0	0	0	0	0	0	0	0	0	0	0
15	07/07-07/09	07/06	48	0	0	0	0	0	0	0	0	0	0	0	0
16	07/11-07/12	07/09	36	0	0	0	0	0	0	0	0	0	0	0	0
17	07/14-07/16	07/13	48	0	0	0	0	0	0	0	0	0	0	0	0
18	07/18-07/19	07/16	36	0	0	0	0	0	0	0	0	0	0	0	0
19	07/21-07/22	07/20	36	0	0	0	0	0	0	0	0	0	0	0	0
20	07/25-07/26	07/23	24	0	0	0	0	0	0	0	0	0	0	0	0
21	07/28-07/29	07/27	24	0	0	0	0	0	0	0	0	0	0	0	0
22	08/01-08/02	07/30	24	0	0	0	0	0	0	0	0	0	0	0	0
23	08/04-08/05	08/03	24	0	0	0	0	0	0	0	0	0	0	0	0
24	08/08-08/09	08/06	24	0	0	0	0	0	0	0	0	0	0	0	0
25	08/11-08/12	08/10	24	0	0	0	0	0	0	0	0	0	0	0	0
26	08/15-08/16	08/13	24	0	0	0	0	0	0	0	0	0	0	0	0

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Period	Date	News release dates	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
27	08/22-08/23	08/17 and 08/20	24	14	21	0	0	26	148	4,796	44,687	2	8	0	0
28	08/25-08/25	08/24	12	13	15	0	0	10	60	4,638	41,206	3	15	0	0
29	08/29-08/30	08/26	24	48	96	0	0	11	64	17,206	156,169	17	61	0	0
30	09/01-09/01	08/31	12	64	83	0	0	0	0	25,235	231,194	0	0	0	0
31	09/05-09/06	09/02	24	85	106	0	0	1	6	17,132	153,029	0	0	0	0
32	09/08-09/08	09/07	12	75	98	1	13	0	0	9,659	84,519	0	0	0	0
33	09/12-09/13	09/10	24	11	14	0	0	0	0	1,114	9,906	0	0	0	0
34	09/15-09/16	09/14	24	2	2					–					
35	09/19-09/20	09/14	24	1	1					–					
36	09/22-09/23	09/21	24	1	1					–					
37	09/26-09/27	09/21	36	0	0	0	0	0	0	0	0	0	0	0	0
38	09/29-09/30	09/21	36	0	0	0	0	0	0	0	0	0	0	0	0
39	10/03-10/04	09/21	36	0	0	0	0	0	0	0	0	0	0	0	0
40	10/06-10/07	10/05	36	0	0	0	0	0	0	0	0	0	0	0	0
41	10/10-10/11	10/05 and 10/12	36	0	0	0	0	0	0	0	0	0	0	0	0
Total			1,164	149	490	52	942	9,809	49,296	80,094	723,492	22	84	122	596
Average weights							18.12		5.03		9.03		3.82		4.89

Note: En dashes indicate confidential data. Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2013; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

Appendix A21.–Aerial escapement indices by statistical week and location for sockeye salmon returning to the Bering River District, 2016.

		Weekly escapement indices (Statistical week ending date listed)[b]										
Drainage	System[a]	6/11	6/25	7/16	7/23	8/6	8/20	9/3	9/10	Site[c]	System[d]	Anticipated (by drainage)
Bering River	Bering River	70	0	0	100	0	0	0	0	100	15,300	21,903
	Bering Lake	5,020	800[f]	9,750	4,300	2,600	1,550	50	2,000	4,300		
	Dick Creek	1,000	0	800	10,900	4,200	850	100	600	10,900		
	Shepherd Creek Lagoon	NS	NS	0	0	NS	NS	NS	NS	0	700	4,375
	Shepherd Creek	NS	NS	0	200	500	NS	NS	NS	500		
	Carbon Creek	NS	NS	NS	20	200	NS	NS	NS	200		
	Clear Creek	NS	NS	NS	0	100	NS	NS	NS	100	100	1,197
	Kushtaka Lake	NS	NS	NS	0	190	NS	NS	NS	190	190	
	Shockum Creek	NS	NS	NS	0	0	NS	NS	NS	0		1,226
Katalla River	Katalla River [e]	0	0	75	100	100	50	30	0	100	100	
Bering River District weekly index		6,090	800	10,625	15,620	7,890	2,450	180	2,600	16,290	16,290	
Lower SEG		3,251	6,092	11,004	9,401	4,301	1,481	571	737			15,000
Average SEG, (average anticipated esc.)		5,202	9,747	17,606	15,042	6,882	2,370	914	1,179			24,000
Upper SEG		7,153	13,402	24,208	20,683	9,462	3,259	1,256	1,621			33,000

Note: NS signifies that no survey was flown.

[a] Survey systems represent the majority of known sockeye salmon spawning locations in the Bering River drainage.

[b] 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] 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 index count which minimizes duplicate counts across dates is selected.

[d] The sum of the index counts by site within a system.

[e] This stream is not included in the indexed escapement for the Bering River drainage; it is a non-index stream.

Appendix A22.–Aerial escapement indices by statistical week and location for coho salmon returning to the Bering River District, 2016.

		Weekly escapement indices (statistical week ending date listed)[b]						
Drainage	System[a]	8/20	9/3	9/10	10/15	Site[c]	System[d]	Anticipated, (by drainage)
Bering River	Bering River[e]	0	500	950	12	500	750	7,720
	Bering Lake	20	250	650	220	250		
	Dick Creek	0	2,300	1,100	200	2,300	2,300	
	Shepherd Creek - Lagoon	NS	NS	NS	NS	NS	0	
	Shepherd Creek	NS	NS	NS	NS	NS		
	Carbon Creek [f]	NS	NS	NS	NS	NS		
Katalla River	Katalla River	0	725	1,400	8,000	8,000	8,000	4,993
Lower Bering River	Gandil River	50	20	200	300	300	300	2,910
	Nichawak River	2,000	1,500	5,100	8,500	8,500	8,500	
Controller Bay	Campbell River	10	260	3,100	4,000	4,000	6,300	7,378
	Edwardes River	NS	350	550	2,000	2,000		
	Okalee River	NS	20	300	200	300		
	Other Clear Streams [f]	NS	0	0	0	0		
Bering River District weekly index		2,080	5,925	13,350	23,432	26,150	26,150	
Lower SEG		2,533	8,732	8,803	1,042			13,000
Average SEG, (average anticipated escapement)		4,482	15,448	15,574	1,844			23,001
Upper SEG		6,431	22,165	22,345	2,645			33,000

Note: NS signifies that no survey was flown.

[a] Survey systems represent the majority of known coho salmon spawning locations in the Bering River drainage.

[b] 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] 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 index count which minimizes duplicate counts across dates is selected.

[d] The sum of the index counts by site within a system

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

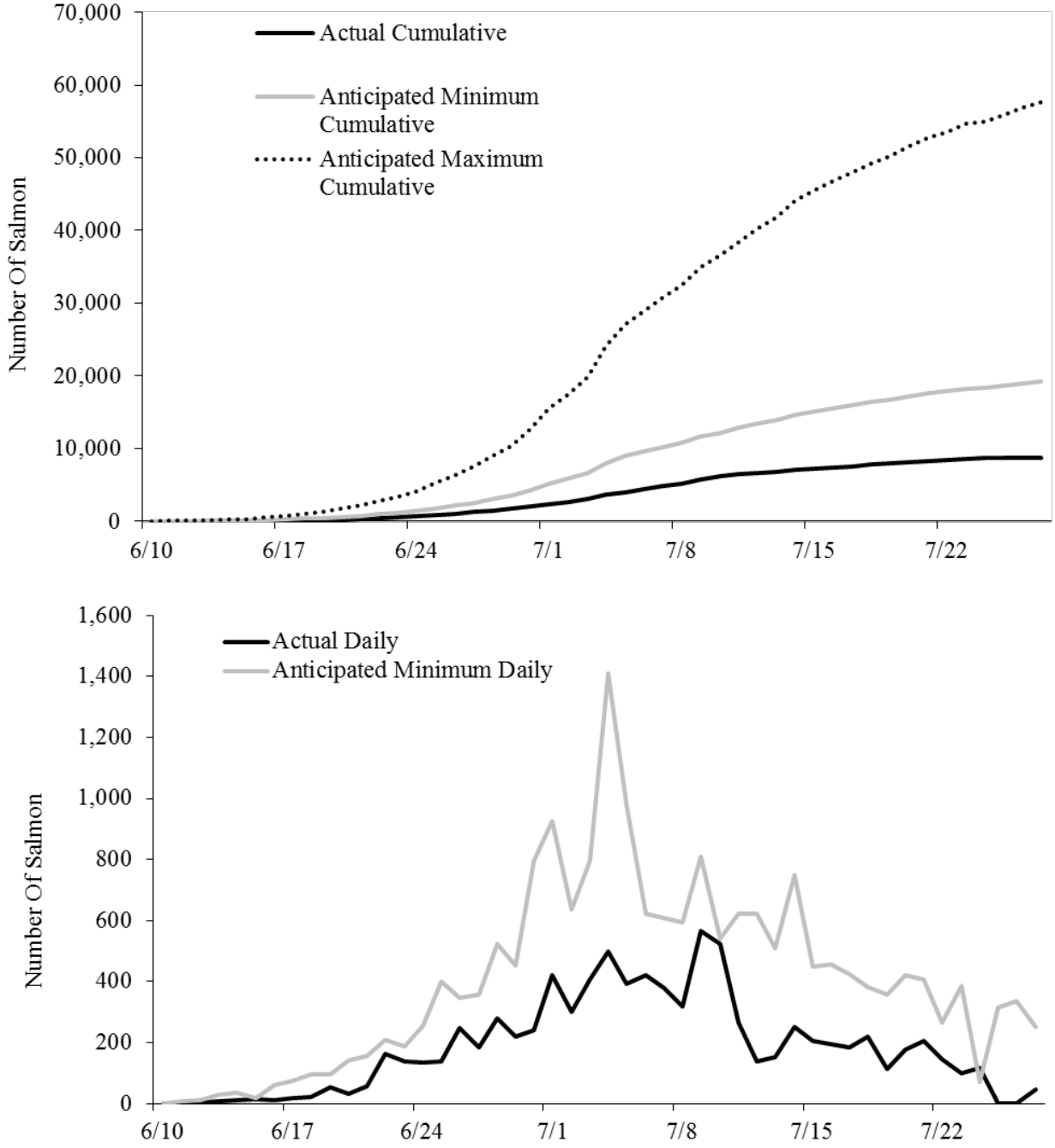
[f] This stream is not included in the indexed escapement deltawide; it is a non-index stream.

APPENDIX B: COGHILL DISTRICT, UNAKWIK DISTRICT AND PORT CHALMERS SUBDISTRICT

Appendix B1.–Daily and cumulative salmon escapement through the Coghill River weir, 2016.

	Sockeye salmon		Pink salmon			Sockeye salmon		Pink salmon	
Date	Daily	Cumulative	Daily	Cumulative	Date	Daily	Cumulative	Daily	Cumulative
06/10	0	0	0	0	07/04	497	3,594	37	41
06/11	0	0	0	0	07/05	393	3,987	23	64
06/12	4	4	0	0	07/06	420	4,407	47	111
06/13	6	10	0	0	07/07	379	4,786	84	195
06/14	12	22	0	0	07/08	319	5,105	271	466
06/15	13	35	0	0	07/09	565	5,670	686	1,152
06/16	12	47	0	0	07/10	522	6,192	575	1,727
06/17	18	65	0	0	07/11	266	6,458	889	2,616
06/18	20	85	0	0	07/12	139	6,597	925	3,541
06/19	52	137	0	0	07/13	152	6,749	789	4,330
06/20	31	168	0	0	07/14	251	7,000	884	5,214
06/21	58	226	0	0	07/15	204	7,204	1,053	6,267
06/22	162	388	0	0	07/16	194	7,398	1,033	7,300
06/23	139	527	0	0	07/17	183	7,581	1,158	8,458
06/24	135	662	0	0	07/18	219	7,800	1,705	10,163
06/25	138	800	0	0	07/19	115	7,915	1,021	11,184
06/26	247	1,047	0	0	07/20	177	8,092	1,646	12,830
06/27	184	1,231	0	0	07/21	207	8,299	1,524	14,354
06/28	278	1,509	0	0	07/22	147	8,446	1,160	15,514
06/29	218	1,727	0	0	07/23	100	8,546	528	16,042
06/30	241	1,968	0	0	07/24	116	8,662	1,162	17,204
07/01	420	2,388	0	0	07/25	NC	8,662	NC	17,204
07/02	301	2,689	0	0	07/26	NC	8,662	NC	17,204
07/03	408	3,097	4	4	07/27	46	8,708	1,387	18,591

Appendix B2.–Anticipated cumulative and daily sockeye salmon escapement versus actual escapement through Coghill River weir, 2016.



Appendix B3.–Salmon escapement by species in the Coghill District, 1971–2016.

Year	Sockeye[a]	Pink[b]	Chum[b]	Year	Sockeye[a]	Pink[b]	Chum[b]
1971	15,000	62,160	6,600	1995	30,382	46,029	11,596
1972	51,000	30,960	28,160	1996	38,693	104,781	19,669
1973	55,000	493,780	72,610	1997	35,517	52,961	3,101
1974	22,333	56,940	29,280	1998	28,923	85,968	22,764
1975	34,855	452,430	3,640	1999	59,311	168,816	5,057
1976	9,056	53,908	31,398	2000	28,446	223,646	20,488
1977	31,562	320,680	79,957	2001	38,558	148,665	13,388
1978	42,284	67,084	15,966	2002	28,323	54,882	7,430
1979	48,281	125,544	7,823	2003	75,427	375,147	19,729
1980	142,253	148,066	20,919	2004	30,569	36,717	5,000
1981	156,112	140,436	2,389	2005	30,313	528,264	11,979
1982	180,314	309,202	21,586	2006	23,479	145,511	15,900
1983	38,783	284,164	55,127	2007	70,001	197,405	14,052
1984	63,622	365,226	13,500	2008	29,298	145,177	39,660
1985	163,311	238,728	14,514	2009	23,186	125,907	5,208
1986	71,095	109,798	16,300	2010	24,312	355,108	51,589
1987	187,263	67,761	22,472	2011	102,359	257,020	16,368
1988	72,052	42,985	42,536	2012	72,678	172,611	10,281
1989	37,751	48,802	22,434	2013	17,231	640,414	11,369
1990	8,949	45,558	20,494	2014	21,836	63,290	9,491
1991	9,752	84,790	7,055	2015	13,584	801,201	15,444
1992	29,642	23,122	7,583	10-year avg.	39,796	290,364	18,936
1993	9,232	41,666	7,404	2016	8,708	171,362	15,444
1994	7,264	65,648	14,176				

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

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

Appendix B4.–Coghill District commercial common property drift gillnet salmon harvest by period, 2016.

Period	Date	NR date	Hours	Permits fished	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	5/30	5/28	12	35	47	6	70	76	384	0	0	31	246	5,109	37,479
2	6/2	6/1	12	33	46	8	73	123	643	1	7	0	0	5,016	39,943
3	6/6-6/7	6/4	36	66	189	13	183	348	1,899	0	0	0	0	42,816	320,484
4	6/9-6/10	6/8	36	132	395	8	76	1,506	7,920	0	0	0	0	65,259	485,212
5	6/13-6/14	6/11	36	168	509	21	279	5,797	30,703	0	0	0	0	85,202	619,514
6	6/16-6/17	6/15	36	159	394	10	124	13,699	72,964	0	0	0	0	55,446	387,345
7	6/20-6/21	6/18	24	151	483	3	27	3,617	19,737	0	0	2	6	163,167	1,127,145
8	6/23-6/24	6/22	36	158	514	2	27	11,131	59,439	0	0	1	5	119,320	829,274
9	6/27-6/28	6/25	36	113	373	3	43	6,264	32,510	1	8	253	1,007	120,282	786,644
10	6/30-7/6	6/29	156	175	1488	5	65	12,760	64,376	2	15	4,048	14,377	741,736	4,822,653
11	7/7-7/10	7/6	84	62	239	0	0	3,330	18,600	0	0	1,306	4,478	63,618	444,294
12	7/11-7/13	7/10	60	62	146	2	51	1,609	8,299	1	8	855	3,198	27,090	182,397
13	7/14-7/17	7/13	84	40	105	0	0	1,628	8,257	0	0	1,032	4,219	28,457	190,382
14	7/18-7/20	7/16	60	13	40	1	14	1,237	6,988	0	0	1,434	6,099	8,419	56,086
15-23	7/31-9/9							No Harvest Reported							
Total				268	4968	82	1,032	63,125	332,719	5	38	8,962	33,635	1,530,937	10,328,852
Average Weights							12.6		5.3		7.6		3.7		6.7

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

Appendix B5.–Coghill District commercial common property purse seine salmon harvest by period, 2016.

		NR				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Date	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
11	7/9	7/7	12	15	15	0	0	0	0	0	0	0	0	41,388	294,672
12	7/11	7/10	12	23	24	0	0	0	0	0	0	0	0	59,075	358,973
16	8/4	8/3	12						[a]						
17	8/15	8/13	12						[a]						
Total				29	41	0	0	44	273	6	51	4,583	16,851	100,547	654,150
Average weight									6.2		8.5		3.7		6.5

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

[a] Three permits or less were fished. Period results are confidential.

Appendix B6.–Commercial common property harvest by species in the Coghill District, 2006–2016.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift gillnet			
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
2009	174	103,415	19,168	276,925	1,323,728	1,723,410
2010	206	87,465	5,498	3,333,106	2,512,005	5,938,280
2011	220	198,376	79,419	722,248	1,092,917	2,093,180
2012	147	383,289	7,724	1,125,888	2,256,983	3,774,031
2013	259	93,734	62,968	2,450,108	2,100,394	4,707,463
2014	76	159,167	151,723	1,096,425	642,964	2,050,355
2015	93	74,416	6,094	655,320	778,112	1,816,842
10-year average	144	154,770	57,111	1,060,455	1,413,975	2,716,735
2016	82	63,125	5	8,962	1,530,937	1,603,111
			Purse seine			
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
2009	3	1,337	1,758	1,028,789	12,926	1,044,813
2010	0	779	434	10,919,455	3,207	10,923,875
2011	4	843	16,565	1,674,736	166	1,692,314
2012	15	16,055	10,203	3,987,252	284,931	4,298,457
2013	33	1,978	7,573	6,690,850	70,271	6,770,705
2014	0	299	8,536	901,916	325	911,076
2015	0	2,120	1,215	5,601,620	121,213	5,726,168
10-year average	9	4,238	12,471	4,107,268	111,860	4,235,846
2016	0	44	6	4,583	100,547	105,180
			Combined purse seine and drift gillnet			
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
2009	177	104,752	20,926	1,305,714	1,336,654	2,768,223
2010	206	88,244	5,932	14,252,561	2,515,212	16,862,155
2011	224	199,219	95,984	2,396,984	1,093,083	3,785,494
2012	162	436,182	10,993	3,430,252	2,455,993	6,333,582
2013	292	95,712	70,541	9,140,958	2,170,665	11,478,168
2014	76	159,466	160,259	1,998,341	643,289	2,961,431
2015	93	76,536	7,309	6,256,940	899,325	7,240,203
10-year average	152	162,692	68,888	4,999,434	1,517,242	6,748,409
2016	82	63,169	11	13,545	1,631,484	1,708,291

Appendix B7.–Estimated age and sex composition of sockeye salmon in Coghill District commercial common property drift gillnet fishery harvest and escapement through Coghill River weir, 2016.

			Brood year (Age class)						
			2013		2012	2011	2010		
			0.2	1.1	1.2	1.3	1.4	2.3	Total
Stratum dates:	05/30 - 06/29			Drift gillnet harvest					
Sampling date:	06/17 - 06/29								
Sample size:	479								
Female	Percentage of sample		0.0		28.8	12.2	0.4	0.0	41.4
	Number in harvest		0		12,257	5,208	158	0	17,623
Male	Percentage of sample		0.1		45.4	12.7	0.1	0.1	58.6
	Number in harvest		62		19,347	5,424	62	62	24,958
Total	Percentage of sample		0.1		74.2	25.0	0.5	0.1	100.0
	Number in harvest		62		31,604	10,632	220	62	42,581
	Standard error		62		938	928	170	62	
Strata dates:	06/28 - 07/24			Coghill weir					
Sampling date:	06/29 - 07/23								
Sample size:	278								
Female	Percentage of sample			0.0	12.9	51.4	0.0		64.4
	Number in escapement			0	1,128	4,479	0		5,607
Male	Percentage of sample			2.9	12.6	19.4	0.7		35.6
	Number in escapement			251	1,096	1,691	63		3,101
Total	Percentage of sample			2.9	25.5	70.9	0.7		100.0
	Number in escapement			251	2,224	6,171	63		8,708
	Standard error			87	228	238	44		

Appendix B8.–Commercial common property salmon harvest by period in the Unakwik District drift gillnet and purse seine fisheries, 2016.

Period	Date	NR date	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
						Drift gillnet									
1	6/16-6/17	6/15	36	1	1					[a]					
2	6/20-6/21	6/18	24	1	1					[a]					
3	6/23-6/24	6/22	36	0	0	0	0	0	0	0	0	0	0	0	0
4	6/27-6/28	6/25	24	1	1					[a]					
5	6/30-7/1	6/29	24	1	1					[a]					
6	7/4-7/5	7/2	24	2	2					[a]					
7-12	7/7-7/26	7/6-7/23		0	0	0	0	0	0	0	0	0	0	0	0
Total				4	6	0	0	259	1,435	0	0	0	0	481	3,555
						Purse seine									
1	6/16-6/17	6/15	36	0	0	0	0	0	0	0	0	0	0	0	0
2	6/20-6/21	6/18	24	0	0	0	0	0	0	0	0	0	0	0	0
3	6/23-6/24	6/22	36	1	1					[a]					
4	6/27-6/28	6/25	24	1	1					[a]					
5-12	6/30-7/26	6/29-7/23		0	0	0	0	0	0	0	0	0	0	0	0
Total										[a]					

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

[a] Three permits or less were fished. Period results are confidential.

Appendix B9.–Commercial common property salmon harvest by species in the Unakwik District, 2006–2016.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift gillnet			
2006	1	698	1	36	171	907
2007	1	15,146	0	0	222	15,369
2008	0	389	0	878	58	1,325
2009	1	1,975	0	0	374	2,350
2010	0	15	0	0	0	15
2011	0	1,390	0	1	30	1,421
2012	0	6,207	4	246	264	6,723
2013	1	776	0	203	217	1,008
2014	0	459	0	3	30	492
2015	1	2,958	0	55	23	3,037
10-year average	1	3,001	1	142	139	3,265
2016	0	259	0	0	481	740
			Purse seine			
2006	0	0	0	0	0	0
2007	0	547	0	0	4	551
2008	0	0	0	0	0	0
2009	0	1,153	0	0	10	1,163
2010	1	31	0	34	26	92
2011	0	0	0	0	0	0
2012	0	370	0	18	148	536
2013	0	2,815	1	8,199	159	3,056
2014	1	686	0	2	243	932
2015	7	1,994	0	346	245	2,592
10-year average	1	760	0	860	84	892
2016			Confidential			
			Combined purse seine and drift gillnet			
2006	1	698	1	36	171	907
2007	1	15,693	0	0	226	15,920
2008	0	389	0	878	58	1,325
2009	1	3,128	0	0	384	3,513
2010	1	46	0	34	26	107
2011	1,390	1,390	0	1	30	2,811
2012	1,707	1,707	1,707	1,707	1,707	1,707
2013	1	3,591	1	284	187	4,064
2014	1	1,145	0	5	273	1,424
2015	8	4,952	0	401	268	5,629
10-year average	311	3,274	171	335	333	3,741
2016	0	259	0	0	481	740

Appendix B10.–Port Chalmers commercial common property drift gillnet salmon harvest by period, 2016.

						Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	NR date	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	5/30-6/1	5/28	60	11	18	1	9	4	27	0	0	0	0	606	4,052
2	6/2-6/5	6/1	84	4	10	0	0	0	0	0	0	0	0	205	1,820
3	6/6-6/8	6/4	60	5	12	1	17	3	13	0	0	0	0	738	6,329
4	6/9 - 6/12	6/8	84	32	69	32	228	60	337	2	16	25	75	13,257	101,367
5	6/13-6/15	6/11	60	76	159	10	153	343	1,880	7	47	74	634	23,178	180,148
6	6/16-6/19	6/15	84	39	118	3	27	264	1,347	0	0	12	65	23,759	159,088
7	6/20-6/22	6/18	60	48	143	5	51	282	1,409	1	8	82	283	39,226	262,916
8	6/23-6/26	6/22	84	38	146	3	43	485	2,544	0	0	1,674	6,211	32,710	235,050
9	6/27-6/29	6/25	60	54	147	20	261	745	3,899	2	9	14,281	46,941	25,088	176,461
10	6/30-7/03	6/29	84	19	76	4	46	730	5,040	1	7	2,568	8,319	15,702	117,429
11	7/4-7/6	7/2	60	15	54	1	39	35	202	0	0	175	556	11,460	73,384
12	7/7-7/10	7/6	84	9	34	1	20	32	157	0	0	191	617	6,949	53,998
13	7/11-7/13	7/6	60	8	19	0	0	26	153	0	0	278	837	3,499	26,679
14	7/14-7/17	7/13	84	2	2					[a]					
Total				132	1,007	81	894	3,009	17,008	13	87	19,360	64,538	196,377	1,398,721
Average weight							11.04		5.65		6.69		3.33		7.12

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

[a] Three permits or less were fished. Period results are confidential.

Appendix B11.–Total commercial common property harvest by species in the Port Chalmers Subdistrict, June 1–July 30, 2011–2016.

			Numbers of fish					
Year	Permits	Gear type	Chinook	Sockeye	Coho	Pink	Chum	Total
2011	44	Drift gillnet	79	1,613	618	4,435	103,102	109,847
2012	54	Drift gillnet	46	486	27	13,525	325,137	339,221
2013	151	Drift gillnet	140	2,077	255	28,097	483,633	514,202
2014	113	Purse seine	247	9,743	7,077	3,025,399	186,600	3,229,066
2015	102	Drift gillnet	87	9,751	697	58,371	166,949	235,855
5-Year Average	93		120	4,734	1,735	625,965	253,084	885,638
2016	132	Drift gillnet	81	3,009	13	19,360	196,377	218,840

APPENDIX C: ESHAMY DISTRICT

Appendix C1.–Total drift gillnet common property salmon harvest by period in the Eshamy District, 2016.

		NR				Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	date	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	5/30-5/31	5/28	36	11	14	2	19	90	451	0	0	0	0	337	2,584
2	6/2-6/4	6/1	48	11	15	1	5	87	502	1	8	0	0	296	2,643
3	6/6-6/7	6/4	36	12	19	2	27	791	3,930	0	0	0	0	1,492	11,342
4	6/9-6/10	6/8	36	22	42	8	99	1,000	5,706	0	0	1	5	4,646	33,547
5	6/13-6/14	6/11	36	69	148	9	127	11,017	56,133	0	0	0	0	8,057	56,593
6	6/16-6/17	6/15	36	104	214	5	74	16,042	86,339	0	0	0	0	7,502	55,666
7	6/20-6/21	6/18	36	186	417	5	66	54,169	294,774	0	0	4	12	15,695	114,921
8	6/23-6/25	6/22	48	122	363	1	16	68,620	367,253	0	0	5	23	6,036	43,004
9	6/27-6/28	6/25	36	193	442	1	21	65,327	338,809	2	14	937	3,509	14,015	94,174
10	6/30-7/2	6/29	48	138	347	2	36	57,779	298,618	2	12	2,516	8,727	7,761	54,721
11	7/4-7/5	7/2	36	114	287	1	18	36,728	197,651	10	71	6,459	23,727	4,922	34,622
12	7/7-7/8	7/6	36	116	294	0	0	63,805	331,208	40	323	7,041	24,394	4,097	27,999
13	7/11-7/12	7/6	36	89	166	1	34	16,277	84,971	10	73	5,049	17,853	1,481	10,344
14	7/14-7/17	7/13	84	52	139	0	0	21,728	111,074	0	0	1,071	4,049	135	973
15	7/18-7/20	7/16	60	44	127	0	0	13,474	72,615	17	123	6,473	24,048	769	5,335
16	7/21-7/24	7/20	84	25	66	0	0	7,259	37,528	0	0	1,580	5,975	205	1,432
17	7/25-7/27	7/23	60	19	53	0	0	8,151	41,431	7	53	5,024	19,344	488	3,386
18-21	7/28-8/10	7/27-8/6	192	No reported harvest Periods 18-21											

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Period	Date	NR date	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
22	8/11-8/13	8/10	48	3	8	0	0	214	1,068	14	111	1,450	5,807	91	627
23	8/15-8/16	8/13	24	9	16	0	0	650	3,320	197	1,296	7,009	29,757	275	1,618
24	8/18-8/19	8/17	24	10	16	1	8	515	2,409	50	411	6,361	23,479	99	712
25	8/22-8/23	8/20	24						[a]						
26-29	8/25-9/6	8/24-9/2	96	No reported harvest Periods 26-29											
Total				288	3,195	40	567	443,723	2,336,213	362	2,608	51,872	194,635	78,409	556,311
Average weight							14.18		5.26		7.20		3.75		7.09

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

[a] Three permits or less were fished. Period results are confidential.

Appendix C2.–Total set gillnet common property salmon harvest by period in the Eshamy District, 2016.

						Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	NR date	Hours	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	5/30-5/31	5/28	36	8	12	2	44	65	285	0	0	0	0	55	419
2	6/2-6/4	6/1	48	12	19	1	20	188	846	0	0	0	0	41	342
3	6/6-6/7	6/4	36	20	55	2	25	1,292	6,477	0	0	0	0	1,230	9,513
4	6/9-6/10	6/8	36	20	75	3	37	2,989	15,388	0	0	0	0	1,807	13,569
5	6/13-6/14	6/11	36	23	96	7	113	5,530	27,674	0	0	0	0	1,597	12,704
6	6/16-6/17	6/15	36	26	118	5	68	11,017	57,566	0	0	0	0	1,641	12,504
7	6/20-6/21	6/18	36	27	168	2	25	31,893	165,575	2	15	3	9	4,999	36,892
8	6/23-6/25	6/22	48	26	157	1	11	29,189	150,910	0	0	13	40	1,304	9,745
9	6/27-6/28	6/25	36	28	132	1	26	26,364	135,309	1	5	207	838	2,262	16,382
10	6/30-7/2	6/29	48	28	139	3	64	18,848	97,506	1	7	687	2,920	1,947	14,489
11	7/4-7/5	7/2	36	26	111	0	0	20,271	102,815	1	9	1,227	5,507	1,203	8,695
12	7/7-7/8	7/6	36	27	116	1	38	16,561	84,109	4	20	1,874	7,402	1,701	12,325
13	7/11-7/12	7/6	36	26	115	1	33	25,024	126,091	1	6	903	3,705	499	3,531
14	7/14-7/17	7/13	84	15	89	1	8	9,396	46,781	2	16	300	1,147	105	778
15	7/18-7/20	7/16	60	14	82	2	70	9,415	46,870	0	0	1,016	3,939	139	1,040
16	7/21-7/24	7/20	84	11	48	0	0	6,031	30,171	1	12	891	3,483	171	1,161
17	7/25-7/27	7/23	60	5	28	1	21	3,940	19,488	0	0	890	3,374	130	792
18-29	7/28-9/6	7/27-9/2	408					No reported harvest Periods 18-29							
Total				29	1,560	33	603	218,013	1,113,861	13	90	8,011	32,364	20,831	154,881
Average weight							18.27		5.11		6.92		4.04		7.44

Note: Additional information relevant to each fishing period, including area opened to fishing, may be found on the applicable news release (NR) available through ADF&G's Commercial Fishing News Release System at http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main. Required parameters for searching the ADF&G Commercial Fishing News Release System include: Effective Year = 2016; Species Group = Salmon; Management Area = Prince William Sound. Queries made through the ADF&G Commercial Fishing News Release System will provide results sorted by Publication Date.

Appendix C3.–Total commercial common property harvest by species in Eshamy District, 2006–2016.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
			Drift gillnet			
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
2009	67	539,293	1,695	77,539	286,361	904,955
2010	91	940,640	1,367	117,249	521,032	1,580,379
2011	129	901,279	6,159	78,762	95,991	1,082,320
2012	52	987,678	192	88,951	254,774	1,331,647
2013	74	336,061	1,724	62,176	184,334	584,369
2014	35	761,315	607	189,940	77,719	1,029,616
2015	92	860,637	4,611	178,336	85,864	1,129,540
10-year average	63	680,787	2,627	102,886	186,982	973,344
2016	40	443,723	362	51,872	78,409	574,484
			Set gillnet			
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
2009	47	152,642	49	4,251	50,748	207,737
2010	17	282,329	69	16,764	80,469	379,648
2011	37	312,659	612	17,629	25,350	356,287
2012	14	294,632	97	17,311	24,368	336,422
2013	59	203,019	360	19,114	42,630	265,182
2014	22	259,568	65	35,681	20,921	316,257
2015	61	265,575	839	29,070	21.696	295,567
10-year average	30	225,345	296	19,493	33,267	278,432
2016	33	218,013	13	8,011	20,831	246,901
			Combined set gillnet and drift gillnet			
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
2009	114	691,935	1,744	81,790	337,109	1,112,692
2010	108	1,222,969	1,436	134,013	601,501	1,960,027
2011	166	1,213,938	6,771	96,391	121,341	1,438,607
2012	66	1,282,310	289	106,262	279,142	1,668,069
2013	133	539,080	2,084	81,290	226,964	849,551
2014	57	1,020,883	672	225,621	98,640	1,345,873
2015	153	1,126,212	5,450	207,406	107,560	1,425,107
10-year average	93	906,132	2,923	122,379	222,416	1,252,776
2016	73	661,736	375	59,883	99,240	821,385

Appendix C4.–Estimated age and sex composition of sockeye salmon harvested in the Eshamy District commercial gillnet fishery, 2016.

		Brood year and age class							
		2013		2012			2011		
		0.2	1.1	0.3	1.2	2.1	1.3	2.2	Total
Strata combined:	05/30 - 07/17								
Sampling dates:	06/17 - 07/08								
Sample size:	1,032								
Female	Percentage of sample	0.9	0.3	0.0	35.9	0.1	10.7	0.1	48
	Number in harvest	5,612	1,759	257	216,658	493	64,305	493	289,576
Male	Percentage of sample	0.0	0.6	0.0	29.4	0	7.2	0	37.2
	Number in harvest	0	3,519	0	177,570	0	43,436	0	224,524
Total	Percentage of sample	0.9	0.9	0.0	76.8	0.1	21.2	0.1	100
	Number in harvest	5,612	5,278	257	463,708	493	127,944	493	603,784
	Standard error	3,046	3,028	257	10,282	493	9,680	493	

APPENDIX D: PURSE SEINE FISHERIES PINK AND CHUM SALMON ESCAPEMENT

Appendix D1.–Aerial escapement indices for pink and chum salmon by district, Prince William Sound, 2016.

Pink salmon

District [a]	Escapement midpoint	Odd-year escapement goal range	1977–2013 mean index	Observed escapement index [b]	Deviation from midpoint
Eastern	390,000	250,000 – 580,000	344,388	663,113	70.0%
Northern	160,000	140,000 – 210,000	143,201	150,767	-5.8%
Coghill	100,000	60,000 – 150,000	105,293	171,362	71.4%
Northwestern	100,000	70,000 – 140,000	102,740	171,633	71.6%
Eshamy	6,000	3,000 – 11,000	6,122		
Southwestern	130,000	70,000 – 160,000	124,354		
Montague	70,000	50,000 – 140,000	75,503		
Southeastern	200,000	150,000 – 310,000	198,810	169,660	-15.2%
Total	1,156,000		1,100,411	1,326,535	14.8%

Chum salmon

District	Escapement range [c]	1976–2015 mean index	Observed escapement index [b]	Deviation from lower range
Eastern	50,000 and up	124,887	112,142	124.3%
Northern	20,000 and up	46,954	43,179	115.9%
Coghill	8,000 and up	20,711	15,444	93.1%
Northwestern	5,000 and up	15,745	7,321	46.4%
Eshamy [d]	None	95	0	NA
Southwestern [d]	None	3,324	1,923	NA
Montague [d]	None	5,945	18,769	NA
Southeastern	8,000 and up	39,038	52,031	550.4%
Total [e]	91,000 and up	247,335	230,117	152.9%

[a] Escapement index total includes indices from Eastern, Northern, Coghill, Northwestern, and Southeastern districts. Only Eastern, Northern, and Northwestern had reasonable temporal survey coverage. The Coghill and Northwestern districts had limited temporal coverage, but the indices were within the SEG range, so they are included in the total.

[b] AUC counts adjusted for the average proportion of the 214 index streams represented by the 129 index streams surveyed 3 or more times in 2015.

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

[d] Escapement goal removed in 2003 after review.

[e] Totals exclude districts without escapement goals (Eshamy, Southwestern, and Montague districts). Index total includes indices from Eastern, Northern, Coghill, Northwestern, and Southeastern districts.

Appendix D2.–Prince William Sound commercial common property purse seine harvest by day, 2016.

			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
06/02	2	2					[a]					
06/03	5	5			8	39					929	7,453
06/04	4	4	0	0	0	0	0	0	0	0	1,224	10,059
06/05	0	0	0	0	0	0	0	0	0	0	0	0
06/06	13	14	6	51	26	125	0	0	0	0	8,138	61,552
06/07	0	0	0	0	0	0	0	0	0	0	0	0
06/08	8	8	0	0	9	45	0	0	0	0	3,279	22,952
06/09	12	12	2	22	4	19	0	0	0	0	5,693	45,091
06/10	9	9	0	0	30	169	0	0	0	0	8,202	57,425
06/11	10	10	2	26	34	161	0	0	5	18	6,628	50,269
06/12	15	15	2	46	86	491	0	0	17	50	9,179	69,279
06/13	10	10	2	30	53	263	0	0	9	32	4,689	37,811
06/14	23	23	1	21	182	859	2	12	1	3	19,223	143,401
06/15	2	2					[a]					
06/16	31	32	0	0	619	3,457	0	0	1	5	12,600	98,377
06/17	4	4	0	0	428	2,570	0	0	0	0	2,306	18,439
06/18	24	25	0	0	1,545	9,086	0	0	3	9	14,311	103,371
06/19	16	16	0	0	2,160	12,946	0	0	0	0	9,195	66,842
06/20	20	20	0	0	2,762	15,048	0	0	0	0	11,207	85,568
06/21	13	13	0	0	718	4,164	0	0	0	0	4,562	37,140
06/22	19	20	0	0	1,511	9,063	0	0	26	78	5,310	38,090
06/23	38	39	0	0	5,862	33,527	19	134	100	312	8,717	67,560
06/24	12	12	0	0	1,464	8,779	0	0	0	0	2,044	14,303
06/25	29	31	0	0	6,041	34,171	2	16	25	82	7,550	53,522
06/26	0	0	0	0	0	0	0	0	0	0	0	0
06/27	86	98	0	0	10,456	58,989	43	301	13,884	50,076	24,248	172,538
06/28	0	0	0	0	0	0	0	0	0	0	0	0
06/29	45	46	0	0	9,085	44,530	4	22	2,268	8,571	14,020	96,451
06/30	0	0	0	0	0	0	0	0	0	0	0	0
07/01	117	118	1	15	3,805	21,038	89	671	166,344	600,279	15,350	112,304
07/02	0	0	0	0	0	0	0	0	0	0	0	0
07/03	30	30	0	0	2,965	17,148	0	0	2,523	8,783	5,593	41,564
07/04	0	0	0	0	0	0	0	0	0	0	0	0
07/05	10	10	0	0	1,248	6,488	0	0	450	1,543	5,959	41,684
07/06	184	248	0	0	416	2,323	28	173	2,216,420	8,124,417	2,311	15,889
07/07	4	4	0	0	479	2,869	0	0	0	0	4,942	34,593
07/08	192	196	1	12	263	1,453	259	1,025	1,029,140	3,923,911	1,525	10,895
07/09	19	19	0	0	361	2,167	0	0	362	1,373	44,566	316,928

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			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
07/10	0	0	0	0	0	0	0	0	0	0	0	0
07/11	27	28	0	0	551	3,307	0	0	681	2,589	60,595	369,611
07/12	196	203	2	24	1,117	6,476	9	91	914,081	3,609,115	4,611	31,912
07/13	182	182	4	57	1,485	7,894	52	426	474,019	1,869,625	5,860	37,079
07/14	0	0	0	0	0	0	0	0	0	0	0	0
07/15	1	2					[a]					
07/16	0	0	0	0	0	0	0	0	0	0	0	0
07/17	8	8	0	0	611	3,510	0	0	3,078	11,799	1,556	11,546
07/18	0	0	0	0	0	0	0	0	0	0	0	0
07/19	13	13	0	0	527	2,425	6	36	3,874	16,393	807	5,715
07/20	0	0	0	0	0	0	0	0	0	0	0	0
07/21	0	0	0	0	0	0	0	0	0	0	0	0
07/22	0	0	0	0	0	0	0	0	0	0	0	0
07/23	0	0	0	0	0	0	0	0	0	0	0	0
07/24	0	0	0	0	0	0	0	0	0	0	0	0
07/25	0	0	0	0	0	0	0	0	0	0	0	0
07/26	0	0	0	0	0	0	0	0	0	0	0	0
07/27	176	180	1	7	1,215	6,413	763	4,192	782,111	3,103,208	8,720	59,427
07/28	133	133	0	0	181	997	413	2,795	248,186	991,276	3,373	23,355
07/29	0	0	0	0	0	0	0	0	0	0	0	0
07/30	0	0	0	0	0	0	0	0	0	0	0	0
07/31	181	183	3	56	2,134	12,235	691	4,675	604,394	2,318,860	5,036	35,736
08/01	0	0	0	0	0	0	0	0	0	0	0	0
08/02	0	0	0	0	0	0	0	0	0	0	0	0
08/03	0	0	0	0	0	0	0	0	0	0	0	0
08/04	194	198	16	273	2,067	12,050	4,256	31,035	655,066	2,625,074	6,820	48,267
08/05	0	0	0	0	0	0	0	0	0	0	0	0
08/06	0	0	0	0	0	0	0	0	0	0	0	0
08/07	0	0	0	0	0	0	0	0	0	0	0	0
08/08	0	0	0	0	0	0	0	0	0	0	0	0
08/09	0	0	0	0	0	0	0	0	0	0	0	0
08/10	0	0	0	0	0	0	0	0	0	0	0	0
08/11	186	187	1	14	251	1,393	6,544	55,938	400,201	1,580,841	5,267	35,965
08/12	0	0	0	0	0	0	0	0	0	0	0	0
08/13	0	0	0	0	0	0	0	0	0	0	0	0
08/14	0	0	0	0	0	0	0	0	0	0	0	0
08/15	128	131	2	21	463	2,176	6,272	54,953	251,219	995,164	4,143	25,583
08/16	0	0	0	0	0	0	0	0	0	0	0	0

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			Chinook		Sockeye		Coho		Pink		Chum	
Date	Permits	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
08/17	0	0	0	0	0	0	0	0	0	0	0	0
08/18	124	127	1	12	880	4,515	4,255	36,505	364,893	1,479,548	2,182	13,934
08/19	0	0	0	0	0	0	0	0	0	0	0	0
08/20	0	0	0	0	0	0	0	0	0	0	0	0
08/21	0	0	0	0	0	0	0	0	0	0	0	0
08/22	36	36	0	0	38	165	3,898	37,710	22,665	93,386	3,237	17,222
08/23	39	46	0	0	1	4	1,444	13,804	327,057	1,312,366	40	261
08/24	2	2						[a]				
08/25	3	3						[a]				
Total	210	2,757	47	687	64,548	357,938	29,229	245,977	8,514,793	32,844,471	379,066	2,672,403
Average weight				14.62		5.55		8.42		3.86		7.05

[a] Three permits or fewer were fished. Period results are confidential.

Appendix D3.–Area E commercial salmon harvest by species, excluding Copper River and Bering River districts, 1995–2016.

Year [a]	Chinook	Sockeye	Coho	Pink	Chum	Total
1995	1,365	230,057	140,314	16,045,396	702,216	17,119,348
1996	693	605,910	172,254	26,042,440	2,077,995	28,899,292
1997	1,186	1,167,473	64,363	25,828,078	2,224,728	29,285,828
1998	1,843	328,715	74,150	28,673,859	1,266,924	30,345,491
1999	1,047	309,337	27,325	45,020,990	2,935,337	48,294,036
2000	1,135	548,841	353,015	38,875,724	5,158,403	44,937,118
2001	853	932,120	234,826	35,237,137	3,097,007	39,501,943
2002	938	1,013,057	37,586	18,947,254	6,341,860	26,340,695
2003	278	1,519,582	98,947	51,962,716	3,794,772	57,376,295
2004	319	830,757	56,457	23,526,306	1,998,542	26,412,381
2005	349	577,681	225,157	59,900,319	2,095,957	62,799,463
2006	325	989,210	388,575	21,691,135	2,164,335	25,233,580
2007	873	1,310,694	202,153	63,389,073	3,569,303	68,472,096
2008	365	976,792	307,260	42,352,155	5,074,790	48,711,362
2009	416	1,011,990	46,580	18,984,542	3,213,483	23,257,011
2010	452	1,401,815	42,502	71,288,429	4,307,533	77,040,731
2011	679	1,480,499	223,462	33,379,352	1,901,131	36,985,123
2012	540	1,826,283	32,844	27,231,297	3,791,670	32,882,634
2013	1,426	713,862	327,345	92,416,738	4,060,287	97,519,658
2014	685	1,243,267	201,083	44,647,451	1,473,370	47,565,856
2015	882	1,637,486	74,470	97,258,288	2,496,756	101,467,915
10 Yr Avg	664	1,259,173	184,625	51,262,082	3,205,263	55,913,597
2016	333	794,707	34,598	13,006,041	3,166,099	17,001,778

[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.

Appendix D4.–Prince William Sound commercial common property pink salmon harvest for all gear types, by district, 1995–2016.

Year	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total
1995	4,235,638	3,656,119	1,078,693	0	88,830	1,707,745	18,239	11,418	10,796,682
1996	6,076,471	5,042,415	1,543,869	0	35,691	5,052,789	0	0	17,751,235
1997	4,534,365	3,162,822	2,030,586	0	222,934	5,929,544	65,107	28,040	15,973,398
1998	2,231,061	5,037,668	3,228,761	0	134,984	8,435,431	430,252	350,081	19,848,238
1999	12,305,629	4,981,085	3,542,130	0	170,525	9,524,043	189,641	914,907	31,627,960
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	0	495,325	3,072,848	807,010	534,538	22,321,897
2002	355,964	594,245	1,277,637	0	186,786	5,710,938	32,857	1,075	8,159,502
2003	14,945,744	5,911,904	11,484,334	0	90,102	5,789,419	60,287	514,452	38,796,242
2004	9,512,987	45,355	43,690	0	107,487	1,628,219	102,352	260,992	11,701,082
2005	20,516,356	10,259,182	3,318,888	0	236,634	11,381,417	844,658	770,570	47,327,705
2006	5,712,890	1,331,776	1,373,036	0	110,625	3,269,037	144,417	21,805	11,963,586
2007	22,059,138	6,221,016	2,400,004	0	56,618	17,907,847	878,371	1,869,245	51,392,239
2008	10,829,504	8,548,368	7,439,560	0	123,780	7,548,950	216,013	0	34,706,175
2009	95,071	2,064,871	1,305,714	0	81,790	7,481,863	87,952	36,698	11,153,959
2010	16,423,602	17,916,866	14,252,563	0	134,734	16,978,392	15,985	19,293	65,741,435
2011	13,308,509	2,782,875	2,397,044	252,337	96,399	6,807,127	784,603	504,828	26,933,722
2012	10,611,728	3,677,106	3,433,740	87,010	106,269	5,722,240	200,600	225,255	24,063,948
2013	25,566,365	17,062,817	9,141,077	110,432	81,290	33,510,249	441,913	2,570,809	88,484,952
2014	19,853,828	5,024,240	1,998,341	70,684	225,641	8,958,165	3,044,491	19,949	39,195,339
2015	42,432,142	13,558,665	6,256,940	0	207,409	23,763,243	1,589,439	2,235,414	90,043,653
10 Yr Avg	16,689,278	7,818,860	4,999,802	52,046	122,456	13,192,948	740,378	750,330	44,366,097
2016	7,536,833	417,218	13,556	172,360	59,894	345,842	19,360	37,970	8,603,033

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

Appendix D5.–Prince William Sound commercial common property chum salmon harvest for all gear types, by district, 1995–2016.

Year	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total
1995	52,113	5,812	382,256	0	19,905	8,334	32	40	468,492
1996	340,398	11,432	613,432	0	32,828	13,222	0	0	1,011,312
1997	446,757	5,054	723,116	3	43,243	6,656	185,400	3,252	1,413,481
1998	107,854	57,088	368,921	0	557	4,063	204,536	4,685	747,704
1999	105,981	11,346	1,292,977	0	24,221	11,303	628,952	83,147	2,157,927
2000	240,299	9,894	1,645,145	581	39,828	428,665	992,253	71,565	3,428,230
2001	258,569	9,602	1,146,253	0	28,373	229,670	442,317	44,493	2,159,277
2002	9,811	9,516	2,455,237	0	127,271	54,845	1,071,478	32,776	3,760,934
2003	113,154	12,432	1,478,537	0	22,323	25,624	566,535	13,148	2,231,753
2004	102,067	322	921,002	0	53,609	338	342,968	49,560	1,469,866
2005	32,423	14,895	1,156,770	0	6,945	3,759	238,516	4,329	1,457,637
2006	113,079	51,650	563,802	0	40,724	107,569	445,762	17,171	1,339,757
2007	81,077	10,127	1,474,826	0	106,061	42,445	741,020	13,997	2,469,553
2008	20,808	38,583	2,317,589	0	305,120	517,449	1,233,909	0	4,433,458
2009	4,752	15,618	1,336,662	0	336,928	234,996	672,918	2,887	2,604,761
2010	14,383	2,464	2,515,238	0	610,573	166,464	243,606	0	3,552,728
2011	29,251	2,381	1,092,952	1,083	121,341	62,616	103,678	11,797	1,425,099
2012	102,192	2,152	2,457,115	37	279,149	164,913	325,417	35,560	3,366,535
2013	94,277	6,513	2,170,633	171	226,970	275,290	483,728	40,929	3,298,511
2014	101,443	2,511	643,327	5,884	98,664	66,261	187,016	12,749	1,117,855
2015	143,320	7,831	899,332	0	107,622	176,743	168,721	13,532	1,517,101
10 Yr Avg	70,458	13,983	1,547,148	718	223,315	181,475	460,578	14,862	2,512,536
2016	56,570	7,386	1,631,485	4,126	99,249	210,600	196,688	325	2,206,429

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

Appendix D6.–Prince William Sound pink salmon escapement indices by district, 1995–2016.

Year	Eastern	Northern [a]	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total
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	214,732	168,816	52,340	6,900	163,347	381,054	853,180	2,462,871
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	975,327	255,059	375,147	103,931	5,206	130,356	320,494	691,769	2,857,289
2004	724,663	158,958	79,010	51,306	2,300	108,192	183,891	687,903	1,996,223
2005	1,025,756	570,079	528,264	401,640	32,396	272,572	566,002	1,330,407	4,727,116
2006	248,592	208,397	145,511	127,836	11,247	118,205	149,798	178,009	1,187,595
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
2010	490,952	287,570	335,108	211,709	9,585	126,489	144,821	310,676	1,916,910
2011	982,837	167,408	257,020	147,128	4,368	232,302	598,918	1,537,438	3,927,419
2012	301,709	106,568	172,611	117,795	1,052	90,156	77,756	258,047	1,125,693
2013	1,266,783	329,434	640,414	203,444	12,145	348,012	411,373	1,472,633	4,684,239
2014[b]	270,244	105,843	63,290	67,030	12,400	83,581	24,917	185,072	812,376
2015[c]	1,605,058	779,600	801,201	454,427	70,068	789,725	649,144	2,032,492	7,181,714
2016[d]	663,113	152,509	171,362	171,633	N/A	N/A	N/A	169,660	1,326,535
				Even-year 10 year average					
	397,299	174,649	140,998	101,872	5,049	110,779	119,176	290,864	1,340,686
				Odd-year 10 year average					
	809,026	282,095	329,580	171,487	15,421	258,031	385,479	1,009,128	3,260,248

Note: This does not represent the total spawning escapement but rather a comparable annual index.

[a] Northern District totals include both Northern and Unakwik district counts combined.

[b] Only 17 of 33 index streams in the Montague District were surveyed often enough (≥3) in 2014 to use with the area under the curve methodology.

[c] AUC counts adjusted for the average proportion of the 214 index streams represented by the 129 index streams surveyed 3 or more times in 2015.

[d] Escapement index total includes indices from Eastern, Northern, Coghill, Northwestern, and Southeastern districts. Only Eastern, Northern, and Northwestern had reasonable temporal survey coverage. The Coghill and Southeastern districts had limited temporal coverage, but the indices were within the SEG range, so they are included in the total.

Appendix D7.–Prince William Sound chum salmon escapement indices by district, 1995–2016.

Year	Eastern	Northern [a]	Coghill	Northwestern	Southeastern
1995	75,655	28,899	11,596	4,883	23,200
1996	137,908	55,568	19,669	24,405	47,334
1997	93,146	19,429	3,101	8,387	43,274
1998	86,227	28,867	22,764	7,553	52,103
1999	242,713	36,691	5,057	4,544	36,181
2000	196,253	23,655	20,488	10,150	34,969
2001	198,683	75,473	13,388	6,373	37,526
2002	94,046	30,531	7,430	16,194	104,906
2003	198,921	44,272	19,729	12,736	116,131
2004	108,833	42,456	9,685	10,371	42,344
2005	113,135	30,657	11,979	12,696	25,547
2006	109,403	52,069	15,900	25,860	26,739
2007	123,814	49,669	14,052	10,778	60,464
2008	74,740	38,791	39,660	28,051	21,614
2009	100,309	22,063	6,150	12,293	106,284
2010	91,514	38,207	51,589	30,074	85,138
2011	196,933	52,474	16,368	11,447	91,218
2012	61,969	14,680	10,281	7,072	20,467
2013	119,110	34,240	11,369	4,746	35,942
2014	93,491	27,680	9,491	5,041	30,177
2015[b]	112,142	43,179	15,444	7,321	52,031
10-year average	108,343	37,305	19,030	14,268	53,007
2016[b]	93,491	27,680	9,491	5,831	30,177

Note: Current goals are district-specific lower-bound sustainable escapement goals: Coghill >8,000; Eastern >50,000; Northern/Unakwik >20,000; Northwestern >5,000; Southeastern >8,000.This does not represent the total spawning escapement but rather a comparable annual index.

[a] Northern District totals include both Northern and Unakwik district counts combined.

[b] Area under the curve counts adjusted for the average proportion of the 214 index streams represented by the 129 index streams surveyed 3 or more times in 2015.

APPENDIX E: SALMON ENHANCEMENT

Appendix E1.–Historical harvest contributions, thermally marked otolith releases, and total returns of coho salmon to Prince William Sound hatcheries, brood years 1988–2013.

Solomon Gulch Hatchery

Brood year	Return year	Fry release	Hatchery contribution to the CCPF [a]	Hatchery contribution to subs/CPU harvest [b]	Hatchery contribution to sport harvest [c]	Hatchery contribution to broodstock esc. [d]	Hatchery contribution to cost recovery [e]	Total hatchery return	Estimated marine survival
1988	1991	807,153	4,157	984	10,536	1,461	39,176	56,314	6.98%
1989	1992	993,633	5,000	369	17,789	2,651	26,776	52,585	5.29%
1990	1993	1,226,044	102	305	12,979	1,658	2,343	17,387	1.42%
1991	1994	461,388	0	143	19,012	11,376	22,091	52,622	11.41%
1992	1995	915,087	78,006	0	37,474	16,045	21,592	153,117	16.73%
1993	1996	1,325,316	87,360	38	43,467	21,772	13,713	166,350	12.55%
1994	1997	1,875,823	47,500	45	36,520	13,605	9,818	107,488	5.73%
1995	1998	1,315,183	23,717	321	37,126	3,880	19,068	84,112	6.40%
1996	1999	1,748,486	67,232	541	36,310	2,541	12,679	119,303	6.82%
1997	2000	1,863,528	342,490	468	68,014	1,625	24,887	437,484	23.48%
1998	2001	1,625,599	147,000	230	60,975	1,778	25,595	235,578	14.49%
1999	2002	1,519,328	25,017	136	31,017	21,323	8,000	85,493	5.63%
2000	2003	1,821,889	63,132	185	78,162	17,379	4,087	162,945	8.94%
2001	2004	1,275,145	26,711	315	59,331	2,585	9,897	98,839	7.75%
2002	2005	1,442,274	129,966	286	67,000	2,102	30,686	230,040	15.95%
2003	2006	1,968,366	210,382	18	61,298	2,455	16,172	290,325	14.75%
2004	2007	1,511,592	58,299	0	74,616	3,564	17,748	154,227	10.20%
2005	2008	1,973,604	154,383	0	59,313	3,101	22,356	239,153	12.12%
2006	2009	1,828,100	914	131	43,651	3,955	17,424	66,075	3.61%
2007	2010	1,525,927	2,918	189	70,531	2,847	43,722	120,207	7.88%
2008	2011	1,915,058	28,412	883	50,801	7,145	38,285	125,526	6.55%
2009	2012	2,111,389	914	75	12,873	2,458	454	16,774	0.79%
2010	2013	1,879,768	153,819	277	55,844	7,071	39,946	256,957	13.67%
2011	2014	1,657,016	1,327	103	6,044	1,804	1,139	10,416	0.63%
2012	2015	1,810,315	32,108	40	24,920	2,722	14,571	74,361	4.11%
2013	2016	1,869,354	7,034	0	24,920	2,722	14,571	49,247	2.63%

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Wally Noerenberg Hatchery

Brood year	Return year	Fry release	Hatchery contribution to the CCPF [a]	Hatchery contribution to subs/homepack harvest [b]	Hatchery contribution to sport harvest [c]	Hatchery contribution to broodstock esc. [d]	Hatchery contribution to cost recovery [e]	Total hatchery return	Estimated marine survival
1988	1991	2,397,419	71,947	36	4,708	6,469	13,990	97,150	4.05%
1989	1992	2,223,282	114,165	20	1,411	0	46,121	161,717	7.27%
1990	1993	1,831,198	39,658	51	1,608	4,857	1,532	47,706	2.61%
1991	1994	1,303,077	81,396	65	3,061	5,439	13,258	103,220	7.92%
1992	1995	1,483,936	34,680	57	1,690	4,964	5,152	46,543	3.14%
1993	1996	2,063,934	26,245	8	3,851	4,081	39,506	73,690	3.57%
1994	1997	275,406	5,626	26	2,084	5,674	0	13,410	4.87%
1995	1998	203,651	2,800	35	3,327	1,541	0	7,703	3.78%
1996	1999	407,715	338	66	2,658	2,533	0	5,595	1.37%
1997	2000	1,068,338	111,256	197	7,963	2,551	0	121,966	11.42%
1998	2001	375,670	2,488	98	15,490	3,277	0	21,353	5.68%
1999	2002	219,967	3,215	105	21,283	2,389	0	26,991	12.27%
2000	2003	485,834	9,624	133	21,444	1,314	0	32,515	6.69%
2001	2004	920,858	9,333	37	19,852	150	637	30,009	3.26%
2002	2005	989,383	53,257	178	34,587	11,450	19	99,492	10.06%
2003	2006	1,057,922	113,997	20	19,973	17,079	0	151,069	14.28%
2004	2007	1,052,897	84,867	36	31,745	2,129	11,975	130,752	12.42%
2005	2008	1,850,000	116,641	90	19,738	2,609	267	139,345	7.53%
2006	2009	1,930,000	20,209	52	16,751	2,064	0	39,076	2.02%
2007	2010	226,000	5,215	9	20,569	1,399	0	27,192	12.03%
2008	2011	3,490,000	95,267	274	26,062	7,374	678	129,655	3.72%
2009	2012	3,480,000	10,276	123	7,625	558	0	18,582	0.53%
2010	2013	1,018,000	69,824	64	21,185	2,293	0	93,366	9.17%
2011	2014	3,210,000	165,600	292	11,314	6,584	10,877	194,667	6.06%
2012	2015	907,000	6,592	115	17,351	3,084	0	27,142	2.99%
2013	2016	370,000	347	115	100	245	0	807	0.22%

[a] Commercial common property fishery (CCPF).

[b] Subsistence and commercial personal use harvest (homepack).

[c] No hatchery contribution sampling occurs in the sport fishery. These estimates apply a fixed proportion of Solomon Gulch Hatchery or Wally Noerenberg Hatchery production to sport harvest by reporting area.

[d] 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.

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

Appendix E2.–Sockeye salmon hatchery and wild stock contributions to the Copper River drift gillnet commercial common property fishery by period, 2016.

Dates			Period	Hours	Origin							
					Gulkana		Main Bay		Hatchery	Wild		
					Number	Percent	Number	Percent	Total	Number	Percent	Total
05/16	-	05/16	1 [a]	12	0	0.0%	0	0.0%	0	23,509	100.0%	23,509
05/19	-	05/20	2 [a]	24	0	0.0%	0	0.0%	0	59,047	100.0%	59,047
05/23	-	05/25	3 [a]	48	0	0.0%	0	0.0%	0	65,278	100.0%	65,278
05/26	-	05/27	4 [a]	24	0	0.0%	0	0.0%	0	48,787	100.0%	48,787
05/28	-	05/29	5 [a]	24	0	0.0%	0	0.0%	0	48,506	100.0%	48,506
05/30	-	05/31	6 [a]	36	0	0.0%	0	0.0%	0	78,385	100.0%	78,385
06/02	-	06/03	7 [a]	24	0	0.0%	0	0.0%	0	57,767	100.0%	57,767
06/06	-	06/07	8	24	1,406	3.1%	1,406	3.1%	2,812	42,173	93.7%	44,985
06/09	-	06/10	9	24	1,421	4.2%	711	2.1%	2,132	31,983	93.7%	34,115
06/13	-	06/14	10	24	1,685	3.1%	5,617	10.4%	7,302	46,619	86.5%	53,921
06/16	-	06/17	11	36	6,210	10.5%	2,484	4.2%	8,694	50,301	85.3%	58,995
06/20	-	06/21	12	36	7,368	8.3%	3,684	4.2%	11,052	77,363	87.5%	88,415
06/23	-	06/25	13	48	16,721	20.8%	1,672	2.1%	18,393	61,866	77.1%	80,259
06/27	-	06/28	14	36	23,002	25.0%	958	1.0%	23,960	68,046	74.0%	92,006
06/30	-	07/02	15	48	23,215	35.4%	0	0.0%	23,215	42,333	64.6%	65,548
07/04	-	07/05	16	36	19,037	34.4%	0	0.0%	19,037	36,343	65.6%	55,380
07/07	-	07/09	17	48	21,077	36.5%	602	1.0%	21,679	36,133	62.5%	57,812
07/11	-	07/12	18	36	10,702	28.0%	0	0.0%	10,702	27,452	72.0%	38,154
07/14	-	07/16	19	48	11,177	29.2%	0	0.0%	11,177	27,145	70.8%	38,322
07/18	-	07/19	20	36	5,709	19.8%	0	0.0%	5,709	23,135	80.2%	28,844
07/21	-	07/22	21	36	4,944	21.9%	235	1.0%	5,179	17,422	77.1%	22,601
07/25	-	07/26	22	24	1,565	17.6%	0	0.0%	1,565	7,305	82.4%	8,870
07/28	-	07/29	23 [a]	24	844	14.0%	0	0.0%	844	5,182	86.0%	6,026
08/01	-	08/02	24 [a]	24	555	9.0%	0	0.0%	555	5,610	91.0%	6,165
08/04	-	08/05	25 [a]	24	321	6.0%	0	0.0%	321	5,024	94.0%	5,345
08/08	-	08/09	26 [a]	24	78	2.0%	0	0.0%	78	3,798	98.0%	3,876
08/11	-	08/12	27 [a]	24	0	0.0%	0	0.0%	0	2,384	100.0%	2,384
08/15	-	08/16	28 [a]	24	0	0.0%	0	0.0%	0	794	100.0%	794
08/22	-	08/23	29 [a]	24	0	0.0%	0	0.0%	0	277	100.0%	277
08/25	-	08/25	30 [a]	12	0	0.0%	0	0.0%	0	615	100.0%	615
08/29	-	08/30	31 [a]	24	0	0.0%	0	0.0%	0	95	100.0%	95
09/01	-	09/01	32 [a]	12	0	0.0%	0	0.0%	0	11	100.0%	11
09/05	-	09/06	33 [a]	24	0	0.0%	0	0.0%	0	3	100.0%	3
09/08	-	09/08	34 [b]	12	0	0.0%	0	0.0%	0	0	0.0%	0
09/12	-	09/13	35 [a]	24	0	0.0%	0	0.0%	0	2	100.0%	2
09/15	-	09/16	36 [a]	24	0	0.0%	0	0.0%	0	1	100.0%	1
09/19	-	09/20	37 [a]	24	0	0.0%	0	0.0%	0	1	100.0%	1
09/22	-	10/11	38-43 [b]	24-36	0	0.0%	0	0.0%	0	0	0.0%	0
Total				1,260	157,035	13.4%	17,369	1.5%	174,404	1,000,695	85.2%	1,175,099

Note: Total harvest data from fish tickets as of 15 February 2017.

[a] No samples collected; proportions from Period 8 used to estimate contributions.

[b] No reported harvest.

Appendix E3.–Gulkana Hatchery sockeye salmon harvests and total contribution, 1977–2016.

	Hatchery Contributions				Total
Year	Commercial[a]	Subsistence/ personal use[b]	Sport[c]	Broodstock/ escapement[d]	hatchery run
1977	183	12	0	122	318
1978	720	74	2	1,300	2,095
1979	900	393	9	3,425	4,724
1980	350	589	34	4,250	5,211
1981	3,600	478	13	4,650	8,736
1982	3,600	322	6	5,740	9,666
1983	6,600	1,167	23	8,396	16,177
1984	5,318	450	14	4,846	10,623
1985	31,955	2,121	114	24,021	58,170
1986	30,404	2,667	113	25,408	58,592
1987	47,347	3,071	184	25,505	76,105
1988	92,552	9,351	257	94,563	196,726
1989	175,643	13,734	531	120,872	310,781
1990	64,917	7,203	209	55,431	127,760
1991	102,009	9,449	220	63,400	175,078
1992	87,120	11,455	257	84,000	182,832
1993	149,844	14,812	370	17,600	182,625
1994	94,656	9,157	158	40,736	144,707
1995	147,844	15,289	342	45,733	209,208
1996	314,916	16,144	849	151,762	483,671
1997	266,724	8,857	189	92,745	368,515
1998	524,985	31,824	1,038	106,954	664,801
1999	945,287	42,281	868	109,663	1,098,099
2000	366,372	34,113	1,006	75,385	476,876
2001	196,326	35,699	356	75,620	308,001
2002	335,451	28,305	586	62,361	426,665
2003	138,056	19,513	284	45,024	202,845
2004	59,540	27,117	184	6,618	93,438
2005	95,897	28,031	225	92,455	216,583
2006	163,691	26,860	182	97,192	287,906
2007	94,232	9,656	97	28,648	132,625
2008	21,669	19,175	229	44,865	85,916
2009	59,948	29,355	376	43,409	133,047
2010	207,915	68,180	816	157,980	434,608
2011	487,916	33,113	326	59,589	580,917
2012	330,402	43,549	450	65,348	439,688
2013	318,212	45,800	541	72,369	436,788
2014	297,943	44,918	222	53,737	396,990
2015	137,414	48,887	85	40,123	226,509
10-Year Average	201,385	36,139	323	68,701	306,507
2016	157,035	18,156	283	32,341	207,815

[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). In 2014, approximately 14,900 Gulkana Hatchery (GH) sockeye salmon were attributed to the Glennallen subsistence fishery and 31,100 GH sockeye salmon were attributed to the Chitina personal use fishery.

[c] Sport fishery contributions are the sum of sport harvest from Copper River mainstem and Gulkana River 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.

Appendix E4.–Gulkana Hatchery salmon fry releases, 1974–2016.

	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	9,980,000			21,980,000
2009				6,000,000	6,000,000	10,000,000			22,000,000
2010				6,010,000	6,000,000	10,000,000			22,010,000
2011				6,000,000	5,980,000	10,000,000			21,980,000
2012				7,340,000	5,950,000	9,570,000			22,860,000
2013				6,000,000	6,000,000	6,560,000			18,560,000
2014				6,000,000	6,000,000	10,000,000			22,000,000
2015				5,997,000	5,990,000	10,000,000			21,987,000
10-year average				5,834,453	5,327,393	8,762,773			20,238,529
2016				6,004,000	0	10,000,000			16,004,000

Appendix E5.–Daily chum and coho salmon sales and sex ratios, sales summary, and broodstock summary at the Wally Noerenberg Hatchery, 2016.

	Chum salmon					Coho salmon	
Date	% Female	Sales harvest[a]	Sales harvest cumulative	Brood stock[b]	Brood stock cumulative	Sales harvest	Sales harvest cumulative
06/08	20.0%	16,897	16,897	0	0	ND	ND
06/09	22.0%	27,140	44,037	0	0	ND	ND
06/10	23.0%	44,924	88,961	0	0	ND	ND
06/11	31.0%	55,320	144,281	0	0	ND	ND
06/12	30.0%	45,338	189,619	0	0	ND	ND
06/13	30.0%	47,072	236,691	0	0	ND	ND
06/14	33.0%	58,272	294,963	0	0	ND	ND
06/15	40.0%	53,297	348,260	0	0	ND	ND
06/16	40.0%	90,209	438,469	0	0	ND	ND
06/17	38.0%	91,784	530,253	0	0	ND	ND
06/18	44.0%	41,045	571,298	0	0	ND	ND
06/19	45.0%	34,396	605,694	0	0	ND	ND
06/20	44.0%	29,966	635,660	0	0	ND	ND
06/21	50.0%	20,468	656,128	0	0	ND	ND
06/22	–	0	656,128	0	0	ND	ND
06/23	–	0	656,128	0	0	ND	ND
06/24	–	0	656,128	0	0	ND	ND
06/25	–	0	656,128	0	0	ND	ND
06/26	–	0	656,128	0	0	ND	ND
06/27	–	0	656,128	0	0	ND	ND
06/28	–	0	656,128	0	0	ND	ND
06/29	–	0	656,128	0	0	ND	ND
06/30	–	0	656,128	0	0	ND	ND
07/01	–	0	656,128	7,309	7,309	ND	ND
07/02	–	1,393	657,521	13,708	21,017	ND	ND
07/03	–	1,683	659,204	15,566	36,583	ND	ND
07/04	–	1,147	660,351	16,845	53,428	ND	ND
07/05	–	2,308	662,659	18,177	71,605	ND	ND
07/06	–	2,216	664,875	16,984	88,589	ND	ND
07/07	–	2,645	667,520	18,097	106,686	ND	ND
07/08	–	1,948	669,468	14,737	121,423	ND	ND
07/09	–	2,409	671,877	18,559	139,982	ND	ND
07/10	–	3,444	675,321	11,806	151,788	ND	ND
07/11	–	5,448	680,769	13,104	164,892	ND	ND
07/12	–	15,913	696,682	0	164,892	ND	ND
07/13	–	18,831	715,513	0	164,892	ND	ND
07/14	–	15,499	731,012	0	164,892	ND	ND
07/15	–	11,105	742,117	0	164,892	ND	ND

-continued-

Hatchery escapement summary[c]	Chum salmon	Coho salmon
Purse seine whole fish harvest	679,209	0
Raceway harvest[d]	127,732	0
Viable broodstock (spawned, eggs in incubators)	169,458	6
Unviable broodstock (green/over-ripe/bad)	2,433	0
Unspawned fish (e.g. excess males/females)	250	0
Holding mortalities (raceway, pen mortalities)	2,452	239
Estimated unharvested return[e]	2,000	0
Estimated total run to hatchery site	983,534	245

Sales summary	Chum salmon	Coho salmon
Purse seine whole fish sales	679,209	0
Raceway sales[f]	127,732	0
Carcass sales[g]	151,472	0
Total sales	958,413	0

[a] Daily whole fish from purse seine and raceway harvests as reported inseason and on fish tickets.

[b] Broodstock daily totals from PWSAC egg-take log.

[c] Determined by fish tickets, PWSAC egg-take log, and annual reports (PWSAC 2016b).

[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 E6.–Sockeye salmon hatchery and wild stock contributions to the Coghill District commercial common property fishery by period, 2016.

			Origin					
			Main Bay		Hatchery	Wild		
Dates	Period	Hours	Number	Percent	total	Number	Percent	Total
05/30 - 05/30	1	12 [a]	61	80.26%	61	15	19.74%	76
06/02 - 06/02	2	12 [a]	99	80.49%	99	24	19.51%	123
06/06 - 06/06	3	36 [a]	281	80.75%	281	67	19.25%	348
06/09 - 06/09	4	36 [a]	1,216	80.74%	1,216	290	19.26%	1,506
06/13 - 06/14	5	36	4,682	80.77%	4,682	1,115	19.23%	5,797
06/16 - 06/17	6	36	11,591	84.61%	11,591	2,108	15.39%	13,699
06/20 - 06/21	7	24	3,042	84.10%	3,042	575	15.90%	3,617
06/23 - 06/24	8	36	9,837	88.37%	9,837	1,294	11.63%	11,131
06/27 - 06/28	9	36	5,505	87.88%	5,505	759	12.12%	6,264
06/30 - 07/06	10	156	11,778	92.30%	11,778	982	7.70%	12,760
07/07 - 07/10	11	84	2,965	89.04%	2,965	365	10.96%	3,330
07/11 - 07/13	12	60 [b]	1,380	85.77%	1,380	229	14.23%	1,609
07/14 - 07/17	13	84	1,343	82.49%	1,343	285	17.51%	1,628
07/18 - 07/20	14	60	1,025	82.86%	1,025	212	17.14%	1,237
07/31 - 07/31	15	14 [c]	0	0.00%	0	0	0.00%	0
08/04 - 08/04	16	12 [c]	[d]	0.00%	[d]	[d]	0.00%	[d]
08/15 - 08/15	17	12 [e]	[d]	0.00%	[d]	[d]	0.00%	[d]
08/18 - 08/18	18	12 [c]	0	0.00%	0	0	0.00%	0
08/22 - 08/22	19	12 [c]	0	0.00%	0	0	0.00%	0
08/29 - 08/29	20	12 [c]	0	0.00%	0	0	0.00%	0
09/01 - 09/01	21	4 [c]	0	0.00%	0	0	0.00%	0
09/06 - 09/06	22	12 [c]	0	0.00%	0	0	0.00%	0
Total			54,806	86.8%	54,805	8,363	13.2%	63,169

Note: Samples were not processed for $SrCl_2$ mark identification, so the Gulkana Hatchery contribution is unknown. All fish without a thermal mark are assumed to be of wild origin.

[a] No samples collected; proportions are from period 5 samples.

[b] No samples collected; proportions are the average from the previous and following sampled periods.

[c] No harvest reported.

[d] Less than 3 permits fished. Results are confidential.

[e] No samples collected; assumed wild origin.

Appendix E7.–Pink salmon hatchery and wild stock contributions to the Coghill District commercial common property fishery by period, 2016.

Dates	Period	Hours	Origin											
			Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
05/30 - 05/30	1	12 [a]	0	0.0%	0	0.0%	31	100.0%	0	0.0%	31	0	0.0%	31
06/02 - 06/02	2	12 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/06 - 06/07	3	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/09 - 06/10	4	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/13 - 06/14	5	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/16 - 06/17	6	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/20 - 06/21	7	24 [c]	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	0	0.0%	2
06/23 - 06/24	8	36 [c]	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0	0.0%	1
06/27 - 06/28	9	36 [c]	9	3.6%	0	0.0%	234	92.5%	0	0.0%	243	9	3.6%	253
06/30 - 07/06	10	156 [c]	150	4.0%	0	0.0%	3,748	101.2%	0	0.0%	3,898	150	4.0%	3,704
07/07 - 07/10	11	84	48	3.7%	0	0.0%	1,209	92.6%	0	0.0%	1,257	48	3.7%	1,306
07/11 - 07/13	12	60	13	1.5%	0	0.0%	804	94.0%	0	0.0%	817	38	4.4%	855
07/14 - 07/17	13	84	0	0.0%	0	0.0%	74	7.2%	0	0.0%	74	958	92.8%	1,032
07/18 - 07/20	14	60	0	0.0%	0	0.0%	896	62.5%	0	0.0%	896	538	37.5%	1,434
07/31 - 07/31	15	14 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/04 - 08/04	16	12 [e]	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	[d]	0.0%	[d]
08/15 - 08/15	17	12 [e]	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	[d]	0.0%	[d]
08/18 - 08/18	18	12 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/22 - 08/22	19	12 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/29 - 08/29	20	12 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/01 - 09/01	21	4 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/06 - 09/06	22	12 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Totals			221	1.6%	0	0.0%	9,864	72.8%	0	0.0%	10,084	3,461	25.5%	13,545

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK = Armin F. Koernig Hatchery.

[a] No samples collected; all fish assumed to be of WNH origin.

[b] No harvest reported.

[c] No samples collected; proportions from Period 11 samples.

[d] Three permits or less were fished. Results are confidential.

[e] No samples collected; proportions from Period 14 samples.

Appendix E8.–Chum salmon hatchery and wild stock contributions to the Coghill District commercial common property harvest, 2016.

				Origin								
				Wally Noerenberg		Port Chalmers		Armin F Koernig		Hatchery	Wild		
Dates	Period	Hours		Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
05/30 - 05/30	1	12		5,009	98.0%	100	2.0%	0	0.0%	5,109	0	0.0%	5,109
06/02 - 06/02	2	12	[a]	4,915	98.0%	49	1.0%	0	0.0%	4,964	52	1.0%	5,016
06/06 - 06/07	3	36		41,924	97.9%	0	0.0%	0	0.0%	41,924	892	2.1%	42,816
06/09 - 06/10	4	36		63,885	97.9%	0	0.0%	1,374	2.1%	65,259	0	0.0%	65,259
06/13 - 06/14	5	36		84,081	98.7%	0	0.0%	1,121	1.3%	85,202	0	0.0%	85,202
06/16 - 06/17	6	36		54,856	98.9%	0	0.0%	590	1.1%	55,446	0	0.0%	55,446
06/20 - 06/21	7	24		161,467	99.0%	1,700	1.0%	0	0.0%	163,167	0	0.0%	163,167
06/23 - 06/24	8	36		116,754	97.8%	1,283	1.1%	0	0.0%	118,037	1,283	1.1%	119,320
06/27 - 06/28	9	36		116,523	96.9%	0	0.0%	2,506	2.1%	119,029	1,253	1.0%	120,282
06/30 - 07/06	10	156		724,283	97.6%	0	0.0%	8,726	1.2%	733,009	8,726	1.2%	741,735
07/07 - 07/10	11	84		103,839	98.9%	0	0.0%	0	0.0%	103,839	1,167	1.1%	105,006
07/11 - 07/13	12	60		84,598	98.2%	0	0.0%	1,567	1.8%	86,165	0	0.0%	86,165
07/14 - 07/17	13	84		27,818	97.8%	0	0.0%	320	1.1%	28,138	320	1.1%	28,458
07/18 - 07/20	14	60		7,924	94.1%	0	0.0%	0	0.0%	7,924	495	5.9%	8,419
07/31 - 07/31	15	14	[b]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/04 - 08/04	16	12	[d]	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	[c]	0.0%	[c]
08/15 - 08/15	17	12	[d]	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	[c]	0.0%	[c]
08/18 - 08/18	18	12	[d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/22 - 08/22	19	12	[b]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/29 - 08/29	20	12	[b]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/01 - 09/01	21	4	[b]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/06 - 09/06	22	12	[b]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total				1,597,955	97.9%	3,132	0.2%	16,204	1.0%	1,617,291	14,193	0.9%	1,631,484

[a] No samples collected; proportions are the average of sample proportions from the prior and following periods.

[b] No harvest reported.

[c] No samples collected; proportions are from the prior period samples.

[d] Three permits or less were fished. Results are confidential.

Appendix E9.–Chum salmon hatchery and wild stock contributions to commercial common property fisheries by period and mark identification, Montague District, 2016.

Dates	Period	Hours	Origin									
			Port Chalmers		Wally Noerenberg		Armin F Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
05/30 - 06/01	01	60 [a]	188	31.0%	230	38.0%	63	10.4%	481	125	20.6%	606
06/02 - 06/05	02	84 [a]	64	31.2%	78	38.0%	21	10.2%	163	42	20.5%	205
06/06 - 06/08	03	60 [a]	229	31.0%	280	37.9%	76	10.3%	585	153	20.7%	738
06/09 - 06/12	04	84	4,114	31.0%	5,029	37.9%	1,371	10.3%	10,514	2,743	20.7%	13,257
06/13 - 06/15	05	60	15,875	68.5%	3,810	16.4%	1,905	8.2%	21,590	1,588	6.9%	23,178
06/16 - 06/19	06	84	21,213	89.3%	849	3.6%	0	0.0%	22,062	1,697	7.1%	23,759
06/20 - 06/22	07	60	34,611	88.2%	0	0.0%	2,307	5.9%	36,918	2,307	5.9%	39,225
06/23 - 06/26	08	84	12,051	36.8%	8,608	26.3%	1,722	5.3%	22,381	10,329	31.6%	32,710
06/27 - 06/29	09	60	20,812	83.0%	855	3.4%	1,425	5.7%	23,092	1,996	8.0%	25,088
06/30 - 07/03	10	84	13,146	83.7%	1,826	11.6%	365	2.3%	15,337	365	2.3%	15,702
07/04 - 07/06	11	60	9,697	84.6%	882	0.0%	882	7.7%	11,461	0	0.0%	11,461
07/07 - 07/10	12	84	5,673	81.6%	425	0.0%	142	2.0%	6,240	709	10.2%	6,949
07/11 - 07/13	13	60	2,961	84.6%	269	0.0%	0	0.0%	3,230	269	7.7%	3,499
07/14 - 07/16	14	60 [b,c]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
07/18 - 07/20	15	60 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
07/21 - 07/24	16	84 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
07/25 - 07/27	17	60 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
07/28 - 07/30	18	64 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/18 - 08/18	19	6 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/06 - 09/06	20	12 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total			140,634	71.6%	23,141	11.8%	10,279	5.2%	174,054	22,323	11.4%	196,377

Note: WNH = Wally Noerenberg Hatchery, AFK = Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No samples collected; proportions are from period 4 samples.

[b] No samples collected; proportions are from the previous period samples.

[c] Less than 3 permits fished. Results are confidential.

[d] No harvest reported.

Appendix E10.–Main Bay Hatchery salmon fry releases, 1983–2016.

		Sockeye salmon				Pink salmon	Chum salmon
Release year	Primary return years	Coghill Lake stock	Eshamy Lake stock	Eyak Lake stock	Total released [a]	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	1987, 1988					32,728,663	5,258,175
1987	1988, 1989					2,660,000	76,646,750
1988	1989, 1990	330,025			330,025		
1989	1991, 1990	3,925,357			3,925,357	10,200,000	
1990	1992, 1993	2,616,498			2,616,498		
1991	1993, 1994	1,960,774	1,843,176		3,803,950		
1992	1994, 1995	1,546,929	2,475,390	47,609	4,069,928		
1993	1995, 1996	3,288,689	966,750	63,822	4,319,261		
1994	1996, 1997	3,289,824	691,633		3,981,457		
1995	1997, 1998	4,049,763	1,546,011	90,348	5,686,122		
1996	1998, 1999	4,194,174	114,475	82,514	4,391,163		
1997	1999, 2000	239,023	845,190	131,503	1,215,716		
1998	2000, 2001		2,485,000	181,000	2,666,000		
1999	2001, 2002		4,165,786	2,913,460	7,079,246		
2000	2002, 2003	8,401,117			8,401,117		
2001	2003, 2004	7,612,350			7,612,350		
2002	2004, 2005	7,858,190			7,858,190		
2003	2005, 2006	6,576,535			6,576,535		
2004	2006, 2007	9,057,829			9,057,829		
2005	2007, 2008	10,868,642			10,868,642		
2006	2008, 2009	9,516,461			9,516,461		
2007	2009, 2010	9,393,000			9,393,000		
2008	2010, 2011	9,384,000			9,384,000		
2009	2011, 2012	9,419,000			9,419,000		
2010	2012, 2013	8,160,000			8,160,000		
2011	2013, 2014	8,680,000			8,680,000		
2012	2014, 2015	11,040,000			11,040,000		
2013	2015, 2016	11,500,000			11,500,000		
2014	2016, 2017	11,460,000			11,460,000		
2015	2017, 2018	10,730,000			10,730,000		
10-Year Average		9,861,721			9,861,721		
2016	2018, 2019	10,040,000			10,040,000		

[a] Totals do not include releases at other locations, such as Coghill, Davis, Eshamy, Esther Pass, Eyak, Marsha, Pass, Solf, or Esther Pass lakes.

Appendix E11.–Sockeye salmon hatchery and wild stock contributions to the Eshamy District commercial common property fishery by period, 2016.

			Main Bay		Hatchery	Wild		
Dates	Period	Hours	Number	Percent	Total	Number	Percent	Total
05/30 - 05/31	1 [a]	36	111	71.6%	111	44	28.4%	155
06/02 - 06/04	2 [a]	48	196	71.3%	196	79	28.7%	275
06/06 - 06/07	3 [a]	36	1,488	71.4%	1,488	595	28.6%	2,083
06/09 - 06/10	4	36	2,849	71.4%	2,849	1,140	28.6%	3,989
06/13 - 06/14	5	36	15,479	93.5%	15,479	1,068	6.5%	16,547
06/16 - 06/17	6	36	26,415	97.6%	26,415	644	2.4%	27,059
06/20 - 06/21	7	36	83,373	96.9%	83,373	2,689	3.1%	86,062
06/23 - 06/25	8	48	97,809	100.0%	97,809	0	0.0%	97,809
06/27 - 06/28	9	36	91,691	100.0%	91,691	0	0.0%	91,691
06/30 - 07/02	10	48	75,820	98.9%	75,820	807	1.1%	76,627
07/04 - 07/05	11	36	55,199	96.8%	55,199	1,800	3.2%	56,999
07/07 - 07/08	12	36	74,413	92.6%	74,413	5,953	7.4%	80,366
07/11 - 07/12	13	36	39,954	96.7%	39,954	1,347	3.3%	41,301
07/14 - 07/17	14	84	29,827	95.8%	29,827	1,297	4.2%	31,124
07/18 - 07/20	15	60	21,440	93.7%	21,440	1,449	6.3%	22,889
07/21 - 07/24	16	84	12,949	97.4%	12,949	341	2.6%	13,290
07/25 - 07/27	17	60	11,335	93.7%	11,335	756	6.3%	12,091
07/28 - 07/30	18 [b]	48	0	0.0%	0	0	0.0%	0
08/01 - 08/03	19 [b]	48	0	0.0%	0	0	0.0%	0
08/04 - 08/06	20 [b]	48	0	0.0%	0	0	0.0%	0
08/08 - 08/10	21 [b]	48	0	0.0%	0	0	0.0%	0
08/11 - 08/13	22 [c]	48	0	0.0%	0	214	100.0%	214
08/15 - 08/16	23 [c]	24	0	0.0%	0	650	100.0%	650
08/18 - 08/19	24 [c]	24	0	0.0%	0	515	100.0%	515
08/22 - 08/23	25 [c,d]	24	[d]	0.0%	[d]	[d]	0.0%	[d]
08/25 - 08/26	26 [b]	24	0	0.0%	0	0	0.0%	0
08/29 - 08/30	27 [b]	24	0	0.0%	0	0	0.0%	0
09/01 - 09/02	28 [b]	36	0	0.0%	0	0	0.0%	0
09/05 - 09/06	29 [b]	24	0	0.0%	0	0	0.0%	0
Total			640,350	96.8%	640,350	21,464	3.2%	661,814

Note: Total harvest data from fish tickets as of 14 February 2017. Samples were not processed for SrCl mark identification, so the Gulkana Hatchery contribution is unknown. All fish without a thermal mark are assumed to be of wild origin.

[a] No samples collected; proportions from period 4 samples.

[b] No harvest reported.

[c] No samples collected; assumed wild origin.

[d] Less than 3 permits fished. Results are confidential.

Appendix E12.–Chum salmon hatchery and wild stock contributions to the Eshamy District commercial common property fishery by period, 2016.

Dates	Period	Hours	Hatchery Marks[a]									
			Wally Noerenberg		Port Chalmers		Armin F Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	Total	Number	Percent	Total
05/30 - 05/31	1	36 [a]	0	0.0%	0	0.0%	0	0.0%	0	392	100.0%	392
06/02 - 06/04	2	48 [b]	169	50.0%	32	9.5%	126	37.3%	327	11	3.3%	338
06/06 - 06/07	3	36	1,361	50.0%	255	9.4%	1,021	37.5%	2,637	85	3.1%	2,722
06/09 - 06/10	4	36	4,925	76.3%	170	2.6%	1,359	21.1%	6,454	0	0.0%	6,454
06/13 - 06/14	5	36 [c]	6,216	64.4%	444	4.6%	2,994	31.0%	9,654	0	0.0%	9,654
06/16 - 06/17	6	36	4,796	52.5%	600	6.6%	3,747	41.0%	9,143	0	0.0%	9,143
06/20 - 06/21	7	36	3,832	18.5%	0	0.0%	15,329	74.1%	19,161	1,533	7.4%	20,694
06/23 - 06/25	8	48	3,003	40.9%	0	0.0%	4,004	54.5%	7,007	334	4.5%	7,341
06/27 - 06/28	9	36	8,526	52.4%	775	4.8%	5,426	33.3%	14,727	1,550	9.5%	16,277
06/30 - 07/02	10	48	3,883	40.0%	324	3.3%	3,883	40.0%	8,090	1,618	16.7%	9,708
07/04 - 07/05	11	36	2,388	39.0%	0	0.0%	3,218	52.5%	5,606	519	8.5%	6,125
07/07 - 07/08	12	36	2,507	43.2%	157	2.7%	2,037	35.1%	4,701	1,097	18.9%	5,798
07/11 - 07/12	13	36	792	40.0%	396	20.0%	594	30.0%	1,782	198	10.0%	1,980
07/14 - 07/17	14	84	86	35.8%	17	7.1%	103	42.9%	206	34	14.2%	240
07/18 - 07/20	15	60	248	27.3%	0	0.0%	289	31.8%	537	371	40.9%	908
07/21 - 07/24	16	84 [d]	103	27.3%	0	0.0%	120	31.8%	223	154	40.8%	377
07/25 - 07/27	17	60 [d]	169	27.3%	0	0.0%	197	31.8%	366	253	40.9%	619
07/28 - 07/30	18	48 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/01 - 08/03	19	48 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/04 - 08/06	20	48 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/08 - 08/10	21	48 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/11 - 08/13	22	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	91	0.0%	91
08/15 - 08/16	23	24 [a]	0	0.0%	0	0.0%	0	0.0%	0	275	0.0%	275
08/18 - 08/19	24	24 [a]	0	0.0%	0	0.0%	0	0.0%	0	99	0.0%	99
08/22 - 08/23	25	24 [a,f]	[f]	0.0%	[f]	0.0%	[f]	0.0%	[f]	[f]	0.0%	[f]
08/25 – 08/26	26	36 [d]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0

-continued-

Dates	Period	Hours	Hatchery Marks[a]									
			Wally Noerenberg		Port Chalmers		Armin F Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	Total	Number	Percent	Total
08/29 - 08/30	27	24 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/01 - 09/02	28	36 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/05 - 09/06	29	24 [e]	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total			43,002	43.3%	3,168	3.2%	44,446	44.8%	90,616	8,624	8.7%	99,240

Note: WNH = Wally Noerenberg Hatchery, AFK = Armin F. Koernig Hatchery.

[a] No samples collected; assigned to wild origin.

[b] No samples collected; proportions are from the following sampled period.

[c] No samples collected; proportions are the average of sample proportions from the prior and following periods.

[d] No samples collected; proportions are from the previous sampled period.

[e] No harvest reported.

[f] Less than 3 permits fished. Results are confidential.

Appendix E13.–Daily salmon sales and sex ratios, sales summary, and broodstock summary at the Main Bay Hatchery, 2016.

	Sockeye salmon				
Date	% Female	Sales harvest[a]	Sales harvest cumulative	Broodstock[b]	Broodstock cumulative
06/21	–	0	0	0	0
06/22	–	0	0	0	0
06/23	–	0	0	18	18
06/24	–	0	0	10	28
06/25	–	0	0	8	36
06/26	–	0	0	25	61
06/27	–	0	0	91	152
06/28	–	0	0	208	360
06/29	–	0	0	169	529
06/30	–	0	0	182	711
07/01	–	0	0	0	711
07/02	–	0	0	0	711
07/03	–	0	0	0	711
07/04	–	0	0	0	711
07/05	–	0	0	0	711
07/06	–	0	0	0	711
07/07	–	0	0	0	711
07/08	–	0	0	0	711
07/09	–	0	0	0	711
07/10	–	0	0	0	711
07/11	–	0	0	0	711
07/12	–	0	0	0	711
07/13	–	0	0	0	711
07/14	–	0	0	0	711
07/15	–	0	0	0	711
07/16	–	0	0	0	711
07/17	–	0	0	15	726
07/18	–	0	0	0	726
07/19	–	0	0	0	726
07/20	–	0	0	0	726
07/21	–	0	0	0	726
07/22	–	0	0	0	726
07/23	–	0	0	0	726
07/24	–	0	0	47	773
07/25	–	0	0	0	773
07/26	–	0	0	0	773
07/27	–	0	0	30	803
07/28	–	0	0	0	803
07/29	–	0	0	21	824
07/30	–	0	0	0	824
07/31	–	0	0	21	845
08/01	–	0	0	392	1,237
08/02	–	0	0	47	1,284

-continued-

	Sockeye salmon				
Date	% Female	Sales harvest[a]	Sales harvest cumulative	Broodstock[b]	Broodstock cumulative
08/03	–	0	0	592	1,876
08/04	–	0	0	54	1,930
08/05	–	0	0	607	2,537
08/06	–	0	0	37	2,574
08/07	–	0	0	1,058	3,632
08/08	–	0	0	38	3,670
08/09	–	0	0	1,051	4,721
08/10	–	0	0	45	4,766
08/11	–	0	0	1,009	5,775
08/12	–	0	0	71	5,846
08/13	–	0	0	1,039	6,885
08/14	–	0	0	42	6,927
08/15	–	0	0	610	7,537
08/16	–	0	0	146	7,683
08/17	–	0	0	449	8,132
08/18	–	0	0	415	8,547
08/19	–	0	0	1,104	9,651

Hatchery escapement summary[c]	
Purse seine whole fish harvest	0
Raceway harvest[d]	0
Viable broodstock (spawned, eggs in incubators)	7,431
Unviable broodstock (green/over-ripe/bad)	298
Unspawned fish (e.g., excess males/females)	2,673
Holding mortalities (raceway, pen mortalities)	232
Estimated unharvested return[e]	195
Estimated total run to hatchery site	9,846

Sales summary	
Purse seine whole fish sales	0
Raceway sales[f]	0
Carcass sales[g]	0
Total sales	0

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

[b] Broodstock daily harvest numbers include viable broodstock, unviable broodstock, unspawned fish, and holding mortalities.

[c] Determined by fish tickets and PWSAC eggtake log, and annual report (PWSAC 2016b).

[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 E14.–Pink salmon hatchery and wild stock contributions to the Eshamy District commercial common property fishery by period, 2016.

Dates	Period	Hours	Origin											
			Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Total	Number	Percent	Total
05/30 - 05/31	1	36 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/02 - 06/04	2	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/06 - 06/07	3	36 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/09 - 06/10	4	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1	100.0%	1
06/13 - 06/14	5	36 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/16 - 06/17	6	36 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/20 - 06/21	7	36 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	7	100.0%	7
06/23 - 06/25	8	48 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	18	100.0%	18
06/27 - 06/28	9	36 [c]	143	12.5%	0	0.0%	0	0.0%	0	0.0%	143	1,001	87.5%	1,144
06/30 - 07/02	10	48	400	12.5%	0	0.0%	0	0.0%	0	0.0%	400	2,803	87.5%	3,203
07/04 - 07/05	11	36	992	12.9%	0	0.0%	0	0.0%	0	0.0%	992	6,694	87.1%	7,686
07/07 - 07/08	12	36	1,274	14.3%	0	0.0%	0	0.0%	0	0.0%	1,274	7,641	85.7%	8,915
07/11 - 07/12	13	36	496	8.3%	0	0.0%	0	0.0%	165	2.8%	661	5,291	88.9%	5,952
07/14 - 07/17	14	84	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1,371	100.0%	1,371
07/18 - 07/20	15	60	0	0.0%	0	0.0%	227	3.0%	0	0.0%	227	7,262	97.0%	7,489
07/21 - 07/24	16	84	0	0.0%	0	0.0%	297	12.0%	0	0.0%	297	2,174	88.0%	2,471
07/25 - 07/27	17	60	141	2.4%	141	2.4%	986	16.7%	282	4.8%	1,550	4,365	73.8%	5,915
07/28 - 07/30	18	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/01 - 08/03	19	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/04 - 08/06	20	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/08 - 08/10	21	48 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
08/11 - 08/13	22	48 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1,450	100.0%	1,450
08/15 - 08/16	23	24 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	7,009	100.0%	7,009
08/18 - 08/19	24	24 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	6,361	100.0%	6,361
08/22 - 08/23	25	24 [b]	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	0.0%	0	[d]	0.0%	[d]
08/25 - 09/06	26-29	24-36 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total			3,445	5.8%	141	0.2%	1,509	2.6%	447	0.8%	5,542	54,341	90.7%	59,883

[a] No harvest reported.

[b] No samples collected; assumed wild based on timing.

[c] No samples collected; proportions from the following sampled period.

[d] Less than 3 permits fished results are confidential.

Appendix E15.–Main Bay sockeye salmon harvests and total contribution, 1990–2016.

	Hatchery contributions[a]					Total
Year	Commercial	Subsistence/ homepack	Sport	Broodstock/ escapement	Cost recovery	hatchery contribution
1990	9,000	8	0	0	0	9,008
1991	480,200	260	0	4,700	0	485,160
1992	368,427	395	0	6,185	158,893	533,900
1993	208,709	656	0	8,020	97,594	314,979
1994	214,737	181	0	72,335	85,511	372,764
1995	134,778	114	0	11,148	62,782	208,822
1996	406,100	120	935	7,979	83,430	498,564
1997	845,871	147	1,031	16,498	236,031	1,099,578
1998	128,702	133	1,746	10,596	111,026	252,203
1999	143,511	187	2,207	7,104	0	153,008
2000	339,305	75	1,835	5,426	0	346,641
2001	770,884	170	2,861	10,508	50,458	834,881
2002	846,534	17	3,566	7,352	93,794	951,263
2003	1,047,133	229	4,731	6,878	366,768	1,425,739
2004	355,821	506	4,160	17,578	279,139	657,205
2005	233,089	531	2,884	44,366	188,904	469,774
2006	668,780	203	2,568	15,854	350,742	1,038,147
2007	819,244	290	6,290	20,285	321,330	1,167,439
2008	835,241	344	3,482	15,659	0	854,727
2009	756,130	244	5,473	10,815	131,553	903,971
2010	1,347,644	1,013	2,980	18,196	0	1,366,340
2011	1,274,096	983	3,291	12,810	0	1,291,180
2012	1,271,314	1,542	3,033	19,173	40	1,295,103
2013	639,157	1,333	5,420	189,059	0	834,969
2014	1,189,499	3,485	9,361	84,324	0	1,281,347
2015	1,331,675	2,332	4,817	31,255	180,516	1,550,595
10-year average	942,352	1,118	4,578	41,981	106,644	1,095,850
2016	778,515	1,777	5,336	9,846	0	795,474

[a] Commercial harvest estimates are from otolith marks. Sport and subsistence/homepack estimates are derived from commercial harvest proportions. Broodstock/escapement and hatchery cost recovery are assumed to be 100% MBH origin.

Appendix E16.–Pink salmon hatchery and wild stock contributions to the Eastern District commercial common property fishery by period, 2016.

					Origin											
					Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates		Period	Hours		Number	Percent	Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
06/27	- 06/27	01	12		11,185	83.1%	0	0.0%	0	0.0%	0	0.0%	11,185	2,267	16.9%	13,452
07/01	- 07/01	02	12		142,075	85.4%	0	0.0%	0	0.0%	0	0.0%	142,075	24,257	14.6%	166,332
07/06	- 07/06	03	14		2,193,332	99.0%	0	0.0%	0	0.0%	0	0.0%	2,193,332	23,088	1.0%	2,216,420
07/08	- 07/08	04	14		1,003,412	97.5%	0	0.0%	0	0.0%	0	0.0%	1,003,412	25,729	2.5%	1,029,141
07/12	- 07/12	05	14		806,678	94.8%	0	0.0%	0	0.0%	0	0.0%	806,678	44,323	5.2%	851,001
07/13	- 07/13	06	14		343,656	78.4%	0	0.0%	0	0.0%	0	0.0%	343,656	94,957	21.6%	438,613
07/27	- 07/27	07	14		393,065	58.3%	0	0.0%	0	0.0%	0	0.0%	393,065	280,760	41.7%	673,825
07/28	- 07/28	08	14		131,849	53.1%	2,585	1.0%	0	0.0%	0	0.0%	134,434	113,752	45.8%	248,186
07/31	- 07/31	09	14		135,016	29.2%	4,822	1.0%	0	0.0%	0	0.0%	139,838	323,075	69.8%	462,913
08/04	- 08/04	10	12		175,303	32.3%	5,655	1.0%	11,310	2.1%	0	0.0%	192,268	350,606	64.6%	542,874
08/11	- 08/11	11	12		36,175	9.4%	28,136	7.3%	8,039	2.1%	0	0.0%	72,349	313,513	81.3%	385,862
08/15	- 08/15	12	12		7,216	7.3%	11,339	11.5%	0	0.0%	0	0.0%	18,555	80,406	81.3%	98,961
08/18	- 08/18	13	12		1,563	5.4%	4,065	14.0%	938	3.2%	0	0.0%	6,567	22,514	77.4%	29,081
08/22	- 08/22	14	12		0	0.0%	809	3.6%	0	0.0%	0	0.0%	809	21,856	96.4%	22,665
08/23	- 08/23	15	12	[a]	327,057	100.0%	0	0.0%	0	0.0%	0	0.0%	327,057	0	0.0%	327,057
08/24	- 08/24	16	12	[a]	28,670	100.0%	0	0.0%	0	0.0%	0	0.0%	28,670	0	0.0%	28,670
08/25	- 08/25	17	12		0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1,768	100.0%	1,768
08/29	- 08/29	18	12	[c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/01	- 09/01	19	12	[c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/05	- 09/05	20	12	[c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/06	- 09/06	21	12	[c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
09/07	- 09/07	22	12	[c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total					5,736,252	76.1%	54,222	0.7%	19,148	0.3%	0	0.0%	5,813,950	1,722,871	22.9%	7,536,820

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK=Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No samples collected; all fish assumed to be of hatchery origin as fishing occurred in the SGH SHA.

[b] Less than 3 permits fished. Results are confidential.

[c] No samples collected; assumed wild origin.

Appendix E17.–Pink salmon hatchery and wild stock contributions to the Northern District commercial common property fishery by period, 2016.

					Origin											
					Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
Dates			Period	Hours	Number	Percent	Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
07/12	-	07/12	1	14	56,005	92.6%	0	0.0%	0	0.0%	0	0.0%	56,005	4,455	7.4%	60,460
07/13	-	07/13	2	14	17,393	53.1%	669	2.0%	0	0.0%	0	0.0%	18,062	14,717	44.9%	32,779
07/27	-	07/27	3	14	43,315	47.1%	13,536	14.7%	2,707	2.9%	0	0.0%	59,558	32,486	35.3%	92,044
07/31	-	07/31	4	14	46,184	54.4%	7,489	8.8%	0	0.0%	0	0.0%	53,673	31,206	36.8%	84,879
08/04	-	08/04	5	12 [a,b]	[b]	0.0%	[b]	0.0%	[b]	0.0%	[b]	0.0%	[b]	[b]	0.0%	[b]
08/11	-	08/11	6	12 [a]	7,694	54.4%	1,248	8.8%	0	0.0%	0	0.0%	8,942	5,199	36.8%	14,141
08/15	-	08/15	7	12	0	0.0%	1,427	1.2%	104,168	84.9%	1,427	1.2%	107,022	15,697	12.8%	122,719
Totals					176,139	42.2%	25,269	6.1%	106,875	25.6%	1,427	0.3%	309,710	107,509	25.8%	417,219

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK = Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No samples collected; proportions from the prior sampled period.

[b] Less than 3 permits fished. Results are confidential.

Appendix E18.–Pink salmon hatchery and wild stock contributions to Prince William Sound, Bering, and Copper River commercial common property fishery, 2016.

		Origin											
		Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
Districts		Number	Percent	Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
Bering River	200 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	22	100.0%	22
Copper River	212	324	0.9%	0	0.0%	0	0.0%	108	0.3%	432	33,998	98.7%	34,430
Eastern	221	5,736,251	76.1%	57,412	0.8%	20,287	0.3%	0	0.0%	5,813,950	1,722,870	22.9%	7,536,820
Northern	222	168,445	40.4%	24,185	5.8%	118,878	28.5%	1,591	0.4%	313,099	104,118	25.0%	417,217
Coghill	223	221	1.6%	0	0.0%	9,864	72.8%	0	0.0%	10,085	3,461	25.5%	13,546
Northwestern	224 [b]	0	0.0%	8,370	4.9%	21,641	12.6%	4,462	2.6%	34,473	137,887	80.0%	172,360
Eshamy	225	3,445	5.8%	141	0.2%	1,509	2.5%	447	0.7%	5,542	54,341	90.7%	59,883
Southwestern	226	4,941	1.4%	24,241	7.0%	7,012	2.0%	173,994	50.3%	210,188	135,654	39.2%	345,842
Montague	227	16,733	86.4%	0	0.0%	0	0.0%	0	0.0%	16,733	2,627	13.6%	19,360
Southeastern	228	13,755	36.2%	0	0.0%	0	0.0%	0	0.0%	13,755	24,215	63.8%	37,970
Unakwik	229 [c]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total		5,951,809	68.9%	115,432	1.4%	167,188	2.0%	180,438	2.1%	6,414,868	2,222,582	25.7%	8,637,450

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK = Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No samples collected; all harvest allocated to wild stocks.

[b] Few samples collected; proportions and resulting contributions averaged across 3 sampled periods.

[c] No reported harvest.

Appendix E19.–Chum salmon hatchery and wild stock contributions to commercial common property fisheries by period and mark identification, Southwestern District, 2016.

				Origin										
				Port Chalmers		Wally Noerenberg		Armin F Koernig		Hatchery		Wild		
Dates		Period	Hours	Number	Percent	Number	Percent	Number	Percent	total		Number	Percent	Total
06/02	- 06/05	1	84 [a]	33	1.1%	1,194	40.0%	1,359	45.5%	2,586	86.7%	398	13.3%	2,984
06/06	- 06/08	2	60	127	1.1%	4,567	40.0%	5,201	45.6%	9,895	86.7%	1,522	13.3%	11,417
06/09	- 06/12	3	84	313	1.1%	4,377	14.7%	24,387	82.1%	29,077	97.9%	625	2.1%	29,702
06/13	- 06/15	4	60	0	0.0%	1,301	5.3%	22,112	89.5%	23,413	94.7%	1,301	5.3%	24,714
06/16	- 06/19	5	84	1,617	4.2%	1,617	4.2%	35,177	91.6%	38,411	100.0%	0	0.0%	38,411
06/20	- 06/22	6	60	1,570	7.4%	1,794	8.5%	16,818	79.8%	20,182	95.7%	897	4.3%	21,079
06/23	- 06/23	7	14	464	5.3%	929	10.7%	7,314	84.0%	8,707	100.0%	0	0.0%	8,707
06/24	- 06/24	8	14 [b]	55	2.7%	205	10.0%	1,753	85.7%	2,013	98.4%	32	1.6%	2,045
06/25	- 06/25	9	14	0	0.0%	708	9.4%	6,606	87.5%	7,314	96.9%	236	3.1%	7,550
06/27	- 06/27	10	14	1,162	6.7%	774	4.4%	15,488	88.9%	17,424	100.0%	0	0.0%	17,424
06/29	- 06/29	11	14	539	3.8%	1,258	9.0%	12,223	87.2%	14,020	100.0%	0	0.0%	14,020
07/01	- 07/01	12	8	0	0.0%	210	3.3%	6,091	96.7%	6,301	100.0%	0	0.0%	6,301
07/03	- 07/03	13	8 [b]	0	0.0%	631	11.3%	4,962	88.7%	5,593	100.0%	0	0.0%	5,593
07/05	- 07/05	14	8	0	0.0%	1,146	19.2%	4,813	80.8%	5,959	100.0%	0	0.0%	5,959
07/07	- 07/07	15	8 [a]	824	16.7%	824	16.7%	3,295	66.7%	4,943	100.0%	0	0.0%	4,943
07/09	- 07/09	16	8	530	16.7%	530	16.7%	2,119	66.7%	3,179	100.0%	0	0.0%	3,179
07/11	- 07/11	17	8	58	3.8%	117	7.7%	1,345	88.5%	1,520	100.0%	0	0.0%	1,520
07/13	- 07/13	18	8 [b,c]	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	0.0%	0
07/15	- 07/15	19	14 [c]	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	0.0%	[c]	0.0%	0
07/17	- 07/17	20	14	104	6.7%	311	20.0%	1,141	73.3%	1,556	100.0%	0	0.0%	1,556
07/19	- 07/19	21	14 [b]	27	3.3%	110	13.6%	318	39.4%	455	56.4%	352	43.6%	807
08/18	- 08/18	22	6	0	0.0%	32	7.2%	24	5.4%	56	12.6%	389	87.4%	445
09/06	- 09/06	23	12 [d]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total				7,726	3.7%	22,662	10.8%	174,460	82.8%	204,848	97.3%	5,752	2.7%	210,600

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK = Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No samples collected; proportions are from the following period samples.

[b] No samples collected; proportions are the average of sample proportions from the prior and following periods.

[c] Less than 3 permits fished. Results are confidential.

[d] No harvest reported.

Appendix E20.–Sockeye salmon hatchery and wild stock contributions to the Southwestern District commercial common property fishery by period, 2016.

Dates		Period	Hours	Main Bay Number	Main Bay Percent	Hatchery total		Wild Number	Wild Percent	Total
06/02	- 06/05	1	84 [a]	0	0.0%	0	0.0%	8	0.0%	8
06/06	- 06/08	2	60 [b]	28	80.0%	28	80.0%	7	20.0%	35
06/09	- 06/12	3	84	123	79.9%	123	79.9%	31	20.1%	154
06/13	- 06/15	4	60	268	95.7%	268	95.7%	12	4.3%	280
06/16	- 06/19	5	84	4,341	91.4%	4,341	91.4%	411	8.6%	4,752
06/20	- 06/22	6	60	4,585	91.9%	4,585	91.9%	406	8.1%	4,991
06/23	- 06/23	7	14	5,775	98.5%	5,775	98.5%	87	1.5%	5,862
06/24	- 06/24	8	14 [c]	1,435	98.0%	1,435	98.0%	29	2.0%	1,464
06/25	- 06/25	9	14	5,888	97.5%	5,888	97.5%	153	2.5%	6,041
06/27	- 06/27	10	14	9,941	98.8%	9,941	98.8%	117	1.2%	10,058
06/29	- 06/29	11	14	8,876	97.7%	8,876	97.7%	209	2.3%	9,085
07/01	- 07/01	12	8	1,803	87.5%	1,803	87.5%	258	12.5%	2,060
07/03	- 07/03	13	8 [d]	2,594	87.5%	2,594	87.5%	371	12.5%	2,965
07/05	- 07/05	14	8 [d]	1,092	87.5%	1,092	87.5%	156	12.5%	1,248
07/07	- 07/07	15	8 [d]	419	87.5%	419	87.5%	60	12.5%	479
07/09	- 07/09	16	8	352	97.5%	352	97.5%	9	2.5%	361
07/11	- 07/11	17	8	551	100.0%	551	100.0%	0	0.0%	551
07/13	- 07/13	18	8 [d,e]	[e]	0.0%	[e]	0.0%	[e]	0.0%	[e]
07/15	- 07/15	19	14 [e]	[e]	0.0%	[e]	0.0%	[e]	0.0%	[e]
07/17	- 07/17	20	14 [b]	611	100.0%	611	100.0%	0	0.0%	611
07/19	- 07/19	21	14	527	100.0%	527	100.0%	0	0.0%	527
08/18	- 08/18	22	6	10	1.2%	10	1.2%	825	98.8%	835
09/06	- 09/06	23	12 [f]	0	0.0%	0	0.0%	0	0.0%	0
Total				49,776	94.1%	49,776	94.1%	3,148	5.9%	52,924

Note: Total harvest data from fish tickets as of 28 November 2016. Samples were not processed for SrCl mark identification, so the Gulkana Hatchery contribution is unknown.

[a] No samples collected; all fish assigned to wild origin..

[b] No samples collected; proportions from the following sampled period.

[c] No samples collected; proportions are the average of the adjacent sampled periods (closest prior and following periods).

[d] No samples collected; proportions from the previous sampled period.

[e] Less than 3 permits fished. Results are confidential.

[f] No harvest reported.

Appendix E21.–Pink salmon hatchery and wild stock contributions to the Southwestern District commercial common property fishery by period, 2016.

Dates	Period	Hours	Origin											
			Solomon Gulch		Cannery Creek		Wally Noerenberg		A.F. Koernig		Hatchery	Wild		
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	total	Number	Percent	Total
06/02 - 06/05	1	84 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/06 - 06/08	2	60 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/09 - 06/12	3	84 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	22	100.0%	22
06/13 - 06/15	4	60 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	10	100.0%	10
06/16 - 06/19	5	84 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	4	100.0%	4
06/20 - 06/22	6	60 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	26	100.0%	26
06/23 - 06/23	7	14 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100	100.0%	100
06/24 - 06/24	8	14 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
06/25 - 06/25	9	14 [b]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	25	100.0%	25
06/27 - 06/27	10	14	114	46.3%	0	0.0%	0	0.0%	0	0.0%	114	132	53.7%	246
06/29 - 06/29	11	14	1,554	68.5%	0	0.0%	0	0.0%	0	0.0%	1,554	714	31.5%	2,268
07/01 - 07/01	12	8 [c]	857	68.5%	0	0.0%	0	0.0%	0	0.0%	857	394	31.5%	1,251
07/03 - 07/03	13	8 [c]	1,729	68.5%	0	0.0%	0	0.0%	0	0.0%	1,729	794	31.5%	2,523
07/05 - 07/05	14	8 [c]	308	68.4%	0	0.0%	0	0.0%	0	0.0%	308	142	31.6%	450
07/07 - 07/07	15	8 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
07/09 - 07/09	16	8 [e]	63	17.4%	0	0.0%	0	0.0%	236	65.2%	299	63	17.4%	362
07/11 - 07/11	17	8	118	17.3%	0	0.0%	0	0.0%	444	65.2%	563	118	17.3%	681
07/13 - 07/13	18	8 [d,f]	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	[d]	0.0%	[d]
07/15 - 07/15	19	14 [d]	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	0.0%	[d]	[d]	0.0%	[d]
07/17 - 07/17	20	14	52	1.7%	0	0.0%	0	0.0%	2,400	78.0%	2,452	626	20.3%	3,078
07/19 - 07/19	21	14	86	2.2%	0	0.0%	86	2.2%	3,013	77.8%	3,185	689	17.8%	3,874
08/18 - 08/18	22	6	0	0.0%	24,241	7.4%	6,926	2.1%	166,225	50.5%	197,392	131,595	40.0%	328,987
09/06 - 09/06	23	12 [a]	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%	0
Total			4,941	1.4%	24,241	7.0%	7,012	2.0%	173,994	50.3%	210,188	135,654	39.2%	345,842

Note: SGH = Solomon Gulch Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery, and AFK = Armin F. Koernig Hatchery. Fish ticket data as of 14 February 2017.

[a] No harvest reported.

[b] No samples collected; assumed wild origin.

[c] No samples collected; proportions from the previous sampled period

[d] Less than 3 permits fished. Results are confidential.

[e] No samples collected; proportions from the following sampled period

[f] No samples collected; proportions are the average of the adjacent sampled periods (closest prior and following periods).

APPENDIX F: SUBSISTENCE AND COMMERCIAL HOMEPACK SALMON HARVEST

Appendix F1.–Salmon harvest and effort in the Copper River District subsistence drift gillnet fishery, 1961–2016.

	Permits				Reported harvest			
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	NA	153	326	180	659
1974	9	5	3	2	5	4	2	11
1975	2	2	2	NA	0	5	0	5
1976	27	14	14	NA	1	10	0	11
1977	23	22	22	NA	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
2005	237	224	121	103	260	830	15	1,105

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	Permits				Reported harvest			
Year	Issued	Returned	Fished	Not fished[a]	Chinook	Sockeye	Coho	Total
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
2009	323	293	128	165	212	1,764	22	1,998
2010	325	314	139	175	276	1,980	27	2,283
2011	273	263	113	150	212	1,783	34	2,029
2012	378	357	204	153	237	4,270	0	4,507
2013	531	492	321	171	854	5,639	1	6,494
2014	288	269	101	168	153	1,675	0	1,828
2015	241	231	97	134	167	1,403	10	1,580
10-year average	376	354	195	161	451	3,299	16	3,765
2016	195	189	77	112	73	1,075	2	1,150

[a] As reported on returned permits.

Appendix F2.–Salmon harvest and effort in the Prince William Sound general area subsistence fishery, 1966–2016.

	Permits				Reported harvest[a]						
Year	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
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

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	Permits				Reported harvest[a]						
Year	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
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
2009	1	1	0	1	0	0	0	0	0	0	0
2010	2	2	1	1	0	0	0	0	0	0	0
2011	4	4	3	1	29	40	1	5	10	0	85
2012	14	12	6	6	0	40	0	0	22	0	62
2013	8	8	7	1	0	12	0	0	24	5	41
2014	23	21	2	19	0	3	0	0	0	0	3
2015	25	23	10	13	4	115	0	0	3	0	122
10-year average	10	9	4	6	3	29	0	4	6	1	43
2016	5	5	1	4	0	1	0	0	0	0	1

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

[b] As reported on returned permits.

Appendix F3.–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, 1996–2016.

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
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
2009	16	0	4	0	0	104	7	0	30	0	0	0	0	0	8	0
2010	85	0	51	0	2	1,062	55	51	9	0	0	5	0	0	70	0
2011	78	0	62	2	73	670	268	350	249	0	0	68	0	0	21	0
2012	144	11	76	0	143	2,359	318	78	183	0	83	3,495	0	55	1,197	0
2013	111	0	65	24	50	1,049	228	25	39	0	0	119	0	0	28	0
2014	81	7	38	10	168	1,146	301	17	1,500	0	0	20	0	11	62	0
2015	76	5	34	9	401	1,017	965	23	67	0	0	3	0	4	49	20
10-year average	59	2	41	3	34	692	119	63	71	0	10	463	0	7	166	0
2016	62	9	25	10	316	878	696	60	1	0	13	22	0	7	10	0

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Copper River District (all drift gillnet)					Bering River District (all drift gillnet)				
Year	Permits	Chinook	Sockeye	Coho	Year	Permits	Chinook	Sockeye	Coho
1996	345	2,169	0	0	1996	7	31	0	0
1997	284	1,243	0	0	1997	1	3	0	0
1998	309	1,411	1,435	14	1998	5	7	0	0
1999	297	1,115	1,333	36	1999	2	2	20	102
2000	245	740	651	0	2000	1	3	0	0
2001	289	935	2,113	24	2001	2	2	0	0
2002	247	773	1,138	187	2002	1	1	0	0
2003	287	1,073	4,077	0	2003	6	6	52	0
2004	174	539	525	2	2004	2	0	1	10
2005	228	760	1,785	119	2005	2	2	0	0
2006	264	779	1,539	137	2006	4	9	6	0
2007	280	1,019	2,023	340	2007	2	2	0	0
2008	223	537	2,172	423	2008	4	9	6	0
2009	328	876	6,528	767	2009	1	0	0	20
2010	333	906	7,064	1,026	2010	5	0	0	82
2011	336	1,282	9,070	543	2011	1	0	0	10
2012	378	853	7,985	1,037	2012	4	1	0	155
2013	331	564	9,448	249	2013	2	4	35	0
2014	386	768	12,072	1,146	2014	3	0	0	42
2015	359	1,145	10,590	1,423	2015	1	0	0	10
10-year average	322	873	6,849	709	10-year average	3	3	5	32
2016	340	727	9,598	1,353	2016	0	0	0	0

Appendix F4.–Area E commercial homepack and subsistence harvests by permit holder community of residence, 2016.

	Commercial homepack[a]						
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Anchor Point	1	1	1				2
Anchorage	20	48	602	54	6		710
Chugiak	2	1	2	60	2		65
Cordova	185	463	6,005	884	124	14	7,490
Delta Junction	3	1	175	19			195
Eagle River	1	2					2
Fairbanks	2	8	123		2	5	138
Girdwood	3	3	13				16
Homer	39	50	838	237	540	12	1,677
Juneau	3	2	13				15
Kasilof	1	3					3
Kenai	2	3	12				15
Moose Pass	2		10	38			48
Palmer	1	3					3
Seward	9	9	62	10	9		90
Soldotna	3	5	17				22
Sterling	2	6	20				26
Sutton	1		1				1
Valdez	2	7	27				34
Wasilla	15	25	592	65			682
Whittier	1		35		10		45
Willow	4		127	5			132
Usa Balance	73	121	2,757	283	25	32	3,218
Unknown	8	10	16	44	3	1	74
Total	383	771	11,448	1,699	721	64	14,703

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	Area E Subsistence[b]						
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Anchorage	28	1	30	0	0	0	31
Chenega Bay	1	0	32	1	0	15	48
Coffman	1	0	0	0	0	0	0
Cordova	164	65	1,032	2	10	0	1,109
Eagle River	2	0	1	0	0	0	1
Fairbanks	2	0	0	0	0	0	0
Kodiak	1	0	0	0	0	0	0
North Pole	2	0	0	0	0	0	0
Palmer	1	0	0	0	0	0	0
Seward	1	0	0	0	0	0	0
Tatitlek	5	7	13	0	0	0	20
Valdez	2	0	0	0	0	0	0
Wasilla	3	0	0	0	0	0	0
Total	213	73	1,108	3	10	15	1,209

[a] Homepack fish are defined in 5 AAC 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 F5.–Salmon harvest and effort in the PWS and upper Copper River Federal subsistence fisheries, 2006–2016.

	Permits				Reported harvest[a]			
Year	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Total
				Chitina Subdistrict				
2006	75	64	29	NA	13	1,379	20	1,412
2007	98	87	74	12	26	929	40	995
2008	82	70	38	0	22	789	74	885
2009	68	62	39	23	8	817	11	836
2010	92	79	38	41	17	2,061	31	2,109
2011	84	68	42	26	13	1,693	8	1,714
2012	89	80	33	47	5	865	8	878
2013	99	85	39	46	17	1,946	8	1,971
2014	113	103	49	54	13	1,509	68	1,590
2015	111	100	52	48	13	2,171	14	2,198
5-year avg.	99	87	43	44	12	1,637	21	1,670
2016	128	95	43	52	15	1,321	11	1,347
				Glennallen Subdistrict				
2006	254	220	170	NA	430	16,711	28	17,169
2007	281	238	224	14	569	15,225	34	15,828
2008	270	219	139	0	705	11,347	156	12,208
2009	277	227	170	57	494	11,822	34	12,350
2010	270	236	175	61	300	12,835	64	13,199
2011	280	240	173	67	698	13,774	176	14,648
2012	277	244	169	75	370	14,425	142	14,937
2013	274	236	160	76	329	15,372	20	15,721
2014	314	279	206	73	370	21,013	23	21,406
2015	325	286	210	76	369	24,058	78	24,505
5-year avg.	294	257	184	73	427	17,728	88	18,243
2016	320	246	176	75	336	15,017	9	15,362
				PWS/Chugach Subdistrict				
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
2010	52	52	35	17	0	36	68	104
2011	69	55	50	5	0	35	581	616
2012	66	53	30	23	0	64	392	456
2013	65	46	29	17	0	102	310	412
2014	89	76	0	0	0	76	630	706
2015	102	68	50	15	0	152	878	1,030
5-year avg.	74	58	32	13	0	78	477	554
2016	0	0	0	0	0	110	606	716

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	Permits				Reported harvest[a]			
Year	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Total
				Total federal subsistence harvests				
2006	378	332	222	NA	443	18,240	148	18,831
2007	412	358	315	NA	595	16,190	142	16,927
2008	397	334	200	22	727	12,168	349	13,244
2009	384	327	231	96	502	12,685	230	13,417
2010	414	367	248	119	317	14,932	163	15,412
2011	433	363	265	98	711	15,502	765	16,978
2012	432	377	232	145	375	15,354	542	16,271
2013	438	367	228	139	346	17,420	338	18,104
2014	516	458	255	127	383	22,598	721	23,702
2015	538	454	312	139	382	26,381	970	27,733
5-year avg.	471	404	258	130	439	19,451	667	20,558
2016	448	341	219	127	351	16,448	626	17,425

Note: NA = data not available

[a] Reported harvest only.

[b] As reported on returned permits.

Appendix F6.–Salmon harvest and effort in the Tatitlek and Chenega subsistence fisheries, 1996–2016.

	Permits				Reported harvest[a]						
Year	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
					Tatitlek						
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	0	0	NR	NR	NR	NR	NR	NR	0
2008	2	1	1	0	0	60	0	0	0	0	60
2009	12	4	3	1	0	170	131	0	0	0	301
2010	8	5	5	0	0	165	142	50	10	0	367
2011	10	4	4	0	0	922	536	0	22	0	1,480
2012	32	7	6	1	15	728	75	0	0	0	818
2013	22	11	8	3	0	613	277	0	129	0	1,019
2014	7	5	2	3	0	46	103	0	0	0	149
2015	16	4	4	0	12	110	143	0	8	0	273
10-year average	14	4	3	1	3	313	158	9	22	0	505
2016	5	5	0	5	0	0	0	0	0	0	0

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Year	Permits				Reported harvest[a]						
	Issued	Returned	Fished	Not fished[b]	Chinook	Sockeye	Coho	Pink	Chum	Unknown	Total
Chenega											
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
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
2009	4	4	3	1	2	168	26	5	84	0	285
2010	9	5	5	0	0	55	0	6	87	0	148
2011	17	11	8	3	2	134	26	50	60	0	272
2012	23	14	6	8	0	603	20	0	77	1	701
2013	13	4	3	1	0	19	0	0	63	0	82
2014	10	5	2	3	0	0	0	10	0	0	10
2015	21	4	1	3	56	0	35	0	12	0	103
10-Year Average	13	6	4	2	7	153	21	17	58	0	256
2016	7	6	1	5	0	32	1	0	0	0	33

[a] Reported harvest only.

[b] As reported on returned subsistence permits.

Appendix F7.–Personal use and subsistence salmon harvests by year, district and gear types for the Upper Copper River subsistence and personal use fisheries, 2000–2016.

					Reported harvest				Expanded harvest					
			Permits		Salmon				Salmon				Other species	
Year	District	Gear	Issued	Returned	Chinook	Sockeye	Coho	Total	Chinook	Sockeye	Coho	Total	Steelhead	other
2000	Glennallen	Dip net	464	422	537	8,368	78	8,983	NA	NA	NA	NA	NA	NA
	Glennallen	Fish wheel	787	757	4,245	49,873	433	54,551	4,856	59,497	532	64,885	0	0
	Chitina	Dip net	8,151	7,680	3,007	103,269	3,540	109,816	3,168	107,856	3,657	114,681	0	203
	Total		9,402	8,859	7,789	161,510	4,051	173,350	8,024	167,353	4,189	179,566	0	203
2001	Glennallen	Dip net	407	367	299	8,532	25	8,856	NA	NA	NA	NA	NA	NA
	Glennallen	Fish wheel	832	809	3,074	70,585	1,076	74,735	3,553	82,858	1,144	87,555	0	0
	Chitina	Dip net	9,462	8,356	2,803	121,304	2,385	126,492	3,113	132,108	2,720	137,941	0	484
	Total		10,701	9,532	6,176	200,421	3,486	210,083	6,666	214,966	3,864	225,496	0	484
2002	Glennallen	Dip net	469	384	409	6,855	142	7,406	470	7,641	148	8,259	0	0
	Glennallen	Fish wheel	662	626	3,015	41,037	382	44,434	3,183	43,209	382	46,774	25	0
	Chitina	Dip net	6,805	5,733	1,745	75,747	1,712	79,204	2,023	85,968	1,934	89,925	0	317
	Total		7,936	6,743	5,169	123,639	2,236	131,044	5,676	136,818	2,464	144,958	25	317
2003	Glennallen	Dip net	399	343	318	6,132	58	6,508	345	6,934	58	7,337	1	0
	Glennallen	Fish wheel	613	580	2,077	38,077	392	40,546	2,193	40,073	409	42,675	42	0
	Chitina	Dip net	6,418	5,438	1,644	71,053	2,168	74,865	1,903	80,796	2,533	85,232	0	264
	Total		7,430	6,361	4,039	115,262	2,618	121,919	4,441	127,803	3,000	135,244	43	264
2004	Glennallen	Dip net	330	262	273	4,851	76	5,200	310	5,315	112	5,737	3	0
	Glennallen	Fish wheel	626	594	2,893	47,279	465	50,637	3,036	50,195	465	53,696	61	0
	Chitina	Dip net	8,386	6,855	2,108	93,182	2,304	97,594	2,495	107,312	2,860	112,667	0	509
	Total		9,342	7,711	5,274	145,312	2,845	153,431	5,841	162,822	3,437	172,100	64	509
2005	Glennallen	Dip net	363	303	264	6,305	0	6,569	310	7,486	0	7,796	0	0
	Glennallen	Fish wheel	598	557	1,816	54,661	97	56,574	1,919	56,727	154	58,800	19	0
	Chitina	Dip net	8,230	6,937	1,773	106,797	1,562	110,132	2,043	120,013	1,869	123,925	0	478
	Total		9,191	7,797	3,853	167,763	1,659	173,275	4,272	184,226	2,023	190,521	19	478
2006	Glennallen	Dip net	338	273	266	6,243	10	6,519	335	7,170	10	7,515	0	1
	Glennallen	Fish wheel	646	605	2,178	46,516	200	48,894	2,434	50,540	202	53,176	0	82
	Chitina	Dip net	8,566	6,762	2,071	102,443	1,886	106,400	2,663	123,261	2,715	128,639	0	464
	Total		9,550	7,640	4,515	155,202	2,096	161,813	5,432	180,971	2,927	189,330	0	547

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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
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	33,687	447	35,927	1,885	35,980	458	38,323	0	75
	Chitina	Dip net	8,258	6,861	1,690	70,597	2,346	74,633	1,999	81,359	2,711	86,069	0	407
	Total		9,444	7,908	3,928	110,801	2,828	117,557	4,380	124,516	3,204	132,100	0	482
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	0	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	0	340
2010	Glennallen	Dip net	620	510	126	384	0	0	9,970	7,757	0	17,727	0	325
	Glennallen	Fish wheel	701	647	1,360	54,490	228	56,078	1,427	57,717	228	59,372	0	148
	Chitina	Dip net	9,970	7,757	587	116,790	1,592	118,969	700	138,487	2,013	141,200	0	365
	Total		11,291	8,914	2,073	171,664	1,820	175,047	12,097	203,961	2,241	218,299	0	838
2011	Glennallen	Dip net	617	530	681	13,034	63	13,778	734	14,454	68	15,256	0	0
	Glennallen	Fish wheel	689	625	1,518	41,009	283	42,810	1,585	45,168	304	47,057	0	164
	Chitina	Dip net	9,217	7,566	924	114,164	1,512	116,600	1,067	128,052	1,702	130,821	0	444
	Total		10,523	8,721	3,123	168,207	1,858	173,188	3,386	187,674	2,074	193,134	0	608
2012	Glennallen	Dip net	867	699	516	17,860	50	18,426	591	21,198	59	21,848	0	4
	Glennallen	Fish wheel	660	612	1,407	50,269	229	51,905	1,504	55,107	276	56,887	0	112
	Chitina	Dip net	10,016	8,030	496	109,777	1,132	111,405	567	127,143	1,385	129,095	0	267
	Total		11,543	9,341	2,419	177,906	1,411	181,736	2,662	203,448	1,720	207,830	0	383
2013	Glennallen	Dip net	808	667	794	22,924	55	23,773	902	25,879	79	26,860	4	0
	Glennallen	Fish wheel	531	494	1,169	44,201	63	45,433	1,246	47,849	64	49,159	22	25
	Chitina	Dip net	10,424	8,482	620	151,658	719	152,997	744	180,663	797	182,204	0	700
	Total		11,763	9,643	2,583	218,783	837	222,203	2,892	254,391	941	258,224	26	725

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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
2014	Glennallen	Dip net	1,148	918	551	24,736	169	25,456	675	29,914	174	30,763	0	3
	Glennallen	Fish wheel	508	461	652	42,027	57	42,736	690	45,587	59	46,336	0	29
	Chitina	Dip net	11,618	9,332	652	137,179	854	138,685	719	157,215	1,129	159,063	0	329
	Total		13,274	10,711	1,855	203,942	1,080	206,877	2,084	232,716	1,362	236,162	0	361
2015	Glennallen	Dip net	1,128	909	1,087	29,092	26	30,205	1,297	35,416	32	36,745	0	0
	Glennallen	Fish wheel	503	455	870	43,316	45	44,231	915	46,384	45	47,344	0	217
	Chitina	Dip net	12,635	10,509	1,305	186,485	797	188,587	1,570	223,080	841	225,491	0	1,341
	Total		14,266	11,873	3,262	258,893	868	263,023	3,782	304,880	918	309,580	0	1,558
2006-2015 10-year Average	Glennallen	Dip net	700	573	524	13,498	44	11,651	1,589	16,533	50	15,278	0	34
	Glennallen	Fish wheel	622	573	1,561	44,655	194	47,644	1,656	48,053	206	51,061	2	98
	Chitina	Dip net	9,715	7,939	1,093	118,328	1,378	112,954	1,294	137,442	1,675	130,254	0	524
	Total		11,037	9,085	3,178	176,480	1,617	172,249	4,539	202,028	1,931	196,592	3	656
2016	Glennallen	Dip net	1,300	1,030	833	22,525	20	23,378	1,002	26,301	20	27,323	0	0
	Glennallen	Fish wheel	469	413	930	31,703	25	32,658	1,073	36,173	25	37,271	0	391
	Chitina	Dip net	11,394	9,302	563	126,528	1,027	128,118	711	148,982	1,182	150,875	0	605
	Total		13,163	10,745	2,326	180,756	1,072	184,154	2,786	211,456	1,227	215,469	0	996

Appendix F8.–Salmon harvest and effort in the Batzulnetas subsistence harvests, 1987–2016.

	Permits				Reported harvest[a]			
Year	Issued	Returned	Fished	Not fished[b]	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
2009	0	0	0	0	0	0	0	0
2010	3	3	3	0	0	106	0	106
2011	3	2	2	0	0	9	0	9
2012	3	2	1	1	1	101	1	103
2013	3	3	3	0	2	867	2	871
2014	2	1	1	1	3	116	3	122
2015	4	4	0	4	0	0	0	0
10-Year Average	2	2	1	1	1	120	1	121
2016	0	0	0	0	0	0	0	0

[a] Harvest reported on subsistence permits.

[b] As reported on returned permits.

APPENDIX G: HERRING

Appendix G1.–Annual Pacific herring biomass indices for Prince William Sound Area harvest management years 1973–2016.

	Total spring	Aerial survey estimates				Unexploited esc. biomass	Pre-fishery run biomass	Observed peak acoustic biomass estimates		
Harvest management year	Use and harvest mortality [a] (tons)	Peak biomass estimate [b] (tons)	Maximum possible observed biomass [c]	Miles of spawn [d]	Mile days of spawn [e]	Age structured analysis [f] (tons)	Age structured analysis [f] (tons)	Fall (tons)	Spring (tons)	Prior year forecast (tons)
1973–1974	6,375	41,080	102,150	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	25,270	32.8	41.2	ND	ND	ND	ND	ND
1976–1977	2,267	16,830	15,150	39.3	78.2	ND	ND	ND	ND	ND
1977–1978	1,391	13,410	37,850	28.7	50.8	ND	ND	ND	ND	ND
1978–1979	4,138	42,100	101,920	54.5	89.0	ND	ND	ND	ND	ND
1979–1980	6,323	62,110	148,270	50.5	95.5	61,270	66,592	ND	ND	ND
1980–1981	14,124	77,810	162,970	85.4	144.0	60,881	74,335	ND	ND	ND
1981–1982	7,861	68,790	85,910	49.0	85.5	54,889	62,441	ND	ND	ND
1982–1983	3,181	41,850	104,145	67.4	93.5 [g]	65,558	68,332	ND	ND	ND
1983–1984	6,604	58,870	178,650	60.1	104.8	76,518	82,469	ND	ND	ND
1984–1985	7,679	20,830	65,690	101.2	156.7	94,344	101,580	ND	ND	ND
1985–1986	11,180	15,180	65,030	72.4	146.8	82,131	92,753	ND	ND	ND
1986–1987	6,281	26,530	56,745	65.3	186.8	94,482	99,709	ND	ND	ND
1987–1988	9,871	34,270	81,545	166.3	269.8	121,750	131,014	ND	ND	43,992
1988–1989	[h]	56,915	188,928	98.4	228.1	119,803	119,803	ND	ND	54,899
1989–1990	10,103	57,900	114,733	94.1	164.4	92,209	102,295	ND	ND	51,692
1990–1991	15,196	42,765	143,495	58.0	71.5	74,377	88,216	ND	ND	96,666
1991–1992	20,752	53,835	139,729	74.7	119.8	73,558	92,220	ND	ND	121,342
1992–1993	2,360	20,725	121,015	20.4	50.3	37,522	39,102	ND	ND	134,133
1993–1994	151	19,640	155,199	14.6	23.1	20,342	20,342	20,998	ND	29,787
1994–1995	0	7,113	21,110	20.4	28.2	15,516	15,516	13,840	14,639	19,009
1995–1996	0	10,691	40,874	27.2	37.3	15,885	15,885	26,776	25,346	24,332
1996–1997	5,170	10,858	97,289	42.7	64.3	25,210	29,132	3,086	44,083	37,599
1997–1998	3,849	13,817	76,966	38.7	62.0	20,109	23,317	ND	19,456	38,640
1998–1999	49	6,366	13,430	25.4	40.7	14,910	14,952	ND	22,397	39,557
1999–2000	0	1,610	4,446	19.5	31.7	12,282	12,282	ND	8,024	23,987

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Harvest management year	Total spring Use and harvest mortality [a] (tons)	Aerial survey estimates Peak biomass estimate [b] (tons)	Maximum possible observed biomass [c]	Miles of spawn [d]	Mile days of spawn [e]	Unexploited esc. biomass Age structured analysis [f] (tons)	Pre-fishery run biomass Age structured analysis [f] (tons)	Observed peak acoustic biomass estimates Fall (tons)	Spring (tons)	Prior year forecast (tons)
2000–2001	0	587	2,130	16.0	14.8	8,785	8,785	ND	7,035	NA
2001–2002	0	646	1,600	21.5	23.6	11,799	11,799	ND	11,791	NA
2002–2003	0	5,600	10,191	25.2	26.1	15,447	15,447	ND	29,864	NA
2003–2004	0	12,305	16,715	29.7	30.4	18,565	18,565	ND	21,046	NA
2004–2005	0	4,773	6,600	29.9	31.7	14,754	14,754	ND	16,800 [i]	21,064
2005–2006	0	540	1,299	19.9	21.7	12,738	12,738	ND	7,600 [i]	17,554
2006–2007	0	770	1,602	NA[j]	18.3	15,036	15,036	ND	10,700 [i]	15,830
2007–2008	0	10,700	3,982	NA[j]	33.2	20,243	20,243	ND	23,300 [i]	10,252
2008–2009	0	1,933	5,796	NA[j]	29.8	21,462	21,462	ND	16,900 [i]	17,903
2009–2010	0	6,520	17,580	NA[j]	32.7	22,605	22,605	ND	28,500 [i]	NA[k]
2010–2011	0	6,960	15,110	NA[j]	26.2	19,444	19,444	ND	24,000 [i]	22,704
2011–2012	0	1,960	8,573	NA[j]	39.3	19,830	19,830	ND	30,000 [i]	22,397
2012–2013	0	1,630	4,417	NA[j]	29.3	19,899	19,899	ND	24,200 [i]	26,095
2013–2014	0	2691	9,420	NA[j]	36.6	19,845	19,845	ND	22,000 [i]	24,815
2014–2015	0	3,530	10,812	NA[j]	21.6	NA	NA	ND	NA [k]	19,700
2015–2016	0	746	2,175	8.43	9.89	NA	NA	ND	NA [k]	NA[k]

Note: All biomass estimates are in short tons (2,000 lb) and all linear extent of milt estimates are in statute miles.

[a] Represents the common property seine and gillnet sac roe harvest, and equivalent use of herring in closed pound spawn-on-kelp fisheries.

[b] Largest single day aerial estimate of herring biomass. Does not include Kayak Island estimates.

[c] The sum of all daily aerial biomass estimates for a given year. Does not include Kayak Island estimates.

[d] Total linear miles of milt observed.

[e] Sum of the daily observed linear miles of herring milt calculated in ArcMap from digitized hand-annotated paper maps and data collected electronically.

[f] Unexploited escapement and run biomass estimates from age structured analysis completed in 2014 to project 2015.

[g] Partial estimate of spawning biomass from feasibility study.

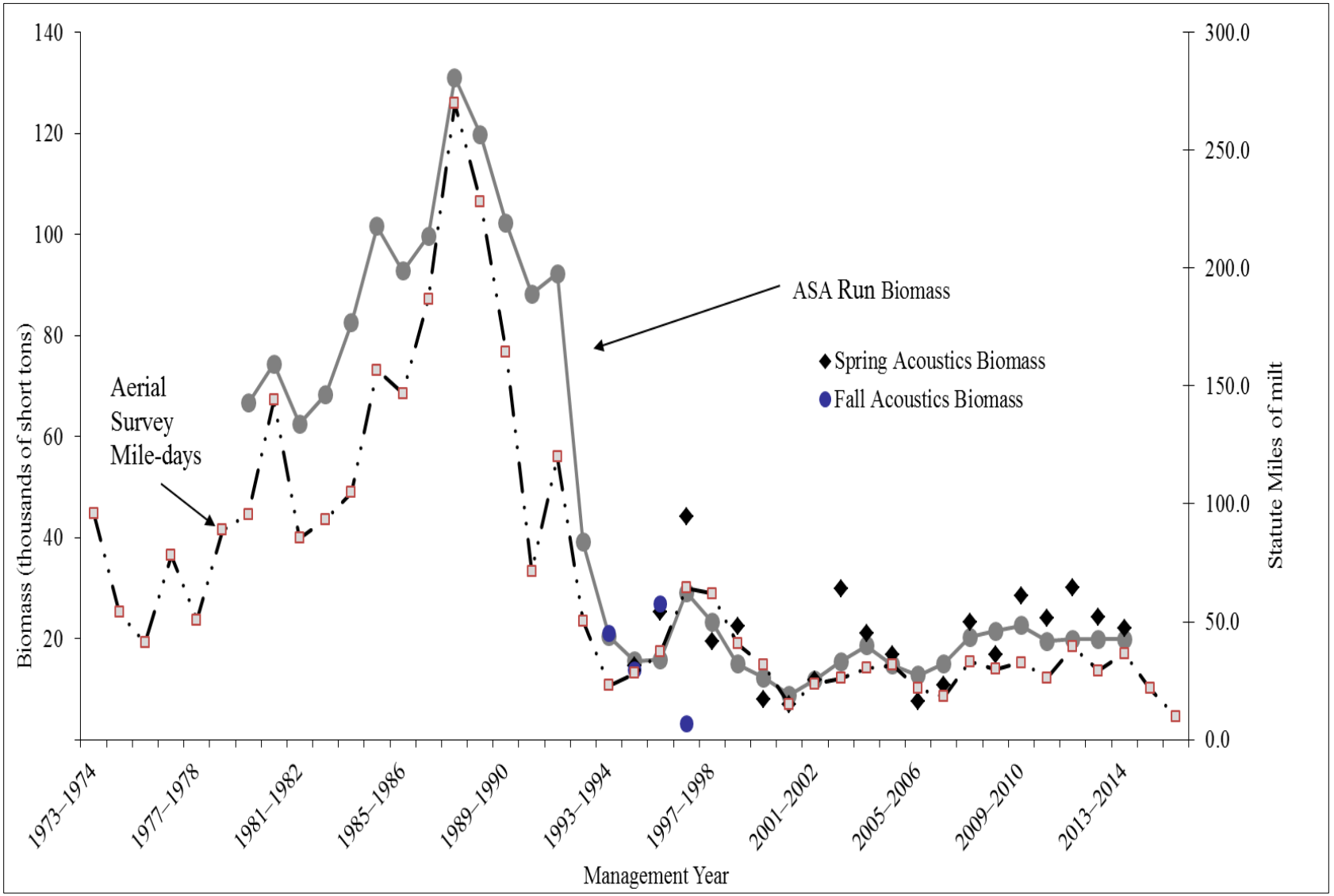
[h] All herring commercial fisheries in PWS were closed in the spring of 1989 because of the potential for the contamination of harvests from the T/V Exxon Valdez oil spill.

[i] Acoustics estimates for 2005–2014 are from ADF&G surveys only and are not adjusted for maturity or subsequent harvest. Therefore, they represent the total biomass and not the spawning biomass.

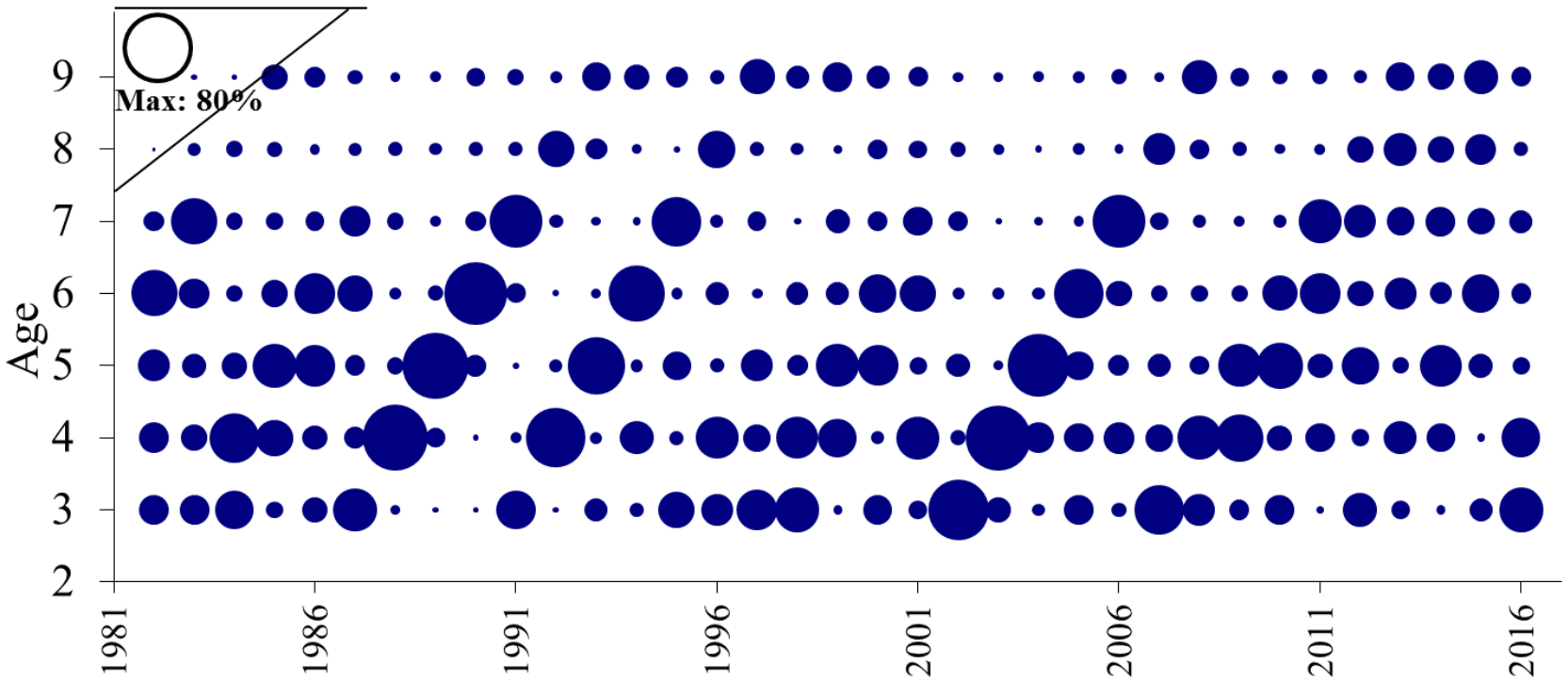
[j] Miles of spawn estimate for 2007–2015 are not available.

[k] Estimates are not available.

Appendix G2.–Prince William Sound Area annual Pacific herring biomass indices by management year, 1973–2016.



Appendix G3.–Pacific herring percentage contribution by number of each age group to the spring run biomass, 1982–2016.



Appendix G4.–Location of spawning herring and miles of spawn observed during aerial surveys in the Prince William Sound Area, 2016.