Fishery Management Report No. 19-08

2017 Lower Cook Inlet Area Finfish Management Report

by

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and

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

Symbols and Abbreviations

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. 19-08

2017 LOWER COOK INLET AREA FINFISH MANAGEMENT REPORT

by
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The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: http://www.adfg.alaska.gov/sf/publications/. This publication has undergone regional peer review.

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ABSTRACT

The Lower Cook Inlet (LCI) management area consists of all coastal waters and inland drainages entering waters north of Cape Douglas, west of Cape Fairfield, and south of Anchor Point. In 2017, commercial harvest was 2.5 million salmon and was composed of 2.0 million pink *Oncorhynchus gorbuscha*, 290,027 sockeye *O. nerka*, 197,621 chum *O. keta*, 13,621 coho *O. kisutch*, and 606 Chinook salmon *O. tshawytscha*. Approximately 92% of the harvest (2.3 million) salmon were sold as common property harvest, and 201,695 salmon were sold for hatchery cost recovery, including carcass sales. Homepack and donated fish (5,120 salmon) accounted for less than 1% of the harvest. Based on fish ticket reporting of prices, the preliminary value of the commercial salmon harvest was $5.7 million, including hatchery sales. This amount does not include postseason adjustments, bonuses, etc. During the 2017 season, 20 set gillnet and 18 purse seine permit holders reported deliveries. Set gillnet harvest value was an estimated $583,000, with average permit earnings of $29,151. Purse seine fishery exvessel harvest value was an estimated $4.2 million, with average permit earnings of $231,631. Revenue generated by cost recovery for hatchery operations was approximately $975,000. An additional $575,735 was disbursed to Cook Inlet Aquaculture Association from a 2% salmon enhancement tax in Area H. A total of 3,365 salmon were harvested in personal use and subsistence fisheries. Approximately 173 subsistence and personal use permits were issued to Alaska residents in addition to 1,577 coho salmon landed by sport fish permit holders in a derby in Seward. Although these fish were subsequently sold commercially, they were not included in the total commercial harvest. The commercial Pacific herring *Clupea pallasii* fishery in the Kamishak Bay District remained closed in 2017 for the 16th consecutive year to allow the spawning population to continue rebuilding.

Key words: Pacific salmon *Oncorhynchus* spp., sockeye salmon *O. nerka*, pink salmon *O. gorbuscha*, chum salmon *O. keta*, Chinook salmon *O. tshawytscha*, coho salmon *O. kisutch*, Pacific herring *Clupea pallasii*, harvest, set gillnet, purse seine, commercial salmon harvest, salmon enhancement, hatchery, cost recovery, sport fishery, subsistence fishery, personal use fishery, escapement, Cook Inlet Aquaculture Association CIAA, Lower Cook Inlet, Kamishak Bay, Kachemak Bay, Resurrection Bay, Annual Management Report AMR

INTRODUCTION

LOWER COOK INLET MANAGEMENT AREA COMMERCIAL SALMON AND HERRING FISHERIES

The Lower Cook Inlet (LCI) management area comprises waters of the Cook Inlet Area south of the latitude of Anchor Point, including the western shore of Cook Inlet south to Cape Douglas, and the eastern shore of Cook Inlet along the Kenai Peninsula to Cape Fairfield. This area is included in Area H and encompasses all coastal waters and inland drainages entering this area (Figure 1).

This salmon management area is divided into 5 districts that correspond to local geography and distribution of the 5 species of Pacific salmon (*Oncorhynchus* spp.) harvested by commercial fisheries (Figure 2). The primary management objective for all districts is to achieve spawning escapement goals for major salmon stocks while allowing orderly fisheries to harvest fish surplus to spawning requirements. In addition, Alaska Department of Fish and Game (ADF&G) follows regulatory guidelines to manage fisheries and allow private nonprofit hatcheries to achieve cost recovery and broodstock objectives.

Three hatcheries currently contribute to the area's salmon fisheries. The Trail Lakes Hatchery (TLH) at Mile 29 of the Seward Highway produces sockeye *O. nerka* and coho salmon *O. kisutch* and is operated by the Cook Inlet Aquaculture Association (CIAA)[1]. ADF&G

[1] Cook Inlet Aquaculture Association (CIAA) project and hatchery reports provide preliminary data used throughout this report. For more information please contact CIAA or visit the website at: http://www.ciaanet.org/data/project-reports.html. Hereafter referred to as CIAA.

operates the Ship Creek Hatchery Complex near Anchorage that produces Chinook *O. tshawytscha* and coho salmon, which are released in the LCI area. In 2011, the Tutka Bay Lagoon Hatchery (TBLH) once again began incubating pink salmon *O. gorbuscha* eggs for release into Kachemak Bay.

Sustainable escapement goals (SEG; Table 1) for most LCI index streams were updated during the Alaska Board of Fisheries (BOF) meeting in Homer from November 30 through December 3, 2016 (Otis et al. 2016a). In most cases, changes to escapement goals reflected an additional 15 years of harvest and escapement data because most of the previous goals were proposed at the 2001 BOF meeting (Otis 2001). At that time, goals were derived using an unpublished method that came to be known as the Percentile Approach (Bue and Hasbrouck, unpublished). Clarke et al. (2014) provided a comprehensive evaluation of the Percentile Approach and recommended modifying the tier structures and percentiles used to establish SEG ranges so that they better represented the number of spawners needed to achieve maximum sustained yield (SMSY) over time. Clark et al. (2014) found that escapements in the lower 60th to 65th percentiles were optimal across a wide range of stock productivities, serial correlation in escapements, and measurement error in escapements; therefore, most LCI SEG ranges were revised accordingly (Otis et al. 2016a).

Gear utilized in commercial salmon fisheries includes purse seine and set gillnet. Purse seine gear is permitted to fish in the Southern, Outer, Eastern, and Kamishak Bay Districts. Set gillnet gear is permitted to fish in the Southern District. The Barren Islands District is closed by regulation to salmon harvest.

When Pacific herring *Clupea pallasii* spawning biomass allows for a commercial fishery in the Kamishak District, annual harvest level ranges are established in regulation (5 AAC 27.465) and divided between the commercial purse seine sac roe fishery in that district (90%) and the Shelikof Strait food and bait fishery (10%) in the Kodiak management area. Other districts in LCI were closed to commercial herring harvest by the BOF in 2002 pending an increase in stock levels sufficient to ensure that a commercial herring fishery can be conducted in a sustainable manner.

OVERVIEW OF AREAWIDE SALMON AND HERRING FISHERIES

In 2017, commercial harvest was 2.5 million salmon in the LCI management area. The harvest was composed of 2.0 million pink, 290,027 sockeye, 197,621 chum *O. keta*, 13,621 coho, and 606 Chinook salmon (Table 2; Figure 3). Hatchery runs of sockeye salmon in general were below forecast in Resurrection Bay but close to forecast at other hatchery release sites. Commercial harvests of all salmon species were above the 10-year (2007–2017) averages (Table 3). Approximately 92% of the harvest (2.3 million fish) was attributed to the common property fishery and 201,695 fish were hatchery cost recovery. An additional 11,783 sockeye and 402,500 pink salmon were harvested by hatcheries for broodstock (Appendices F2 and F3). Homepack harvest (1,215 salmon) accounted for less than 1% of the commercial harvest from LCI districts (Table 2). The 2017 preliminary exvessel value estimates by gear group from the common property fishery, both wild and enhanced salmon, were $4.2 million (87.7%) for purse seine and $583,018 (12.3%) for set gillnet (Table 4; Figure 4). The average price per pound paid to fishermen was generally above the 10-year average for all salmon species (Table 5). The overall harvest value for purse seine and set gillnet in 2017 was approximately double the 10-year average (Table 6).

No commercial fisheries for herring occurred in 2017 to allow the population further opportunity to rebuild from historically low abundance (Figure 5).

SALMON SEASON SUMMARY BY DISTRICT

SOUTHERN DISTRICT

The Southern District includes the waters of eastern Cook Inlet south of Anchor Point and north of a line from Cape Elizabeth to Cape Douglas, excluding waters east of a line from Point Adam to the tip of Cape Elizabeth (Figure 6). Commercial fishing in this district is restricted by regulation to waters along the south shore of Kachemak Bay from Chugachik Island near the terminus of Kachemak Bay to Point Bede approximately 4 miles south of the village of Nanwalek (English Bay) (Figures 7 and 8). Purse seine gear is permitted in all open waters of this district during periods established by emergency order (EO). Commercial set gillnet harvest is restricted to approximately 15 miles of shoreline in 5 subdistricts in this district: east shore of Ismailof Island near Halibut Cove; waters surrounding McDonald Spit extending to Jakolof Bay; waters east of Barabara Point extending approximately 1.4 miles; waters along the west shore of outer Seldovia Bay; and waters of a portion of the south shore of Port Graham and English Bay. Any Cook Inlet Area (Area H) commercial set gillnet permit holder may register to fish in these areas. This registration, however, would preclude that permit holder from fishing in the Northern District and Upper Subdistrict of the Central District for the remainder of that calendar year. Other areas in the "Greater Cook Inlet Area," as defined in 5 AAC 21.345, may be fished in a given year by set gillnet permit holders fishing in the Southern District. The primary target species in this district for both purse seine and set gillnet permit holders are sockeye and pink salmon, although modest numbers of chum and coho salmon are also harvested. The major natural producer of sockeye salmon in this district is the English Bay River. Pink salmon historically have returned in large numbers to Humpy Creek, as well as numerous smaller streams in the Southern District. Hatchery releases began in 1972, when 241,000 coho and 34,000 Chinook salmon were released into Kasitsna Creek. This was followed by releases of chum and pink salmon into Halibut Cove Lagoon in 1974 and 1975. Sockeye salmon were released into Leisure Lake and Halibut Cove Lagoon in 1976. Since that time, hatchery releases have continued to provide added salmon production to sites within this district (Appendices F12–F14).

Preseason Outlook and Harvest Strategy

The 2017 commercial wild stock harvest forecast for the Southern District was 117,400 pink and 58,800 sockeye salmon (Table 7; Appendix H1). The enhanced sockeye salmon run to CIAA release sites was forecast to be 128,762 fish. A total of 382,329 hatchery-produced pink salmon were anticipated to return to the LCI Area in 2017 from the 2016 release of 11.4 million fry from Tutka Bay Lagoon and 1.3 million fry from Port Graham Bay (Appendices F7, F9, and F14).

As specified in regulation, the set gillnet fishing season in the Southern District opens on or after June 1 with two 48-hour periods per week unless modified by EO. The seine fishing season and fishing periods are opened and closed by EO, depending on the available harvestable surplus of both wild and hatchery stock salmon. Given that cost recovery objectives were not anticipated to be met by sockeye salmon returns to Resurrection Bay, all returning hatchery sockeye and pink salmon in excess of broodstock requirements in other areas were anticipated to be required for cost recovery harvest. Considering recent irregular runs of sockeye salmon to the Port Graham

Subdistrict, the commercial set gillnet fishery would remain closed in this area until observations at the English Bay River indicated sufficient escapement to achieve both the SEG and hatchery broodstock requirements.

Early season management of the Southern District (excluding the Port Graham Subdistrict) was based on actual harvest versus anticipated harvest. Port Graham Subdistrict management was based on anticipated versus actual run strength to the English Bay Lakes, as measured by the English Bay River weir. Environmental conditions, fishing effort, and harvest consistency throughout the period were also taken into account. By early July, ground survey estimates of chum and early pink salmon escapement began to weigh more heavily when scheduling commercial fishing periods. These surveys became primary tools in late July and August when management focus shifted to pink salmon in this district.

Season Summary

The 2017 Southern District total sockeye salmon commercial common property harvest, excluding homepack, was 99,404 fish, with 36,689 (37.3%) harvested by the set gillnet fleet and 62,715 harvested by seine permit holders (Appendices A1–A3). In addition, CIAA harvested 37,638 sockeye salmon from the TBLH and China Poot special harvest areas (SHA) for cost recovery and 5,957 fish were harvested for broodstock purposes (Appendix F2). Total common property pink salmon harvest was 405,655 fish with 361,751 (89.2%) harvested by the seine fleet and 43,904 harvested by set gillnet permit holders. In addition, CIAA harvested 110,152 pink salmon from the Tutka Hatchery SHA, as well as 1,523 wild pink salmon from the China Poot SHA while targeting hatchery sockeye salmon returns at that location (Appendix F3). A total of 601 Chinook salmon were harvested in the Southern District, with 435 Chinook salmon harvested by set gillnet permit holders and the remaining by seine permit holders. A total of 11,744 chum salmon were harvested, with 7,852 by set gillnet and 3,892 by seine permit holders. In addition, 12,846 coho salmon were harvested, with 9,353 by set gillnet and 3,493 by seine permit holders (Appendices A1 and A2; Table 2). A total of 59 Chinook, 653 sockeye, 201 coho, 192 pink, and 110 chum salmon were retained by 21 commercial permit holders (6 seine, 15 set gillnet) for personal homepack use and were not sold (Appendix E7; Table 2).

Set gillnet

At the fall 2016 meeting, the Alaska Board of Fisheries (BOF) replaced regulatory language established in 1979 that defined the seaward boundary of set gillnet areas as a set distance from mean low water. This was replaced with language that approximated this boundary using GPS coordinates. These coordinates had been established in 2015 and 2016 using EO authority. The BOF also expanded the legal set gillnet area near Halibut Cove to include an area that has been fished consistently since 1989.

The Southern District set gillnet commercial fishing season was opened by EO on Thursday, June 1 (Table 8). The first 48-hour commercial fishing period was also announced in this EO to begin at 6:00 AM on that date. Weather during the winter of 2016–2017 was cooler than recent years when scant snowfall and frequent above freezing temperatures were often the norm. In 2017, snow remained on the ground in many areas in the LCI area well into April. Temperatures in May remained cool with moderate amounts of rain. Also, pink salmon at the TBLH remained in the gravel until early May, and releases of fed fry from net pens occurred from May 21 through June 7. This contrasts to 2016 when pink salmon were moved into net pens in mid-April (Hollowell 2016). Weir passage at the English Bay River was later than recent years as well and

no sockeye salmon were counted prior to June 1, whereas 110 were counted by this date in 2016 (Appendices A4 and A5; Hollowell et al. 2017).

Harvest from the first Thursday through Friday set gillnet period during statistical week 22 (May 28–June 3; Table 9) was robust, with 1,318 sockeye and 18 Chinook salmon delivered (Appendix A1). Harvests from the 2 periods in statistical week 23 (June 4–10) combined was 1,326 sockeye, 26 Chinook, and 20 chum salmon. Otoliths collected from sockeye salmon during this week were 3.0% thermal marked (Appendix F27). Cool and overcast conditions continued until mid-June. This resulted in good water flow in many streams and allowed consistent early season salmon passage. Prior to June 12, a total of 1,729 sockeye salmon had been counted at the English Bay weir versus an anticipated range of 409–921 fish by this date to achieve the SEG on July 31 (Appendix A1). Given the erratic and lackluster returns in many recent years, ADF&G staff elected to keep the fishery closed for an additional week. Harvests from the 2 fishing periods that occurred in statistical week 24 (June 11–17) increased significantly from the previous week with 3,036 sockeye, 84 Chinook, and 182 chum salmon reported (Appendix A1). Sockeye salmon otoliths collected during this statistical week were 4.2% thermal marked (Appendix F27). The weather warmed significantly during this week, with daily temperatures in the high 60s and sunny skies. Warming weather and consistent rainfall allowed sockeye salmon passage at the English Bay weir to occur without pause. Passage remained consistently ahead of anticipated levels (Appendices A4 and A5).

The Port Graham Subdistrict opened to common property commercial set gillnet harvest on Monday, June 19. Harvest in other areas in the Southern District from statistical week 25 (June 18–24) was 72 Chinook, 2,657 sockeye, 427 pink, and 434 chum salmon and no fish were reported from the Port Graham Subdistrict (Appendix A1). Otoliths collected from sockeye salmon were 10.8% thermal marked (Appendix F27). This compares to a 41.9% level of thermal marked otoliths sampled from this statistical week in 2016 (Appendix F26). Through June 25, 8,997 sockeye salmon had passed through the English Bay River weir (Appendix A4). This was close to double the maximum anticipated goal for this date of 4,737 fish required to achieve the upper end of the SEG on July 31 using recent run timing. Harvest the following week (statistical week 26, June 25–July 1) remained robust; 13 permit holders harvested 5,855 sockeye, 1,418 pink, and 781 chum salmon (Appendix A1). Otolith samples from sockeye salmon were 22.4% (Appendix F27) thermal marked compared to a 29.1% level encountered in 2016 (Appendix F26). Passage at the English Bay weir remained strong, with 13,062 fish counted through July 1, versus an anticipated range of 3,625–8,156 to achieve a final escapement within the SEG range of 6,000–13,500 on July 31 (Appendix A4).

Harvest from statistical week 27 (July 2–8) was 60 Chinook, 5,958 sockeye, 183 coho, 4,272 pink, and 1,494 chum salmon (Appendix A1). Otoliths sampled from sockeye salmon were 19.9% thermal marked fish (Appendix F27). This compares to a 39.4% level sampled in 2016 for this species (Appendix F26). Sockeye salmon weir passage through July 8 was 16,896 fish versus an anticipated range of 4,838–10,885 fish (Appendix A4). Harvest from July 9 to July 15 (statistical week 28) was 42 Chinook, 5,851 sockeye, 1,133 coho, 7,981 pink, and 2,012 chum salmon (Appendix A1). Otoliths sampled from sockeye salmon were 15.4% thermal marked (Appendix F27). In 2016, 33.1% of the sockeye salmon sampled during this statistical week were thermal marked (Appendix F26). Weir passage through July 15 was 18,497 sockeye salmon and was above the range of 5,563–12,517 fish for this date anticipated to achieve the SEG for this system (Appendix A4). Harvest from statistical week 29 (July 16–22) was 51 Chinook, 3,728

sockeye, 1,236 coho, 7,415 pink, and 1,535 chum salmon. Otoliths sampled from sockeye salmon this statistical week showed a 7.4% level of thermal marked hatchery fish (Appendix F27). Otoliths sampled in 2016 from statistical week 29 showed a 23.2% level of marked fish (Appendix F26). Sockeye salmon passage at the English Bay River weir through July 22 was 20,596 fish (Appendix A4). This was in excess of the upper end of the SEG range for this system of 6,000–13,500 fish (Table 10).

Harvest from July 23 to July 29 (statistical week 30) was 12 Chinook, 4,134 sockeye, 1,903 coho, 6,257 pink, and 634 chum salmon (Appendix A1). Otoliths sampled from sockeye salmon during this week were 11.3% thermal marked (Appendix F27). Otoliths sampled last year during this statistical week from sockeye salmon were 18.8% thermal marked (Appendix F26). No sockeye salmon were counted at the weir during the last 3 days of this week, and none were observed when the weir was pulled on July 31 (Appendix A4). Final passage through the weir was 20,751. Harvest from statistical week 31 (July 30–August 5) was 10 Chinook, 2,006 sockeye, 3,090 coho, 6,702 pink, and 526 chum salmon (Appendix A1). Otoliths from sockeye salmon recovered during this statistical week were 8.7% thermal marked (Appendix F27). Last year 27.2% of the otoliths collected during this statistical week were thermally marked (Appendix F26). Staff also sampled otoliths from pink salmon harvested in the Barabara/Tutka Subdistricts during statistical week 31. That sample contained 25.0% thermal marked fish, 4.2% of which derived from PWS hatcheries (Appendix F34). Participation in the set gillnet fishery declined in statistical week 32 (August 6–12) and only 5 permit holders reporting delivering 2 Chinook, 570 sockeye, 777 coho, 3,694 pink, and 118 chum salmon (Appendix A1). Sockeye salmon otoliths collected during this week were 12.5% thermal marked (Appendix F27). No otoliths were collected from this fishery last year during this statistical week. Another sample was collected from the set gillnet harvest in the Barabara/Tutka Subdistrict during statistical week 32. That sample contained 31.3% thermal marked fish, 19.8% of which derived from PWS hatcheries (Appendix F34). Harvest from statistical weeks 33–36 was confidential because fewer than 3 permit holders reported in each of those weeks. The 2017 commercial set gillnet salmon season was closed by regulation on October 1.

Although the Port Graham Section of the Port Graham Subdistrict, as well as the English Bay Section, opened to commercial set gillnet harvest beginning on June 19, no commercial set gillnet harvests were reported this season for that area.

Purse seine

The Southern District commercial purse seine season was opened by EO on Monday, June 19, with a fishing schedule of 3 weekly 16-hour periods (6:00 AM to 10:00 PM) on Mondays, Wednesdays, and Fridays in portions of the district east of McDonald Spit (Table 8). Harvest from statistical week 25 (June 18–24) was 56 Chinook, 3,562 sockeye, 1 coho, 43 pink, and 131 chum salmon, with 12 permits making deliveries (Appendix A2). Both the Hazel Lake and China Poot special harvest areas (SHAs) were open for these periods but the Tutka SHA remained closed. Otoliths sampled from sockeye salmon harvested in the seine fishery during this statistical week were 91.9% hatchery thermal marked (Appendix F30). Seine harvest from statistical week 26 (June 25–July 1) was 42 Chinook, 9,169 sockeye, 2 coho, 336 pink, and 292 chum salmon (Appendix A2). Otoliths sampled from sockeye salmon during this statistical week in 2017 were 77.3% thermal marked (Appendix F30). Last year during statistical week 26, 96.8% of the sockeye salmon otoliths sampled were thermal marked (Appendix F29). The China

Poot and Hazel Lake SHAs were closed to commercial purse seine fishing during this statistical week.

Harvest from statistical week 27 (July 2–8) was 40 Chinook, 18,183 sockeye, 16 coho, 3,134 pink, and 529 chum salmon (Appendix A2). Open areas for this gear in the Southern District remained unchanged from the previous week except waters in the Humpy Creek area that were opened on Monday, July 3 with anadromous stream closures relaxed (Table 8). This system has chronically been prone to over-escapement given the steeply sloped bathymetric profile of the area immediately offshore of Humpy Creek. Fishery managers in 1975, 1979, and 1981 directed staff to construct inseason weirs on this creek to slow pink salmon returns and allow further harvest opportunity. Managers reported in several years that the pink salmon "literally smashed down the fence on subsequent flood tides" (Schroeder and Kyle 1985). Otolith samples from sockeye salmon harvested during this statistical week showed a 68.2% level of hatchery thermal marks (Appendix F30). Last year, 81.0% of the sockeye salmon otoliths examined during this week were thermal marked (Appendix F29).

Harvest from statistical week 28 (July 9–15) was 14 Chinook, 14,915 sockeye, 217 coho, 7,561 pink, and 428 chum salmon (Appendix A2). Areas open to commercial purse seine harvest remained unchanged from the previous week. Sockeye salmon otoliths sampled during this statistical week were 29.9% thermal marked (Appendix F30), whereas otoliths sampled during this period last year were 77.7% marked (Appendix F29). Pink salmon otoliths sampled during statistical week 28 were 38.9% thermal marked (Appendix F37). Harvest from statistical week 29 (July 16–22) was 11 Chinook, 9,498 sockeye, 717 coho, 12,442 pink, and 2,068 chum salmon (Appendix A2). Otoliths sampled from sockeye salmon harvested this week were 27.4% thermal marked (Appendix F30) compared to only 14.0% that were found to be marked in 2016 (Appendix F29). Pink salmon otoliths sampled during statistical week 29 were 33.6% thermal marked (Appendix F37). Open waters remained the same in the Southern District for this gear in statistical week 29.

Harvest from statistical week 30 (July 23–29) was 3 Chinook, 4,983 sockeye, 1,020 coho, 14,482 pink, and 88 chum salmon (Appendix A2). Otoliths sampled from sockeye salmon during this week were 25.5% thermal marked (Appendix F30) compared to 21.5% that were found to be marked last year (Appendix F29). Pink salmon otoliths sampled during statistical week 30 were 16.6% thermal marked (Appendix F37). Open areas during this statistical week remained essentially the same with only the China Poot SHA opening on Monday, July 24, to harvest the remaining sockeye salmon returning to China Poot Lake. Prior to this, on July 16, a cost recovery harvest was conducted in this SHA by CIAA with 2,681 sockeye salmon harvested, as well as 154 coho, 1,523 pink, and 200 chum salmon. ADF&G concerns about pink salmon escapement to China Poot Creek was a primary reason that the closed waters area in China Poot Bay were kept closed to cost recovery harvest and not reopened to common property commercial harvest. This creek has an SEG of 2,500–6,300 pink salmon. The SEG was not met in 2017 with only 2,379 pink salmon counted (Table 10). The personal use dip net fishery at China Poot Creek was determined to be a more effective means of harvesting the tail end of the enhanced sockeye salmon run with minimal impact on the pink salmon run. Most harvest effort in this week was focused in the Eldred Passage area, where sockeye salmon return to Tutka Hatchery and nearby Hazel and China Poot Lake SHAs.

Harvest from statistical week 31 (July 30–August 5) was 1,394 sockeye, 981 coho, 26317 pink, and 116 chum salmon (Appendix A2). Sockeye salmon otoliths sampled were 27.3% thermal

marked (Appendix F30). Pink salmon otoliths sampled during statistical week 31 were 29.5% thermal marked (Appendix F37). The purse seine fishery switched from a Monday, Wednesday, and Friday schedule of 16-hours-per-day fishing periods to a 7-days-per-week schedule of 16-hour fishing periods beginning on Thursday, August 3 (Table 8). In addition, the Hazel Lake SHA and the Port Graham Subdistrict, excluding the Port Graham Hatchery SHA, were opened on Monday, July 31, to commercial purse seine harvest. Harvest from statistical week 32 (August 6–12) was 584 sockeye, 365 coho, 44,680 pink, and 54 chum salmon (Appendix A2). Sockeye salmon otoliths were not collected after statistical week 31 because the vast majority of the seine harvest switched to pink salmon. Pink salmon otoliths sampled during statistical week 32 were 47.5% thermal marked (Appendix F37). Areas open to commercial purse seine harvest were the same as the previous week, except the Tutka SHA opened seaward of the HEA powerlines on Monday, August 7, for 1 period. On Friday, August 11, waters of the SHA, excluding waters near shore within approximately 2 miles of the entrance to Tutka Lagoon, were opened on an ongoing Monday, Wednesday, and Friday schedule (Table 8).

Harvest from statistical week 33 (August 13–19) was 303 sockeye, 19 coho, 110,678 pink, and 18 chum salmon (Appendix A2), with the bulk of these fish harvested from the Tutka SHA. Pink salmon otoliths sampled during statistical week 33 were 25.4% thermal marked (Appendix F37). Areas remained open on a 7-days-per-week schedule, as occurred in statistical week 32, with portions of the Tutka SHA open on a Monday, Wednesday, and Friday schedule. Harvest from statistical week 34 (August 20–26) was 124 sockeye, 5 coho, 73,950 pink, and 49 chum salmon (Appendix A2). Pink salmon otoliths sampled during statistical week 34 were 13.8% thermal marked (Appendix F30). Commercial purse seine harvest opportunity remained similar to the previous week with the addition of the Seldovia Subdistrict opening on Monday, August 21, on schedule of 16-hour fishing periods, 7 days per week (Table 8). Harvest from statistical week 35 (August 27–September 2) was 150 coho, 68,128 pink, and 119 chum salmon (Appendix A2). Pink salmon otoliths harvested during this week were 28.4% thermal marked (Appendix F30). There were no further commercial purse seine deliveries reported from the Southern District in 2017 (Appendix A2 and Table 8).

Of the 6 pink salmon index streams in the Southern District, 4 had final escapement estimates that were above the SEG ranges (Humpy Creek, Tutka Lagoon Creek, Barabara Creek, and the Port Graham River). One was within the assigned SEG range (Seldovia Creek), and 1 was below the assigned SEG range (China Poot Creek). The only chum salmon SEG in the Southern District is for the Port Graham River. Final escapement in this system for this species was above the SEG range (Appendices A7–A8; Table 10). Final spawning escapement for English Bay River was 20,751 sockeye salmon. This was above the SEG range of 6,000–13,500 sockeye salmon (Table 10). The 10-year average spawning escapement was 10,398 sockeye salmon for this system (Appendix A6).

For the 4th consecutive year, Homer staff sampled otoliths from spawned out pink salmon carcasses from 10 index streams in Lower Cook Inlet (Appendix F40). In some years, this has expanded to include other streams in the Southern and Outer District. This evaluation was determined by management staff in 2014 as essential to the responsible management of local hatchery and wild stock returns to LCI. Although this project was without a budget or assigned staff, every effort was made to collect otoliths in a systematic and organized manner, primarily from pink salmon index streams with escapement goals. Initially, 8 core streams were sampled in 2014, the first year of this study (Appendix F43), with 2 more added in the Port Dick area the

following year (Appendix F42). This was done as a result of higher than expected levels of Prince William Sound (PWS) thermal marked pink salmon encountered in all streams that were evaluated in 2014. Additional streams were sampled at the request of research staff, or the public, provided that this did not impinge on the sampling of the 10 core index streams. In 2017, Regional staff provided funding to conduct second reads on a subset of otoliths collected in that year. The second reads were conducted on a subset of otoliths to confirm the mark assignment from the first read. Preliminary results of the 2017 otolith examinations were provided to Regional staff and made available to the public in a memo on December 1 (Appendix I).

Ideally, carcasses were sampled from the 10 index streams at least twice each summer, with 96 otolith pairs collected on each trip. Carcasses that appeared unspawned were not sampled. The initial intent of this study was to identify the level of straying associated with LCI hatcheries (Appendices F40–F45) and determine if this level increased or decreased with regards to hatchery release levels and release location. However, higher than expected levels of PWS hatchery-produced pink salmon were encountered in all years in nearly all streams sampled. Those levels have surpassed levels of strayed LCI hatchery fish in streams that are outside of hatchery SHAs (Appendix F44). A total of 28 trays (2,394 otolith pairs) from 16 streams were sampled in the Southern and Outer Districts in 2017. Of those streams, 13 were outside of the TBLH SHA, in addition to the Port Graham River, which is adjacent to the Port Graham Hatchery SHA, and is functionally within the SHA. Of the 1,206 readable otoliths collected outside of SHAs (excluding the Port Graham River) from the previously sampled 8 index streams, 1.2% (14) were of Tutka or Port Graham hatchery origin, 17.4% (210) were of PWS hatchery origin, and 81.3% (980) were unmarked. The unmarked otoliths were either wild fish or Kitoi Bay Hatchery (KBH) released fish. The KBH is approximately 40 miles south of Lower Cook Inlet districts and has released an average of 143 million pink salmon fry annually from 2008 to 2017. An additional 568 pairs of otoliths were collected from other streams of interest in the Southern District outside of hatchery SHAs. Of those 1.4% (8) were local LCI hatchery origin with an additional 50.9% (289) had PWS hatchery marks. A total of 560 otoliths were sampled from within the SHA, including the Port Graham River. Of those, 43.8% had thermal marks associated with LCI hatcheries and 12.1% (68) had PWS hatchery marks (Appendix F40).

The total 2017 Southern District common property commercial harvest of 99,404 sockeye salmon was above the 10-year average harvest of 56,180 fish and above the anticipated harvest of 58,800 fish (Table 7; Appendices A3 and H1). The pink salmon commercial common property harvest of 405,655 was above the anticipated harvest of 117,400 fish, and also above the 10-year average harvest of 54,474 fish (Appendix A3). ADF&G staff sampled otoliths from sockeye and pink salmon harvested in the commercial common property fisheries in this district. Sockeye salmon were the primary species sampled from the set gillnet fishery and 11.9% of the fish examined were thermally marked (9.2% from LCI, 1.0% from PWS, and 1.7% from Kodiak; Appendix F27). However, 2 pink salmon samples (N = 96 from each sample event) were collected from the set gillnet fishery in 2017 and 28.1% of the fish examined were thermal marked (16.1% from LCI, 12.0% from PWS; Appendix F34). Both sockeye and pink salmon were sampled from the purse seine fishery and 50.3% of the sockeye (Appendix F30) and 30.6% of the pink salmon (Appendix F37) examined had thermally marked otoliths. Of those, 0.0% of the marked sockeye salmon had thermal marks associated with hatcheries outside of Area H (Appendix F30), as did 2.1% of the marked pink salmon (Appendix F37).

OUTER DISTRICT

The Outer District includes the waters of LCI along the Kenai Peninsula south and east of a line from Point Adam to Cape Elizabeth, and east of the longitude of Cape Elizabeth to the longitude of Aligo Point, which is 35 miles southwest of Seward (Figures 1, 2, and 9–12). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary target species have been sockeye and pink salmon. The major natural producers of sockeye salmon in this district are Delight, Desire, and Delusion Lakes. All 3 of these lakes were reported to have been glaciated in the early part of the 20th century, with the McCarty Glacier terminus stretching from James Lagoon on the west to McCarty Lagoon on the east (Cook and Norris 1998, page 251). Pink salmon return in large numbers to Rocky Bay, Port Dick, and Windy Bay, as well as several smaller systems. In addition, chum salmon are regularly harvested from Dogfish Lagoon and Port Dick. There have been no regular releases of hatchery salmon into this district (Appendix F12).

At the December 2013 BOF meeting, Dogfish Lagoon Creeks was added to the 8 pre-existing pink salmon index streams in the Outer District and an SEG of 1,200–8,400 pink salmon was created (Otis et al. 2013). This SEG was modified at the December 2016 BOF meeting (Otis et al. 2016a), and the current SEG is 800–7,100 pink salmon (Table 1). This stream complex has been regularly surveyed for more than 40 years.

Preseason Outlook and Harvest Strategy

The 2017 commercial wild stock harvest forecast for the Outer District was 5,000 sockeye and 436,400 pink salmon (Table 7; Appendix H1). As specified in regulation, the seine fishing season and periods are opened and closed by EO depending on the available harvestable surplus of wild stock salmon returning to spawning systems in the Outer District.

Historically, management of commercial sockeye, pink, and chum salmon fisheries in this district have relied heavily on aerial and ground surveys of major spawning systems for those species. Beginning in 1997 and through 2014, daily monitoring of sockeye salmon returning to Delight Lake was conducted using a picket weir staffed by ADF&G field personnel. Funding for the weir was cut in 2015 and escapement monitoring is now conducted using aerial surveys. Typically, sockeye salmon runs to this lake, as well as to Desire and Delusion Lakes, peak in late July. Escapement into these lakes is frequently driven by rain events, with weeks of limited passage followed by a significant spike in escapement as the result of increased water volume in the lake outflow. By early August, chum and pink salmon runs to this district may increase to harvestable levels.

Season Summary

Portions of the Outer District were opened beginning on Monday, July 10, to commercial common property salmon harvest on a schedule of Monday, Wednesday, and Friday 6:00 AM to 10:00 PM fishing periods (Table 8). Poor weather conditions made ground or aerial surveys of some portions of the Outer District problematic. This, combined with lackluster performance of some salmon stocks in recent years in some areas, prompted ADF&G to keep the Port Dick area closed pending a survey conducted under good conditions. However, waters were opened in Dogfish Bay, Windy Bay, Rocky Bay, and a portion of the Nuka Island Subdistrict. Combined harvest during the fishing periods from July 9 to 15 (statistical week 28) was 4,518 pink and 36,250 chum salmon, with 4 permit holders delivering (Appendix B1). Harvest during statistical

week 29 (July 16–22) was 8,708 pink and 35,128 chum salmon, with 4 permit holders reporting this week as well (Appendix B1). A ground survey conducted on July 21 counted 1,358 chum and 3,475 pink salmon in Port Dick Creek (Appendix B4). These escapement levels were reasonable for this date given the run timing of these systems as defined by Yuen and Bucher (1993) and the assigned SEGs that management staff were endeavoring to fall within (Table 10). Consequently, portions of Port Dick were opened on July 24. In addition, an aerial survey of Delight and Desire Lakes conducted on July 22 observed levels of sockeye salmon in each lake (Appendix B5) that were within respective SEGs (Table 10). Consequently, effective Monday, July 24, the East Nuka Subdistrict was placed on a daily schedule of 6:00 AM to 10:00 PM openings until further notice. In addition, waters of the western half of Dogfish Lagoon were opened for a single fishing period on Wednesday, July 26 (Table 8), with the intent of harvesting a portion of a large chum salmon buildup (15,000 fish) observed on an aerial survey conducted on Saturday, July 22 (Appendix B3). The SEG for this system is 3,500–8,600 chum salmon (Table 10), with a daily cumulative proportion of total run of 34% for this date (Yuen and Bucher 1993).

Harvest from statistical week 30 (July 23–29) was 69,704 pink and 34,691 chum salmon, with 10 permit holders reporting deliveries (Appendix B1). A ground survey conducted of Island Creek on July 24 counted 1,718 chum salmon (Appendix B4). Island Creek has a chum salmon SEG of 5,100–11,900 fish (Table 10), with an anticipated 50% completion on August 1 (Yuen and Bucher 1993). This count was below the anticipated level for this date and system. This can be a difficult system to conduct regular aerial or ground surveys of. As a result of this and subsequent surveys, the Island Creek Subdistrict remained closed throughout the 2017 season. Final chum escapement into Island Creek was 5,522 salmon and was within the SEG (Table 10). No deliveries of sockeye salmon were reported from the East Nuka Subdistrict during statistical week 30 or later weeks prior to the closing of this area on August 6. Beginning on Monday, July 31 harvest opportunity in the Outer District was increased to daily Monday through Friday, 6:00 AM to 10:00 PM fishing periods (Table 8). Harvest from statistical week 31 (July 30–August 5) was 124,391 pink, and 7,158 chum salmon, with 12 permit holders reporting deliveries (Appendix B1). Escapement into pink salmon index streams on the outer coast generally was at very strong levels, as was anticipated given the record pink salmon return in 2015, the parent year for the 2017 return (Hollowell et al. 2016). Chum salmon runs generally have been meeting SEGs in recent years (Appendix B6), with observed numbers in index streams in 2017 generally supporting a continuation of this trend (Table 10).

Harvest from statistical week 32 (August 6–12) was 422,452 pink and 19,454 chum salmon, with 11 permit holders reporting deliveries (Appendix B1). The western half of Dogfish Lagoon was opened for a 16-hour fishing period on Wednesday, August 9 (Table 8). A ground survey conducted on August 4 documented levels of both pink and chum salmon that were above that required to meet SEGs (Appendix B4; Table 10). Harvest from the following week (statistical week 33, August 13–19) saw both the greatest number of permit holders (14) reporting deliveries from this district in 2017, as well as the largest weekly pink salmon harvest for the year (468,807 fish; Appendix B1). Pink and chum salmon escapements remained generally within anticipated levels throughout August (Appendices B3 and B4). Although pink salmon escapements were generally strong in 2017 (Table 10), they were not as large as those seen in the 2015 parent year (Appendix B6), when many of the less productive pink salmon producing streams, such as South Nuka Bay and Beauty Bay, had returns that were in the tens of thousands, well above the upper end of assigned SEGs (Hollowell et al. 2016). Harvest and participation declined in statistical

week 34 (August 20–26) with 8 permit holders delivering 139,851 pink and 56 chum salmon (Appendix B1). Both Taylor Bay and Port Chatham were opened on Monday, August 21 to commercial harvest (Table 8). Harvest the following week is confidential because fewer than 3 permit holders reported deliveries. There were no further deliveries reported from this district in 2017 (Appendix B1).

Of the 9 pink salmon index streams in the Outer District, 5 were within SEG ranges, 3 exceeded their SEG range (Dogfish Lagoon, Port Chatham, and Port Dick Creek) and 1 failed to meet the minimum SEG range (South Nuka Creek). There are 4 chum salmon index streams with SEGs in the Outer District. Of these, 2 were above the SEG ranges (Port Dick and Island Creeks), and 2 were within their SEG ranges. There are 2 sockeye salmon index systems in the Outer District (Delight and Desire Lakes). Both of these systems were within their SEG ranges (Table 10; Appendices B3–B6).

Similar to work done in the Southern District, pink salmon otoliths were collected from selected ground survey index streams in the Outer District. A total of 487 otolith pairs were collected from 4 streams that were sampled in the Outer District in 2017 (Port Chatham, Dogfish Lagoon, Port Dick, and Island creeks). Of those, 4 were from LCI hatcheries and 132 were of PWS origin. Levels of PWS hatchery fish from each stream ranged between 5.7% and 47.9% (Appendix F40).

A total of 17 permits reported deliveries from the Outer District in 2017, which was above the 10-year annual average of 13 permits. Total harvest from this district was 1 Chinook, 260 sockeye, 389 coho, 1.2 million pink, and 151,356 chum salmon (Appendix B2). Except for sockeye salmon, which had an anticipated harvest of 5,000 fish, the actual harvest of the other 4 species of Pacific salmon were above anticipated levels in this district (Table 7; Appendix H1).

EASTERN DISTRICT

The Eastern District includes all state waters of the Gulf of Alaska between the longitudes of Aligo Point and Cape Fairfield (Figures 1, 2, and 13). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary target species have been sockeye and pink salmon with commercial harvests occurring irregularly (Appendix C2). Harvests of chum salmon were larger in this district during the 1980s. The natural producers of sockeye salmon in this district have historically been Bear and Aialik Lakes. Sockeye salmon production in Aialik Lake is a relatively recent event because this lake was covered by the Pedersen Glacier as late as 1909 (Cook and Norris 1998). Beginning in 1990, CIAA began supplementing natural production in Resurrection Bay by releasing up to 3.4 million sockeye salmon juveniles into Bear Lake, and between 1.3 million and 1.7 million sockeye salmon into Resurrection Bay in some years since 2008 (Appendix F12).

Pink salmon production in the Eastern District has been the result of natural spawning, excluding 1999 and 2000, when 24,000 and 48,000 pink salmon fry were released by the Alaska Sea Life Center into Resurrection Bay (Appendix F14). The largest pink salmon producers in this district are Salmon Creek with a 10-year (1980–1989) average escapement of 4,500 pink salmon and Bear Creek with a 10-year (1997–2006) average escapement of 11,800 fish. In addition, Thumb Cove and Humpy Cove together produced an average of 10,500 pink salmon per year from 1997 to 2006 (Appendix C9). Ground surveys of this area in recent years have been curtailed due to budgetary constraints and historically low runs to this area (Appendix C9).

Since the early 1960s, coho salmon production in Resurrection Bay has been supplemented by enhancement efforts. Historically, commercial harvests of this species in the Eastern District were minimal (Appendix C2). In 1966, commercial harvest of coho salmon north of a line from Cape Resurrection to Callisto Head was prohibited, and in 1968 this regulatory line was moved south to its current position at Aialik Cape. Beginning in 1985, with the start of hatchery releases of Chinook salmon in the Seward area (Appendix F11), commercial harvest of this species north of a line from Cape Resurrection to Aialik Cape was prohibited. In addition, since 1989 the *Resurrection Bay Salmon Management Plan* (5 AAC 21.376) directed commercial fishery managers to conduct those fisheries in a manner that does not interfere with recreational fisheries for enhanced Chinook and coho salmon in Resurrection Bay. Consequently, the majority of coho salmon in this area have been harvested by sport users, and runs of pink and chum salmon have generally been insufficient to target for commercial harvest. Since 1956, the Seward Chamber of Commerce has conducted a fishing derby that focuses on enhanced and wild coho salmon returning to local spawning systems at the head of Resurrection Bay. Beginning in 1990, coho salmon harvested by participants in the derby have been sold commercially by the Chamber of Commerce to a local processor as a fund raiser for that organization (Appendix C2).

Preseason Outlook and Harvest Strategy

The enhanced sockeye salmon run to CIAA release sites in Resurrection Bay was forecast to be 120,583 fish (Table 7; Appendix H1). As specified in regulation, the seine fishing season and fishing periods are opened and closed by EO, depending on the available harvestable surplus of both wild stock and enhanced salmon returning to the Eastern District. CIAA announced preseason that the majority of the sockeye salmon run anticipated to return to Resurrection Bay release sites would be required to meet corporate cost recovery and broodstock needs. Early season management of the Eastern District is based on actual harvest versus anticipated harvest, as well as passage at the Bear Creek weir, which is located 8 km (5 miles) from saltwater (Figure 13). Beginning in July, management is based on aerial surveys of sockeye salmon runs to Aialik Lake. Historically, runs of pink and chum salmon to this district have been below the level required to support consistent and sustainable commercial harvests.

Season Summary

Despite commercial fishing periods established in late June and early July, no commercial common property deliveries were reported from the Outer District in 2017 (Appendix C1). CIAA harvested 24,257 sockeye salmon for cost recovery from Resurrection Bay, and 1,657 fish at the Bear Lake weir (Appendix F2). An additional 3,044 excess sockeye and 1,121 coho salmon were donated to members of the public at the Bear Creek weir (Appendix C3).

The Bear Lake SHA opened by regulation to corporate cost recovery harvest and broodstock collection at 6:00 AM on May 15. Although the first delivery did not occur until May 26, sockeye salmon began arriving at the Bear Creek weir on May 25 and 174 fish were counted through May 31 versus an anticipated minimum of 61 fish past the weir by this date (Appendices C3 and C4). Cost recovery harvest began on May 26 and 9,781 sockeye salmon were harvested through June 3. Harvest from June 4 to June 10 was 8,210 sockeye salmon then harvest declined with only 6,266 additional fish harvested before cost recovery concluded on Sunday, June 25 (Appendix F2). Common property fishing periods were subsequently allowed to begin on a Monday to Friday schedule of 6:00 AM to 10:00 PM openings, beginning on June 26 (Table 8). These fishing periods continued through Friday, July 14. No commercial common property

harvests were reported from the Eastern District during these periods with no commercial vessels believed to have fished (Appendix C1).

Cost recovery harvest of returning fish at the weir began on June 29 and continued daily until mid-July with 1,657 sockeye salmon sold (Appendix F2). The 3,044 sockeye salmon that arrived at the weir were in an unmarketable condition, or were too few in number, were therefore donated to members of the public (Appendices C3 and F2).

Final passage into Bear Lake was 12,948 (Appendices C3 and C4) sockeye salmon with 3,746 fish harvested for broodstock (Appendix F2). The remaining 9,202 sockeye salmon were allowed to spawn naturally in the lake. This escapement was above the SEG range of 700–8,300 fish (Table 10), and above the 10-year spawning escapement average of 9,153 sockeye salmon (Appendix C7).

A total of 859 coho salmon passed through the weir (Appendices C5 and C6). An additional 764 coho salmon were harvested at the weir for CIAA and ADF&G broodstock (Appendix F4). Also, 861 coho salmon were donated to members of the public (Appendices C7 and F4).

In 2017, poor weather conditions combined with pilot unavailability resulted in 6 aerial surveys of Aialik Lake. In addition, turbidity in the lake, although diminished from previous years, continued to occlude visibility. In spite of this, good numbers of sockeye salmon were counted in the lake with a peak count of 4,900 fish on July 29 (Appendix C8). This was within the SEG range of 3,200–5,400 fish for this system (Table 10). Aialik Lake had failed to meet its SEG in 6 of the previous 10 years (Appendix C9).

A total of 1,577 coho salmon were donated to the Seward Chamber of Commerce by sport users participating in the annual silver salmon derby; these fish were sold to local processors to benefit the Chamber (Appendix C2).

KAMISHAK BAY DISTRICT

The Kamishak Bay District includes all state waters on the west side of Cook Inlet south of the latitude of Anchor Point and north of a line from Cape Douglas to Elizabeth Island (Figures 1, 2, and 14–16). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary naturally occurring target species have been chum and pink salmon. From 1981 to 2010, the average harvest was 67,000 pink, 52,000 chum, and 55,000 sockeye salmon (Appendix D2). In addition to sockeye salmon releases at Chenik Lake from 1978 to 1996, pink salmon were also released into Paint River from 1980 to 1983, and 1.0 million fry were released in 2015 (Appendices F12–F14). The major natural producers of pink salmon in this district have been the Bruin River, Sunday Creek, and Brown's Peak Creek. Major chum salmon producers have been the Big Kamishak and Little Kamishak rivers as well as Cottonwood Creek and the McNeil River (Appendix D10). In addition, numerous other rivers and streams have periodically produced respectable pink and chum salmon runs.

Prior to 1981, Mikfik Lake was the largest single producer of sockeye salmon in this district with an average annual run of 6,600 from 1970 to 1980. The second largest producer, Chenik Lake, had an average run of 3,800 sockeye salmon during this period; Amakdedori Creek and Kamishak rivers had average runs of 1,200 and 1,300 sockeye salmon, respectively. Generally, runs to Chenik Lake increased while the lake was enhanced (1978–1996) and average harvests were 55,900 sockeye salmon per year during this period (Appendix F17). However, there were years when escapement dropped below 1,000 fish (Appendix D10), possibly stemming from

over-stocking resulting in an infectious hematopoietic necrosis (IHN) outbreak (Follett and Burton 1995). Stocking of Chenik Lake was curtailed in 1996 and the population recovered quickly without further enhancement (Appendix D10). The large runs experienced since 2002 have derived entirely from natural production. Average annual escapement to Mikfik Lake from 1981 to 2010 was 11,100 sockeye salmon, with escapement to Chenik Lake at 8,700 fish and escapement to nearby Amakdedori Creek and Kamishak rivers increasing slightly to 2,700 and 1,800 fish, respectively (Appendix D10). Kirschner Lake has been stocked regularly with sockeye salmon since 1987 resulting in annual commercial harvests consistently exceeding 20,000 fish (Appendix F18). Hatchery sockeye salmon were also released from 1986 to 1996 at several other smaller systems in this district, albeit with poor success (Appendix F12).

Preseason Outlook and Harvest Strategy

The 2017 commercial wild stock harvest forecast for the Kamishak Bay District was 27,500 sockeye salmon. A commercial pink salmon harvest of 61,200 fish was anticipated (Table 7; Appendix H1). The enhanced CIAA sockeye salmon run to Kirschner Lake was forecast to be 13,020 fish (Appendix F1; Table 7). As specified in regulation, the fishing season in the Kamishak Bay District opens from June 1 until closed by EO. Historically, the Kamishak District has been opened for extended 7-day periods, with specific areas closed as needed by EO to address anticipated escapement shortfalls (e.g., McNeil River chum salmon) or to allow for hatchery cost recovery harvest. CIAA announced preseason that all of the sockeye salmon anticipated to return to the Kirschner Lake release site would probably be required to meet cost recovery goals. Early season management of the Kamishak Bay District is based on actual harvest versus anticipated harvest as well as escapement past the Mikfik and Chenik Lake video monitoring sites. In addition, aerial surveys are flown, weather permitting, to monitor sockeye and chum salmon escapement to index streams and to recover recording media from video monitoring sites for inseason review in the Homer office. Beginning in July, management is also based on aerial surveys of pink and chum salmon runs to spawning systems in this district. Aerial surveys continued into late August and September to monitor progress of coho salmon runs to select streams in this district.

Season Summary

The total 2017 Kamishak Bay District commercial common property harvest was 102,810 sockeye, 34,275 chum, 185 coho, and 254,440 pink salmon harvested by 7 seine permit holders (Appendices D1–D2).

Waters of the Kamishak Bay District opened to commercial common property harvest on Thursday, June 1 on a schedule of Monday through Sunday fishing periods, 24 hours per day. On June 19, waters of the Paint River and McNeil River Subdistricts were closed to commercial harvest to prevent interception of chum salmon returning to the McNeil River (Table 8), which was designated as a "stock of concern" at the 2016 BOF meeting (Otis et al. 2016b). Also on June 19, ADF&G opened the waters of Chenik Lagoon up to the freshwaters of Chenik Creek. In recent years this system had sockeye salmon escapements in the upper end or above the SEG (Appendix D10). On June 20, an aerial survey identified a buildup of sockeye salmon in Chenik Lagoon. This was announced to the commercial fleet in a news release that day. Over the next 2 days, 20,711 sockeye salmon were harvested (Appendix D1) and approximately 2,000–3,000 were allowed to remain in the lagoon and pass into Chenik Lake. The Chenik lagoon was closed to commercial harvest on June 26 (Table 8). A survey was flown on Saturday, July 2, and

numbers of sockeye salmon in the lagoon were similar to those observed on June 20. Given the recent large tide cycle when high tides were sufficient to allow migrating salmon access to Chenik Creek without traversing the intertidal waterfall, significant passage into the lake was anticipated. However, video recovered from the Chenik camera on that day showed that no fish had been counted since June 23 (Appendices D3 and D5). Total escapement into the lake on July 2 was 328 fish. Anticipated passage for this date required to achieve the SEG for this system is 1,973–9,321 sockeye salmon (Appendix D3).

A dedicated flight to retrieve the video was made on July 5. During the period from July 2 to 11:00 AM on July 5, an additional 1,103 fish had entered the lake for a season total count of 1,431 fish. No fish were counted on July 3, but 535 fish were enumerated on July 4, and 568 were counted on July 5 prior to retrieval of the video (Appendix D3). Based on the strong showing of fish between midnight and 11:00 AM on the last day, combined with an aerial survey of Chenik Creek on the flight out, it appeared that a large number of fish would be moving into the lake. Later that day, ADF&G announced the reopening of Chenik lagoon on July 6 up to the freshwater of the Chenik River (Table 8).

An additional dedicated flight was made to Chenik Lake on July 12 to retrieve video data. Passage between July 5 and July 12 was disappointing, with only 1,034 additional fish documented entering the lake, for a total escapement of 2,465. This compares to an anticipated range of 2,599–12,279 fish for this date to achieve the SEG. Typically 64.7% of the run has been counted by this date (Appendix D3). Therefore, Chenik Lagoon was closed after 6:00 PM, July 13 (Table 8).

Video was retrieved on a dedicated flight on July 21 and a quick review indicated thousands of fish passing into the lake since the previous video count. As a result of this, Chenik lagoon up to the freshwater of the creek was reopened at 6:00 AM on July 22. Passage into the lake was later determined to be 10,542 sockeye salmon through July 21, which was within the anticipated range of 2,875–13,581 fish for that date (Appendix D3). An additional 2,049 sockeye salmon were harvested following this for a total harvest of 97,537 sockeye salmon from the Chenik Subdistrict. Video monitoring of Chenik Creek continued until August 15. Final escapement for Chenik Lake was 21,468 fish, which was above the SEG of 2,900–13,700 fish (Table 10; Appendices D3 and D5). This was the 4th consecutive year that escapement to Chenik Lake has exceeded the SEG (Appendix D7) despite timely inseason management actions based on current escapement levels.

Management in other portions of the Kamishak District was entirely uneventful in comparison to management of the Chenik sockeye salmon return. The Kirschner Lake SHA was closed to common property harvest on June 19 and reopened on July 31. Total cost recovery harvest during this time was 24,001 sockeye salmon (Appendix F1). Following this, an additional 3,352 sockeye salmon were harvested from this area. Given the difficulty of fishing in the Kamishak District, combined with the good pink and chum salmon returns to the Outer and Southern Districts, there was only a modest effort in this area in 2017. Salmon escapement to index streams in the Kamishak District was very good and no streams failed to meet minimal SEG levels (Table 10; Appendices D8 and D10). Anadromous waters restrictions were removed from several pink salmon streams (e.g., Sunday and Brown's Peak Creeks) to facilitate harvest and reduce the possibility of exceeding the upper end of SEGs (Table 8).

A total of 7,495 sockeye salmon were counted from video at Mikfik Lake through July 30 when the hard drive filled and was not swapped (Appendices D4 and D6). The final count was within the SEG range of 3,400–11,000 (Table 10) but below the 10-year average of 8,527 fish (Appendix D10).

CIAA harvested 24,001 sockeye salmon for cost recovery from the Kirschner Lake SHA (Appendix F2). An additional 2,016 pink and 33 chum salmon that were probably of wild stock origin were harvested in the SHA and were sold for cost recovery. Otoliths were collected from a hatchery cost recovery harvest in the Kirschner Lake SHA on July 13 (statistical week 28), and results indicated 97.9% of the sockeye salmon sampled originated from TLH (Appendix F33).

The peak aerial survey count for Amakdedori Creek was 1,680 sockeye salmon (Appendix D9). This was within the SEG range of 1,200–2,600 fish (Table 10) and below the 10-year average of 2.4 thousand fish (Appendix D10). Total sockeye salmon escapement for Mikfik Lake was 7,495 fish (Appendices D4 and D6), which was within the SEG range of 3,400–11,000 fish (Table 10). It is noteworthy that approximately one-half of the escapement to this lake occurred after July 1. The 5-year average run completion for this date is 80.4% (Appendix D4).

In 2017, pink salmon SEGs were met at all 3 Kamishak index streams and the SEG was exceeded at Brown's Peak Creek. Of the 7 chum salmon index streams, all had final escapements above the minimum and Big Kamishak, Bruin River, Ursus Cove Creeks, and the Iniskin Bay River exceeded the upper end of the SEG. The McNeil River had a chum salmon escapement of 38,679 fish (Table 10). This was the second consecutive year that McNeil River chum salmon escapement was within the 24,000–48,000 SEG range (Appendix D10).

There were 102,810 sockeye salmon harvested by the commercial common property fleet from the Kamishak District in 2017 (Appendix D1). The anticipated preseason harvest was 27,500 wild sockeye (Appendix H) and the 10-year average harvest was 63,086 sockeye salmon (Appendix D2, Appendix H). The total coho salmon harvest of 185 fish was above the 10-year average harvest of 118 (Appendix D2) and above the anticipated harvest of 100 fish (Appendix H). Total pink salmon harvest from this district was 254,440 fish (Appendix D1) versus an anticipated harvest of 61,200 fish (Appendix H). The 10-year average harvest was 24,594 pink salmon (Appendix D2). Total chum salmon harvest of 34,275 (Appendix D1) was above the 10-year average of 20,529 fish (Appendix D2). CIAA harvested 24,001 sockeye salmon for cost recovery purposes from the Kirschner Lake SHA (Appendix F2). This was nearly double the anticipated harvest of 13,020 fish (Appendix H).

LOWER COOK INLET SUBSISTENCE, PERSONAL USE AND HOMEPACK COMMERCIAL FISHERIES

The Cook Inlet subsistence management area (5 AAC 01.550) includes all state waters between Cape Douglas and Cape Fairfield, excluding waters of the upper Susitna River (5 AAC 01.550). Superimposed on this area is the Anchorage-Matsu-Kenai Nonsubsistence Area described in 5 AAC 99.015(a)(3). This area makes up more than 90% of the area described in 5 AAC 01.550. Under Alaska Statute 16.05.258 (c), the BOF may not permit subsistence fishing in nonsubsistence areas. A portion of the LCI management area is outside the nonsubsistence areas, including the southwest tip of the Kenai Peninsula with the communities of Seldovia, Port Graham, and Nanwalek, as well as portions of the western shore of Upper Cook Inlet (UCI) near Tyonek in the Northern District of Upper Cook Inlet. However, in order to provide harvest

opportunity in addition to sport fishing to Alaska residents within these nonsubsistence areas, the BOF has provided 2 personal use salmon fisheries in LCI, and defined seasons and gear types for personal use herring and smelt fisheries. In addition, both resident and nonresident commercial permit holders have been allowed to retain legally harvested fish from their commercial catch for their own use as homepack (5 AAC 39.130(b)(12)).

NANWALEK/PORT GRAHAM SUBSISTENCE FISHERY

Subsistence fishing is allowed in the Port Graham and Koyuktolik (Dogfish Bay) Subdistricts from April 1 through September 30, and in the Port Chatham and Windy Bay Subdistricts from April 1 through August 1. Extended fishing periods in these areas are defined in regulation, occurring from 10:00 PM Thursday to 10:00 AM Wednesday (132 hours) each week. Set gillnets up to 35 fathoms in length, 6 inches in mesh size, and 45 meshes in depth may be used. This fishery has been specifically administered by ADF&G staff since the late 1970s. However, local dependence by residents on returning salmon to meet basic nutritional needs has been identified since before statehood (Stanek 1985). Fishing in these areas has tended to focus primarily on salmon returning to English Bay Lakes and the Port Graham River. Over the last 20 years, sockeye salmon runs to English Bay Lakes have been depressed. This has reduced both local commercial and subsistence salmon harvests. Partially in response to this, at the November 2001 BOF meeting, waters of the Port Chatham and Windy Bay Subdistricts were added to regulation as areas available for salmon harvest by subsistence permit holders. Historically, separate permits have been issued to residents of Port Graham (population 168) and Nanwalek (population 287). Permission to fish in Koyuktolik, Port Chatham, Port Graham, and Windy Bay is specified on both of these permits. Historically, there has been no requirement on these permits for the subsistence user to report from which harvest areas some or all of the harvest was caught. There is no bag or annual possession limit for subsistence salmon in the Port Graham, Port Chatham, Windy Bay, or Koyuktolik (Dogfish Bay) Subdistricts.

In 2017, 50 permits were sent to the Nanwalek Traditional Council and 40 permits to the Port Graham Village Council, 10 permits were sent to the Anchorage ADF&G office, and 10 permits were kept at the Homer ADF&G office. All permits were serially numbered and printed on Rite-in-the-Rain paper.[2] Representatives from the village councils were asked to disperse these permits to village residents who intended to harvest salmon for subsistence use so that those households would be in compliance with 5 AAC 01.580. Prior to 2012, a village resident was paid to disperse and collect permits from both of these communities and provide ADF&G with a final harvest estimate. This practice was discontinued due to budget cuts. Permits were not actively distributed from ADF&G offices prior to 2012.

In 2017, the English Bay River weir was operated for the second year since 2011 by residents of Nanwalek. From 2012 to 2015, CIAA supervised operation of the weir. Sockeye salmon escapement past the English Bay River weir throughout its operation exhibited a run timing that was remarkably close to the 10-year average run timing with escapement generally falling in the upper end of the anticipated goal that would result in a final escapement that was within the SEG (Appendix A4). On June 19, for the fourth year in a row, a representative from the Port Graham Village Council contacted ADF&G and requested that subsistence fishing opportunity in the Port Graham Subdistrict be increased from 5.5 days per week to 6.5 days per week. Because the

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

English Bay weir was indicating a strong sockeye salmon return, the increase of subsistence was granted.

In 2017, ADF&G received subsistence reporting from 1 household in Nanwalek (Appendix E2). This level of reporting was similar to levels in some recent years when fewer than 5 households reported harvests. Unlike all other set gillnet fisheries in Cook Inlet, and most other subsistence fisheries in Alaska, subsistence fishing gear in the Port Graham Subdistrict may be fished unattended. This has resulted in what are de facto community nets with reporting occurring irregularly. Residents have expressed a reluctance to report subsistence harvest out of concern that if they did, ADF&G would close or restrict the fishery. A total of 215 sockeye, 1 pink, and 36 chum salmon were reported as harvested by 1 household in 2017. This compares to a reported harvest of 15 Chinook, 620 sockeye, 677 coho, 12 pink, and 199 chum salmon by 20 residents in 2016 (Appendix E2). Subsistence harvest reports are due in the Homer office by November 30. Reports submitted after December 31 will be included in the following AMR's data for 2017.

Similar to Nanwalek reporting, only 1 permit was returned by Port Graham residents in 2017. The total reported harvest was only 128 salmon. This was similar in some respects to 2016, when 12 permits were returned, reporting only 72 fish harvested by Port Graham residents. This was a significant drop from 2014 and 2015, when 2,606, and 2,336 salmon, respectively, were reported as harvested by Port Graham households (Appendix E1).

In the fall of 2015, Subsistence Division staff conducted household surveys in Nanwalek and Port Graham. Residents of these villages reported a combined harvest of 13,700 salmon in 2014. During that year a total of 3,133 salmon were reported on subsistence permits submitted to the Homer office. Division of Subsistence staff indicated that these numbers were not intended to be a precise estimate of the actual number of salmon harvested; however, they do share the concern that there may be significant under-reporting in this fishery (B. L. Davis, Fisheries Biologist, ADF&G, Anchorage; personal communication).

SELDOVIA SUBSISTENCE FISHERY

There are 2 subsistence fishing seasons specified in regulation that take place each year in the waters of the Seldovia Bay Subdistrict. The first season consists of two 48-hour periods each week beginning at 6:00 AM on Monday and Thursday from April 1 through May 30. The second season consists of two 36-hour periods on the first 2 weekends in August. Legal gear is set gillnets up to 35 fathoms in length, 6 inches in mesh size, and 45 meshes in depth.

A subsistence set gillnet fishery for salmon was created in Seldovia Bay by the BOF in 1995. The harvest of Chinook salmon was limited to 200 fish to avoid impacting the stocked Chinook salmon fishery in Seldovia Bay. The annual possession limit is 20 Chinook salmon per household. The fishery is opened for two 48-hour periods per week from April 1 to May 30 and one 36-hour period each of the first 2 weekends in August. The BOF adopted a proposal extending the April/May period by 10 days to May 30 in February 1998. The highest reported subsistence harvest was 189 Chinook salmon in 2000 and the lowest was 12 reported in 2006 (Hammarstrom and Dickson 2007).

Chinook salmon that have been released annually into the Seldovia Harbor since 1987 are funded under the federal Dingell–Johnson Sport Fish Restoration Fund (Appendix F11). Allowing a subsistence harvest of these Chinook salmon would violate the intent of this federal program. Furthermore, there have been no significant historical runs of Chinook salmon to the Seldovia

area (or other locations in LCI south of the Anchor River). The customary and traditional use worksheet submitted to the BOF in 2005 identified Chinook salmon as the least important of the 5 species to residents of Seldovia as far as traditional subsistence use was concerned. In addition to structuring the timing of the fishery to avoid this hatchery run, the BOF also imposed an annual possession limit of 20 Chinook salmon per household for this species and an overall guideline harvest level of 200 Chinook salmon per year. There is no bag or annual possession limit for other salmon species in the Seldovia subsistence fishery. A permit issued by ADF&G is required prior to setting gear, and catches are recorded on the permit. Catches are also reported to the Homer area office inseason so that cumulative harvest totals can be monitored and coho salmon are deducted from the fall personal use coho salmon fishery guideline harvest level specified in 5 AAC 77.549(a).

In 2017, 40 permits for the spring fishery were sent to the Seldovia harbormaster's office, 10 permits were retained at the Homer ADF&G office, and 10 were sent to the Anchorage ADF&G office. An additional 20 permits for the fall fishery were sent to the Seldovia harbormaster's office. All permits were serially numbered and printed on Rite-in-the-Rain paper. The Seldovia harbormaster was instructed to have Alaska residents complete the name and address portion of the permits while under witness of a harbormaster employee and then have that employee fax a copy of the completed permit back to the Homer ADF&G office.

In 2017, 8 permits were dispersed to Alaska residents for the early season and 5 were returned. All reported having fished and reported harvesting 7 Chinook, and 61 sockeye salmon. This compared to a 10-year average of 9 permits issued, 6 permits returned, and 3 reporting not fishing with an average harvest of 7 Chinook and 46 sockeye salmon. Five permits were issued for the August weekend fishery. Three of those were returned, with only 1 reporting having fished and harvesting only 2 chum salmon. The 10-year average for the August weekend fishery was 5 permits issued, and 4 permits returned, with a harvest of 23 sockeye, 9 coho, 34 pink, and 15 chum salmon (Appendix E3). Total harvest for both the early and late season was 70 salmon versus a 10-year harvest average of 134 salmon. Currently, there is no specific customary and traditional allocation for this subsistence fishery as there are for other LCI subsistence fisheries (5 AAC 01.566(d)).

CHINA POOT PERSONAL USE DIP NET AND PERSONAL USE COHO SALMON FISHERIES

There are 2 personal use salmon fisheries currently specified in regulation in LCI. These are the China Poot personal use dip net fishery and the Southern District personal use coho salmon fishery.

The China Poot dip net fishery started in 1980 when adult returns from the 1976 hatchery release of sockeye salmon began (Appendices F12 and F16). This fishery is managed by ADF&G, Division of Sport Fish. Prior to 1996, harvest from this fishery was documented as part of the *Statewide Harvest Survey*[3]. Currently, there are no reporting requirements to monitor overall harvest from this fishery. The daily bag and possession limit for this fishery is 6 sockeye salmon.

The personal use coho salmon fishery in the Southern District began prior to statehood, when it was considered a subsistence fishery. From 1986 through 1995, various court rulings converted it to a personal use fishery and then back to a subsistence fishery. A court action in late 1994

[3] Alaska Sport Fishing Survey database [Internet]. 1996– . Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish Available from: http://www.adfg.alaska.gov/sf/sportfishingsurvey/

reestablished the boundaries of the Anchorage Nonsubsistence Area (5 AAC 99.015(a)(3)) that put the location of this fishery within the nonsubsistence area, thereby invalidating the subsistence regulations that governed this fishery at that time (Figure 17). As a result, early in 1995 the BOF readopted personal use regulations governing this fishery into permanent regulation and rescinded subsistence regulatory language pertaining to this fishery. Regulations pertaining to this fishery are found in 5 AAC 77.549 *Personal Use Coho Salmon Fishery Management Plan*. These currently specify a guideline harvest range of 1,000–2,000 coho salmon. Additionally, coho salmon caught in the Seldovia subsistence fishery described in 5 AAC 01.560(b)(8)(B) are deducted from this annual harvest goal. Coho salmon targeted in this fishery have shifted from exclusively wild stock fish to include hatchery coho salmon, which have periodically been stocked at several locations in Kachemak Bay since the mid-1970s (Appendix F13). Since the late 1980s, annual releases of 100,000–325,000 coho salmon smolt into the Nick Dudiak Fishing Lagoon, located on the Homer Spit, have periodically contributed significantly to the personal use harvest (Figure 18). Samples taken in 1999 and 2000 of coho salmon caught in this fishery from sites on the Homer Spit adjacent to the Nick Dudiak Fishing Lagoon documented a hatchery component of 81% and 90%, respectively, during these 2 years (Szarzi et al. 2010). However, as a result of decreased releases and poor runs of late season coho salmon in the Nick Dudiak Fishing Lagoon, effort shifted away from the Homer Spit to waters between Fritz Creek and Swift Creek (Appendix E6; Figure 17). The wild stock components of this fishery are primarily bound for the Fox River drainage at the head of Kachemak Bay. However, there are numerous smaller runs of coho salmon scattered throughout Kachemak Bay.

In addition to holding a valid sport fishing license and being an Alaska resident, participants in the personal use coho salmon fishery must obtain a fishery-specific permit from the Homer ADF&G office. Beginning in 1999, ADF&G has requested that permit holders voluntarily report their harvest daily in order to facilitate inseason management and to ensure that the 1,000–2,000 guideline harvest range specified in 5 AAC 77.549 is observed, while providing opportunity for harvest to reach at least the lower end of the range. Harvest during the 2017 season was 2,388 coho, 298 sockeye, 6 Chinook, 11 pink, and 212 chum salmon, with 148 permits issued, 145 permits returned, and 108 reported as actively fished (Appendix E4). Similar to the 2 previous years, coho salmon in 2017 were abundant, with only 2 fishing days required to meet the guideline harvest range. The first and only 48-hour fishing period occurred on Thursday, August 17, beginning at 6:00 AM, and closed 48 hours later at 6:00 AM on Saturday, August 19. The fishery was closed by EO at the conclusion of the fishing period. The 10-year average was 137 permits issued and 1,448 coho salmon harvested (Appendix E4).

Coho salmon harvest data from the personal use fishery showed that catches were most robust from the east side of the Homer Spit, with 898 fish reported by 32 permit holders. This was followed by the Fritz Creek to Swift Creek section where 22 permit holders reported 672 fish. Coho salmon harvested from Mud Bay to Fritz Creek was 473 fish from 29 permit holders, followed by Bear Cove to Neptune Bay, with 245 fish reported by 17 permit holders. Harvest along the east side of the Homer Spit to Troublesome Creek was 58 coho salmon, with 3 permit holders reporting. The Neptune Bay to Little Tutka Bay section had 42 coho salmon reported by 5 permit holders (Appendix E6).

Without a harvest sampling program in place, it was difficult to estimate the portion of the harvest that could be attributed to hatchery fish returning to the Nick Dudiak Fishing Lagoon on the Homer Spit. Of the 148 permits issued, 82% were held by Homer area residents, 5% by

Anchorage area residents, and the remaining 12% by residents of Anchor Point and other locations in Alaska (Appendices E5 and E8).

COMMERCIAL HOMEPACK

Historically, both resident and nonresident commercial permit holders have been allowed to retain legally taken fish from their commercial catch for their own use. In 2007, the BOF amended 5 AAC 39.130(c)(12) to require that the number of fish of any species retained by commercial fishermen for their own use be documented on a fish ticket.[4] Previously, these fish had been voluntarily noted on fish tickets by some permit holders.

In 2017, 15 set gillnet and 6 purse seine permit holders reported retaining 59 Chinook, 653 sockeye, 201 coho, 192 pink, and 110 chum salmon for their own personal use (Appendix E7). Of those, 6 were residents of Homer, 8 permit holders were Seldovia residents, and the remaining 7 permit holders were Anchorage, Halibut Cove, Ninilchik, Anchor Point, and lower 48 residents (Appendix E8).

COOK INLET SALMON ENHANCEMENT

Fisheries enhancement and rehabilitation in Alaska began in earnest in 1971 when the Alaska State Legislature created the Fisheries Rehabilitation, Enhancement and Development Division (FRED) to help stabilize and rebuild fisheries production. Prior to this time and before statehood, there was only 1 hatchery in the Cook Inlet area. It was built by the Territorial Fish Commission in 1923 and located on Grouse Lake near Seward. This hatchery released Chinook and sockeye salmon in 1925 and 1926. Broodstock for released Chinook salmon came from Washington State, and brood for sockeye releases from Grouse and Bear Lakes (Appendices F11–F12). The Seward Hatchery was destroyed by fire in March of 1927 (Roppel 1982). Since the mid-1960s, there have been sporadic releases of coho and Chinook salmon to systems in Resurrection Bay and at Kasitsna Bay near Homer. These fish were produced at ADF&G hatcheries in Anchorage on Ship Creek as well as at the Big Lake and Fire Lake hatcheries.

In 1974, the Alaska legislature passed the Private Non-Profit Hatchery Act, which stated:

> "It is the intent of this act to authorize the private ownership of salmon hatcheries by qualified non-profit corporations for the purpose of contributing by artificial means to the rehabilitation of the state's depleted and depressed salmon fishery. The program shall be operated without adversely affecting natural stocks of fish in the state and under a policy of management which allows reasonable segregation of returning hatchery reared salmon from naturally occurring stocks."

CIAA was created in 1976. TBLH was built by the state of Alaska in 1976 and began rearing sockeye and pink salmon that year (Appendices F7–F8). In 1983, the Eklutna Hatchery began producing chum and coho salmon. The Crooked Creek Hatchery (CCH) was built in 1975 and began producing sockeye and Chinook salmon 2 years later, with coho salmon production starting in 1979. In 1991, residents of Port Graham formed the Port Graham Hatchery Corporation (PGHC) and began producing sockeye and pink salmon at a converted cannery in the village of Port Graham (Appendix F9). Early in 2014, CIAA acquired the assets of the

[4] Statewide electronic fish ticket database [Internet]. 1985– . Juneau, AK: Alaska Department of Fish and Game, Division of Commercial Fisheries. (Cited: January 2018). [URL not available as some information is confidential]. Hereafter referred to as fish tickets.

PGHC, including permitted egg capacity, and is currently restoring the hatchery to working condition after a protracted period of inactivity.

CIAA is among 12 nonprofit corporations in the State of Alaska that maintain private hatcheries with the capacity to produce salmon for harvest in common property fisheries. After merging with PGHC in early 2015, CIAA is now the second largest hatchery nonprofit in Alaska in terms of overall egg capacity.

Historically, hatchery contribution to the commercial common property fishery has been estimated based entirely on the number of salmon harvested in the various SHAs versus the number harvested outside of SHAs (Figures 19–21). Using this methodology in 2017, CIAA contributed just over 1% (2,730) of the total LCI sockeye salmon harvest of 202,474 fish, and about 11% (218,092) of the total LCI harvest of 1,904,267 pink salmon (Table 2; Appendices F1 and F6). However, in recent years, Homer ADF&G staff began sampling otoliths from pink and sockeye salmon harvested in the commercial fishery. In 2017, a total of 1,442 readable sockeye salmon otoliths were collected from the commercial common property purse seine fishery in the Southern District. The average proportion of fish sampled that were thermally-marked was 50.3% (range: 25.5%–91.9%), all of which were from the Trail Lakes Hatchery in LCI (Appendix F30).

The common property seine harvest from this subdistrict in 2017 was 17,493 sockeye and 262,081 pink salmon. A total of 1,139 readable pink salmon otoliths were sampled from commercial common property purse seine harvests in 2017, with an average of 28.5% (range: 12.6%–47.1%) of those having a LCI thermal mark, and 2.1% a PWS thermal mark (Appendix F37).

Otoliths were also collected from pink and sockeye salmon harvested in the Southern District commercial set gillnet fishery. Of the 192 readable pink salmon otoliths sampled, 16.1% had thermal marks associated with LCI hatchery releases, and 12.0% had PWS hatchery thermal marks (Appendix F34). The KBH, located on Afognak Island, does not thermally- mark pink salmon releases, consequently LCI commercial fishery interception rates of pink salmon presumably returning to the KRAA facility via Kachemak Bay is unknown. Of the 2,312 readable sockeye salmon otoliths sampled from the set gillnet fishery in 2017, an average of 9.2% (range: 2.0%–21.6%) were produced at LCI hatcheries, with an additional 1.0% and 1.7% exhibiting thermal marks associated with PWS and Kodiak (Pillar Creek) hatchery releases, respectively (Appendix F27). The Pillar Creek Hatchery (PCH) is located approximately 1 mile northwest of the town of Kodiak.

Kitoi and Pillar Creek hatcheries began thermally marking sockeye salmon in 2013 (brood year 2012) with only 607,000 fish (14.9%) receiving marks of the 4.1 million sockeye salmon released. The percentage of marked sockeye salmon increased the following year at KRAA facilities to 92.8% of 4.3 million released. Sockeye salmon produced at the Main Bay facility in PWS have been thermally marked since 1999 and sockeye salmon released at the Gulkana Hatchery have been otolith marked using strontium chloride since 2000[5] (Botz et al. 2013). Strontium marks cannot be identified using an optical microscope, but must instead be identified using electron microscopy. Gulkana produced sockeye salmon make up the bulk of PWS

[5] Mark, tag and age lab database. [Internet] 1974– . Juneau, AK. Alaska Department of Fish and Game, Division of Commercial Fisheries. (Cited: March 2017). Available from: https://mtalab.adfg.alaska.gov/OTO/reports/MarkSummary.aspx

releases, with a 10-year average annual release of 20.6 million fry versus 9.7 million smolt and fry released from the Main Bay Hatchery (MBH). BY2012 and BY2013 sockeye salmon from the Gulkana and Kitoi Bay release sites may be present in LCI commercial harvests, but they were not identified either as a result of their being strontium marked, or unmarked.

In addition to sockeye and pink salmon releases, CIAA also released an average of 523,000 coho salmon over the last 10 years (Appendix F8). Ship Creek Hatchery Complex (operated by ADF&G) has released an average of 678,000 Chinook salmon into LCI, where both of these species are primarily harvested by sport users (Appendices F10–F11).

Pink salmon otoliths were collected in 2017 from selected index streams in the Southern and Outer District, as well as the English Bay River. Additional streams of interest were sampled as recommended by research staff and members of the public. A total of 2,394 otoliths were collected. Of those, 51 were omitted due to sampling errors (empty vials, over grinding), or developmental issues (crystalline otoliths). Of the 2,343 readable otoliths, 839 (35.8%) had hatchery marks, with the majority of the LCI marked otoliths (268) collected from Tutka Lagoon Creek, which is adjacent to TBLH. Overall, 31.9% of the thermally marked fish were identified as originating from the TBLH release, 0.5% had marks indicating they were released from the Port Graham SHA, and 67.6% had thermal marks from hatcheries in PWS (Appendix F40). This was similar to findings in the 3 previous years when otoliths were collected from 9 index streams in the Southern District and English Bay River (Appendices F41–F43). Thermal marked salmon are anticipated to be found at high levels in streams located in SHAs or adjacent to hatchery release areas, but streams that are outside of SHAs would be expected to have reduced levels of marked fish (Brenner et al. 2012). Excluding the samples from creeks within the TBLH SHA and Port Graham River reduces the 2017 level of strayed LCI thermally-marked fish to 1.3% and the level of PWS strays to 28.0% (Appendices F44–F45). These results may not represent the full extent of stray hatchery pink salmon in LCI streams because the KBH located on Afognak Island does not currently mark pink salmon releases.

TUTKA BAY LAGOON HATCHERY

TBLH is located in Tutka Bay, approximately 23 kilometers (14 miles) south of Homer (Figure 20). TBLH, constructed in 1976, is owned by ADF&G and has been operated by CIAA under contract since 1992. Prior to the start of hatchery production of pink salmon, ADF&G staff conducted a study examining the diet of pink salmon fry in Tutka Bay beginning in 1975. This study found that harpacticoid copepods were the preferred diet of pink salmon fry, with decapod zoea (which include crab and shrimp) comprising less than 10% by organism number (Kron and Yuen 1978). The facility was originally constructed as a pink and sockeye salmon hatchery. However, it also produced chum salmon from 1979 to 1990 (Appendix F15). Water for hatchery operations is supplied by Tutka Lagoon Creek. Permitted water capacity is 76 L/s, with a current usage of 68 L/s. The TBLH had an initial capacity of 10 million pink salmon eggs, but major renovation work by CIAA shortly after leasing the facility in 1993 increased the physical capacity to 150 million eggs. In addition, TBLH has a sockeye salmon egg physical capacity of 1.8 million, as well as raceways to accommodate the resulting fry. However, problems with IHN virus outbreaks have plagued this facility and made for erratic sockeye salmon releases from 1977 to 1999, when this species was incubated (Appendix F7). Sockeye salmon produced at TBLH were released into Leisure Lake (1977), Tustumena Lake (1978), English Bay (1990), and Tutka Bay (1996, 1997, and 1999). Fish released into Tutka Bay in 1996, 1997, and 1999 were

of Packers Lake stock. Beginning in 2005, sockeye salmon were incubated and reared at the Trail Lakes Hatchery using Hidden Lake broodstock and were transferred to Tutka Bay Lagoon for imprinting and release, which resulted in better survival rates. Pink salmon were raised consistently at the TBLH from 1977 to 2004, with releases ranging in number from 318,000 (1977) to 105 million (1996), with an average release of 42.4 million fry. All pink salmon broodstock was derived locally from the adjacent Tutka Lagoon Creek. Pink salmon were not only released from the hatchery site directly, but also remote released from Halibut Cove Lagoon (1975, 1977, 1986–1992), Paint River (1980–1983, and 2015), Homer Spit (1987–1992), and Ingram Creek (1987–1990) in Turnagain Arm (Appendices F6, F7, and F14). Pink salmon production was halted in 2004 because of low market value for this species, which resulted in an inability to generate adequate cost recovery revenue to fund the pink salmon program. Chum salmon were reared and released on site from 1979 to 1990 in numbers ranging from 7,992 in 1981, to 3.2 million in 1988. Broodstock for the chum salmon return was initially taken from Port Dick Creek in 1978, with 732,000 fry released in Tutka Lagoon in 1979. The last 4 years of chum salmon releases into Tutka Lagoon (1987–1990) used broodstock collected from Cottonwood Creek on the west side of Cook Inlet (Appendix F7).

In 2012, CIAA resumed production of pink salmon with the release of brood year 2011 fry. TBLH has a permitted capacity of 125 million pink and 660,000 sockeye salmon eggs. Prior to brood year 2012, thermal marks were not applied to any fish cultured at this location. However, following facility upgrades in 2012, thermal marks were applied to the 4.4 million pink salmon that were released from Tutka Bay Lagoon in 2013, as well as releases since (Appendix F7).

The 2017 pink salmon run to the TBLH was only the fifth year of returns since resuming production of this species after a 7-year hiatus. Of the 11.4 million BY2015 fry released in 2016, an estimated 343,000 (3%) were anticipated to return (Appendices F14 and H1). The actual run was estimated at 465,145 fish (Appendix F1). Of these fish, CIAA reported that 267,913 were harvested for broodstock and 152,915 (57.1%) were viable (Appendix F3). This compares to a viable-nonviable broodstock percentage from 2016 of 66.3%. Broodstock viability collected from both 2016 and 2017 were below the minimum 70% survival standard for hatcheries specified in 5 AAC40.860.

Total pink salmon cost recovery harvest from this facility in 2017 was 110,152 fish. ADF&G staff did not collect pink salmon otoliths from cost-recovery harvested fish in the Tutka Hatchery SHA in 2017, but samples were obtained in 2016. Of the 96 readable otoliths collected from a cost recovery harvest in 2016, 100% had hatchery thermal marks, all of which were Tutka hatchery thermal marks (Appendix F39).

The final escapement index for Tutka Lagoon Creek pink salmon in 2017 was 61,369 pink salmon. This was above the SEG range of 6,500–17,000 pink salmon (Table 10) and above the 10-year average escapement for this system of 19,300 fish (Appendix A8).

PORT GRAHAM HATCHERY

The Port Graham Hatchery (PGH) is in the village of Port Graham (Figures 1 and 21) and originally was located in a converted Whitney-Fidalgo salmon cannery. The hatchery was permitted in September 1992 and actively operated by the Port Graham Hatchery Corporation until 2007. Ownership of this facility was transferred to CIAA in 2014. Water for operations in the main hatchery building was supplied by the untreated Port Graham municipal water supply at a rate of 13–28 L/s. Freshwater for the adult holding and egg-take complex comes from nearby

Cannery Creek via an 8 in pipeline at a rate of 50–107 L/s. Prior to permitting, the hatchery was conducting experimental pink and sockeye salmon egg takes and fry releases via a scientific/educational permit since 1990. Sockeye salmon were raised at this facility during many years from 1991 to 2006 with releases ranging from 85,000 (1991) to 918,000 (1999) with an average release of 316,000 fish between 1991 and 2006 (Appendices F9 and F20). This facility provided sockeye salmon fry and smolt for the Nanwalek Salmon Enhancement Project (NSEP) from 1992 to 2008.

Pink salmon were released during most years from 1991 to 2007, with releases ranging from 255,000 (1991) up to 57.2 million (2003) fish, with an average release of 11.6 million fry. Coho salmon eggs were collected from the Port Graham River in 1996, and in October 1997 a total of 29,963 coho salmon smolt were released from this facility. The coho salmon project was discontinued after this release. In January 1998 a fire completely destroyed the original PGH building, including incubation modules containing pink and sockeye salmon eggs collected during the previous year. A separate building that housed the empty coho salmon module was undamaged by the fire. This building was converted to pink and sockeye salmon incubation to allow incubation of eggs collected during the upcoming summer. Rearing infrastructure in this newer building allowed the hatchery manager to thermally mark all pink salmon fry beginning in 1998. Sockeye salmon thermal marking began in 2003. In 2006, the loss of the hatchery manager, combined with financial troubles, resulted in sockeye and pink salmon releases ending in 2006 and 2007, respectively. Consequently, the PGHC contracted with CIAA in 2007 to harvest 510,000 sockeye salmon eggs from returning PGH fish. The eggs were incubated at the TLH and released as fry in the English Bay Lakes (246,000 October 30, 2008) and as smolt in Port Graham (112,000 June 15, 2009; Appendix F22).

In 2017, a total of 69,249 pink salmon were harvested for broodstock from the Port Graham SHA. Of these, a 41,817 fish (60.3%) were viable and used for broodstock. This was below the minimum 70% survival standard for hatcheries specified in 5 AAC 40.860. From these fish, 35,212,600 green eggs were harvested, and of those, 22,755,700 (64.62%) matured to the eyed stage. This was also below the minimum 80% survival standards for green to eyed egg stage (Appendix F1, F3).

Brood years 2016 and 2017 marked the first time since 2006 that eggs were incubated at the PGH. In recent years, releases at this facility were fry that had been incubated at the TBLH. On June 7, 2017, a total of 6.1 million fry were released from the hatchery into Port Graham Bay. There fry were reared from the 9.1 million eyed eggs that overwintered at the PGH. The survival level of 67.0% of those fry from eyed eggs was below the minimum 85% level specified in 5 AAC40.860.

Of the 72,529 pink salmon harvested in the common property purse seine fishery in the Port Graham Subdistrict, 95 readable otoliths were collected in statistical week 35. Of those, 27 (28.4%) were thermally marked. Of those, 11 had a PGH thermal mark, 1 had a TBLH mark and the remaining 15 marked otoliths were of PWS origin (Appendix F37).

There was no cost recovery or excess male sales associated with this facility. Overall returns to this facility and the Port Graham River were modest in 2017. The anticipated return was only 39,323 fish (Appendix H). Given the low percentage of PGH marked fish in the commercial harvest (11.6%; Appendix F37), it would follow that the percentage of unmarked fish in the 2017 broodstock harvest for this facility (69,249 pink salmon; Appendix F3) would be high. However,

ADF&G staff collected a cost-recovery sample directly from the net pens in 2016 and found that of the 84 readable otoliths sampled, 67 (79.8%) were from the PGH, 3 were from TBLH, and 1 was from a PWS hatchery (Appendix F39).

TRAIL LAKES HATCHERY

The TLH is located on the Seward Highway, approximately 47 kilometers (29 miles) north of Seward (Figure 13). ADF&G built this hatchery in 1982, and CIAA has operated it under contract since 1989. Initially, this facility produced Chinook, sockeye, and coho salmon. Water for hatchery operations is supplied by ground wells that are capable of producing approximately 139–186 L/s, of which 132 L/s are required for hatchery operations. All releases from this hatchery are remote releases. Sockeye salmon have been consistently produced at the TLH since 1983, with releases ranging from 516,000 (1986) to 18.9 million (2002), producing an average of 9.2 million fish per year from 2005 to 2014. In addition to release sites in UCI, TLH-produced hatchery sockeye salmon have been released into LCI systems such as Bear Lake and Grouse Lake, as well as lakes (Leisure, Hazel, and Kirschner) that were stocked by the Tutka, Crooked Creek, and Eklutna hatcheries prior to 1998. Coho salmon have also been produced at TLH in consistent numbers since 1983 with releases ranging in size from 75,000 (1996) up to 1.7 million (1987), with a 10-year average release of 627,200 fish from 2005 to 2014 (Appendix F8). The majority of the coho salmon reared in recent years have been released into Bear Lake. Chinook salmon were produced from 1984 to 1988, and chum salmon were raised for 1 year with a release of 455,809 in 1985 into Resurrection Bay systems. This hatchery has consistently applied thermal marks to releases since 1991.

In 2017, the total run of adult sockeye salmon to remote release sites from this hatchery in Cook Inlet was 169,312 fish, considerably less than the CIAA forecast of 295,205 sockeye salmon (Appendix F1). A total of 90,597 sockeye salmon were sold for hatchery cost recovery or donated to members of the public and were worth $1.6 million dollars (Table 4). An additional 474 sockeye salmon carcasses were donated or sold to processors from the Hidden Lake return in UCI after otolith extraction for a total of 91,090 fish (Appendix F1). A total of 11,783 sockeye salmon were collected for broodstock, and of those, only 8,248 (70.0%) were viable broodstock. The remainder were holding mortalities or otherwise unsuitable for egg harvest, and were subsequently donated to members of the public (Appendix F2). The common property fishery harvested approximately 45,494 of the total TLH sockeye salmon run (Appendix F1). This includes remote releases at Hidden Lake, Kirschner Lake, Resurrection Bay, and sites in Kachemak Bay. Currently, TLH has a permitted capacity of 4 million Chinook, 30 million sockeye, and 6 million coho salmon eggs.

In 2017, a total of 12.0 million sockeye salmon eggs composed of 3 stocks were collected from 3 sites in Cook Inlet (Appendix F1).

Sockeye salmon were released at 7 locations in LCI as well as into Hidden Lake in 2017. Bear Lake stock was released into Resurrection Bay and stocked back into Bear Lake. Tutka Bay Lagoon sockeye salmon releases (356,000 smolt) were all from 2015 returns to Tutka Lagoon of English Bay lineage fish. No broodstock were taken from English Bay Lakes in 2017. A total of 2.2 million fry were released into Leisure and Hazel Lakes, and Kirschner Lake was stocked with 260,000 fry. An additional 86,000 smolt were released into the waters of Port Graham (Appendix F12).

In 2017, a total of 2,483 adult coho salmon returned to the Bear Creek weir. CIAA collected 764 fish for broodstock, 280 of which were viable and the remainder were donated to members of the public. A total of 859 adult coho salmon were allowed to migrate into Bear Lake where they spawned naturally (Appendices C5 and C6). Of the fish used for broodstock, a total of 587,900 green eggs were harvested, which was fewer than the 4.0 million eggs that CIAA was permitted for this species (Appendices F1 and F4–F5). The majority of the coho salmon run originated from the BY2014 fry release (548,000) (Appendix F1). No coho salmon were commercially harvested in the common property fishery from the Eastern District, but 389 were harvested from the Outer District in 2017 (Appendix C2). In the Southern District, 13,047 coho salmon were harvested in the commercial common property fishery, with 201 of those fish retained as homepack by 9 permit holders (Table 2). An additional 185 coho salmon were harvested in the Kamishak District (Table 2). Given that 123,000 BY2014 smolt from the Ship Creek Hatchery Complex in Anchorage were stocked into the Nick Dudiak Fishing Lagoon on the Homer Spit (Appendix F13), an unknown percentage of the Southern District commercial coho salmon harvest may have originated from that facility.

LCI REMOTE RELEASES

Nanwalek Salmon Enhancement Project (NSEP)

The English Bay Lakes (EBL) system is located approximately 1.6 kilometers (1 mile) southeast of the village of Nanwalek (formerly English Bay; Figures 1, 2, 8, and 21). The EBL system is a chain of 5 small lakes with a total surface area of approximately 200 hectares (0.77 square miles). These lakes have the only commercially significant wild stock of sockeye salmon in the Southern District of LCI. Production in this system declined in the early 1980s, resulting in commercial fishery closures beginning in 1985 and later subsistence harvest restrictions in order to increase escapement. ADF&G's FRED Division conducted limnology studies and reported in 1992 that these lakes were nutrient poor (oligotrophic), and given that recent escapements (1985–1990) were only 60% of the historical average, "the amount of nutrients from carcasses has been reduced from what it once was, and has further decreased fertility of the lakes in the English Bay watershed" (Edmundson et al. 1992). Stocking at English Bay Lakes began in 1990 with a release of 855,000 fry (Appendix F12) that were grown from eggs collected the previous year in EBL and reared at the (BLH) facility near Wasilla. With the closure of BLH in 1992, incubation and early rearing of sockeye salmon from EBL occurred at the nearby PGH. The EBL system has received sockeye salmon releases in all but 7 years since 1990. These releases have varied significantly in number from 50,096 to 906,057 fish during that time, with an average of 207,300 fry per release during the last 5 years of releases from 2011 to 2015 (Appendix F12). There were no fry released into EBL in the fall of 2016 or 2017 because broodstock were not collected the previous years as a result of a disagreement between CIAA and members of the Nanwalek local government.

A total of 400 sockeye salmon were sampled for otoliths throughout the summer at the English Bay weir. Of the 375 otoliths that could be read, 4.8% had hatchery thermal marks. Age groups of the adult fish sampled at the weir were 3.7% age 1.2, 66.7% age 1.3, 5.3% age 2.2, and 24.0% age 2.3 (personal communication, Gary Fandrei).

Leisure and Hazel Lakes

Leisure Lake (also known as China Poot) is located approximately 18 kilometers (11 miles) southeast of Homer (Figures 1, 2, and 19). Leisure Lake has a surface area of approximately 100 hectares (0.4 square miles). The lake outlet has a set of impassable falls that prevents the return of anadromous salmon. This lake has been stocked regularly with an average of 1.6 million sockeye salmon fry per year since 1976 (Appendix F12). Until the early 1990s, Leisure Lake was used experimentally to determine fry stocking densities that would produce optimum adult returns. Following studies done by Bechtol and Dudiak from 1977–1984, lake fertilization using ammonium nitrate was initiated in 1984 to increase salmon production and continued through 2017 (Bechtol and Dudiak, 1988). The brood source for stocking from 1976 until 2004 was Tustumena Lake. A lawsuit by the Wilderness Society and the Alaska Center for the Environment challenging the permit to collect these eggs in a designated wilderness area within the Kenai National Wildlife Refuge resulted in the loss of Tustumena Lake as a collection site. The broodstock source was changed to Hidden Lake in UCI. Hidden Lake is 680 hectares (2.6 square miles) in size and is 68 kilometers (42 miles) east of Soldotna. Hidden Lake has an indigenous population of sockeye salmon with similar run-timing to the Tustumena Lake stock. This stock was first enhanced by ADF&G in 1976 and later by CIAA. From 2004 through 2011, Hidden Lake was the source of broodstock for both Leisure and Hazel Lake stocking. In 2012, fry from English Bay Lakes were planted into Hazel Lake, with Hidden Lake stock sockeye salmon planted into Leisure Lake. Hazel Lake is located approximately 4 kilometers (2.5 miles) southwest of Leisure Lake (Figure 1). Hazel Lake has a surface area of approximately 90 hectares (0.35 square miles) and drains into the Wosnesenski River, which is approximately 14 kilometers (9 miles) long. Hazel Lake has been stocked for 26 of the last 30 years with an average of 1.1 million sockeye salmon juveniles (Appendix F12).

Hatchery salmon returning to both Hazel and Leisure Lakes have been thermally marked since brood year 1990. However, without funding to support a sampling program, ADF&G has been unable to take full advantage of these identifying features. Since 2013, ADF&G has collected sockeye salmon heads from the Southern District set gillnet harvest and CIAA has examined their otoliths for thermal marks. In 2017, over 2,300 otolith pairs were collected from the commercial set gillnet fishery and the average proportion of marked fish was 11.9% (range: 3.0%–22.4%; 27 sampling events over 9 weeks; Appendix F27). Over three-quarters (77.7%) of the marked fish probably originated from THL remote releases in Kachemak Bay, however, Kirschner Lake often receives the same mark as Hazel and Leisure Lakes, so definitive count cannot be provided on the Kachemak Bay component alone. The remaining sockeye salmon were from the MBH in PWS (8.0% of marked fish), Bear Lake/Resurrection Bay releases (3.3%), and the PCH in Kodiak (14.0% of marked fish; Appendix F27). Although unmarked sockeye salmon are probably natural origin, they may also be unmarked fish of PCH origin, which until recently did not mark all sockeye salmon releases, or of Gulkana Hatchery origin, where hatchery produced sockeye are marked using strontium chloride that requires a scanning electron microscopy techniques to identify.

Overall returns to Hazel and Leisure lakes from 2013 (BY2012) and 2014 (BY2013) sockeye salmon releases (3.3 and 2.6 million respectively; Appendix F12) was estimated at 13,978 fish (Appendix F1). The 2014 releases of BY2013 fish were English Lake stock fish.

Kirschner Lake

Kirschner Lake is the third lake in LCI that has historically been used for remote sockeye salmon releases. Kirschner Lake is located on the west side of Cook Inlet and is 24 kilometers (15 miles) due west of Burr Point, which is the northernmost point of Augustine Island (Figure 15). Kirschner Lake is approximately 140 hectares (0.54 square miles) in size and has a barrier falls at the outlet that prevents freshwater migration of returning anadromous salmon. Kirschner Lake has been stocked for 27 of the last 31 years, with an average of 281,000 fry (Appendix F12). In 2017, CIAA released 260,000 sockeye salmon fed fry of English Bay stock into Kirschner Lake. Harvest in 2017 was above the anticipated level of 13,020 fish (Table 7) with 24,001 sockeye salmon harvested for cost recovery, and 3,352 harvested in the commercial common property fishery (Appendix F1). This year's run was the result of only the 2014 (BY2013 English Bay) fry release because there was no release in 2013 (Appendix F12) due to a lensing bag malfunction in 2012 that resulted in a significant loss of broodstock. Otoliths collected in 2017 from a cost recovery harvest in the Kirschner Lake SHA indicated that 97.9% of the fish sampled were thermally marked by the Trail Lakes Hatchery (Appendix F33).

Tutka Bay Lagoon

In addition to pink salmon releases from the TBLH, the lagoon has also been a remote release site since 2005 for sockeye salmon hatched at TLH (Appendix F12). This was due to pathogen-related issues at the TBLH facility that are specific to sockeye salmon, which hampered production of this species at the hatchery. Releases at this site historically have been of Hidden Lake stock since 2005 (with Packers Lake stock released during years of local TBLH production). However, beginning in 2011, all releases have been English Bay Lake stock. The intent was to develop an independent EBL stock brood source and not rely on annual runs to English Bay Lakes for brood. However, staging these fish in a freshwater environment between the time when they are captured and later in the fall when the eggs have ripened has been problematic. In many years interruption of the freshwater flow into the lensing bag, or a breach in the lensing bag has resulted in levels of mortality exceeding the 30% minimum survival specified in 5 AAC 40.860.

The overall sockeye salmon adult run to this release site in 2017 was estimated to be 59,404 fish (Appendices F1). Of these, 34,709 were reported on fish tickets as being harvested for cost recovery from the Tutka SHA, and 3,746 for broodstock, with an additional 19,380 harvested commercially (including homepacks) in the Tutka hatchery subdistrict overall (Appendices F1–F2). ADF&G staff did not collect otolith samples from sockeye salmon harvested from the Tutka SHA for cost recovery in 2017. However, cost-recovery samples were collected from the SHA in 2015 and 2016 and results indicated 95.9% and 94.4% of the fish sampled were thermally marked by the Trail Lakes Hatchery, respectively (Appendices F31–F32).

In 2017, CIAA remote released 356,000 sockeye salmon smolt (BY 2015) into Tutka Lagoon (Appendix F12). These fish were hatched and reared to smolt at the TLH before being transferred to net pens at TBLH for imprinting. Of those released, all were English Bay Lake stock. The sockeye salmon run to this facility in 2017 were English Bay Lakes stock.

Port Graham

Similar to the TBLH SHA, in recent years the PGH SHA has served as a remote release site for smolt and fry incubated at other locations. This occurred in 2009 with the release of 112,000

English Bay stock sockeye salmon, in 2013 with 102,000 BY2011 English Bay stock sockeye salmon, and in 2017 with 86,000 smolt (Appendix F12). Pink salmon releases resumed in 2013 with 14.3 million unfed fry released that were incubated at the TBLH. This continued until 2016 when 1.3 million BY2015 fry incubated at Port Graham were released. In 2017, 6.1 million fry were released (Appendix F14).

Paint River Fish Ladder

The Paint River drainage in the Kamishak Bay District contains at least 40 kilometers (25 miles) of potential salmon spawning and rearing habitat. Historically, the Paint River system was barren of salmon due to a 12 m waterfall at tide line that was impassable prior to 1993. The former FRED Division and CIAA initiated feasibility studies for a fishway in 1979 (Quimby and Dudiak 1987). CIAA received state and federal grant funds to build the fishway, completing construction in the fall of 1991. ADF&G Commissioner Carl Rosier declared the fish pass officially operational in January 1993.

The Paint River Lakes were stocked via air drop with sockeye salmon fry in 9 of the 11 years from 1986 to 1996 and again in 2002 to test the feasibility of developing a sockeye salmon return to the fish pass project site. Releases ranged in size from 500,000 fry in 1996 to 2.2 million in 1988. In addition, the Paint River was stocked with approximately 500,000 pink salmon fry from 1980 to 1983 and just over 1 million pink fry in 2015. Returns from the pink salmon releases were documented by aerial survey with a few dozen to 5,000 fish observed in saltwater below the fish ladder during 3 of the 4 return years in the 1980s. Similarly, very few adult pink salmon were observed below the fish ladder in 2016. Although there were several sightings of sockeye salmon in the area of the fish ladder during return years of the sockeye releases, the only harvest that occurred was in 1991 when 400 sockeye salmon were harvested in the Paint River Subdistrict. The stated policy during these years was that the fish pass remained closed unless significant numbers of returning sockeye salmon were observed. From 1991 to 2003, there were 500–1,000 sockeye salmon typically observed in the Paint River Subdistrict and the peak observation occurred in 1998, when 1,900 fish were observed near the fish ladder. During these years, the Paint River fish ladder remained closed to passage for the returning salmon (Hammarstrom 2003).

Modifications were made to the ladder in 2010, 2011, and 2012 to address concerns made by ADF&G Division of Wildlife Conservation that brown bears could fall into open cells of the fish ladder and drown. The fish ladder was opened for the first time to migrating salmon from early June through September in 2011. Following this, an aerial survey was made of the Paint River drainage with no salmon observed. The ladder has been reopened seasonally since 2011. No salmon were observed on aerial surveys in 2012 or 2013. However, in recent years modest numbers of sockeye, coho, chum and pink salmon have been observed above the ladder on aerial surveys. CIAA is actively developing a video monitoring system for this location that will provide accurate escapement information in future years.

In 2017, CIAA purchased 3,969 pink salmon harvested in the nearby Bruin Bay Subdistrict. From these 1.5 million eggs were collected. These eggs are being incubated at the Port Graham Hatchery and the resulting fry will be released in the Paint River system in the spring of 2018.

Bear Lake and Resurrection Bay

Bear Lake is located approximately 10 kilometers (6 miles) northeast of Seward (Figure 13). Bear Lake has a surface area of approximately 180 hectares (0.69 square miles) and has been monitored since 1960, when a picket weir was established where Bear Creek intersects the Salmon River. Initial enhancement activities in the early 1960s focused on coho salmon and the control of predators such as threespine stickleback (*Gasterosteus aculeatus*) and Dolly Varden char, as well as alleged competing species such as sockeye salmon. To accomplish this, ADF&G biologists applied the piscicide Rotenone to the lake on August 26, 1963. In addition, "a barrier 5 feet high was then constructed to hold the treated water until detoxification, and to prevent the ingress of nonsalmonid species (Bandirola 1965)."

Coho salmon hatched from eggs collected in Bear Creek in the previous fall were reintroduced in November and December of 1963.

> "The barrier at the outlet of rehabilitated Bear Lake was destroyed as a result of the Good Friday earthquake and reinfestation of the lake by Dolly Varden and threespine sticklebacks occurred. A concrete weir to assess upstream and downstream salmon migrations and to serve as a permanent barrier was completed in Bear Creek on August 25, 1964 (Bandirola 1966)."

This barrier is a low concrete dam with spaced pickets along the upper surface. Water spilling over the top of the dam prevents smaller fish from travelling upstream, and larger fish are stopped by the pickets. A submerged wire cage is set in the main water outflow. This is closed and mechanically hoisted into a building above the dam and opened onto a sorting table. Smaller fish such as Dolly Varden char, sculpin (Family *Cottidae*), Pacific lamprey (*Entosphenus tridentatus*), and threespine stickleback drop through the sides and bottom of the basket back to the downstream area. Once on the sorting table, salmon can be passed to the upstream side of the dam or harvested for broodstock and hatchery cost recovery purposes. Trout, char, and species of salmon other than coho and sockeye are passed back to the downstream side of the weir. In addition to Dolly Varden char, weir operators have anecdotally reported returning steelhead trout (*Onchorhynchus mykiss*), as well as Chinook, pink, and chum salmon to the downstream side of the weir. Members of the public have also reported observing hundreds to thousands of coho salmon milling downstream of the weir in late fall after the weir has closed for the season. CIAA has been responsible for operation of this weir since 1990.

Bear Lake was again treated with Rotenone by ADF&G biologists on July 21–22, 1971. The stated goal of this treatment was the eradication of threespine stickleback from Bear Lake with no mention of removing other species such as sockeye salmon, Dolly Varden char, Pacific lamprey, or freshwater sculpin, etc. According to McHenry (1972), "the lake could no longer rear substantial numbers of juvenile coho salmon due to extreme competition for survival from threespine sticklebacks." In 1988, the BOF revised the *Bear Lake Management Plan* (5 AAC 21.375) to allow enhancement of sockeye salmon in this lake. Bear Lake has been stocked since 1963 with coho salmon from a variety of brood sources within Alaska. From 2005 through 2014, an average of 516,800 coho salmon smolt were released annually (Appendix F13). Broodstock for many of the coho salmon releases in the early 1960s came from the Swanson River (Kenai Peninsula), Pasagshak River (Kodiak Island), Ketchikan Creek (Southeast Alaska), and Dairy Creek (Seward Lagoon), as well as Big Creek in Oregon. Sockeye salmon have been stocked into this lake annually since 1990 with a previous 10-year (2007–2016) average of 2.5 million

fry released. Sockeye salmon released into this lake from the Trail Lakes Hatchery from 1990 to 1992 came from the Upper Russian River and Big River, both of which drain into UCI. In 1998, 507,000 Tustumena Lake sockeye salmon smolt from the Trail Lakes Hatchery were released. Since that time, all other releases have been derived from broodstock harvested at Bear Lake.

In addition to Bear Lake, coho and other species of Pacific salmon have been released into several locations in Resurrection Bay since the late 1970s. Returns for these species typically are targeted by noncommercial users as specified in the *Resurrection Bay Salmon Management Plan* (5 AAC 21.376). Both pink and chum salmon have been released irregularly into a variety of locations in Resurrection Bay (Appendices F14 and F15). Since 2008, CIAA has released an average of 1.6 million sockeye salmon smolt annually from net pens anchored in Resurrection Bay (Appendix F12).

The sockeye salmon runs to Resurrection Bay in 2017 originated primarily from the 4.3 million and 4.2 million BY2012 and BY2013 releases of smolt and fry into Bear Lake and the net pens in Resurrection Bay (Appendix F1).

In 2017, 2,483 adult coho salmon returned to the Bear Creek weir during its period of operation through October 20. CIAA collected 764 coho salmon for broodstock for a total of 587,900 green eggs, which was fewer than the 4.0 million eggs that CIAA was permitted for this species. There were 861 fish donated to members of the public because this run was above forecast (Appendices C5 and F4).

Sampling of the sport fishery from 2003 to 2005 determined that 29.8% of the fish harvested were thermally marked hatchery coho salmon (Bosch 2011).

LOWER COOK INLET COMMERCIAL HERRING FISHERY

LCI herring fishing first began in the Southern District in 1914 with the development of a gillnet fishery within Kachemak Bay. During the peak of the fishery, 8 salteries, including 6 near Halibut Cove, were in operation. A purse seine fishery in Kachemak Bay began in 1923. But, after 3 successive years of average annual harvests approaching 8,000 short tons (1 short ton = 2,000 pounds), herring populations, and hence the fishery, collapsed (Rounsefell 1930).

The next LCI herring fishery began in 1939 and was centered in the Resurrection Bay and Day Harbor areas of the Eastern District (Figure 13). Product from this purse seine fishery was used exclusively for oil and meal reduction. Although the fishery continued through 1959, peak harvests occurred from 1944 to 1946, averaging 16,000 short tons each of those years (Reid 1971). After this time period, stocks sharply declined, apparently due to overexploitation.

HARVEST STRATEGY AND STOCK ASSESSMENT

The LCI herring management area includes waters of Cook Inlet, south of the latitude of Anchor Point, including the western shore of Cook Inlet south to Cape Douglas, and the eastern shore of Cook Inlet along the Kenai Peninsula to Cape Fairfield (Figure 1). This management area is divided into 5 districts that match those for LCI salmon.

Commercial fishing for Pacific herring in LCI historically occurred in 4 of the 5 management districts, with Barren Islands District the sole area where commercial herring fishing has not occurred (Figure 2). Historic fisheries have included food/bait, meal/oil reduction, and sac roe

harvest; legal gear has included both gillnet and seine. All of these fisheries have suffered periods of stock depletion and extended closures (Appendix G2).

Currently, 2 herring management plans regulate fisheries in LCI, both adopted by the BOF in 2001. The first management plan (5 AAC 27.463) renders waters of the Southern, Outer and Eastern Districts closed to commercial herring harvest, citing concerns about stock abundance and sustainability of commercial harvest in these areas. The *Kamishak Bay District Herring Management Plan* (5 AAC 27.465) describes the management strategies used to set and implement the guideline harvest levels for the Kamishak Bay sac roe fishery and is the only plan currently in place that could allow a commercial herring fishery in LCI. This plan was most recently adjusted in 2001 to include a reduction in the maximum exploitation rate allowed in the fishery from a former level of 20% of the forecasted herring biomass to a new level of 15%. In addition, a reduction in the biomass threshold (the minimum necessary to allow a fishery) from 8,000 short tons to 6,000 short tons (Hammarstrom and Otis 2001) was implemented. Highlights of the original plan that were retained include a management strategy intended to limit the harvest of herring age 5 and younger, and an allocation of 10% of the allowable harvest of Kamishak Bay herring to the Shelikof food/bait fishery in the Kodiak management area. Lawful gear in the Kamishak Bay sac roe fishery is restricted to purse seine. The limited entry permit system for sac roe herring seining in Cook Inlet was implemented in 1977, and 75 permanent permits are currently issued for the management area (Appendices G3 and G4).

The Kamishak Bay sac roe fishery began in 1973 when 8 permit holders harvested 243 short tons (Schroeder and Kyle 1986). Participation in the fishery and harvest increased rapidly, peaking at 4,824 short tons harvested in 1976 before a stock decline prompted closure of the fishery after only 415 short tons were harvested in 1979 (Schroeder and Kyle 1986). The stock recovered quickly, and the fishery reopened in 1985 with a harvest of 1,132 short tons (Schroeder and Kyle 1986). The fishery remained open seasonally from 1985 to 1998 with an average annual harvest of 2,878 short tons before being closed again in 1999 due to low abundance levels (Hammarstrom 2000). Management since that time concentrated on assessment of the Kamishak Bay herring biomass to determine when commercial harvest could be sustainably resumed. However, all funding for herring stock assessment in LCI was cut in fiscal year 2016, and the last aerial and vessel surveys of Kamishak Bay were conducted in the spring of 2015. No herring have been commercially harvested in Kamishak Bay since 1998 (Appendix G4).

The primary method of herring biomass assessment in LCI was aerial survey. When adequate funding was available, aerial surveys were conducted annually throughout the herring spawning season in the Kamishak Bay and Southern Districts, from mid-April through early June, to determine the relative abundance and distribution of herring. Because a commercial herring fishery had not occurred in the Outer and Eastern Districts for many years, aerial surveys of these areas tapered off soon after the BOF closed these districts to commercial herring fishing by regulation at the 2001 meeting. Because fishermen annually participate in a personal use herring fishery in Kachemak Bay, limited aerial surveys of the Southern District continued until just before all herring stock assessment funding was cut. Aerial surveys of Kamishak Bay were moderately consistent across seasons, with numbers and distribution of herring schools, location and extent of spawning events, and visibility factors affecting survey results recorded on index maps for each survey. Beginning in 2012, and continuing until the final survey in 2015, hard copy index maps were replaced by tablet computers running a customized version of ArcPad that allowed surveyors to enter their observations directly onto digital charts. Three standard

conversion factors were used to estimate herring biomass based on each 538 ft^2 (50 m^2) of school surface area sighted and the following water depth parameters: 1) 1.52 short tons for water depths of 16 ft or less; 2) 2.56 short tons for water depths between 16 and 26 ft; and 3) 2.83 short tons for water depths greater than 26 ft (Lebida and Whitmore 1985; Otis and Bechtol 1999).

Due to invariably poor weather and water clarity, aerial surveys rarely provided reliable estimates of total herring biomass returning to Kamishak District Bay waters (Otis et al. 1998). As a result, an age-structured-assessment (ASA) model was used from 1994 through 2015 to forecast herring abundance for Kamishak Bay, and to hindcast previous years' total abundance (Appendix G5). This dynamic model incorporated a variety of heterogeneous data sources, including a time series of commercial catch age composition, total run age composition, and aerial survey biomass estimates from years with adequate survey conditions and coverage. The model simultaneously minimized the differences between expected and observed values for each of its components, updated hindcasts of previous years' abundance, and produced a forecasted estimate of the following year's run. This tool was important for management to help determine appropriate harvest levels and also for research to revise previous biomass estimates with updated return data to gain a more accurate assessment of trends over time (Appendix G5).

When funding was available, ADF&G utilized a chartered commercial seine vessel to aid in herring assessment in Kamishak Bay District and opportunistically in the Southern District. In years when no commercial fishery occurred, ADF&G was unable to utilize the fleet to collect samples for age, sex, and size composition analysis. By chartering a commercial purse seine vessel, age, sex, size, and disease samples were obtained, as well as additional related information, all used to further aid in understanding the dynamics of the Kamishak Bay herring stock. These surveys also facilitated the collection of samples for other cooperative research projects that contributed to an overall comprehension of herring disease (Hershberger et al. 2016) and stock structure (Otis and Heintz 2003; Otis et al. 2010; Libungan et al. 2016). When sufficient funding was available, separate vessel charters were conducted to sample different portions of the spawning migration (early and late). In years when a fishery occurred (traditionally in the early part of the migration), a single late season sampling charter was employed to obtain a more complete picture of the overall run. Hydroacoustic observations of herring schools and water temperature/depth parameters were concurrently documented during the charters. The information gathered during those sampling efforts provided age class data that 1) allowed ADF&G to generate an age composition estimate of the overall biomass observed by aerial surveyors throughout the entire duration of the spawning migration; and 2) facilitated the evaluation of the relative strength of recruiting year classes. This was critical in generating the annual herring forecast. The charters further served to corroborate the relative magnitude of herring biomass observed by aerial surveyors.

Funding for vessel charters was eliminated in 2011, resulting in a lack of age, sex, and size data for use in the ASA model during 2011 or 2012. Temporary funding was identified in 2013, 2014 and 2015, enabling ADF&G to resume use of this important stock assessment tool during those years, however, all funding for herring stock assessment was cut prior to the 2016 season.

SEASON SUMMARY

ADF&G did not conduct aerial or vessel surveys to assess the Kamishak Bay herring stock in 2017. Historical biomass trends for Kamishak Bay herring are provided in Figure 5.

2018 HERRING SEASON OUTLOOK

Due to the cessation of aerial and vessel surveys, there was insufficient data to run the ASA model to generate a forecast of the 2018 Kamishak Bay District herring spawning biomass. Given the lack of current survey information, coupled with the recent trend of low biomass and poor recruitment events, ADF&G will not prosecute a commercial fishery in 2018.

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TABLES AND FIGURES

Table 1.–Comparison of changes made to salmon escapement goals at the November 30–December 3, 2016 Alaska Board of Fisheries meeting.

	Pre-2017 range			Range established at Dec 2016 BOF meeting			Change			Overall midpoint
Species/stock	Lower	Midpoint	Upper	Lower	Midpoint	Upper	Lower	Midpoint	Upper	change
Chum salmon (12 w/goals)										
Port Graham River	1,450	3,125	4,800	1,200	1,950	2,700	(250)	(1,175)	(2,100)	-37.6%
Dogfish Lagoon Creeks	3,350	6,250	9,150	3,500	6,050	8,600	150	(200)	(550)	-3.2%
Rocky River	1,200	3,300	5,400	1,500	2,950	4,400	300	(350)	(1,000)	-10.6%
Port Dick Creek	1,900	3,175	4,450	1,900	3,100	4,300	0	(75)	(150)	-2.4%
Island Creek	6,400	11,000	15,600	5,100	8,500	11,900	(1,300)	(2,500)	(3,700)	-22.7%
Big Kamishak River	9,350	16,675	24,000	6,800	11,200	15,600	(2,550)	(5,475)	(8,400)	-32.8%
Little Kamishak River	6,550	15,175	23,800	8,000	12,400	16,800	1,450	(2,775)	(7,000)	-18.3%
McNeil River1	24,000	36,000	48,000	24,000	36,000	48,000	0	0	0	0.0%
Bruin River	6,000	8,125	10,250	5,200	7,600	10,000	(800)	(525)	(250)	-6.5%
Ursus Cove	6,050	7,950	9,850	5,900	8,000	10,100	(150)	50	250	0.6%
Cottonwood Creek	5,750	8,875	12,000	5,200	8,700	12,200	(550)	(175)	200	-2.0%
Iniskin Bay	7,850	10,775	13,700	5,900	9,750	13,600	(1,950)	(1,025)	(100)	-9.5%
Chum goals total	79,850	130,425	181,000	74,200	116,200	158,200	(5,650)	(14,225)	(22,800)	-12.1%
Pink salmon (18 w/goals)										
Humpy Creek	21,650	53,600	85,550	17,500	34,450	51,400	(4,150)	(19,150)	(34,150)	-35.7%
China Poot Creek	2,900	5,550	8,200	2,500	4,400	6,300	(400)	(1,150)	(1,900)	-20.7%
Tutka Creek	6,500	11,750	17,000	6,500	11,750	17,000	0	0	0	0.0%
Barabara Creek	1,900	5,425	8,950	2,000	3,800	5,600	100	(1,625)	(3,350)	-30.0%
Seldovia Creek	19,050	29,000	38,950	21,800	29,600	37,400	2,750	600	(1,550)	2.1%
Port Graham River	7,700	13,775	19,850	7,700	13,700	19,700	0	(75)	(150)	-0.5%
Dogfish Lagoon Creeks	1,200	4,800	8,400	800	3,950	7,100	(400)	(850)	(1,300)	-17.7%
Port Chatham	7,800	14,400	21,000	7,800	12,950	18,100	0	(1,450)	(2,900)	-10.1%
Windy Creek Right	3,350	7,150	10,950	3,400	7,300	11,200	50	150	250	2.1%
Windy Creek Left	3,650	16,800	29,950	5,400	16,250	27,100	1,750	(550)	(2,850)	-3.3%
Rocky River	9,350	31,800	54,250	11,700	33,250	54,800	2,350	1,450	550	4.6%
Port Dick Creek	18,550	38,425	58,300	17,900	33,850	49,800	(650)	(4,575)	(8,500)	-11.9%
Island Creek	7,200	17,750	28,300	9,600	21,050	32,500	2,400	3,300	4,200	18.6%
S. Nuka Island Creek	2,700	8,475	14,250	2,800	7,000	11,200	100	(1,475)	(3,050)	-17.4%
Desire Lake	1,900	11,050	20,200	1,500	9,750	18,000	(400)	(1,300)	(2,200)	-11.8%
Bruin River	18,650	87,200	155,750	17,800	60,400	103,000	(850)	(26,800)	(52,750)	-30.7%
Sunday Creek	4,850	16,850	28,850	4,400	14,650	24,900	(450)	(2,200)	(3,950)	-13.1%
Brown's Peak Creek	2,450	10,625	18,800	2,600	10,050	17,500	150	(575)	(1,300)	-5.4%
Pink goals total	141,350	384,425	627,500	143,700	328,150	512,600	2,350	(56,275)	(114,900)	-10.1%
Sockeye salmon (8 w/goals)										
English Bay	6,000	9,750	13,500	6,000	9,750	13,500	0	0	0	0.0%
Delight Lake	7,550	12,600	17,650	5,100	7,850	10,600	(850)	(1,400)	(1,950)	-15.1%
Desire Lake	8,800	12,000	15,200	4,800	8,350	11,900	(4,000)	(3,650)	(3,300)	-30.4%
Bear Lake	700	4,500	8,300	700	4,500	8,300	0	0	0	0.0%
Aialik Lake	3,700	5,850	8,000	3,200	4,300	5,400	(500)	(1,550)	(2,600)	-26.5%
Mikfik Lake	3,400	8,200	13,000	3,400	7,200	11,000	0	(1,000)	(2,000)	-12.2%
Chenik Lake	3,500	8,750	14,000	2,900	8,300	13,700	(600)	(450)	(300)	-5.1%
Amakdedori Creek	1,250	1,925	2,600	1,200	1,900	2,600	(50)	(25)	0	-1.3%
Sockeye goals total	33,300	60,225	87,150	27,300	52,150	77,000	(6,000)	(8,075)	(10,150)	-11.3%

Table 2.–Lower Cook Inlet Management Area commercial salmon harvest by gear and district, 2017.

District	Permits [a]	Chinook [a]	Sockeye [a]	Coho [a, b]	Pink [a]	Chum [a]	Total
Southern District	17	166	62,715	3,493	361,751	3,892	432,017
Outer District	17	1	260	389	1,244,172	151,356	1,396,178
Eastern District	0	0	0	0	0	0	0
Kamishak Bay District	7	0	102,810	185	254,440	34,275	391,710
Purse seine total	18	167	165,785	4,067	1,860,363	189,523	2,219,905
Southern District	19	435	36,689	9,353	43,904	7,852	98,233
Set gillnet total	19	435	36,689	9,353	43,904	7,852	98,233
Commercial common property total		602	202,474	13,420	1,904,267	197,375	2,318,138
Hatchery cost recovery total[c]		4	87,553	201	113,691	246	201,695
Commercially sold total		606	290,027	13,621	2,017,958	197,621	2,519,833
Homepack		59	653	201	192	110	1,215
Hatchery donated fish[d]			3,044	861			3,905
Misc. total		59	3,697	1,062	192	110	5,120
Lower Cook Inlet total		665	293,724	14,683	2,018,150	197,731	2,524,953

[a] Numbers of fish and numbers of permit holders delivering are from ADF&G fish ticket database.

[b] There were 1,577 coho salmon harvested in the Seward Salmon Derby and sold by the sponsor to commercial processors. These fish were caught by sport permit holders using rod and reel (troll gear). This harvest is not included in the commercial harvest total catch.

[c] Hatchery sales for hatchery operating costs. Includes incidentally harvested wild salmon.

[d] Excess sockeye and pink salmon harvested at the Bear Creek weir and Tutka hatchery.

Table 3.–Total commercial salmon harvest by species from all gear types, Lower Cook Inlet area, including cost recovery for all Cook Inlet Area hatcheries, 1986–2017.

Year	Gear	n-permits [a]	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
1986	Purse seine	61	51	213,054	15,258	1,394,049	80,262
1986	Set gillnet	34	745	21,807	2,827	14,244	2,426
1986	Hatchery	0	0	0	0	0	0
	Total		796	234,861	18,085	1,408,293	82,688
1987	Purse seine	67	526	220,648	10,970	192,207	156,965
1987	Set gillnet	29	653	28,209	2,025	9,224	2,419
1987	Hatchery	0	0	0	0	0	0
	Total		1,179	248,857	12,995	201,431	159,384
1988	Purse seine	72	549	306,309	4,742	895,420	319,768
1988	Set gillnet	27	1,145	14,758	2,819	29,268	4,423
1988	Hatchery	0	0	0	0	0	0
	Total		1,694	321,067	7,561	924,688	324,191
1989	Purse seine	65	612	149,301	5,864	1,280,716	9,428
1989	Set gillnet	23	1,281	13,970	4,792	16,210	1,877
1989	Hatchery	0	0	0	0	0	0
	Total		1,893	163,271	10,656	1,296,926	11,305
1990	Purse seine	71	199	188,032	733	353,781	5,013
1990	Set gillnet	20	1,361	15,863	1,046	12,646	1,938
1990	Hatchery	0	0	0	5,876	17,243	0
	Total		1,560	203,895	7,655	383,670	6,951
1991	Purse seine	68	576	281,250	7,068	722,535	22,623
1991	Set gillnet	20	842	20,525	5,011	3,954	1,577
1991	Hatchery	0	0	0	0	0	0
	Total		1,418	301,775	12,079	726,489	24,200
1992	Purse seine	61	603	143,537	3,049	187,853	20,511
1992	Set gillnet	20	1,288	17,002	848	15,958	1,687
1992	Hatchery	0	0	16,105	1,528	275,957	5
	Total		1,891	176,644	5,425	479,768	22,203
1993	Purse seine	51	1,079	195,896	1,710	445,283	1,776
1993	Set gillnet	17	1,089	14,791	3,088	12,008	2,591
1993	Hatchery	0	0	0	0	0	0
	Total		2,168	210,687	4,798	457,291	4,367
1994	Purse seine	30	127	73,543	7,024	670,944	3,049
1994	Set gillnet	16	1,103	14,004	1,073	23,621	2,419
1994	Hatchery	0	1	27,871	4,968	953,364	1
	Total		1,231	115,418	13,065	1,647,929	5,469
1995	Purse seine	46	225	207,237	9,867	1,593,453	11,676
1995	Set gillnet	23	2,078	19,406	3,564	41,654	3,958
1995	Hatchery	0	0	38,780	1,318	1,213,357	2
	Total		2,303	265,423	14,749	2,848,464	15,636
1996	Purse seine	34	126	339,626	3,892	17,546	946
1996	Set gillnet	24	1,054	69,338	5,779	14,813	2,792
1996	Hatchery	0	1	41,492	1,334	420,431	26
	Total		1,181	450,456	11,005	452,790	3,764

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Year	Gear	n-permits [a]	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
1997	Purse seine	23	126	144,091	1,185	288,969	1,736
1997	Set gillnet	25	1,135	59,401	4,475	64,162	4,166
1997	Hatchery	0	0	36,681	3,177	2,461,300	6
	Total		1,261	240,173	8,837	2,814,431	5,908
1998	Purse seine	39	119	177,250	2,325	639,505	883
1998	Set gillnet	24	952	26,131	1,057	24,403	3,754
1998	Hatchery	0	0	80,648	10,717	793,911	10
	Total		1,071	284,029	14,099	1,457,819	4,647
1999	Purse seine	43	273	302,070	2,873	276,742	3,606
1999	Set gillnet	20	1,491	27,646	1,374	5,348	4,335
1999	Hatchery	0	0	147,063	2,502	858,398	0
	Total		1,764	476,779	6,749	1,140,488	7,941
2000	Purse seine	36	168	129,133	506	321,342	67,769
2000	Set gillnet	24	1,019	26,503	621	21,845	5,214
2000	Hatchery	0	1	66,693	169	1,044,119	271
	Total		1,188	222,329	1,296	1,387,306	73,254
2001	Purse seine	25	123	119,806	909	156,657	85,473
2001	Set gillnet	18	865	28,503	1,811	13,393	3,487
2001	Hatchery	0	0	60,619	34	422,881	9
	Total		988	208,928	2,754	592,931	88,969
2002	Purse seine	25	40	158,284	1,502	1,013,649	38,541
2002	Set gillnet	24	1,513	46,812	2,393	6,741	4,681
2002	Hatchery	0	0	84,194	311	949,671	37
	Total		1,553	289,290	4,206	1,970,061	43,259
2003	Purse seine	27	302	438,236	3,121	335,147	30,625
2003	Set gillnet	24	878	81,722	2,291	7,325	4,998
2003	Hatchery	0	0	122,024	253	513,649	63
	Total		1,180	641,982	5,665	856,121	35,686
2004	Purse seine	24	258	84,633	5,647	57,878	205,445
2004	Set gillnet	19	1,400	16,087	1,164	834	1,234
2004	Hatchery	0	0	29,363	0	2,458,843	0
	Total		1,658	130,083	6,811	2,517,555	206,679
2005	Purse seine	29	85	134,649	914	161,255	97,274
2005	Set gillnet	17	525	15,669	1,905	341	1,326
2005	Hatchery	0	0	81,058	1	2,144,818	2
	Total		610	231,376	2,820	2,306,414	98,602
2006	Purse seine	24	50	125,878	26,019	1,206,631	69,810
2006	Set gillnet	22	580	14,219	2,426	12,288	2,019
2006	Hatchery	0	0	83,464	0	252,658	125
	Total		630	223,561	28,445	1,471,577	71,954
2007	Purse seine	19	28	278,570	1,827	162,762	266
2007	Set gillnet	16	439	28,870	1,616	0	1,437
2007	Hatchery	0	0	58,514	26	124,649	74
	Total		467	365,954	3,469	287,411	1,777

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Table 3.–Page 3 of 3.

Year	Gear	n-permits [a]	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
2008	Purse seine	25	42	293,363	740	498,930	174,128
2008	Set gillnet	18	148	26,819	599	1,884	1,394
2008	Hatchery	0	0	87,208	2	4,886	208
	Total		190	407,390	1,341	505,700	175,730
2009	Purse seine	13	1	65,771	9	985,451	71,700
2009	Set gillnet	19	83	38,220	968	2,136	2,274
2009	Hatchery	0	0	175,539	1	1,760	0
	Total		84	279,530	978	989,347	73,974
2010	Purse seine	14	10	8,615	589	274,859	93,245
2010	Set gillnet	21	29	14,765	171	3,106	1,503
2010	Hatchery	0	0	69,219	31	246	7
	Total		39	92,599	791	278,211	94,755
2011	Purse seine	23	36	211,700	49	359,058	29,741
2011	Set gillnet	21	100	22,782	103	2,643	1,946
2011	Hatchery	0	0	158,272	0	205	4
	Total		136	392,754	152	361,906	31,691
2012	Purse seine	16	47	61,728	142	245,190	54,177
2012	Set gillnet	15	86	10,260	33	10,305	927
2012	Hatchery	0	0	114,592	7	772	330
	Total		133	186,580	182	256,267	55,434
2013	Purse seine	11	141	61,305	1,955	2,048,707	51,684
2013	Set gillnet	19	250	38,238	3,616	1,961	2,698
2013	Hatchery	0	0	70,193	0	48,017	20
	Total		391	169,736	5,571	2,098,685	54,402
2014	Purse seine	20	18	64,898	269	267,808	67,865
2014	Set gillnet	19	330	33,090	521	3,549	5,372
2014	Hatchery	0	20	173,030	1	161	278
	Total		368	271,018	791	271,518	73,515
2015	Purse seine	19	59	60,149	1,100	4,272,374	100,165
2015	Set gillnet	24	812	36,219	3,519	27,825	11,567
2015	Hatchery	0	0	148,802	200	2,088,584	1,737
	Total		871	245,170	4,819	6,388,783	113,469
2016	Purse seine	19	153	68,234	774	50,442	71,984
2016	Set gillnet	21	766	19,542	858	22,077	2,165
2016	Hatchery	0	0	172,733	0	27,121	94
	Total		919	260,509	1,632	99,640	74,243
10-yr	Purse seine	18	57	123,531	3,320	1,010,440	71,690
Average	Set gillnet	20	329	24,993	1,391	8,423	2,793
(2007-	Hatchery	0	0	113,854	27	254,890	260
2016)	Total		386	262,378	4,738	1,273,753	74,743
2017	Purse seine	18	190	165,925	4,079	1,860,434	189,525
2017	Set gillnet	20	471	37,202	9,542	44,025	7,962
2017	Hatchery	0	4	90,597	1,076	113,691	246
	Total		665	293,724	14,697	2,018,150	197,731

[a] Numbers of fish and numbers of permit holders delivering are from ADF&G fish ticket database. These numbers do not include sport caught fish from the Seward salmon derby that were later sold. Historical numbers in this table include commercial homepack fish.

Table 4.–Mean price and estimated exvessel value of the total commercial salmon harvest excluding homepack by gear type, Lower Cook Inlet, 2017.

Purse seine

Species	Number [a]	Pounds [a]	Average weight	Price [a]	Value
Chinook	190	2,416	12.96	$4.34	$10,485
Sockeye	165,925	753,704	4.53	$1.41	$1,062,723
Coho	4,079	24,593	6.18	$0.95	$23,363
Pink	1,860,434	6,518,258	3.50	$0.30	$1,955,477
Chum	189,523	1,489,735	7.86	$0.75	$1,117,301
	2,220,151	8,788,706			$4,169,350

Set gillnet

Species	Number [a]	Pounds [a]	Average weight	Price [a]	Value
Chinook	471	7,652	17.46	$3.79	$29,001
Sockeye	37,202	210,706	5.70	$2.16	$455,125
Coho	9,542	57,701	6.15	$0.77	$44,430
Pink	44,025	170,209	3.88	$0.15	$25,531
Chum	7,962	57,862	6.25	$0.50	$28,931
	99,202	504,130			$583,018

Hatchery sales

Species	Number [a]	Pounds [a]	Average weight	Price [a]	Value
Chinook	4	27	6.75	$0.00	$0
Sockeye	90,597	435,048	4.71	$2.02	$878,797
Coho	1,076	1,066	5.30	$0.50	$533
Pink	113,691	377,776	3.31	$0.25	$94,444
Chum	246	1,449	5.68	$0.75	$1,087
	205,614	815,366			$974,861

Total harvest

Species	Number [a]	Pounds [a]	Average weight	Price [a]	Value
Chinook	665	10,095	16.07	$3.91	39,487
Sockeye	293,724	1,399,458	4.74	$1.71	2,396,645
Coho	14,697	83,360	6.15	$0.82	68,326
Pink	2,018,150	7,066,243	3.50	$0.29	2,075,453
Chum	197,731	1,549,046	7.78	$0.74	1,147,319
	2,524,967	10,108,202			$5,727,229

Gear type	Value of catch	Number of permit holders [b]	Average earnings
Purse seine	$4,169,350	18	$231,631
Set gillnet	$583,018	20	$29,151
Subtotal-Value of CPF catch	$4,752,368		
Hatchery	$974,861		
Grand total	$5,727,229		

[a] Mean prices are based on weighted average prices from ADF&G fish ticket database. Pounds and numbers of fish are based on fish ticket reporting.

[b] In 2017, 3 set gillnet permit holders fished 2 permits. Permit stacking was permitted by the Alaska Board of Fisheries since 2014.

Table 5.–Average price per pound paid to permit holders for salmon, Lower Cook Inlet, 1990–2017.

	Chinook salmon			Sockeye salmon			Coho salmon			Pink salmon			Chum salmon		
Year	Seine	Set	Combined	Seine	Set	Combined	Seine	Set	Combined	Seine	Set	Combined	Seine	Set	Combined
1990	NA	NA	$1.35	$1.38	$1.89	$1.88	$0.50	$0.84	$0.84	$0.35	$0.30	$0.32	$0.40	$0.55	$0.55
1991	NA	$1.53	$1.53	NA	$1.45	$1.45	NA	NA	$0.29	NA	$0.25	$0.25	NA	$0.41	$0.41
1992	$0.97	$1.41	$1.29	$1.45	$1.46	$1.45	$0.43	$0.50	$0.44	$0.15	$0.15	$0.15	$0.26	$0.33	$0.27
1993	$0.89	$1.10	$1.02	$0.78	$1.00	$0.80	$0.42	$0.58	$0.52	$0.14	$0.13	$0.14	$0.30	$0.26	$0.28
1994	$0.90	$0.96	$0.95	$1.12	$1.23	$1.14	$0.66	$0.71	$0.66	$0.16	$0.15	$0.16	$0.15	$0.35	$0.25
1995	$0.85	$1.19	$1.17	$1.11	$1.20	$1.11	$0.47	$0.53	$0.49	$0.15	$0.16	$0.15	$0.23	$0.26	$0.24
1996	$0.76	$1.37	$1.32	$0.90	$1.00	$0.92	$0.29	$0.40	$0.36	$0.05	$0.06	$0.05	$0.15	$0.19	$0.18
1997	$0.69	$1.32	$1.29	$0.81	$0.84	$0.82	$0.29	$0.49	$0.46	$0.11	$0.10	$0.11	$0.19	$0.25	$0.23
1998	$0.68	$1.58	$1.58	$0.98	$1.01	$0.99	$0.55	$0.66	$0.60	$0.13	$0.14	$0.13	$0.19	$0.29	$0.28
1999	$0.97	$2.07	$2.04	$1.32	$1.67	$1.41	$0.45	$0.70	$0.62	$0.13	$0.16	$0.14	$0.10	$0.43	$0.35
2000	$0.75	$1.94	$1.86	$0.98	$1.01	$0.98	$0.45	$0.54	$0.49	$0.09	$0.15	$0.09	$0.29	$0.18	$0.28
2001	$0.75	$1.87	$1.76	$0.64	$0.73	$0.66	$0.30	$0.43	$0.39	$0.09	$0.05	$0.09	$0.36	$0.20	$0.35
2002	$0.30	$1.12	$1.10	$0.56	$0.68	$0.58	$0.17	$0.25	$0.22	$0.06	$0.03	$0.06	$0.16	$0.19	$0.16
2003	$0.25	$1.14	$1.02	$0.61	$0.74	$0.64	$0.20	$0.11	$0.16	$0.05	$0.02	$0.05	$0.15	$0.20	$0.15
2004	$0.33	$1.68	$1.56	$0.80	$1.16	$0.86	$0.44	$0.52	$0.45	$0.05	$0.07	$0.05	$0.20	$0.21	$0.20
2005	$0.83	$1.65	$1.54	$0.87	$1.30	$0.93	$0.29	$0.53	$0.45	$0.08	$0.10	$0.08	$0.22	$0.24	$0.22
2006	$0.50	$2.41	$2.26	$1.10	$1.74	$1.18	$0.50	$0.82	$0.53	$0.11	$0.11	$0.11	$0.31	$0.26	$0.31
2007	$0.70	$2.73	$2.70	$0.88	$1.45	$0.95	$0.50	$0.46	$0.48	$0.11	$0.11	$0.11	$0.25	$0.25	$0.25
2008	$0.65	$3.67	$3.57	$1.39	$1.64	$1.42	$0.50	$0.84	$0.66	$0.23	$0.23	$0.23	$0.55	$0.25	$0.55
2009	$1.00	$3.50	$3.45	$1.20	$1.49	$1.33	$0.52	$0.80	$0.80	$0.22	$0.18	$0.22	$0.54	$0.25	$0.53
2010	$0.50	$3.76	$3.57	$1.46	$1.88	$1.74	$1.08	$1.27	$1.12	$0.33	$0.25	$0.33	$0.79	$0.47	$0.79
2011	$1.93	$4.19	$3.85	$1.56	$1.56	$1.56	$0.52	$0.79	$0.70	$0.41	$0.30	$0.37	$0.83	$0.61	$0.81
2012	$2.08	$4.53	$4.09	$1.59	$1.80	$1.63	$0.75	$1.06	$0.80	$0.39	$0.25	$0.38	$0.70	$0.37	$0.70
2013	$1.02	$5.14	$4.53	$2.00	$2.21	$2.11	$0.83	$1.01	$0.95	$0.38	$0.33	$0.38	$0.53	$0.35	$0.52
2014	$2.67	$3.92	$3.89	$1.94	$2.23	$2.15	$0.75	$1.24	$1.11	$0.28	$0.26	$0.28	$0.59	$0.47	$0.57
2015	$1.70	$3.16	$3.11	$1.45	$1.86	$1.62	$0.42	$0.73	$0.64	$0.20	$0.18	$0.20	$0.45	$0.34	$0.43
2016	$1.43	$3.14	$2.92	$1.45	$1.78	$1.60	$0.63	$1.01	$0.97	$0.21	$0.15	$0.19	$0.50	$0.36	$0.45
10-year Average	$1.23	$3.51	$3.32	$1.40	$1.74	$1.51	$0.60	$0.87	$0.75	$0.25	$0.21	$0.24	$0.52	$0.35	$0.52
2017	$4.34	$3.79	$3.86	$1.41	$2.16	$1.97	$0.95	$0.77	$0.80	$0.30	$0.15	$0.24	$0.75	$0.50	$0.63

Note: These prices are based on weighted average prices from ADF&G fish ticket database and do not reflect postseason adjustments and bonuses. Caution should be used when estimating value from these prices.

Table 6.–Estimated exvessel value of commercial salmon harvest by gear type with 10-year average, Lower Cook Inlet, 2007–2017.

Purse seine												
	Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10-yr Average	2017
	Chinook	305	228	34	15	648	483	689	411	624	1,966	540	10,485
	Sockeye	1,080,994	1,924,898	347,202	58,349	1,485,538	461,300	644,508	618,967	424,498	478,503	752,476	1,062,723
	Coho	5,112	2,183	41	4,131	157	706	9,366	1,314	2,892	3,140	2,878	23,363
	Pink	57,072	408,666	665,639	328,849	423,068	300,992	2,403,739	264,127	2,788,824	48,245	848,997	1,955,477
	Chum	443	784,343	314,421	619,305	166,691	323,923	205,517	294,110	287,699	243,993	332,939	1,117,301
		$1,143,925	$3,120,319	$1,327,338	$1,010,648	$2,076,101	$1,087,404	$3,263,819	$1,178,929	$3,504,537	$775,848	$1,968,113	$4,169,350
Set gillnet													
	Species												
	Chinook	19,991	14,408	5,412	1,792	8,032	4,847	15,135	11,533	24,510	23,757	12,942	29,001
	Sockeye	251,705	253,544	332,005	151,183	218,700	109,526	502,583	433,220	359,009	190,984	280,246	455,125
	Coho	4,724	3,406	4,953	1,458	488	200	20,959	3,220	13,635	4,735	5,894	44,430
	Pink	0	1,650	1,073	2,728	2,606	10,074	2,217	3,351	18,010	13,896	4,634	25,531
	Chum	2,508	2,678	4,216	4,972	7,975	2,528	6,842	18,062	25,534	4,905	8,368	28,931
		$278,928	$275,685	$347,659	$162,132	$237,801	$127,176	$547,736	$469,385	$440,698	$238,277	$320,800	$583,018
Hatchery sales													
	Species												
	Chinook	0	0	0	0	0	0	0	245	0	0	24	0
	Sockeye	222,175	528,507	1,177,187	430,230	1,625,199	1,021,125	910,285	1,799,731	821,739	1,642,913	1,017,909	878,797
	Coho	96	4	2	222	0	44	0	0	554	0	102	533
	Pink	44,580	3,867	1,249	280	487	1,074	57,622	130	1,383,195	24,290	165,831	94,444
	Chum	142	1,009	0	33	16	1,034	83	628	4,444	422	821	1,087
		$266,993	$533,387	$1,178,437	$430,765	$1,625,702	$1,023,277	$967,990	$1,800,733	$2,209,932	$1,667,624	$1,115,246	$974,861
Average earnings													
	Purse seine	$60,207	$124,813	$102,103	$72,189	$90,265	$67,963	$296,711	$58,946	$184,449	$40,834	$109,848	$231,631
	Set gillnet	$17,433	$15,316	$18,298	$7,721	$11,324	$8,478	$28,828	$24,704	$18,362	$11,347	$16,181	$29,151
Number of permit holders fishing													
	Purse seine	19	25	13	14	23	16	11	20	19	19	18	18
	Set gillnet	16	18	19	21	21	15	19	19	24	21	19	20

Table 7.–Preseason harvest or total run projections for the 2017 commercial common property salmon fishery by district and species, Lower Cook Inlet Area.

District/facility	Forecast type	Chinook[a]	Sockeye[a]	Coho[a]	Pink[b]	Chum[a]
Southern District	Commercial harvest	500	58,800	2,200	117,400	5,600
Outer District	Commercial harvest	0	5,000	0	436,400	63,800
Eastern District	Commercial harvest	0	0	0	0	100
Kamishak Bay District	Commercial harvest	0	27,500	0	61,200	4,200
Total wild stock		500	91,300	2,200	615,000	73,700
Tutka Lagoon hatchery	Total return	0	62,236	0	343,006	0
Port Graham hatchery	Total return	0	0	0	39,323	0
Kirschner Lake	Total return	0	13,020	0	0	0
Leisure Lake	Total return	0	62,811	0	0	0
Hazel Lake	Total return	0		0	0	0
Resurrection Bay	Total return	0	120,583	0	0	0
Paint River fish ladder	Total return	0	0	0	0	0
English Bay Lakes	Total return	0	3,715	0	0	0
Total hatchery[c]			262,365	0	382,329	0
Total hatchery and wild		500	353,665	2,200	997,329	73,700

[a] Chinook, coho, chum, and natural sockeye salmon harvests are 2012–2016 average commercial harvests.

[b] Pink salmon commercial harvests are projected total run minus anticipated escapement.

[c] Hatchery operators provide total run forecasts.

Table 8.–Emergency orders issued for the commercial, personal use, and subsistence salmon fisheries in Lower Cook Inlet, 2017.

EO number/ Issue date	Description
2-F-H-001-17/ Wednesday, May 31	Southern district, commercial harvest. Opens waters of the Southern District to commercial salmon harvest and establishes 2 weekly 48-hour set gillnet fishing periods in the Southern District excluding the Pt. Graham Subdistrict beginning at 6:00 A.M. on Mondays and Thursdays effective Thursday, June 1. Establishes 7-day per week purse seine fishing periods in the Kamishak District beginning June 1. Closes McNeil and Paint River subdistricts to salmon fishing effective June 1, and closes the Kirschner Lake special harvest area (SHA) on June 19. Opens Chenik Lagoon up to the freshwater of the Chenik River beginning on June 19.
2-F-H-002-17/ Friday, June 16	Southern District, set gillnet and purse seine. Opens the commercial purse seine salmon fishing season on Monday, June 19 in the Southern District and establishes a Monday, Wednesday, and Friday fishing schedule in portions of that district. Allows commercial seine harvest up to the fresh water of the Wosnesenski River. Establishes commercial set gillnet fishing periods in the Port Graham Subdistrict concurrent with periods for this gear elsewhere in the Southern District.
2-F-H-003-17/ Monday, June 19	Southern District, subsistence harvest. Expands the subsistence fishing schedule in the Port Graham Section of the Port Graham Subdistrict to 6-1/2 days per week.
2-F-H-004-17/ Friday, June 23	Eastern District, purse seine. Opens portions of the Eastern District to daily Monday–Friday 16-hour 6:00 AM to 10:00 PM salmon purse seine fishing periods beginning on Monday, June 26.
2-F-H-005-17/ Saturday, June 24	Kamishak and Southern districts, purse seine. Closes the special harvest areas at China Poot Bay, and Neptune Bay. Reinstates closed waters in the Chenik area.
2-F-H-006-17/ Friday, June 30	Southern and Eastern districts, purse seine. Opens the Humpy Creek Subdistrict including closed waters up to the freshwater of Humpy Creek on a schedule of fishing periods concurrent with other periods in this district for this gear. Closes waters of Resurrection Bay to commercial purse seine harvest on July 3 and 4 with a cessation of fishing periods for this gear in this area after July 15.
2-F-H-007-17/ Wednesday, July 5	Kamishak District, purse seine. Reopens Chenik Lagoon to commercial purse seine salmon harvest up to the freshwater of the Chenik River.
2-F-H-008-17/ Friday, July 7	Outer District, purse seine. Opens the Outer District to commercial salmon harvest and establishes fishing periods.
2-F-H-009-17/ Thursday, July 13	Kamishak District, purse seine. Reinstates closed waters in the Chenik area.
2-F-H-010-17/ Friday, July 21	Southern, Outer, and Kamishak districts, purse seine. Opens the China Poot SHA to commercial purse seine harvest effective July 24. Opens portions of the Port Dick Subdistrict to commercial seine harvest on July 24. Beginning at 6:00 AM on July 22 closed waters in the Chenik area up to the freshwater of the Chenik River will be open.

-continued-

Table 8.–Page 2 of 2.

EO number/ Issue date	Description
2-F-H-011-17/ Saturday, July 22	Outer District, purse seine. Waters of the East Nuka Subdistrict are open on a daily schedule of 6:00 AM to 10:00 PM fishing periods.
2-F-H-012-17/ Monday, July 24	Southern District, purse seine. Opens the western portion of Dogfish Bay Lagoon on July 26 for a single fishing period.
2-F-H-013-17/ Monday, July 31	Outer, Kamishak, and Southern districts, purse seine. Expands the fishing schedule in the Outer District to 7-days per week of daily 6:00 AM to 10:00 PM fishing periods. Removes regulatory closed waters associated with Sunday Creek. Reopens the Hazel Lake SHA and Port Graham Section of the Port Graham Subdistrict to commercial purse seine harvest.
2-F-H-014-17/ Monday, July 31	Kamishak District, purse seine. Opens waters of the Kirschner Lake SHA to commercial purse seine harvest.
2-F-H-015-17/ Tuesday, August 1	Southern District, purse seine. Increases commercial purse seine fishing opportunity in portions of the Southern District by expanding from a 3-day per week fishing schedule to a 7-day per week schedule.
2-F-H-016-17/ Friday, August 4	Outer, Kamishak, and Southern districts, purse seine. Closes waters in the East Nuka Subdistrict to commercial salmon harvest. Reinstates closed waters in Sunday Creek area. Suspends anadromous waters closures in the Bruin Bay area. Opens waters of the Tutka Hatchery SHA north of the HEA powerlines for 1 fishing period.
2-F-H-017-17/ Tuesday, August 8	Kamishak and Outer districts, purse seine. Suspends regulatory closed waters associated with Brown's Peak Creek, Sunday Creek, and the western portion of Dogfish Bay Lagoon.
2-F-H-018-17/ Thursday, August 10	Southern District, purse seine. Opens the Tutka Hatchery SHA exclusive of the Tutka Lagoon on a MWF fishing schedule with anadromous waters suspended in the SHA.
2-F-H-019-17/ Friday, August 11	Outer and Southern districts, purse seine. Rescinds closed waters restrictions in the Port Graham and Windy Bay areas.
2-F-H-020-17/ Friday, August 18	Southern and Outer districts, purse seine. Opens the Seldovia, and Port Chatham subdistricts to commercial purse seine salmon harvest. Opens waters of the Taylor Bay Subdistrict up to the freshwater of creeks.
2-F-H-021-17/ Friday, August 18	Southern District, personal use fishing. Closes the Kachemak Bay Personal Use set gillnet fishery for the 2017 season on August 19.
2-F-H-022-17/ Friday, August 25	Outer District, purse seine. Closes the Taylor Bay Subdistrict to commercial salmon harvest.
2-F-H-023-17/ Monday, August 28	Southern District, purse seine. Reestablishes regulatory closed waters in the Port Graham Subdistrict.
2-F-H-024-17/ Monday, September 1	Southern District, purse seine. Expands fishing opportunity in the Tutka SHA exclusive of the lagoon from a MWF schedule to a 7-day per week schedule of daily 6:00 AM to 10:00 PM fishing periods.
2-F-H-025-17/Friday, September 9	Southern District, purse seine. Opens the Tutka Lagoon along with the remainder of the SHA on a schedule of daily 6:00 AM to 10:00 PM fishing periods.

Table 9.–Commercial fishing statistical weeks, 2017.

Week	Beginning date	Ending date	Week	Beginning date	Ending date
1	1 Jan	7 Jan	28	9 Jul	15 Jul
2	8 Jan	14 Jan	29	16 Jul	22 Jul
3	15 Jan	21 Jan	30	23 Jul	29 Jul
4	22 Jan	28 Jan	31	30 Jul	5 Aug
5	29 Jan	4 Feb	32	6 Aug	12 Aug
6	5 Feb	11 Feb	33	13 Aug	19 Aug
7	12 Feb	18 Feb	34	20 Aug	26 Aug
8	19 Feb	25 Feb	35	27 Aug	2 Sep
9	26 Feb	4 Mar	36	3 Sep	9 Sep
10	5 Mar	11 Mar	37	10 Sep	16 Sep
11	12 Mar	18 Mar	38	17 Sep	23 Sep
12	19 Mar	25 Mar	39	24 Sep	30 Sep
13	26 Mar	1 Apr	40	1 Oct	7 Oct
14	2 Apr	8 Apr	41	8 Oct	14 Oct
15	9 Apr	15 Apr	42	15 Oct	21 Oct
16	16 Apr	22 Apr	43	22 Oct	28 Oct
17	23 Apr	29 Apr	44	29 Oct	4 Nov
18	30 Apr	6 May	45	5 Nov	11 Nov
19	7 May	13 May	46	12 Nov	18 Nov
20	14 May	20 May	47	19 Nov	25 Nov
21	21 May	27 May	48	26 Nov	2 Dec
22	28 May	3 Jun	49	3 Dec	9 Dec
23	4 Jun	10 Jun	50	10 Dec	16 Dec
24	11 Jun	17 Jun	51	17 Dec	23 Dec
25	18 Jun	24 Jun	52	24 Dec	30 Dec
26	25 Jun	1 Jul	53	31 Dec	31 Dec
27	2 Jul	8 Jul			

Table 10.–Escapements relative to escapement goals and methods used to monitor escapements in 2017 for Chinook, chum, pink and sockeye salmon stocks in Cook Inlet, Alaska.

		Escapement goal							
	2017	Type	Range			Monitoring method			
Species/stock	Escapement	(BEG, SEG)	Lower	Midpoint	Upper	Aerial	Ground	Video	Weir
Chum salmon (12 w/goals)									
Port Graham River	5,765	SEG	1,200	1,950	2,700		X		
Dogfish Lagoon	13,191	SEG	3,500	6,050	8,600		X		
Rocky River	6,922	SEG	1,500	2,950	4,400	X	X		
Port Dick Creek	2,633	SEG	1,900	3,100	4,300	X	X		
Island Creek	5,522	SEG	5,100	8,500	11,900	X	X		
Big Kamishak River	32,290	SEG	6,800	11,200	15,600	X			
Little Kamishak River	19,275	SEG	8,000	12,400	16,800	X			
McNeil River	38,679	SEG	24,000	36,000	48,000	X			
Bruin River	38,536	SEG	5,200	7,600	10,000	X			
Ursus Cove	22,025	SEG	5,900	8,000	10,100	X			
Cottonwood Creek	6,150	SEG	5,200	8,700	12,200	X			
Iniskin Bay	15,591	SEG	5,900	9,750	13,600	X			
Pink salmon (18 w/goals)									
Humpy Creek	71,073	SEG	17,500	34,450	51,400		X		
China Poot Creek	2,379	SEG	2,500	4,400	6,300		X		
Tutka Creek	61,369	SEG	6,500	11,750	17,000		X		
Barabara Creek	25,002	SEG	2,000	3,800	5,600		X		
Seldovia Creek	27,025	SEG	21,800	29,600	37,400		X		
Port Graham River	20,642	SEG	7,700	13,700	19,700		X		
Dogfish Lagoon Cks.	13,331	SEG	800	3,950	7,100		X		
Port Chatham	44,291	SEG	7,800	12,950	18,100		X		
Windy Creek Right	5,053	SEG	3,400	7,300	11,200		X		
Windy Creek Left	17,381	SEG	5,400	16,250	27,100		X		
Rocky River	31,189	SEG	11,700	33,250	54,800		X		
Port Dick Creek	62,098	SEG	17,900	33,850	49,800	X	X		
Island Creek	22,579	SEG	9,600	21,050	32,500	X	X		
S. Nuka Island Creek	540	SEG	2,800	7,000	11,200	X	X		
Desire Lake	4,364	SEG	1,500	9,750	18,000	X			
Bruin River	71,100	SEG	17,800	60,400	103,000	X			
Sunday Creek	22,211	SEG	4,400	14,650	24,900	X			
Brown's Peak Creek	39,197	SEG	2,600	10,050	17,500	X			
Sockeye salmon (8 w/goals)									
English Bay	20,751	SEG	6,000	9,750	13,500	X			X
Delight Lake	5,380	SEG	5,100	7,850	10,600	X			X
Desire Lake	9,450	SEG	4,800	8,350	11,900	X			
Bear Lake	9,202	SEG	700	4,500	8,300				X
Aialik Lake	4,900	SEG	3,200	4,300	5,400	X			
Mikfik Lake	7,495	SEG	3,400	7,200	11,000	X		X	
Chenik Lake	21,468	SEG	2,900	8,300	13,700	X		X	
Amakdedori Creek	1,680	SEG	1,200	1,900	2,600	X			

Note: SEG = sustainable escapement goal, BEG = biological escapement goal.

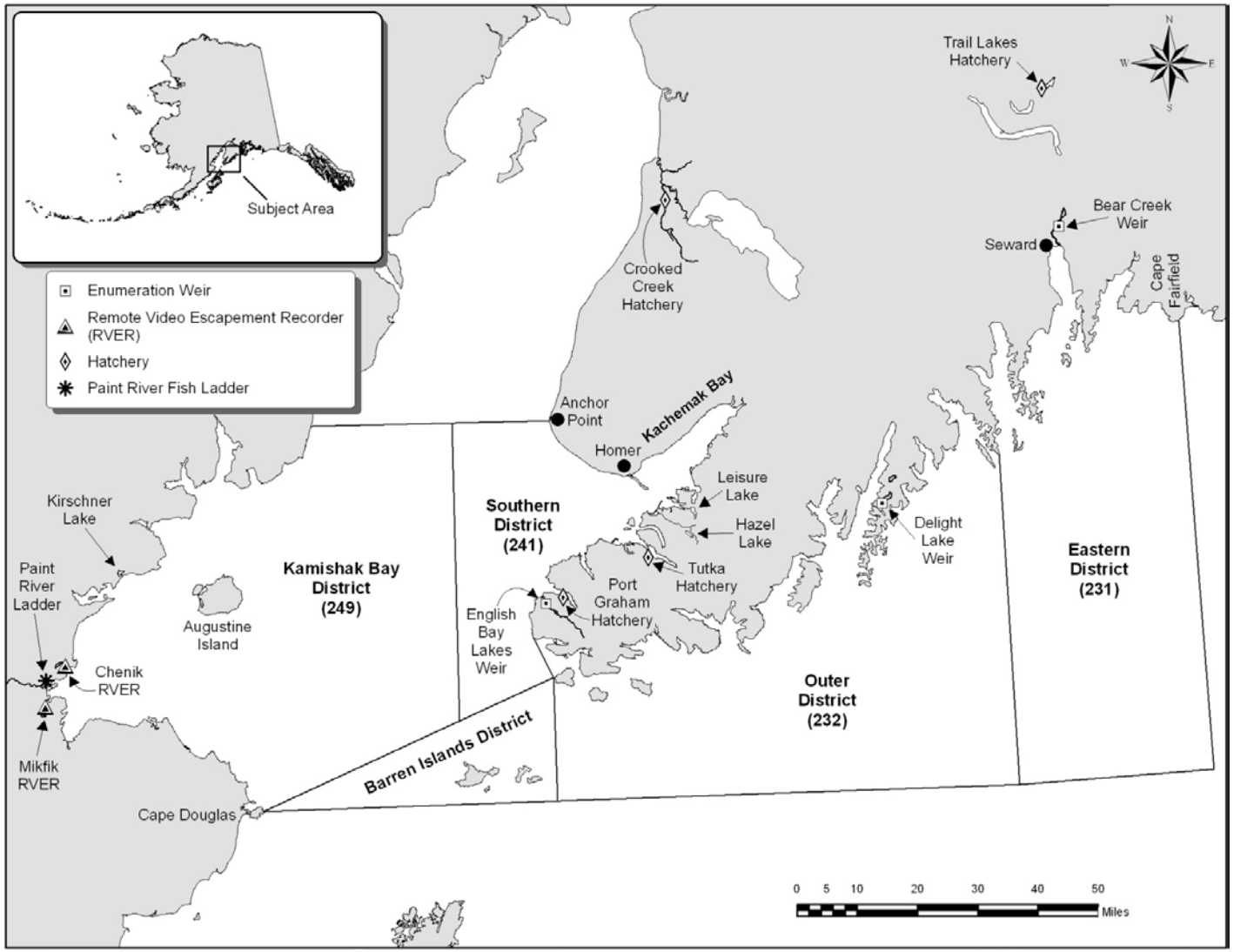

Figure 1.–Lower Cook Inlet management area showing commercial fishing districts, salmon hatcheries, weir and fish ladder locations, and remote video salmon monitoring sites.

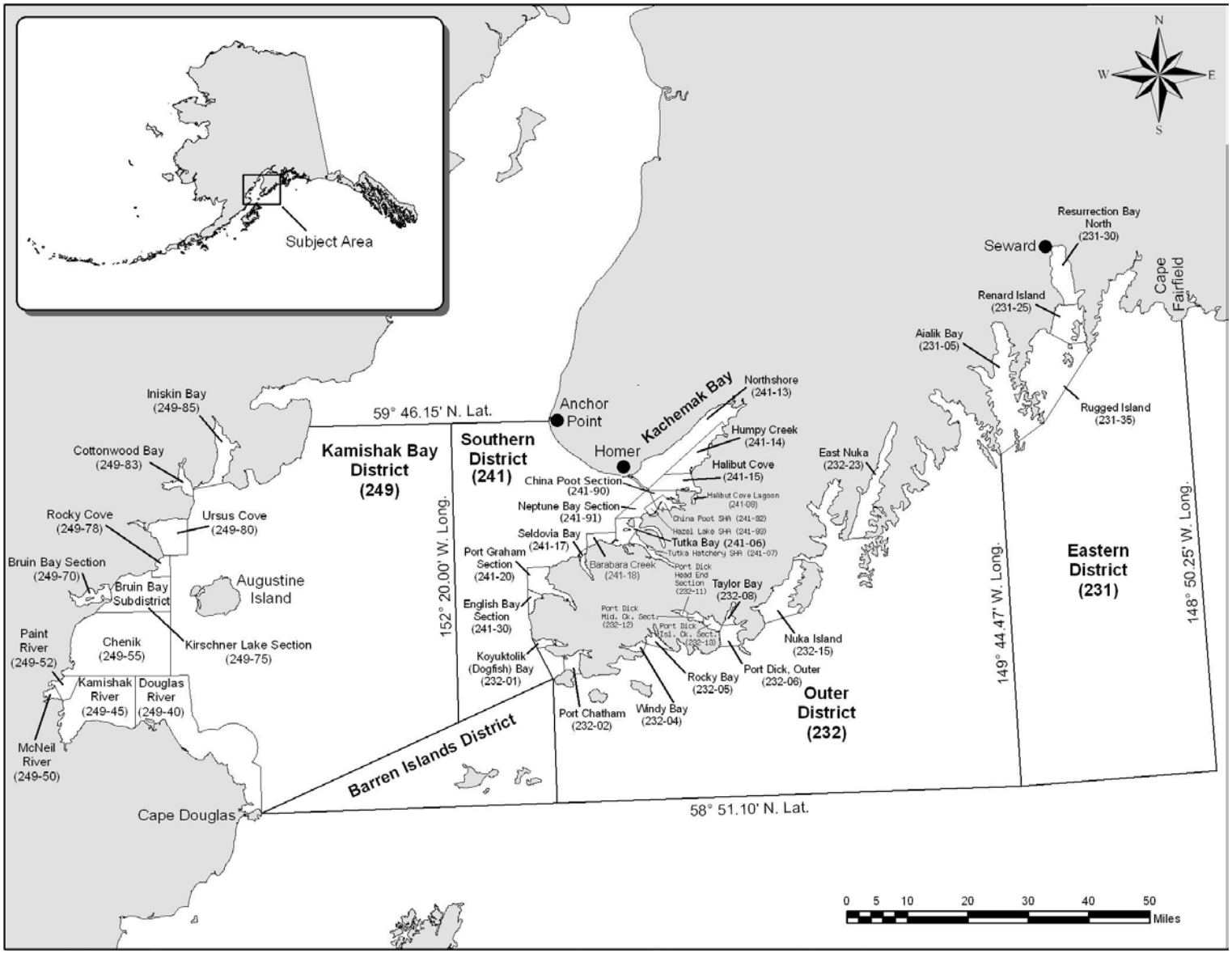

Figure 2.–Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts.

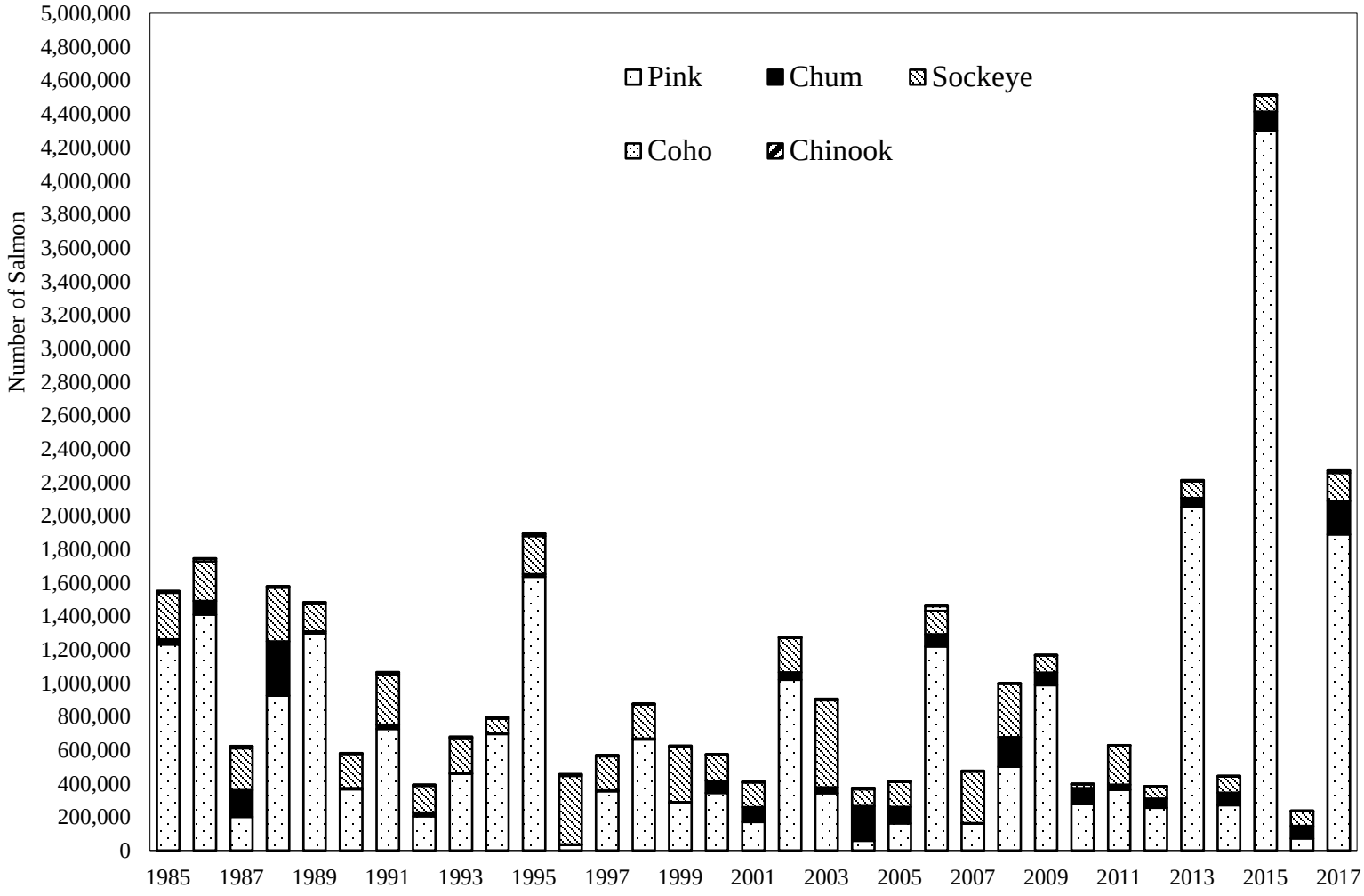

Figure 3.–Commercial common property salmon harvests in Lower Cook Inlet, 1985–2017.

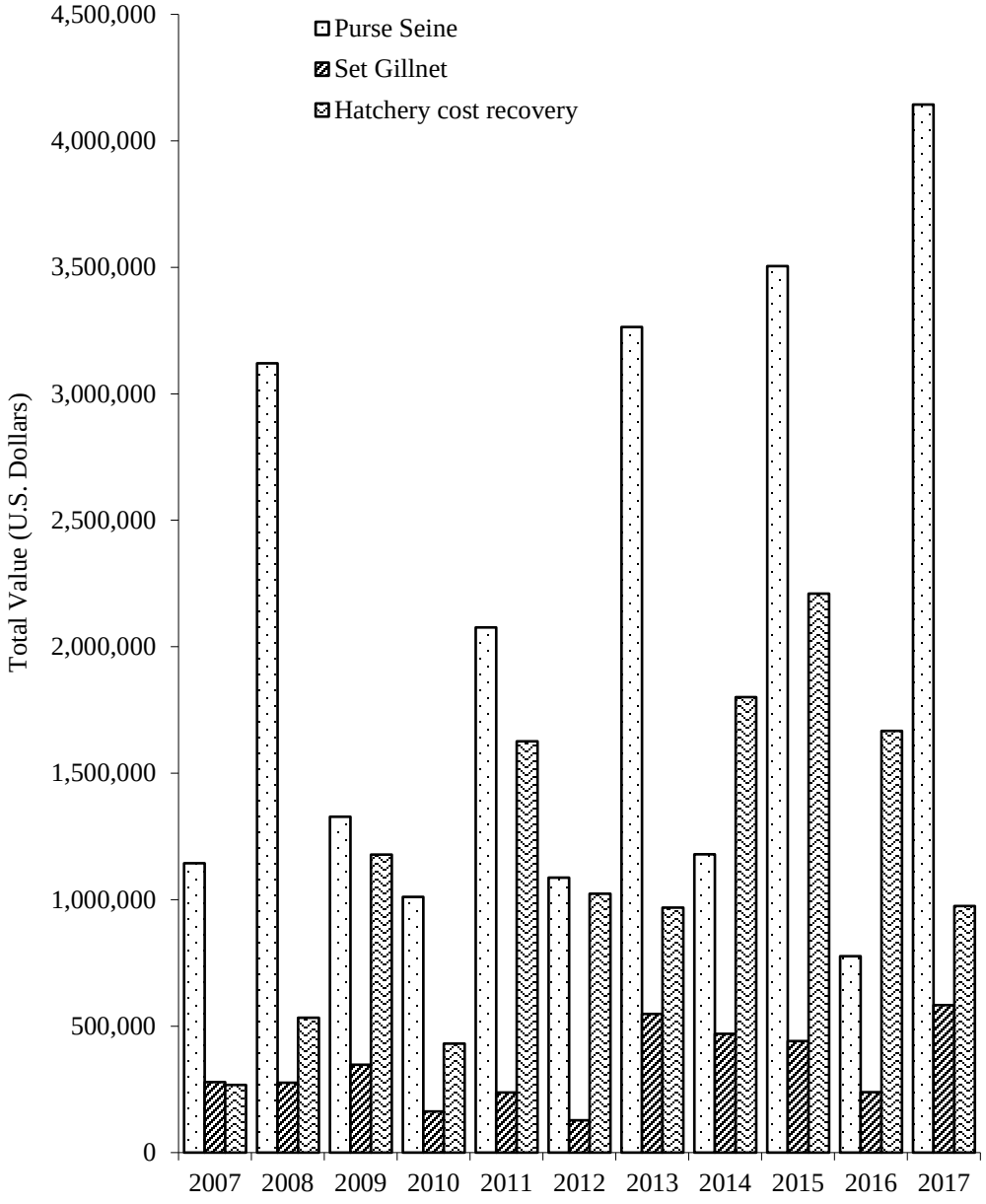

Figure 4.–Exvessel value of Lower Cook Inlet commercial salmon harvest, 2007–2017.

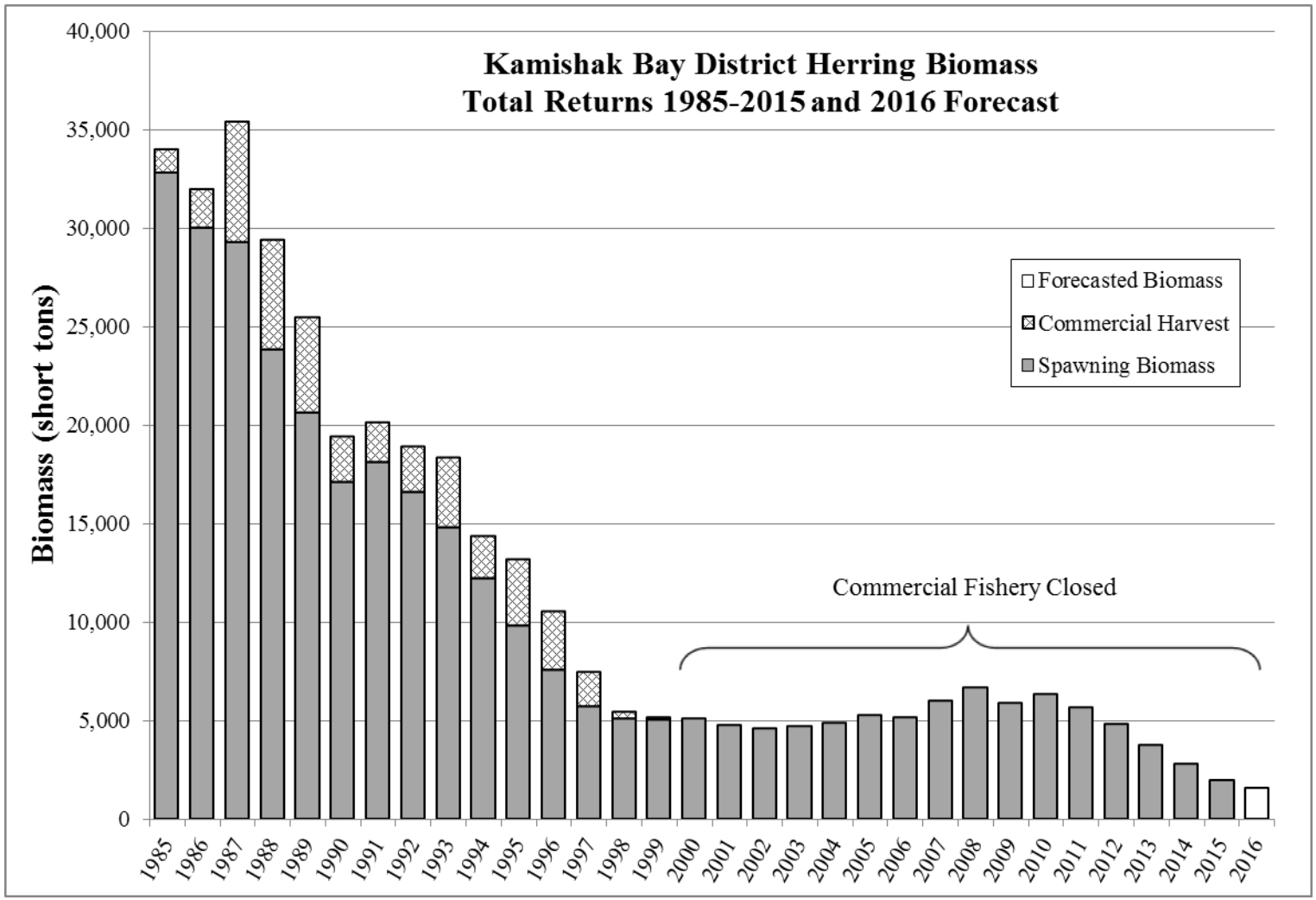

Figure 5.–Age-structured-assessment (ASA) biomass estimates and commercial harvests of Pacific herring in the sac roe seine fishery, Kamishak Bay District, Lower Cook Inlet, 1985–2015 and 2016 projection.

Note: Funding for herring stock assessment was cut in 2015; therefore, 2017 hindcast and 2018 forecast are not available. All spawning biomass estimates derived from 2015 ASA calculations.

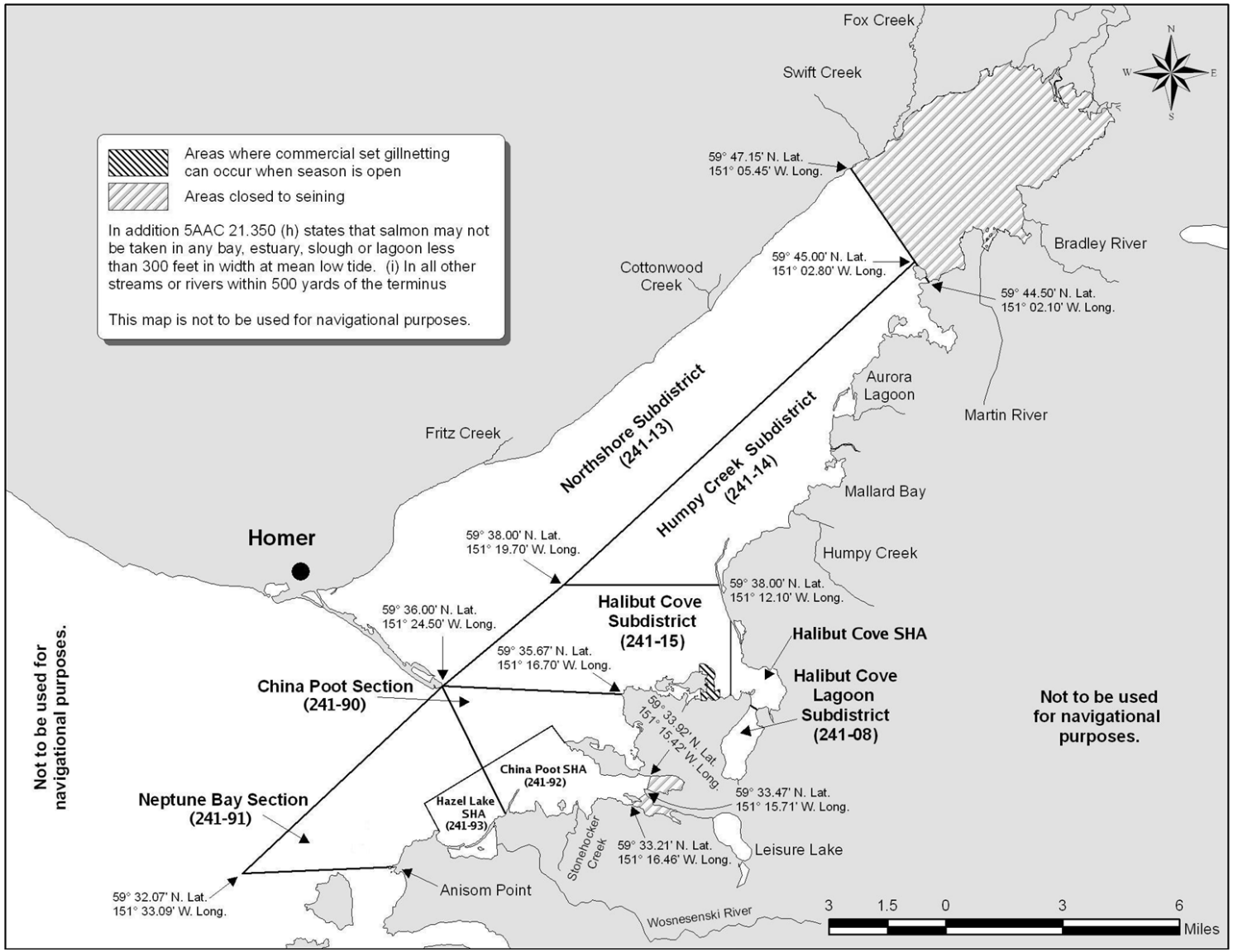

Figure 6.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chugachik Island to Anisom Point.

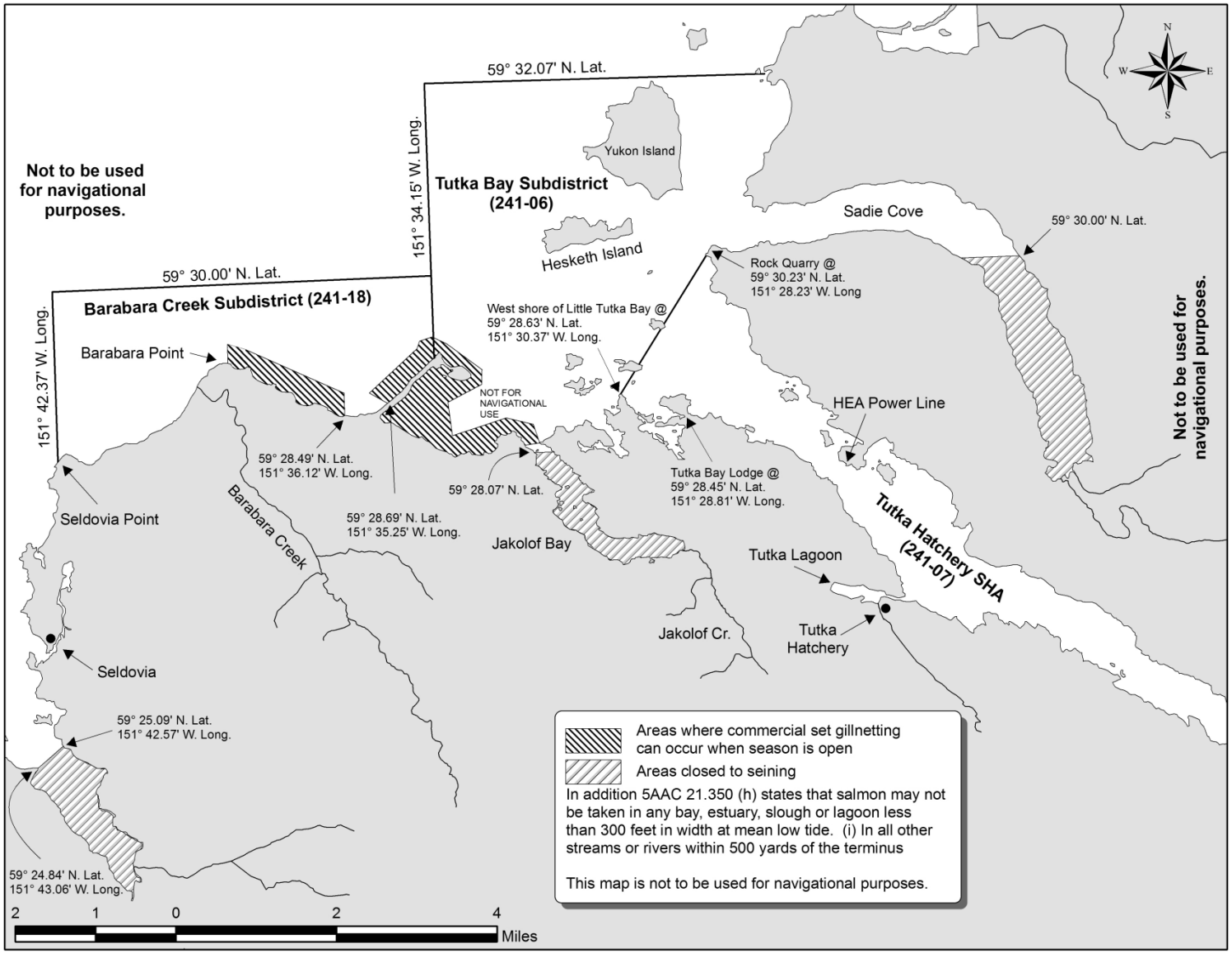

Figure 7.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Anisom Point to Seldovia Point.

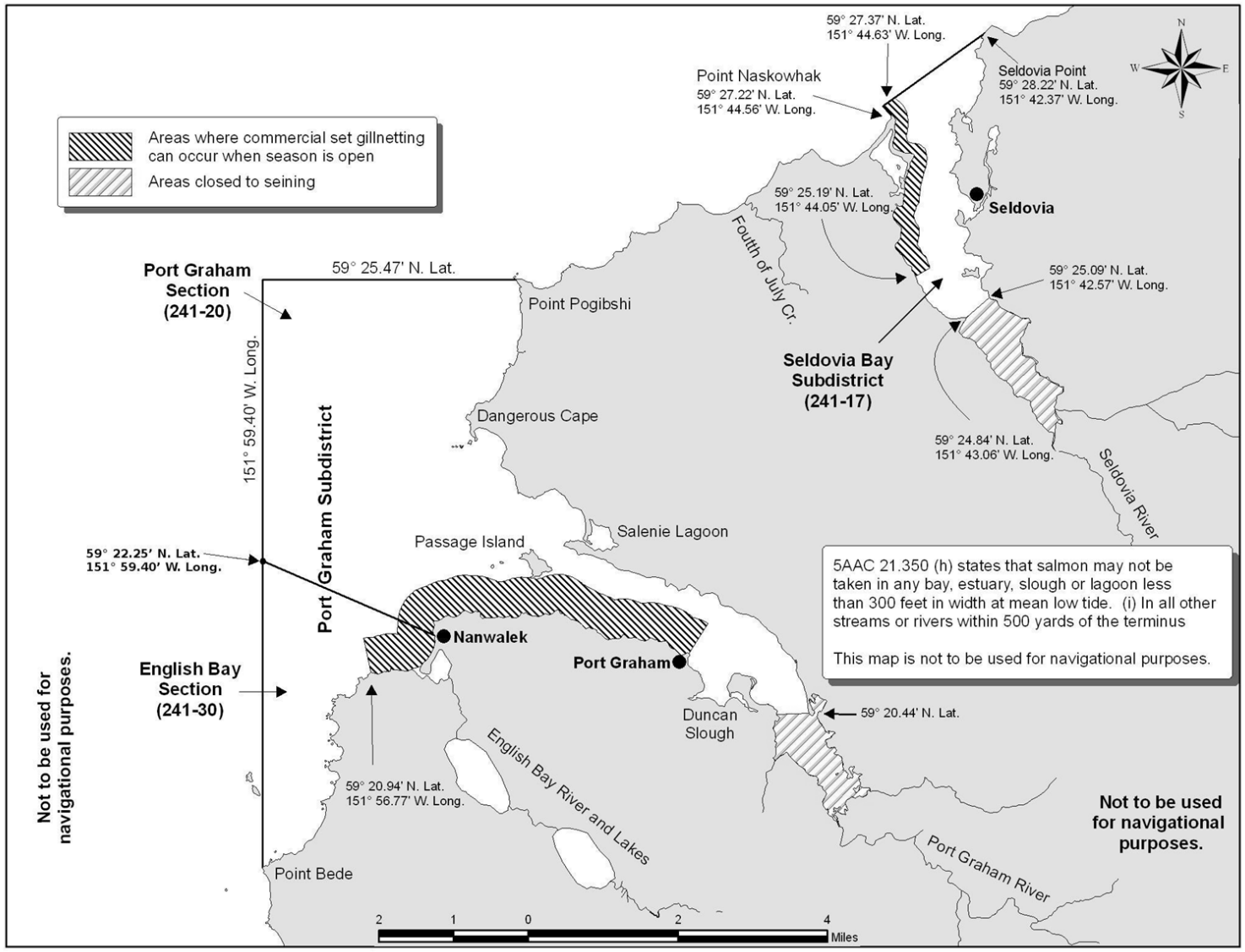

Figure 8.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Seldovia Point to Point Bede.

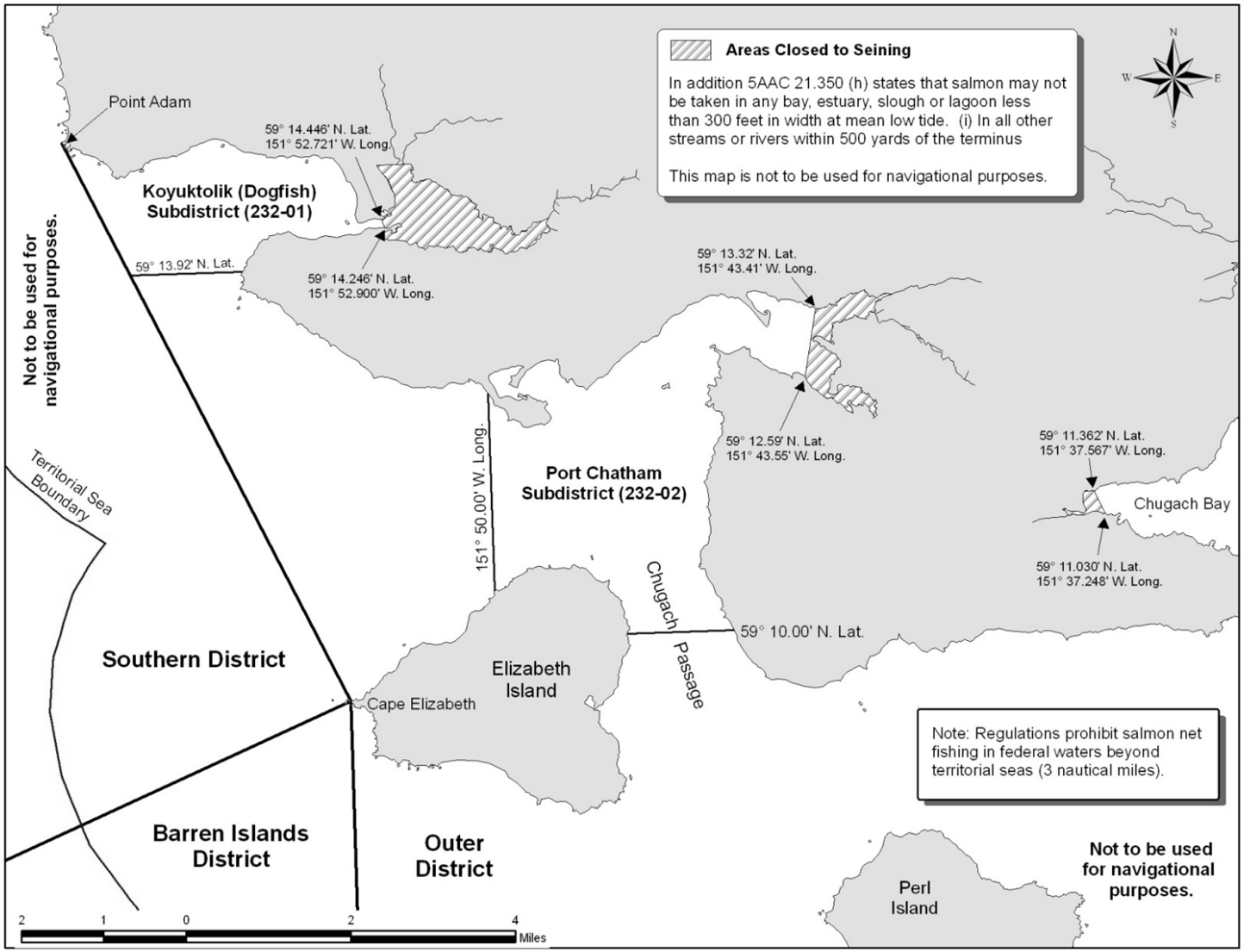

Figure 9.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Point Adam to Chugach Bay.

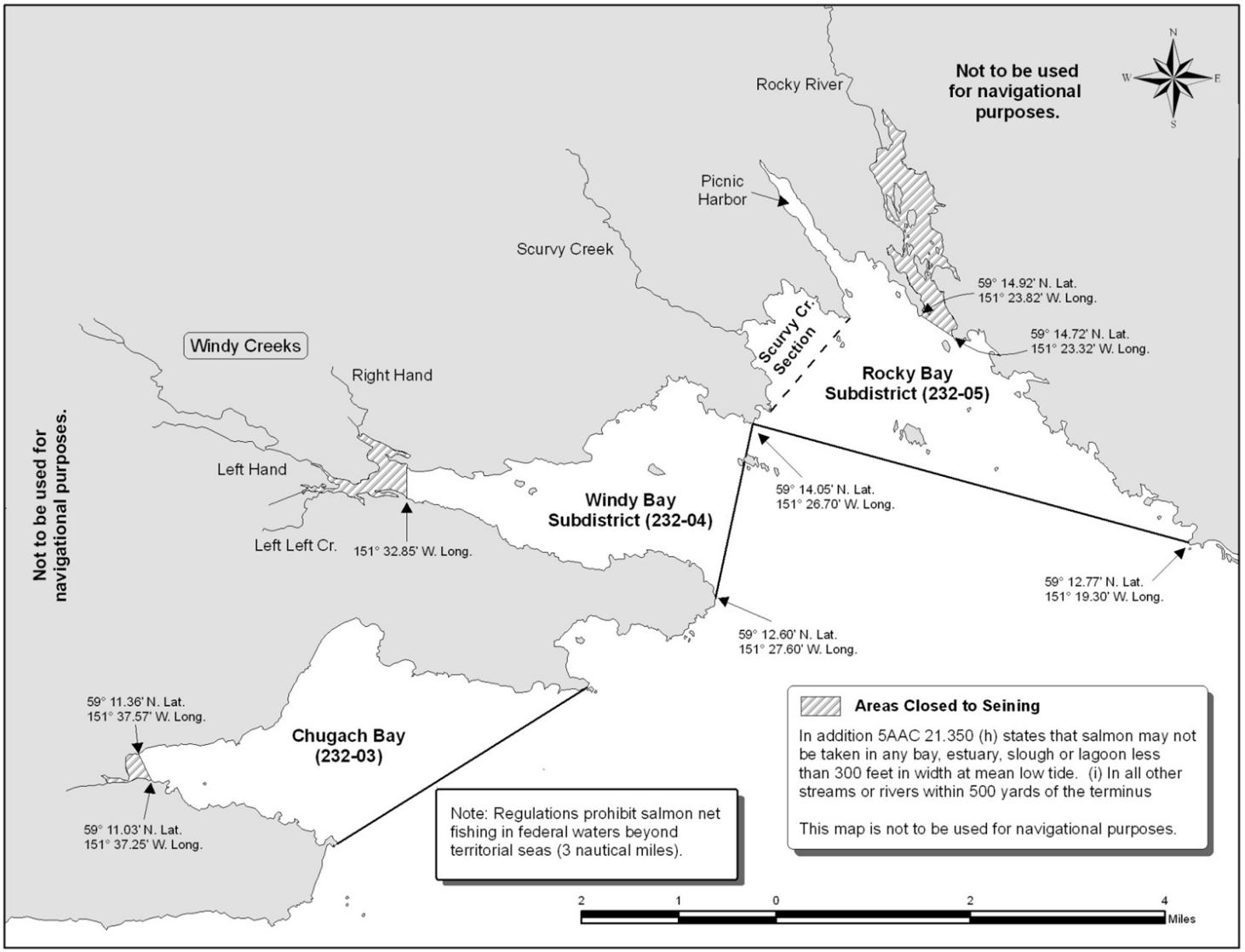

Figure 10.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chugach Bay to Rocky Bay.

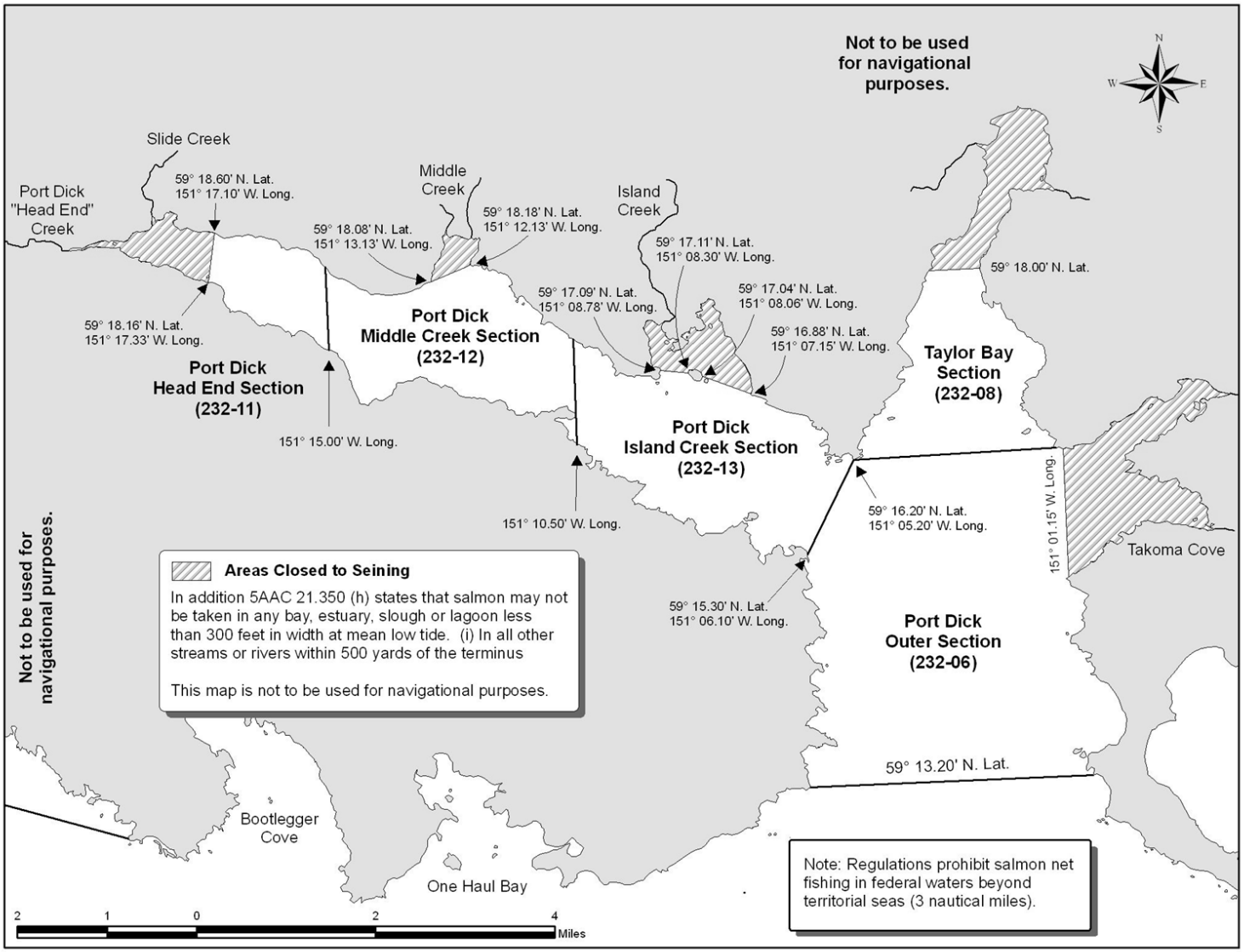

Figure 11.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Port Dick area.

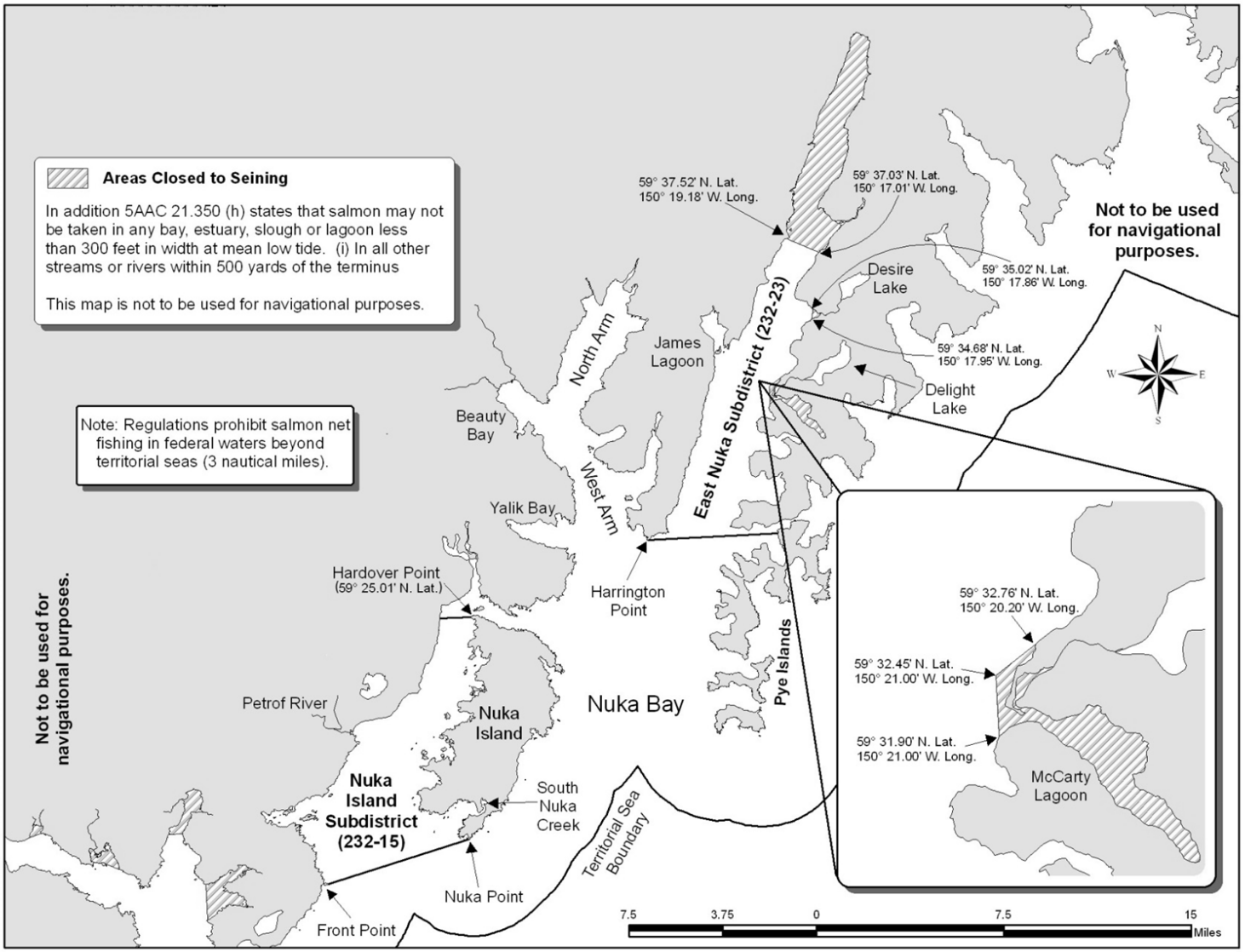

Figure 12.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Nuka Bay area.

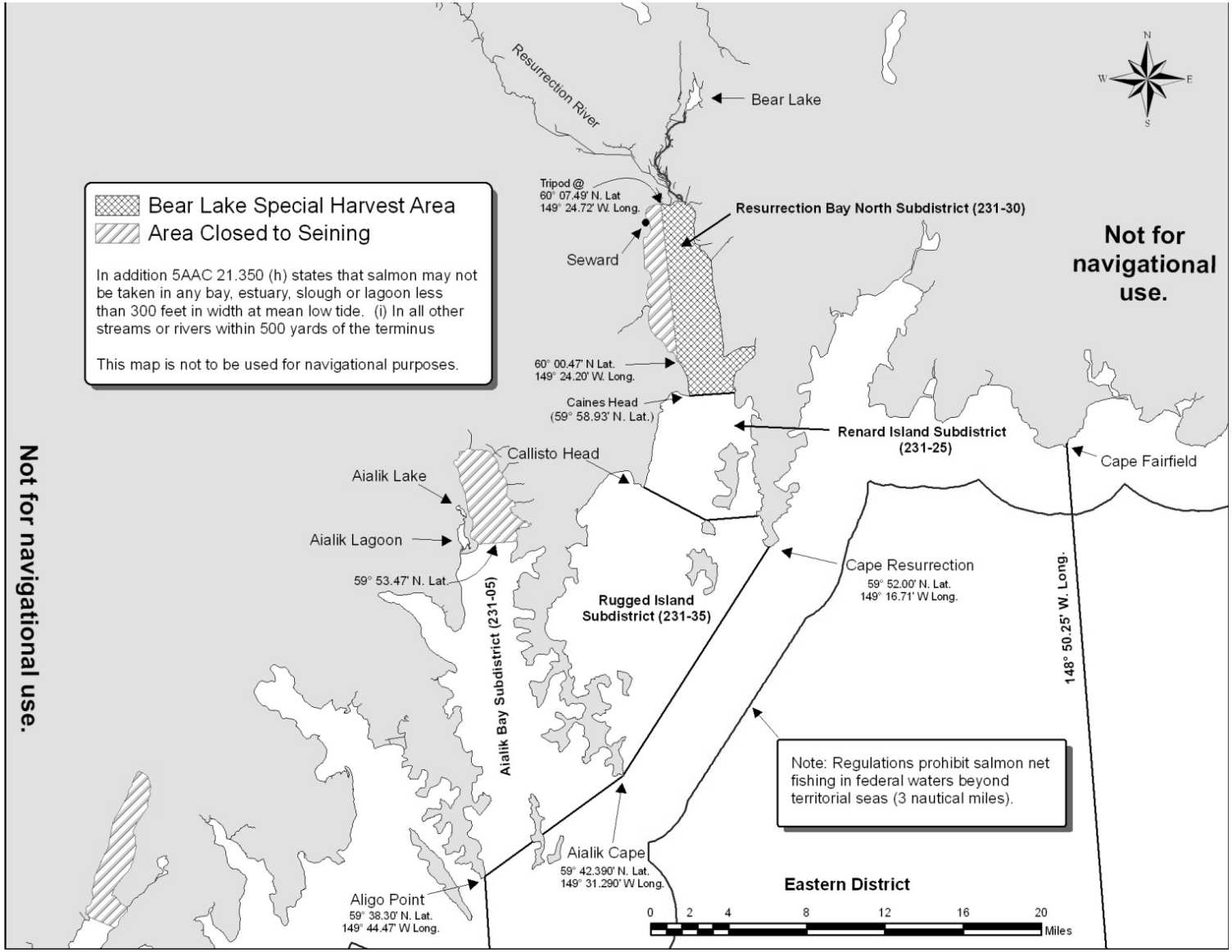

Figure 13.–Eastern District of Lower Cook Inlet management area showing commercial fishing districts, reporting subdistricts, and hatchery special harvest area (SHA), Aligo Point to Cape Fairfield.

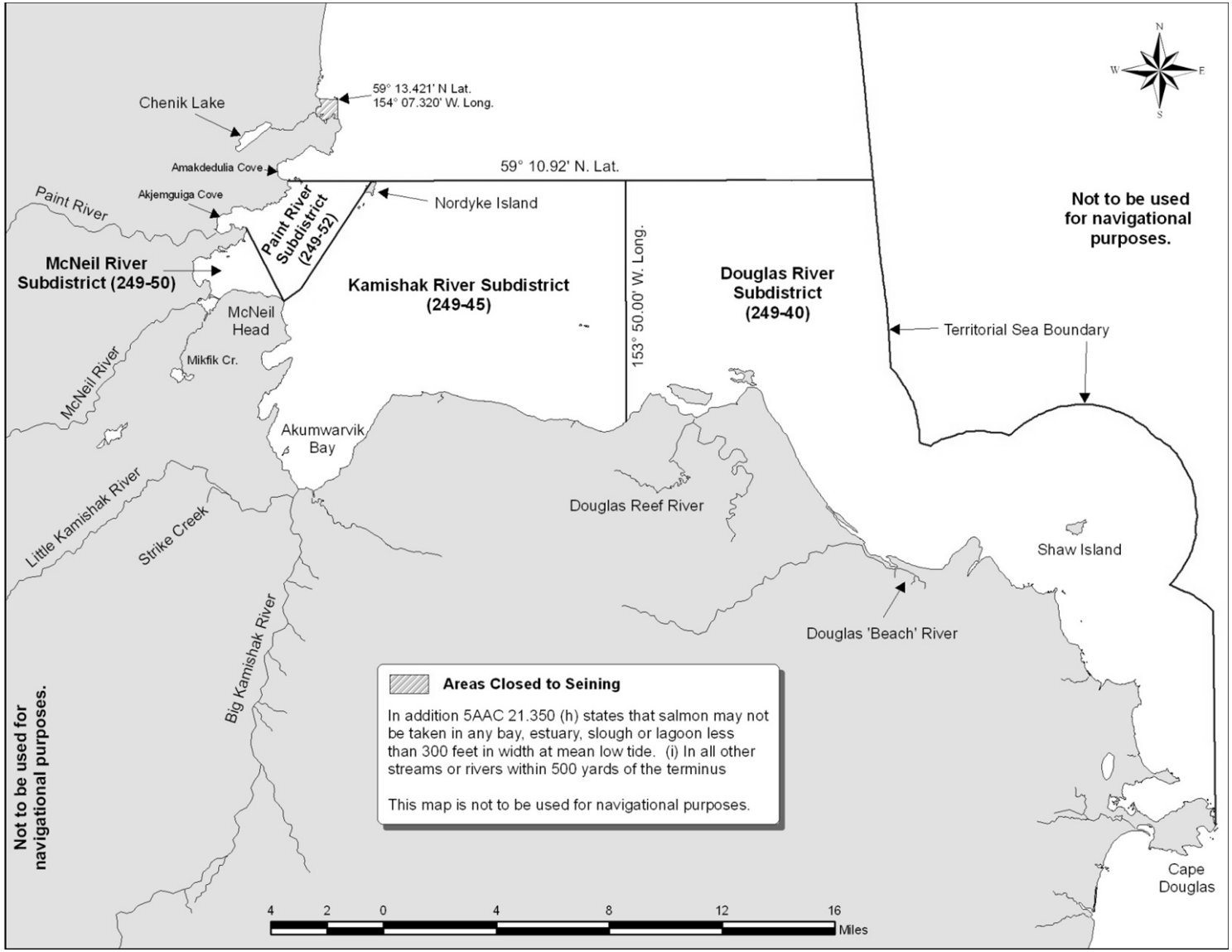

Figure 14.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chenik Lake to Cape Douglas.

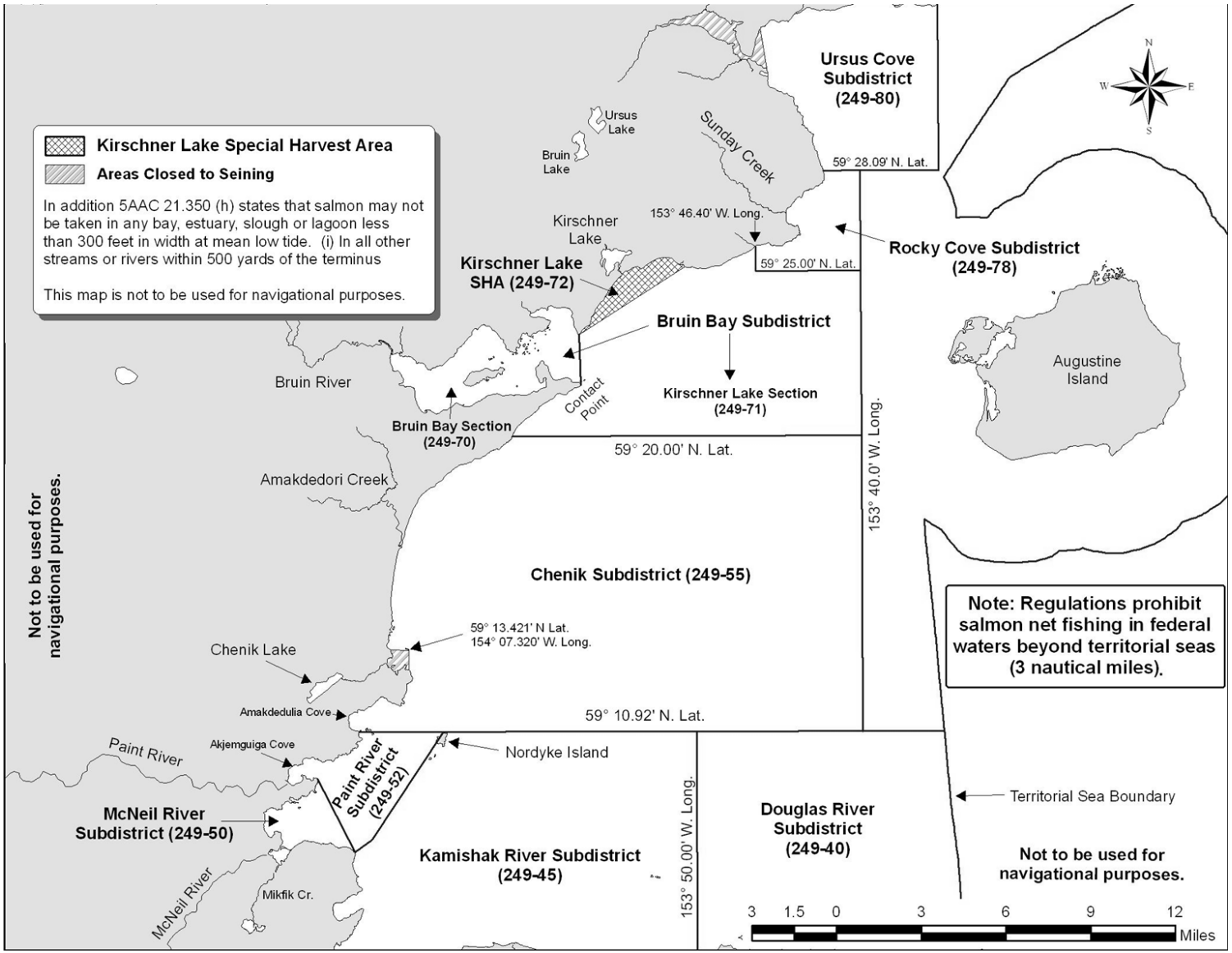

Figure 15.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts, reporting subdistricts, and hatchery special harvest area, McNeil River to Ursus Cove.

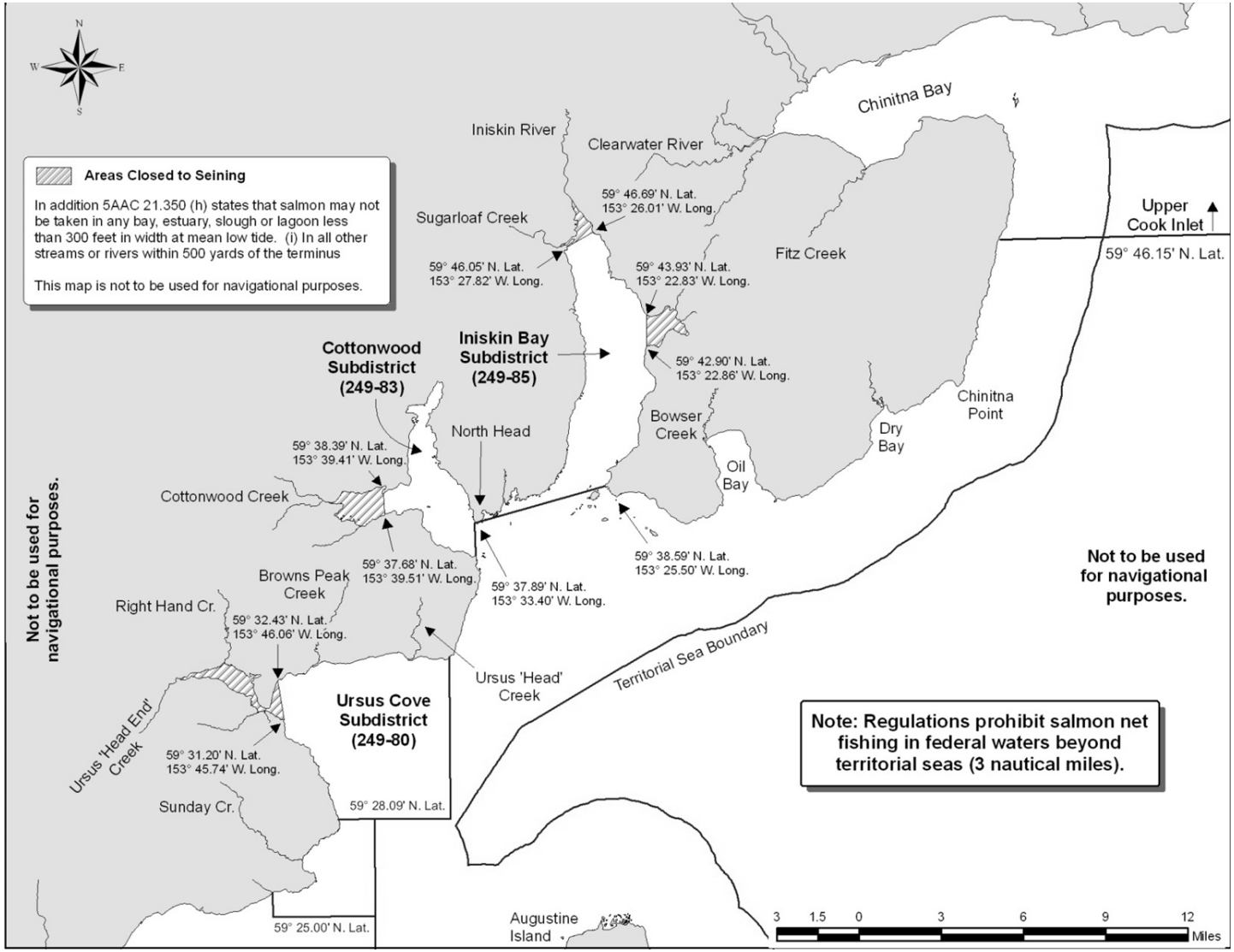

Figure 16.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts, Ursus Cove to Chinitna Point.

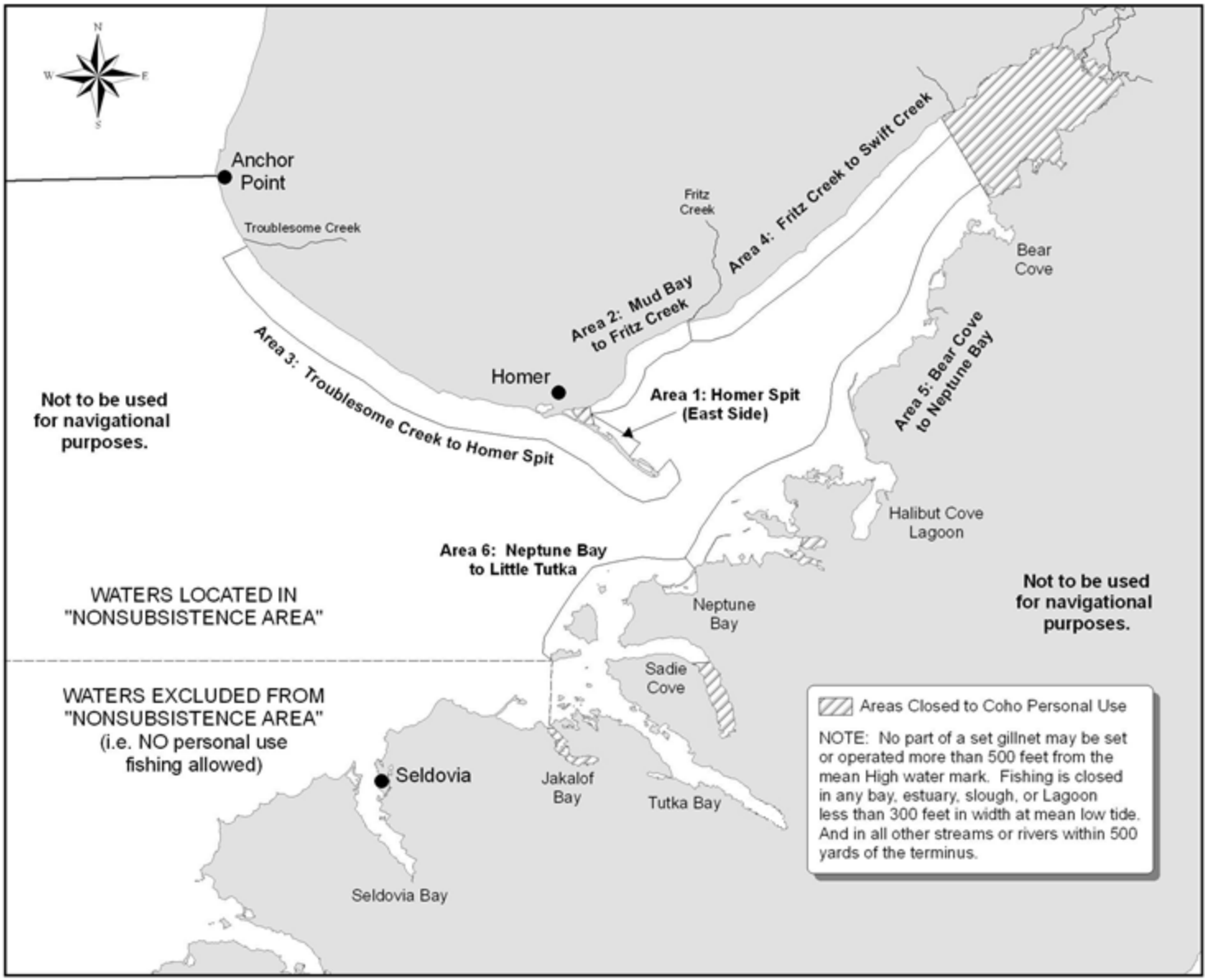

Figure 17.–Kachemak Bay personal use coho salmon fishery registration areas.

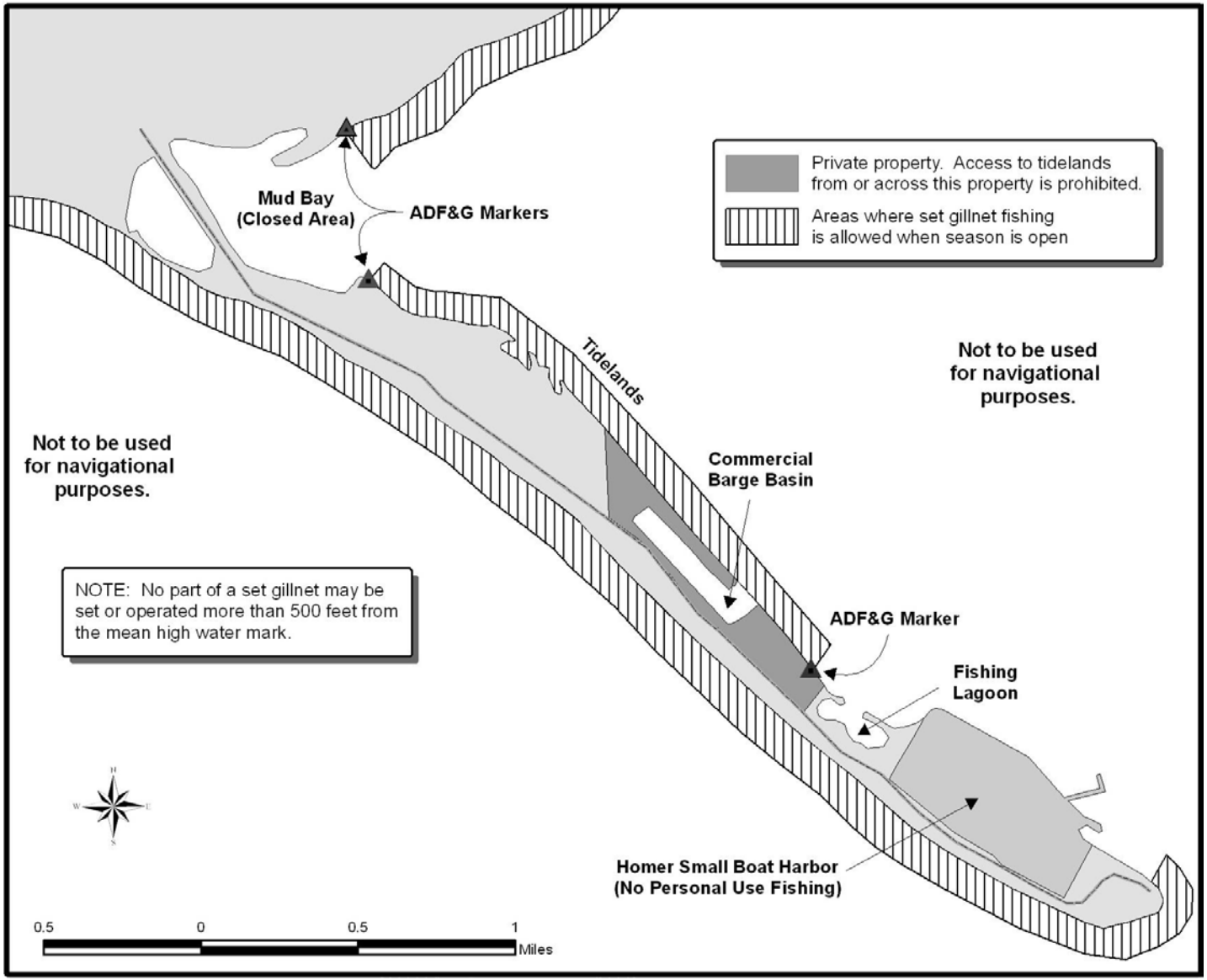

Figure 18.–Southern District personal use coho salmon fishery: Homer Spit area.

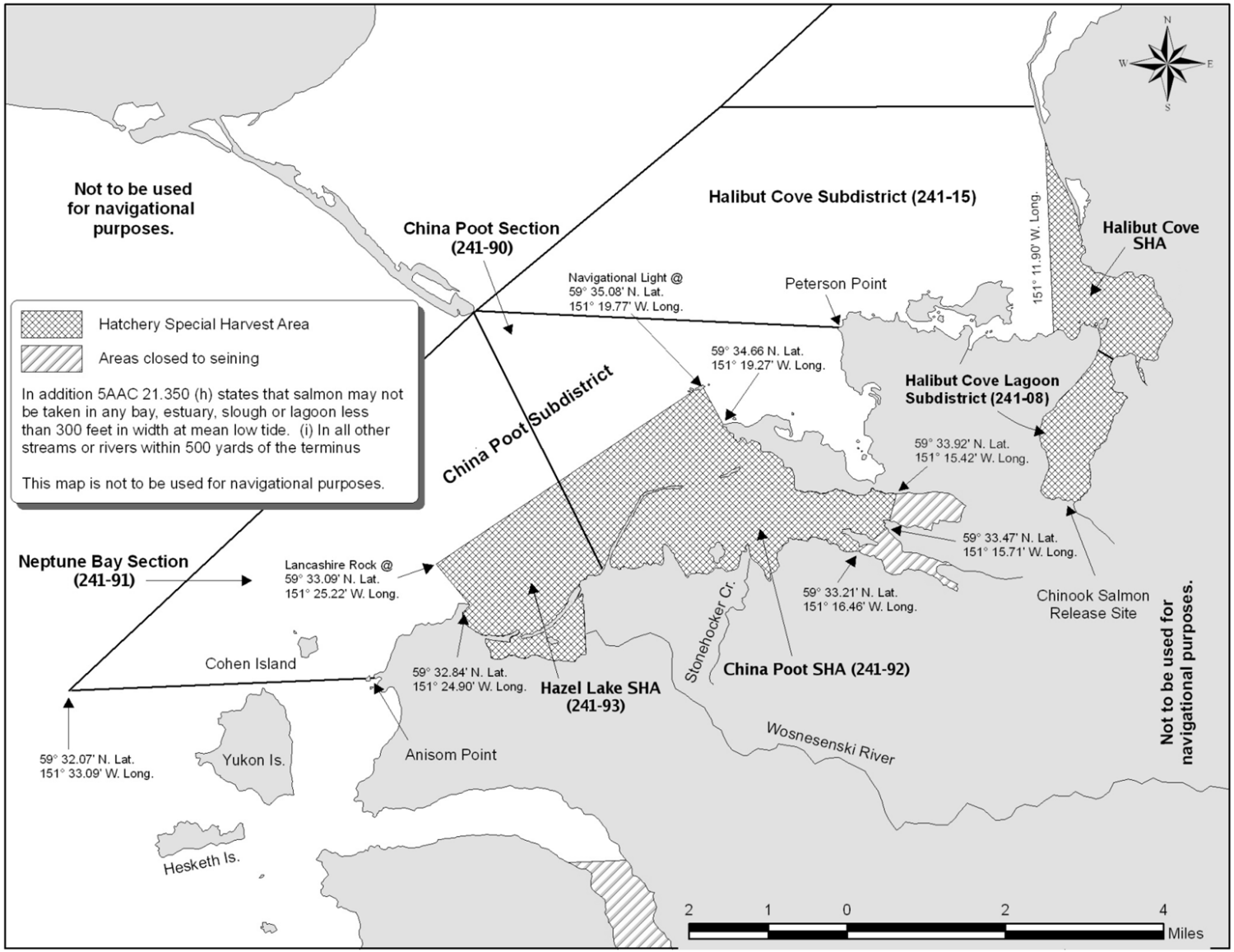

Figure 19.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Halibut Cove to Anisom Point.

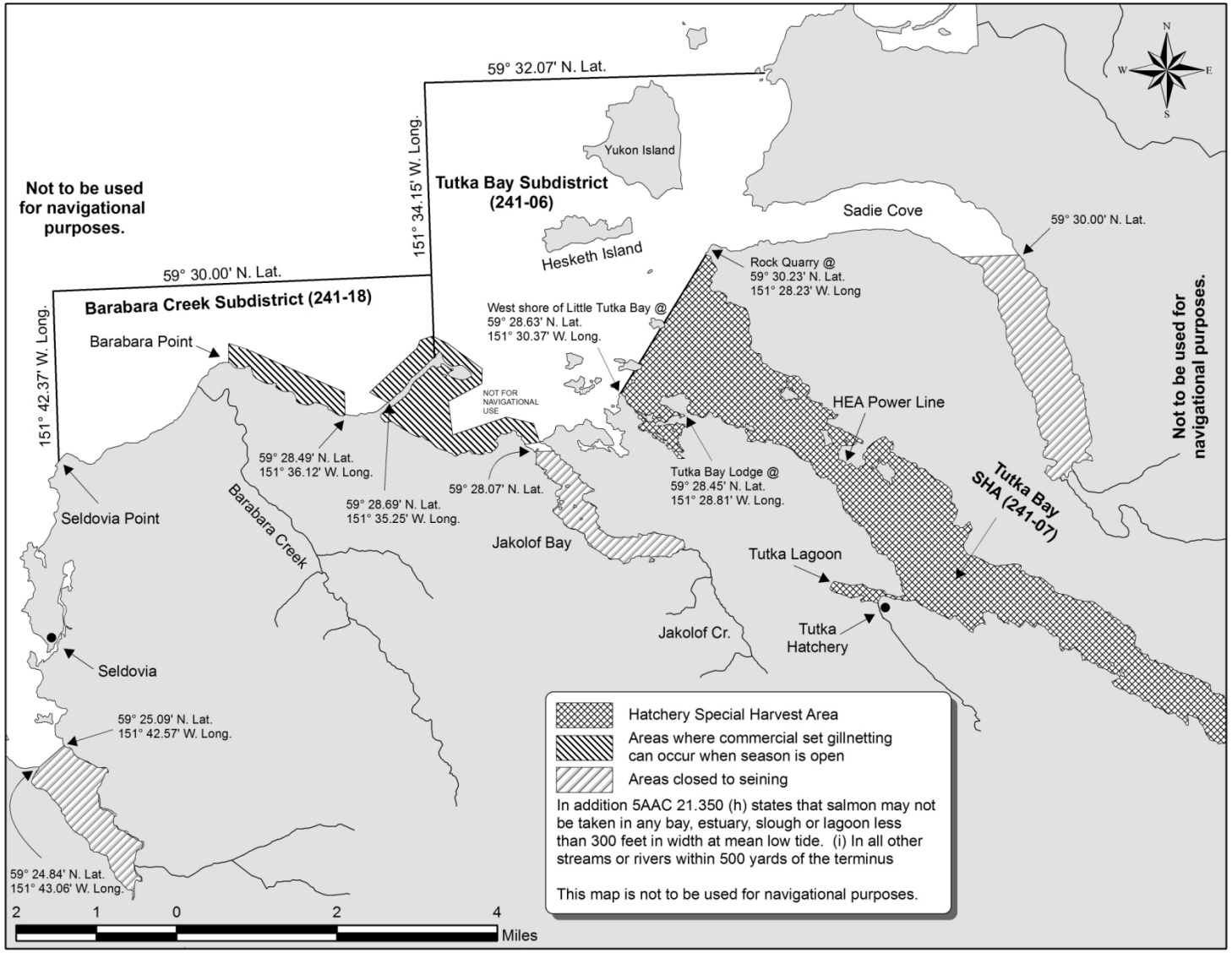

Figure 20.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Anisom Point to Seldovia Point.

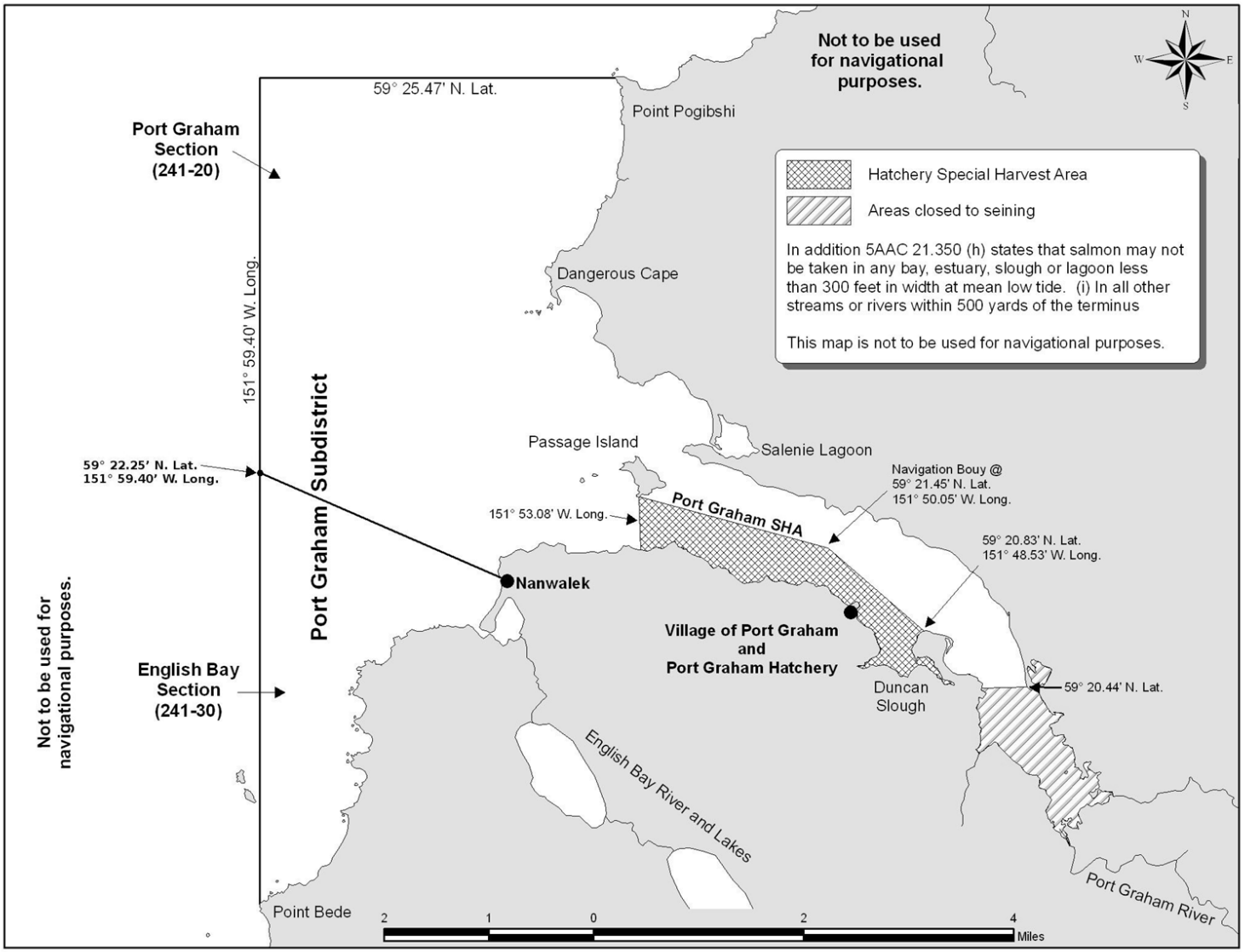

Figure 21.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Port Graham Area.

APPENDIX A: SOUTHERN DISTRICT

Appendix A1.–Southern District commercial set gillnet salmon harvest (excluding homepacks) by fishing period, 2017.

Period [a]	Statistical week	Date	Hours	Permit holders fishing	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a]	22	06/01-06/03	48	11	12	18	260	1,318	6,934					19	167
2 [a]	23	06/05-06/07	48	8	11	11	169	801	4,421			26	130	8	55
3 [a]	23	06/08-06/10	48	8	10	15	234	525	3,096					12	99
4 [a]	24	06/12-06/14	48	12	15	43	734	1,458	8,648					48	373
5 [a]	24	06/15-06/17	48	11	12	41	688	1,578	9,601					134	1,028
6 [a,b]	25	06/19-06/21	48	11	15	28	522	1,305	7,782	3	29	276	968	274	1,997
7 [a,b]	25	06/22-06/24	48	12	14	44	684	1,352	7,783	2	9	151	557	160	1,254
8 [a,b]	26	06/26-06/28	48	12	16	38	576	2,723	15,139			470	1,567	251	1,959
9 [a,b]	26	06/29-07/01	48	13	17	20	333	3,132	17,496	1	6	948	3,602	530	4,114
10 [a,b]	27	07/03-07/05	48	15	19	33	583	2,802	15,971	3	20	1,321	5,168	664	5,070
11 [a,b]	27	07/06-07/08	48	13	19	27	553	3,156	17,451	180	1,050	2,951	10,442	830	6,078
12 [a,b]	28	07/10-07/12	48	14	20	25	629	2,891	16,633	603	3,561	3,715	14,512	929	6,954
13 [a,b]	28	07/13-07/15	48	16	26	17	279	2,960	17,167	530	3,401	4,266	16,048	1,083	7,622
14 [a,b]	29	07/17-07/19	48	16	25	48	901	2,147	12,283	728	4,478	3,529	13,324	760	5,743
15 [a,b]	29	07/20-07/22	48	10	15	3	32	1,581	9,239	508	3,193	3,886	15,634	775	5,673
16 [a,b]	30	07/24-07/26	48	10	17	9	181	2,316	13,203	1,134	6,916	3,140	12,651	396	2,735
17 [a,b]	30	07/27-07/29	48	11	17	3	54	1,818	10,299	769	4,624	3,117	12,539	238	1,619
18 [a,b]	31	07/31-08/02	48	9	13	9	185	1,012	5,657	1,052	6,501	3,094	12,423	277	1,904
19 [a,b]	31	08/03-08/05	48	7	12	1	8	994	5,717	2,038	12,561	3,608	14,543	249	1,750
20 [a,b]	32	08/07-08/09	48	5	6	2	47	357	2,038	475	2,948	2,249	8,995	85	641
21 [a,b,c]	32	08/10-08/12	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
22 [a,b,c]	33	08/14-08/16	48	0	0	0	0	0	0	0	0	0	0	0	0
23 [a,b,c]	33	08/17-08/19	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
24 [a,b,c]	34	08/21-08/23	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
25 [a,b,c]	34	08/24-08/26	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
26 [a,b,c]	35	08/28-08/30	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
27 [a,b,c]	35	08/31-09/02	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
28 [a,b,c]	36	09/04-09/06	48	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
35 [a,b,c]	39	09/28-09/30	18	[c]	[c]			[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Total				21	322	435	7,652	36,689	209,000	9,353	57,566	43,904	170,206	7,852	57,833
Average weight							17.46		5.70		6.15		3.88		7.37

Note: No deliveries during Periods 29–35, from September 7 through September 30.

[a] Set gillnet sections located in Halibut Cove, Tutka Bay, Barabara Creek, and Seldovia Bay Subdistricts open to commercial harvest.

[b] Set gillnet section in Port Graham Section open to commercial harvest concurrent with Halibut Cove, Tutka Bay, Barabara Creek, and Seldovia Bay Subdistricts.

[c] Confidential data. Fewer than 3 permits reporting.

Appendix A2.–Southern District commercial purse seine salmon harvest (excluding homepacks) by period, 2017.

Period	Statistical week	Date	Hours	Permits fished	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a]	25	6/19	16	5	5	31	267	644	3,696	1	12	6	33	30	246
2 [a]	25	6/21	16	5	5	13	204	958	5,081			11	40	22	217
3 [a]	25	6/23	16	12	12	12	173	1,960	9,950			26	105	79	744
4 [a,b]	26	6/26	16	13	13	10	151	1,409	6,996	1	6	27	96	175	1,767
5 [a,b]	26	6/28	16	10	10	21	284	3,924	20,040			179	560	63	487
6 [a,b]	26	6/30	16	14	14	11	80	3,836	19,500	1	5	130	461	54	437
7 [a,b,c]	27	7/3	16	12	12	16	155	6,741	37,723			649	2,729	105	850
8 [a,b,c]	27	7/5	16	13	13	10	113	5,652	28,570	2	14	1,353	3,741	166	1,425
9 [a,b,c]	27	7/7	16	13	14	14	280	5,790	29,760	14	84	1,132	3,862	258	2,097
10 [a,b,c]	28	7/10	16	11	13	7	129	5,378	32,268	56	302	3,097	11,557	158	1,316
11 [a,b,c]	28	7/12	16	11	11	4	39	4,642	27,859	60	410	2,128	8,241	167	1,322
12 [a,b,c]	28	7/14	16	12	13	3	70	4,895	29,303	101	605	2,336	9,216	103	819
13 [a,b,c]	29	7/17	16	12	12	1	17	3,177	19,062	204	1,112	2,192	8,644	285	2,276
14 [a,b,c]	29	7/19	16	11	11	1	6	3,214	15,969	163	893	6,706	23,101	873	6,747
15 [a,b,c]	29	7/21	16	12	13	9	202	3,107	15,176	350	2,097	3,544	12,583	910	7,175
16 [a,c,d]	30	7/24	16	7	8	3	43	2,044	10,877	526	3,172	8,448	30,276	43	333
17 [a,c,d]	30	7/26	16	6	6			1,120	6,118	211	1,263	2,763	9,650	28	224
18 [a,c,d]	30	7/28	16	6	6			1,819	10,388	283	1,762	3,271	10,644	17	133
19 [a,c,e]	31	7/31	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
20 [a,c]	31	8/2	16	3	3			536	2,975	290	1,715	2,000	7,512	9	64
21 [a,c,e]	31	8/3	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
22 [a,c]	31	8/4	16	3	3			220	1,100	126	741	6,318	23,399	2	12
23 [a,c]	31	8/5	16	3	3			332	1,999	339	1,992	15,211	56,334	10	71
24 [a,c]	32	8/6	16	3	4			204	1,020	142	834	8,003	29,637	2	10
25 [a,c,f,g]	32	8/7	16	6	6			184	924	41	245	14,450	51,635	4	28
26 [a,c,e,g]	32	8/8	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
27 [a,c,e,g]	32	8/10	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
28 [a,c,g,h]	32	8/11	16	5	5			160	848	23	143	19,419	71,011	12	89
29 [a,c,g]	33	8/13	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
30 [a,c,g,h]	33	8/14	16	3	5			264	1,455			29,414	110,840		
31 [a,c,e,g,h]	33	8/16	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
32 [a,c,e,g]	33	8/17	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]

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Period	Statistical week	Date	Hours	Permits fished	Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
33 [a,c,g,h]	33	8/18	16	5	6			21	124	12	77	53,793	193,774	2	16
34 [a,c,g,h]	34	8/21	16	5	7			24	152	2	15	51,944	172,964	1	8
35 [a,c,g,h]	34	8/23	16	3	3			64	356			21,309	85,670	48	254
36 [a,c,e,g,h]	34	8/25	16	[e]	[e]			[e]	[e]			[e]	[e]	[e]	[e]
37 [a,c,e,g]	35	8/27	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
38 [a,c,e,i]	35	8/29	16	[e]	[e]			[e]	[e]	[e]	[e]	[e]	[e]	[e]	[e]
Total				17	252	166	2,214	62,715	341,453	3,493	20,865	361,751	1,301,420	3,892	31,131
Average weight							12.95		5.44		5.97		3.59		8.00

Note: No deliveries during after August 29. Unless otherwise noted, regular closed waters were in effect.

[a] Waters of the Tutka Bay, China Poot, Neptune Bay and Halibut Cove subdistricts, excluding waters of the SHA in the Tutka Subdistrict is open to commercial salmon seine harvest for regular 16 hour periods.

[b] Waters of the Neptune Bay and China Poot SHAs closed to commercial salmon fishing.

[c] Humpy Creek Subdistrict open to commercial salmon harvest.

[d] China Poot SHA open to commercial salmon fishing, Neptune Bay SHA closed.

[e] Confidential data. Fewer than 3 permits reporting.

[f] Waters of the Tutka SHA seaward of the HEA powerlines open to commercial salmon fishing.

[g] Waters of the Port Graham Subdistrict excluding the SHA open to commercial salmon fishing.

[h] Waters of the Tutka SHA excluding waters along the western shore from the base of the HEA powerlines to Sea Star Cove are open to commercial salmon fishing.

[i] Waters of the Port Graham Subdistrict excluding the SHA up to the freshwater of the Port Graham River open to commercial salmon fishing.

Appendix A3.–Total commercial common property salmon harvest (excluding homepacks) in the Southern District, 1970–2017.

Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Set gillnet			
1970		26	11,455	1,154	18,512	1,575
1971		41	18,398	1,449	8,564	1,352
1972		69	31,340	323	6,303	2,819
1973		134	23,970	1,089	20,222	2,374
1974		175	26,996	3,010	11,097	2,713
1975		96	26,588	2,337	49,490	4,020
1976		176	33,993	1,321	13,412	1,353
1977		175	54,404	869	38,064	2,765
1978		1,052	86,934	3,053	11,556	4,117
1979		483	34,367	7,595	69,368	5,266
1980		225	29,922	8,038	26,613	2,576
1981		222	53,665	6,735	68,794	8,524
1982		894	42,389	5,557	15,838	7,113
1983		822	41,707	1,799	20,553	4,377
1984		643	45,806	2,979	20,764	5,412
1985	34	924	23,163	3,908	22,898	4,217
1986	34	745	21,807	2,827	14,244	2,426
1987	29	653	28,209	2,025	9,224	2,419
1988	27	1,145	14,758	2,819	29,268	4,423
1989	23	1,281	13,970	4,792	16,210	1,877
1990	20	1,361	15,863	1,046	12,646	1,938
1991	20	842	20,525	5,011	3,954	1,577
1992	20	1,288	17,002	848	15,958	1,687
1993	17	1,089	14,791	3,088	12,008	2,591
1994	16	1,103	14,004	1,073	23,621	2,419
1995	23	2,078	19,406	3,564	41,654	3,958
1996	24	1,054	69,338	5,779	14,813	2,792
1997	25	1,135	59,401	4,475	64,162	4,166
1998	24	952	26,131	1,057	24,403	3,754
1999	20	1,491	27,646	1,374	5,348	4,335
2000	24	1,019	26,503	621	21,845	5,214
2001	18	865	28,503	1,811	13,393	3,487
2002	24	1,513	46,812	2,393	6,741	4,681
2003	24	878	81,722	2,291	7,325	4,998
2004	19	1,400	16,087	1,164	834	1,234
2005	17	525	15,669	1,905	341	1,326
2006	22	580	14,219	2,426	12,288	2,019
2007	16	439	28,870	1,616	0	1,437
2008	18	148	26,819	599	1,884	1,394
2009	19	83	38,220	968	2,136	2,274
2010	21	29	14,765	171	3,106	1,503
2011	21	100	22,782	103	2,643	1,946
2012	15	86	10,260	33	10,305	928
2013	18	234	38,238	3,466	1,804	2,685
2014	19	320	32,910	393	3,231	5,355
2015	24	752	36,061	3,102	27,726	11,539
2016	21	731	19,427	687	21,872	2,124
10-yr avg.	19	292	26,835	1,114	7,471	3,119
2017	19	435	36,689	9,353	43,904	7,852

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Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Purse seine			
1970		64	665	2,390	189,554	6,298
1971		0	5	1,702	41,502	1,505
1972		0	5	960	2,823	2,117
1973		5	102	152	77,352	1,214
1974		7	33	44	37,778	12
1975		46	805	702	844,125	1,408
1976		266	1,287	584	86,405	164
1977		7	259	386	118,961	3,969
1978		459	54,154	1,265	240,205	1,408
1979		716	2,975	3,251	917,541	2,955
1980		189	13,007	3,530	451,406	2,029
1981		802	24,215	1,241	1,385,188	12,396
1982		32	1,044	1,608	280,718	11,353
1983		36	91,964	1,634	669,701	9,904
1984		18	117,438	436	316,021	4,186
1985	37	49	60,890	350	496,000	1,292
1986	43	31	15,031	268	528,277	3,134
1987	38	505	61,453	138	81,298	2,611
1988	49	510	90,544	168	823,114	3,319
1989	57	608	84,082	1,875	971,278	1,264
1990	56	185	66,549	506	148,198	495
1991	50	556	142,560	4,388	148,143	357
1992	53	564	82,455	429	125,106	193
1993	42	1,073	131,367	1,341	271,303	197
1994	25	126	47,494	299	612,724	211
1995	39	211	132,892	1,593	1,220,316	572
1996	29	126	269,553	3,795	10,293	719
1997	19	126	121,184	1,122	160,595	92
1998	35	118	143,350	1,186	498,090	201
1999	37	269	198,862	1,388	242,003	289
2000	29	165	78,072	147	4,515	125
2001	19	121	99,866	895	107,967	293
2002	19	40	121,054	1,376	5,342	122
2003	21	301	391,768	3,117	47,913	732
2004	19	256	21,621	267	2,273	138
2005	23	85	65,333	816	32,201	422
2006	16	47	52,020	610	3,446	163
2007	13	27	61,193	1,710	10,394	127
2008	13	40	62,675	720	4,941	66
2009[a]	0	0	0	0	0	0
2010[a]	0	0	0	0	0	0
2011	5	26	9,945	24	512	16
2012	11	39	6,396	44	175,770	439
2013	11	140	28,032	1,902	33,288	265
2014	16	18	23,188	269	58,890	3,360
2015	19	52	54,783	997	141,604	1,450
2016	19	112	47,235	169	44,637	165
10-yr avg.	13	57	36,681	729	58,755	736
2017	17	166	62,715	3,493	361,751	3,892

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Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Purse seine and set gillnet combined			
1970		90	12,120	3,544	208,066	7,873
1971		41	18,403	3,151	50,066	2,857
1972		69	31,345	1,283	9,126	4,936
1973		139	24,072	1,241	97,574	3,588
1974		182	27,029	3,054	48,875	2,725
1975		142	27,393	3,039	893,615	5,428
1976		442	35,280	1,905	99,817	1,517
1977		182	54,663	1,255	157,025	6,734
1978		1,511	141,088	4,318	251,761	5,525
1979		1,199	37,342	10,846	986,909	8,221
1980		414	42,929	11,568	478,019	4,605
1981		1,024	77,880	7,976	1,453,982	20,920
1982		926	43,433	7,165	296,556	18,466
1983		858	133,671	3,433	690,254	14,281
1984		661	163,244	3,415	336,785	9,598
1985		973	84,053	4,258	518,898	5,509
1986		776	36,838	3,095	542,521	5,560
1987		1,158	89,662	2,163	90,522	5,030
1988		1,655	105,302	2,987	852,382	7,742
1989		1,889	98,052	6,667	987,488	3,141
1990		1,546	82,412	1,552	160,844	2,433
1991		1,398	163,085	9,399	152,097	1,934
1992		1,852	99,457	1,277	141,064	1,880
1993		2,162	146,158	4,429	283,311	2,788
1994		1,229	61,498	1,372	636,345	2,630
1995		2,289	152,298	5,157	1,261,970	4,530
1996		1,180	338,891	9,574	25,106	3,511
1997		1,261	180,585	5,597	224,757	4,258
1998		1,070	169,481	2,243	522,493	3,955
1999		1,760	226,508	2,762	247,351	4,624
2000		1,184	104,575	768	26,360	5,339
2001		986	128,369	2,706	121,360	3,780
2002		1,553	167,866	3,769	12,083	4,803
2003		1,179	473,490	5,408	55,238	5,730
2004		1,656	37,708	1,431	3,107	1,372
2005		610	81,002	2,721	32,542	1,748
2006		627	66,239	3,036	15,734	2,182
2007		466	90,063	3,326	10,394	1,564
2008		188	89,494	1,319	6,825	1,460
2009 [a]		83	38,220	968	2,136	2,274
2010 [a]		29	14,765	171	3,106	1,503
2011		126	32,727	127	3,155	1,962
2012		125	16,656	77	186,075	1,367
2013		374	66,270	5,368	35,092	2,950
2014		338	56,098	662	62,121	8,715
2015		804	90,844	4,099	169,330	12,989
2016		843	66,662	856	66,509	2,289
10-yr avg.		338	56,180	1,697	54,474	3,707
2017		601	99,404	12,846	405,655	11,744

Source: ADF&G fish ticket database.

[a] No commercial common property purse seine fishing periods occurred in 2009 or 2010.

Appendix A4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement to the English Bay weir, 2017.

	Actual		Anticipated	Apportioned SEG				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
6/1	35	35	0.2%	3	3	7	7	Weir installed 5/22
6/2	2	37	0.3%	4	7	8	16	
6/3	91	128	0.3%	1	8	3	18	
6/4	242	370	1.2%	53	61	119	137	
6/5	41	411	1.6%	25	86	56	194	
6/6	80	491	2.1%	30	116	68	262	
6/7	41	532	2.9%	45	162	102	364	
6/8	227	759	3.7%	51	213	115	479	
6/9	196	955	4.6%	51	264	115	593	
6/10	562	1,517	5.5%	57	321	128	721	
6/11	212	1,729	7.0%	89	409	200	921	
6/12	579	2,308	7.9%	55	464	124	1,045	
6/13	73	2,381	8.9%	57	521	128	1,173	
6/14	308	2,689	10.3%	88	609	198	1,370	
6/15	461	3,150	11.3%	61	670	137	1,508	
6/16	646	3,796	12.4%	62	732	140	1,648	
6/17	1,207	5,003	13.1%	43	776	97	1,745	
6/18	578	5,581	14.6%	88	864	198	1,944	
6/19	860	6,441	16.5%	114	977	255	2,199	
6/20	461	6,902	19.9%	205	1,182	461	2,660	
6/21	213	7,115	22.1%	132	1,314	297	2,957	
6/22	145	7,260	24.7%	156	1,471	352	3,309	
6/23	299	7,559	27.9%	194	1,665	438	3,746	
6/24	999	8,558	31.6%	222	1,887	499	4,245	
6/25	439	8,997	35.3%	219	2,105	492	4,737	
6/26	1,286	10,283	37.9%	156	2,262	352	5,089	
6/27	526	10,809	41.5%	218	2,480	490	5,579	
6/28	356	11,165	47.6%	364	2,844	820	6,399	
6/29	691	11,856	53.4%	352	3,196	792	7,191	
6/30	580	12,436	57.4%	237	3,433	534	7,725	
7/1	626	13,062	60.6%	192	3,625	431	8,156	
7/2	418	13,480	64.1%	209	3,835	471	8,628	
7/3	407	13,887	67.3%	195	4,030	439	9,067	
7/4	225	14,112	69.6%	137	4,167	308	9,375	
7/5	1,841	15,953	72.9%	199	4,366	448	9,823	
7/6	459	16,412	75.6%	159	4,525	358	10,181	
7/7	113	16,525	78.7%	186	4,711	418	10,599	
7/8	371	16,896	80.8%	127	4,838	286	10,885	
7/9	224	17,120	82.5%	100	4,937	224	11,109	
7/10	181	17,301	84.5%	122	5,059	274	11,383	
7/11	95	17,396	87.2%	163	5,222	366	11,749	
7/12	213	17,609	89.4%	129	5,351	291	12,040	
7/13	491	18,100	90.4%	63	5,415	143	12,183	
7/14	264	18,364	92.0%	94	5,509	211	12,394	
7/15	133	18,497	92.9%	55	5,563	123	12,517	

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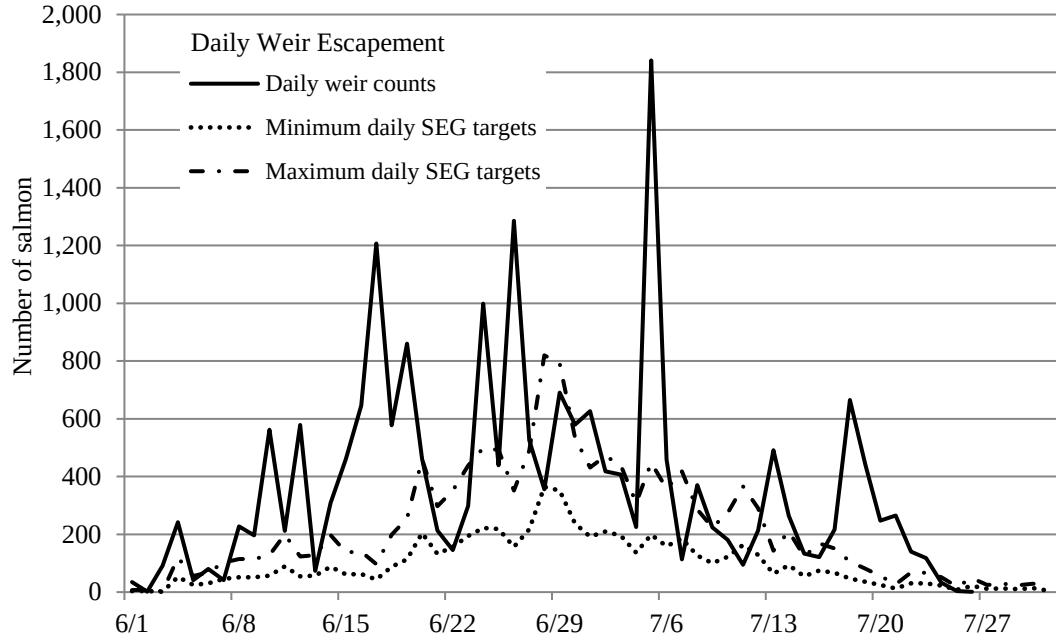
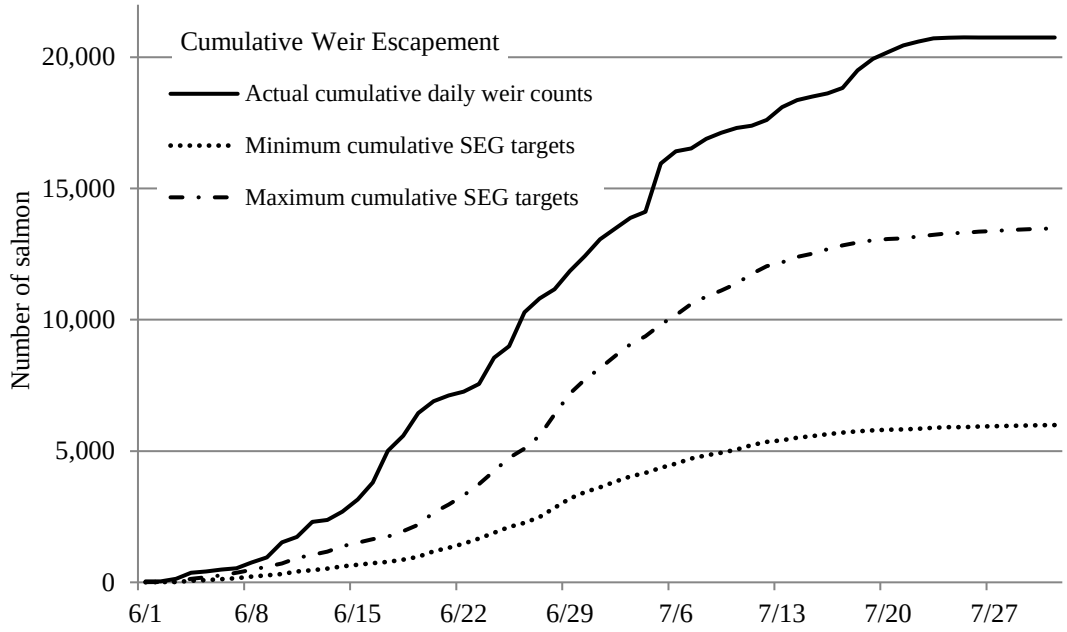
	Actual		Anticipated	Apportioned SEG				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/16	121	18,618	94.1%	75	5,638	169	12,686	
7/17	217	18,835	95.3%	67	5,705	151	12,837	
7/18	665	19,500	96.0%	47	5,752	106	12,943	
7/19	443	19,943	96.6%	36	5,788	81	13,024	
7/20	248	20,191	97.1%	25	5,813	55	13,079	
7/21	265	20,456	97.3%	12	5,825	28	13,107	
7/22	140	20,596	97.8%	30	5,855	68	13,174	
7/23	118	20,714	98.3%	30	5,885	67	13,242	
7/24	32	20,746	98.6%	23	5,908	51	13,293	
7/25	4	20,750	98.8%	9	5,916	19	13,312	
7/26	1	20,751	99.1%	21	5,938	48	13,360	Last report from weir crew.
7/27	0	20,751	99.3%	11	5,949	25	13,384	
7/28	0	20,751	99.5%	13	5,961	29	13,413	
7/29	0	20,751	99.7%	11	5,972	24	13,437	
7/30	0	20,751	99.9%	13	5,985	30	13,467	
7/31	0	20,751	100.0%	4	5,990	10	13,477	

Note: English Bay River sustainable escapement goal range is 6,000–13,500 sockeye salmon. Anticipated escapement derived using historical run timing.

Appendix A5.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement through the English Bay weir, 2017.





Appendix A6.–Sockeye salmon escapement past the English Bay weir, 1927–1941 and 1993–2017.

Year	Sustainable escapement goal	Total weir count	Broodstock harvested	Harvested for otoliths	Spawning escapement
1927		19,197	0		19,197
1928		24,025	0		24,025
1929		15,407	0		15,407
1930		18,858	0		18,858
1931		18,878	0		18,878
1932		22,933	0		22,933
1933		NS	0		NS
1934		NS	0		NS
1935		15,851	0		15,851
1936		15,767	0		15,767
1937		14,857	0		14,857
1938		16,779	0		16,779
1939		48,777	0		48,777
1940		30,357	0		30,357
1941		26,905	0		26,905
		(No weir from 1942 – 1992.)			
1993	10,000–20,000	8,939	0		8,939
1994	10,000–20,000	13,800	0		13,800
1995	10,000–20,000	22,467	1,767		20,700
1996	10,000–20,000	12,335	1,230		11,105
1997	10,000–20,000	15,430	1,065		14,365
1998	10,000–20,000	15,432	1,296		14,136
1999	10,000–20,000	15,844	1,234		14,610
2000	10,000–20,000	12,613	1,376		11,237
2001	10,000–20,000	10,508	0		10,508
2002	6,000–13,500	16,550	1,573		14,977
2003	6,000–13,500	19,978	219		19,759
2004	6,000–13,500	16,435	1,390		15,045
2005	6,000–13,500	7,574	0		7,574
2006	6,000–13,500	16,533	0		16,533
2007	6,000–13,500	16,487	0		16,487
2008	6,000–13,500	11,993	0		11,993
2009	6,000–13,500	18,439	256		18,183
2010	6,000–13,500	12,253	0		12,253
2011	6,000–13,500	12,036	2,116		9,920
2012	6,000–13,500	3,855	411		3,444
2013	6,000–13,500	12,910	1,753	253	10,904
2014	6,000–13,500	7,995	877	163	6,955
2015	6,000–13,500	6,416	0	126	6,290
2016	6,000–13,500	7,673	0	123	7,550
10-yr average		11,006	541	137	10,398
2017	6,000–13,500	20,751	0	470	20,281

Appendix A7.–Pink and chum salmon escapements, as measured by ground survey, using area-under-the-curve (AUC) estimation (and peak live plus carcass counts as noted) in the Southern District, 2017.

Location	Species	Survey number	Survey date (t_i)	Previous survey date	Days between surveys	Current live count (c_i)	Previous live count	Previous plus current live count	Fish days[a] (A_a)	Accum. fish days	Escape. index[b]	Accum. esc. Index[c]	Accum. percent esc.	Carcass count	Live plus carcass
Barabara	pink	[t]start	7/1												
Creek		1	7/19	7/1	17.5	1,972	0	1,972	17,255	17,255	986	986	4%	0	1,972
(index		2	7/31	7/19	12	8,788	1,972	10,760	64,560	81,815	3,689	4,675	19%	344	9,132
system)		3	8/18	7/31	18	7,853	8,788	16,641	149,769	231,584	8,558	13,233	53%	3,530	11,383
		4	8/29	8/18	11	11,422	7,853	19,275	106,013	337,597	6,058	19,291	77%	3,670	15,092
		[t]end	9/15		17.5				99,943	437,539	5,711	25,002[d]	100%		
China	pink	[t]start	7/1												
Poot Creek		1	7/19	7/1	17.5	3	0	3	26	26	2	2	0%	0	3
		2	8/1	7/19	13	44	3	47	306	332	17	19	1%	2	46
(index		3	8/16	8/1	15	1,196	44	1,240	9,300	9,632	531	550	23%	3	1,199
system)		4	9/1	8/16	16	1,339	1,196	2,535	20,280	29,912	1,159	1,709	72%	100	1,439
		[t]end	9/18		17.5				11,716	41,628	670	2,379[d]	100%		
Humpy	pink	[t]start	7/13												
Creek		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	0	0
(index		2	7/27	7/13	14	8,412	0	8,412	58,884	58,884	3,365	3,365	5%	4	8,416
system)		3	8/9	7/27	13	33,022	8,412	41,434	269,321	328,205	15,390	18,755	26%	49	33,071
		4	8/22	8/9	13	33,114	33,022	66,136	429,884	758,089	24,565	43,319	61%	1,255	34,369
		5	9/12	8/22	21	7,168	33,114	40,282	422,961	1,181,050	24,169	67,489	95%	10,736	17,904
		[t]end	9/29		17.5				62,720	1,243,770	3,584	71,073[d]	100%		
Humpy	chum	[t]start	6/25												
Creek		1	7/13	6/25	17.5	72	0	72	630	630	36	36	2%	0	72
(not an		2	7/27	7/13	14	1,742	72	1,814	12,698	13,328	726	762	39%	4	1,746
index		3	8/9	7/27	13	705	1,742	2,447	15,906	29,234	909	1,670	85%	226	931
system)		4	8/22	8/9	13	39	705	744	4,836	34,070	276	1,947	99%	1,431	1,470
		5	9/12	8/22	21	0	39	39	410	34,479	23	1,970	100%	4	4
		[t]end	9/12		0				0	34,479	0	1,970	100%		
Port	pink	[t]start	7/11												
Graham		1	7/11	7/11	0	0	0	0	0	0	0	0	0%	0	0
River		2	7/25	7/11	14	4,140	0	4,140	28,980	28,980	1,656	1,656	8%	28	4,168
(index		3	8/7	7/25	13	11,004	4,140	15,144	98,436	127,416	5,625	7,281	35%	8	11,012
system)		4	8/21	8/7	14	9,955	11,004	20,959	146,713	274,129	8,384	15,665	76%	863	10,818
		[t]end	9/7		17.5				87,106	361,235	4,978	20,642[d]	100%		

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Location	Species	Survey number	Survey date (t_i)	Previous survey date	Days between surveys	Current live count (c_i)	Previous live count	Previous + current live count	Fish days[a] (A_a)	Accum. fish days	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Carcass count	Live plus carcass
Port	chum	tstart	6/23												
Graham		1	7/11	6/23	17.5	355	0	355	3,106	3,106	178	178	3%	0	355
River		2	7/25	7/11	14	3,557	355	3,912	27,384	30,490	1,565	1,742	30%	33	3,590
(index		3	8/7	7/25	13	2,848	3,557	6,405	41,633	72,123	2,379	4,121	71%	1,770	4,618
system)		4	8/21	8/7	14	560	2,848	3,408	23,856	95,979	1,363	5,485	95%	949	1,509
		tend	9/7		17.5				4,900	100,879	280	5,765[d]	100%		
Seldovia	pink	tstart	6/26												
River		1	7/14	6/26	17.5	8	0	8	70	70	4	4	0%	0	8
(index		2	7/26	7/14	12	6,788	8	6,796	40,776	40,846	2,330	2,334	9%	0	6,788
system)		3	8/8	7/26	13	10,080	6,788	16,868	109,642	150,488	6,265	8,599	32%	181	10,261
		4	8/17	8/8	9	20,913	10,080	30,993	139,469	289,957	7,970	16,569	61%	1,278	22,191
		tend	9/3		17.5				182,989	472,945	10,457	27,025[d]	100%		
Seldovia	chum	tstart	6/26												
River		1	7/14	6/26	17.5	234	0	234	2,048	2,048	117	117	5%	1	235
(not an		2	7/26	7/14	12	1,154	234	1,388	8,328	10,376	476	593	25%	30	1,184
index		3	8/8	7/26	13	1,978	1,154	3,132	20,358	30,734	1,163	1,756	73%	969	2,947
system)		4	8/17	8/8	9	203	1,978	2,181	9,815	40,548	561	2,317	96%	322	525
		tend	9/3		17.5				1,776	42,324	102	2,419	100%		
Tutka	pink	tstart	7/12												
Bay		1	7/12	7/12	0	0	0	0	0	0	0	0	0%	0	0
Lagoon		2	8/1	7/12	20	11,801	0	11,801	118,010	118,010	6,743	6,743	11%	22	11,823
Creek		3	8/25	8/1	24	29,876	11,801	41,677	500,124	618,134	28,579	35,322	58%	4,753	34,629
(index		4	9/15	8/25	21	7,383	29,876	37,259	391,220	1,009,354	22,355	57,677	94%	3,808	11,191
system)		tend	10/2		17.5				64,601	1,073,955	3,692	61,369[d]	100%		

Note: The value used for the final escapement index for each stock is bold font. Final counts include fish observed in bays on the last survey of the season if no further harvest occurred.

[a] Fish days (A_b) = (Days between surveys * (prev. count + current count)) ÷ 2. AUC equations from Bue et al. 1998.

[b] Escapement index = A_b / 17.5 day stream-life estimate.

[c] Area-under-the-curve (AUC) estimate equals the cumulative escapement index.

[d] Final escapement index.

Appendix A8.–Estimated pink and chum salmon escapements, in thousands of fish, for the major spawning systems in the Southern District of the Lower Cook Inlet Area, 1975–2017.

	Pink salmon							Chum salmon
	Humpy Creek	China Poot Creek	Tutka Lagoon Creek	Barabara Creek	Seldovia River	Port Graham River	Total pink salmon escapement	Port Graham River
1975	64.0	21.6	17.6	22.7	36.2	27.3	189.4	3.0
1976	27.2	2.0	11.5	0.2	25.6	6.5	73.0	0.4
1977	86.0	3.9	14.0	5.7	35.7	20.6	165.9	5.2
1978	46.1	11.2	15.0	1.4	24.6	6.7	105.0	4.8
1979	200.0	20.6	10.6	10.0	43.7	32.7	317.6	2.2
1980	64.4	12.3	17.3	5.8	65.5	40.2	205.5	1.1
1981	115.0	5.0	21.1	16.8	62.7	18.4	239.0	4.8
1982	31.9	3.1	18.5	2.1	38.4	28.9	122.9	2.5
1983	104.0	14.1	12.9	14.8	27.9	4.6	178.3	1.9
1984	84.2	8.4	10.5	1.0	14.2	10.9	129.2	2.1
1985	117.0	1.9	14.0	1.6	22.8	26.3	183.6	0.5
1986	49.7	11.5	13.4	1.8	28.2	17.5	122.1	0.6
1987	26.6	3.1	4.8	0.3	7.6	3.8	46.2	1.5
1988	21.4	3.9	11.2	0.7	16.9	7.9	62.0	3.0
1989	93.0	8.5	11.9	4.5	26.2	19.1	163.2	1.3
1990	27.0	4.2	38.5	3.9	27.8	20.1	121.5	2.6
1991	17.4	2.6	16.8	10.9	30.0	29.0	106.7	1.1
1992	14.9	4.1	26.7	2.2	14.7	5.4	68.0	1.4
1993	36.0	1.6	27.4	11.9	43.4	12.8	133.1	2.5
1994	14.1	5.7	14.5	4.5	24.4	7.6	70.8	5.2
1995	89.3	2.0	15.9	10.8	48.5	10.0	176.5	3.8
1996	9.0	2.8	3.5	2.4	17.8	7.0	42.5	3.7
1997	78.3	2.8	45.0	12.5	39.1	12.5	190.2	4.1
1998	17.5	5.7	17.5	2.8	31.5	12.6	87.6	5.1
1999	12.8	0.7	27.9	3.9	12.2	9.7	67.2	6.6
2000	22.4	7.5	19.0	5.6	53.5	15.6	123.6	11.4
2001	30.5	6.6	4.5	2.3	12.3	10.3	66.5	6.0
2002	37.1	6.5	15.9	3.2	26.9	58.5	148.1	5.3
2003	90.9	6.7	30.9	5.1	35.1	14.9	183.6	2.9
2004	28.9	3.3	17.8	5.4	56.8	44.0	156.2	1.2
2005	93.8	9.2	133.6	14.4	98.6	69.1	418.7	0.7
2006	48.4	7.2	25.8	3.6	70.0	31.2	186.2	2.2
2007	54.0	6.2	5.7	25.2	69.4	25.6	186.1	1.9
2008	90.9	5.1	14.1	16.6	53.5	24.7	204.9	1.8
2009	5.2	1.1	3.8	2.6	14.6	14.0	41.3	1.0
2010	70.7	2.2	2.1	13.9	25.9	16.6	131.5	1.4
2011	1.7	3.5	22.0	8.2	46.2	20.9	102.4	1.8
2012	67.9	8.4	10.4	1.4	44.7	34.5	167.3	0.7
2013	6.7	7.1	9.5	17.4	36.8	11.9	89.5	1.9
2014	44.4	1.4	10.2	3.6	35.9	32.3	127.7	3.7
2015	38.0	7.4	81.6	25.2	108.8	82.4	343.3	4.0
2016	89.7	0.7	33.2	2.8	15.7	14.6	156.7	2.4
10-yr average	46.9	4.3	19.3	11.7	45.2	27.7	155.1	2.1
2017	71.1	2.4	61.4	25.0	27.0	20.6	207.5	5.8

Note: Area-under-the-curve escapement indices are derived from periodic ground surveys with a 17.5 day stream-life factor applied.

APPENDIX B: OUTER DISTRICT

Appendix B1.–Outer District commercial purse seine salmon harvest (excluding homepacks) by period, 2017.

Period	Statistical week	Date	Hours	Permits fished	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a]	28	7/10	16	3	5			7	42			1,118	3,999	15,753	127,550
2 [a]	28	7/12	16	3	3	1	20	1	5	1	3	2,001	8,292	15,236	126,930
3 [a,b]	28	7/14	16	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
4 [a]	29	7/17	16	3	4			206	414	4	28	6,980	34,771	21,458	180,257
5 [a,b]	29	7/19	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
6 [a,b]	29	7/21	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
7 [a,c,d]	30	7/24	16	8	10			2	24	2	14	20,535	71,872	13,795	120,690
8 [a,c,d,e]	30	7/26	16	8	9			5	18	1	4	19,834	70,090	17,362	140,497
9 [a,c,d]	30	7/28	16	7	8					1	8	29,335	104,564	3,534	28,237
10 [a,c,d]	31	7/31	16	11	14			1	7	3	17	29,208	104,691	1,147	6,234
11 [a,c,d]	31	8/1	16	10	14			1	7			18,876	78,524	3,706	40,266
12 [a,c,d]	31	8/2	16	7	11							23,333	88,348	270	2,301
13 [a,c,d]	31	8/3	16	0	0										
14 [a,c,d]	31	8/4	16	7	11							28,301	101,877	466	3,170
15 [a,c,d]	31	8/5	16	7	9							24,673	93,494	1,569	14,070
16 [a,c,d]	32	8/6	16	7	10							58,651	173,200	8,300	66,335
17 [a,c]	32	8/7	16	7	9							59,043	175,480	1,938	11,701
18 [a,b,c]	32	8/8	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
19 [a,b,c,e]	32	8/9	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
20 [a,c]	32	8/10	16	9	14			7	35	78	464	108,832	366,426	264	2,093
21 [a,c]	32	8/11	16	7	10							76,040	298,520	57	380
22 [a,c]	32	8/12	16	7	9			4	20	11	65	78,255	269,394	10	81
23 [a,c]	33	8/13	16	9	12			4	18	4	25	79,496	261,390	60	479
24 [a,c]	33	8/14	16	8	11			4	30	2	14	77,181	262,321	250	2,450
25 [a,c]	33	8/15	16	9	15					7	44	88,454	299,135	3,571	28,038
26 [a,c]	33	8/16	16	12	18			4	20	23	147	95,864	344,705	127	941
28 [a,c]	33	8/17	16	9	15			7	34	22	175	64,036	209,826	14,528	59,711
29 [a,c]	33	8/18	16	9	9					23	188	35,530	121,892	52	484
30 [a,c]	33	8/19	16	4	5					12	71	28,246	103,380	29	191
31 [a,c]	34	8/20	16	5	6			2	10	34	202	26,575	103,856	46	294
32 [a,c,f,g]	34	8/21	16	7	11					36	254	71,207	240,466	6	41
33 [a,c,f,g]	34	8/22	16	5	6					61	460	22,978	77,497		
34 [a,c,f,g]	34	8/23	16	0	0										

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Period	Statistical week	Date	Hours	Permits fished	Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
35 [a,b,c,f,g]	34	8/24	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
36 [a,c,f,g]	34	8/25	16	0	0										
37 [a,b,c,f,g]	34	8/26	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
38 [a,b,c,f,g]	35	8/27	16	[b]	[b]			[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Total				17	273	1	20	260	721	389	2,831	1,244,172	4,313,175	151,356	1,177,221
Average weight							20.00		2.77		7.28		3.47		7.78

Note: No deliveries after August 27. Unless otherwise noted, regular closed waters were in effect.

[a] Portions of East Nuka Subdistrict, Windy Bay Subdistrict, Rocky Bay Subdistrict, and Dogfish Bay Subdistrict open to commercial harvest for 16 hour periods.

[b] Confidential data. Fewer than 3 permits reporting.

[c] The Head End Creek and Middle Creek sections of the Port Dick Subdistrict are open to commercial salmon harvest..

[d] Waters of the East Nuka Subdistrict are open to commercial salmon harvest.

[e] Dogfish Bay Lagoon open to commercial salmon harvest.

[f] Waters of the Port Chatham Subdistrict are open to commercial salmon harvest.

[g] Waters of the Taylor Bay Subdistrict are open to commercial salmon harvest.

Appendix B2.–Total commercial common property salmon harvest (excluding homepacks) in Outer District 1970–2017.

Year	Fished	Landings	Chinook	Sockeye	Coho	Pink	Chum
1970			5	1,037	243	434,700	137,408
1971			0	1,625	174	310,706	118,995
1972			7	26,092	17	963	43,466
1973			1	2,006	31	195,342	76,286
1974			1	206	21	1,300	11,924
1975			0	124	7	159,908	11,348
1976			7	18,886	0	93	412
1977			34	33,733	78	1,129,250	70,167
1978			236	10,695	45	70,080	19,224
1979			30	25,297	135	1,945,536	180,558
1980			10	22,514	16	154,041	32,246
1981			61	18,133	485	1,714,115	238,393
1982			129	66,781	92	67,523	63,075
1983			14	16,835	54	199,794	27,203
1984			3	28,411	90	89,068	3,077
1985	34	632	19	91,957	3,210	618,222	11,844
1986	40	539	6	48,472	5,052	401,755	11,701
1987	32	396	14	31,845	2,481	23,890	28,663
1988	32	185	5	9,501	2	6,094	71,202
1989	10	66	1	10,286	72	52,677	43
1990	47	265	2	17,404	74	191,320	614
1991	35	255	2	6,408	12	359,664	14,337
1992	5	6	0	572	1	146	181
1993	21	143	2	4,613	119	159,159	970
1994	6	17	0	5,930	993	13,200	32
1995	13	78	12	17,642	1,272	192,098	474
1996	3	12	0	14,999	96	7,199	3
1997	9	27	0	6,255	63	128,373	1,575
1998	10	41	0	15,991	45	102,172	611
1999	8	29	3	51,117	1,482	32,484	2,062
2000	11	72	2	21,623	20	306,555	302
2001	5	23	0	7,339	5	48,559	408
2002	11	86	0	21,154	74	569,955	3,810
2003	6	21	1	26,615	4	281,663	137
2004	9	25	2	11,082	13	42,636	27,911
2005	5	20	0	1	3	110,195	12,524
2006	11	162	3	3,198	1,139	1,121,892	12,883
2007	5	31	1	32,461	113	147,409	49
2008	16	146	0	1,704	0	467,592	100,819
2009	11	150	1	8	9	853,037	35,126
2010	10	101	0	3,003	16	272,427	22,463
2011	13	106	10	46,356	25	357,472	25,763
2012	15	70	8	77	98	69,359	51,313
2013	11	229	1	119	53	2,015,105	49,062
2014	15	99	0	24,264	0	163,938	59,702
2015	19	359	0	613	41	4,096,578	97,974
2016	13	46	1	7	2	5,369	60,800
10-yr average	13	134	2	10,861	36	844,829	50,307
2017	17	273	1	260	389	1,244,172	151,356

Source: ADF&G fish ticket database.

Appendix B3.–Pink and chum salmon escapements measured by aerial survey using area-under-the-curve (AUC) estimation (and peak aerial survey counts as noted) in Outer District, 2017.

Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Delight Lake	pink	[t]start	7/29											
(not an index		1	7/29	7/29	0	0	0	0	0	0	0	0	0%	
system)		2	8/11	7/29	13	400	0	400	2,600	2,600	149	149	33%	
		3	8/18	8/11	7	321	400	721	2,524	5,124	144	293	65%	
		[t]end	9/4		17.5				2,809	7,932	161	453	100%	400
Desire Lake	pink	[t]start	7/22											
(index		1	7/22	7/22	0	0	0	0	0	0	0	0	0%	
system)		2	7/29	7/22	7	1,520	0	1,520	5,320	5,320	304	304	7%	
		3	8/11	7/29	13	1,830	1,520	3,350	21,775	27,095	1,244	1,548	35%	
		4	8/18	8/11	7	3,500	1,830	5,330	18,655	45,750	1,066	2,614	60%	
		[t]end	9/4		17.5				30,625	76,375	1,750	4,364[d]	100%	3,500
Dogfish Lagoon	chum	[t]start	6/4											
Creeks		1	6/22	6/4	17.5	20	0	20	175	175	10	10	0%	
(index		2	7/3	6/22	11	2,000	20	2,020	11,110	11,285	635	645	4%	
system)		3	7/8	7/3	5	1,470	2,000	3,470	8,675	19,960	496	1,141	6%	
		4	7/13	7/8	5	9,790	1,470	11,260	28,150	48,110	1,609	2,749	15%	
		5	7/22	7/13	9	14,490	9,790	24,280	109,260	157,370	6,243	8,993	49%	
		6	7/29	7/22	7	9,210	14,490	23,700	82,950	240,320	4,740	13,733	75%	
		[t]end	8/15		17.5				80,588	320,908	4,605	18,338[d]	100%	14,490
Dogfish Lagoon	pink	[t]start	6/22											
Creeks		1	6/22	6/22	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/3	6/22	11	0	0	0	0	0	0	0	0%	
system)		3	7/8	7/3	5	0	0	0	0	0	0	0	0%	
		4	7/13	7/8	5	0	0	0	0	0	0	0	0%	
		5	7/22	7/13	9	0	0	0	0	0	0	0	0%	
		6	7/29	7/22	7	1,200	0	1,200	4,200	4,200	240	240	29%	
		[t]end	8/15		17.5				10,500	14,700	600	840	100%	1,200

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
James Lagoon	chum	tstart	7/24											
Creeks		1	8/11	7/24	17.5	2,670	0	2,670	23,363	23,363	1,335	1,335	50%	
(not an index system)		tend	8/28		17.5				23,363	46,725	1,335	2,670	100%	2,670
Petrof River	chum	tstart	6/22											
(not an index		1	6/22	6/22	0	0	0	0	0	0	0	0	0%	
system)		2	7/3	6/22	11	0	0	0	0	0	0	0	0%	
		3	7/8	7/3	5	3	0	3	8	8	0	0	0%	
		4	7/22	7/8	14	3	3	6	42	50	2	3	1%	
		5	7/29	7/22	7	590	3	593	2,076	2,125	119	121	29%	
		tend	8/15		17.5				5,163	7,288	295	416	100%	590
Port Dick-	chum	tstart	7/3											
Headend Creek		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
(index		2	7/8	7/3	5	0	0	0	0	0	0	0	0%	
system)		3	7/13	7/8	5	40	0	40	100	100	6	6	0%	
		4	7/22	7/13	9	700	40	740	3,330	3,430	190	196	7%	
		5	7/29	7/22	7	2,300	700	3,000	10,500	13,930	600	796	30%	
		6	8/6	7/29	8	1,870	2,300	4,170	16,680	30,610	953	1,749	65%	
		tend	8/23		17.5				16,363	46,973	935	2,684	100%	2,300
Port Dick-	pink	tstart	7/13											
Headend Creek		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	
(index		2	7/22	7/13	9	1,100	0	1,100	4,950	4,950	283	283	4%	
system)		3	7/29	7/22	7	300	1,100	1,400	4,900	9,850	280	563	9%	
		4	8/6	7/29	8	8,200	300	8,500	34,000	43,850	1,943	2,506	38%	
		tend	8/23		17.5				71,750	115,600	4,100	6,606	100%	8,200
Port Dick-	chum	tstart	6/22											
Island creek		1	6/22	6/22	0	0	0	0	0	0	0	0	0%	
(index		2	7/3	6/22	11	0	0	0	0	0	0	0	0%	
system)		3	7/8	7/3	5	0	0	0	0	0	0	0	0%	
		4	7/13	7/8	5	40	0	40	100	100	6	6	0%	
		5	7/22	7/13	9	760	40	800	3,600	3,700	206	211	7%	
		6	7/29	7/22	7	1,900	760	2,660	9,310	13,010	532	743	24%	
		7	8/6	7/29	8	840	1,900	2,740	10,960	23,970	626	1,370	44%	
		8	8/11	8/6	5	1,820	840	2,660	6,650	30,620	380	1,750	57%	
		9	8/18	8/11	7	1,400	1,820	3,220	11,270	41,890	644	2,394	77%	
		tend	9/4		17.5				12,250	54,140	700	3,094	100%	1,900

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Port Dick-	pink	[t]start	6/22											
Island creek		1	6/22	6/22	0	0	0	0	0	0	0	0	0%	
(index		2	7/3	6/22	11	0	0	0	0	0	0	0	0%	
system)		3	7/8	7/3	5	0	0	0	0	0	0	0	0%	
		4	7/13	7/8	5	0	0	0	0	0	0	0	0%	
		5	7/22	7/13	9	0	0	0	0	0	0	0	0%	
		6	7/29	7/22	7	1,300	0	1,300	4,550	4,550	260	260	5%	
		7	8/6	7/29	8	1,500	1,300	2,800	11,200	15,750	640	900	19%	
		8	8/11	8/6	5	3,900	1,500	5,400	13,500	29,250	771	1,671	35%	
		9	8/18	8/11	7	3,300	3,900	7,200	25,200	54,450	1,440	3,111	65%	
		[t]end	9/4		17.5				28,875	83,325	1,650	4,761	100%	3,900
Port Dick-	chum	[t]start	7/3											
Middle Creek		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/8	7/3	5	0	0	0	0	0	0	0	0%	
system)		3	7/13	7/8	5	0	0	0	0	0	0	0	0%	
		4	7/22	7/13	9	100	0	100	450	450	26	26	11%	
		5	7/29	7/22	7	280	100	380	1,330	1,780	76	102	43%	
		6	8/6	7/29	8	0	280	280	1,120	2,900	64	166	70%	
		7	8/11	8/6	5	110	0	110	275	3,175	16	181	77%	
		[t]end	8/28		17.5				963	4,138	55	236	100%	280
Port Dick-	pink	[t]start	7/3											
Middle Creek		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/8	7/3	5	0	0	0	0	0	0	0	0%	
system)		3	7/13	7/8	5	0	0	0	0	0	0	0	0%	
		4	7/22	7/13	9	1,000	0	1,000	4,500	4,500	257	257	12%	
		5	7/29	7/22	7	400	1,000	1,400	4,900	9,400	280	537	25%	
		6	8/6	7/29	8	0	400	400	1,600	11,000	91	629	30%	
		7	8/11	8/6	5	2,320	0	2,320	5,800	16,800	331	960	45%	
		[t]end	8/28		17.5				20,300	37,100	1,160	2,120	100%	2,320
Port Dick-	chum	[t]start	7/13											
Slide Creek		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/22	7/13	9	90	0	90	405	405	23	23	4%	
system)		3	7/29	7/22	7	850	90	940	3,290	3,695	188	211	33%	
		[t]end	8/15		17.5				7,438	11,133	425	636	100%	850

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Rocky River	chum	tstart	7/3											
(index		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
system)		2	7/13	7/3	10	0	0	0	0	0	0	0	0%	
			7/22	7/13	9	360	0	360	1,620	1,620	93	93	1%	
			7/29	7/22	7	2,840	360	3,200	11,200	12,820	640	733	11%	
			8/6	7/29	8	5,050	2,840	7,890	31,560	44,380	1,803	2,536	37%	
		3	8/11	8/6	5	5,700	5,050	10,750	26,875	71,255	1,536	4,072	59%	
		tend	8/28		17.5				49,875	121,130	2,850	6,922[d]	100%	5,700
Rocky River	pink	tstart	7/3											
(index		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
system)		2	7/13	7/3	10	0	0	0	0	0	0	0	0%	
		3	7/22	7/13	9	1,400	0	1,400	6,300	6,300	360	360	2%	
		4	7/29	7/22	7	7,100	1,400	8,500	29,750	36,050	1,700	2,060	9%	
		5	8/6	7/29	8	14,200	7,100	21,300	85,200	121,250	4,869	6,929	30%	
		6	8/11	8/6	5	22,200	14,200	36,400	91,000	212,250	5,200	12,129	52%	
		tend	8/28		17.5				194,250	406,500	11,100	23,229[d]	100%	22,200
South Nuka	pink	tstart	8/11											
Island Creek		1	8/11	8/11	0	0	0	0	0	0	0	0	0%	
(index		2	8/18	8/11	7	540	0	540	1,890	1,890	108	108	29%	
system)		tend	9/4		17.5				4,725	6,615	270	378	100%	540[d]
Taylor Bay	chum	tstart	7/19											
Creek		1	8/6	7/19	17.5	200	0	200	1,750	1,750	100	100	78%	
(not an index		2	8/11	8/6	5	0	200	200	500	2,250	29	129	100%	
system)		3	8/18	8/11	7	0	0	0	0	2,250	0	129	100%	
		tend	8/18		0				0	2,250	0	129	100%	200
Taylor Bay	pink	tstart	7/19											
Creek		1	8/6	7/19	17.5	600	0	600	5,250	5,250	300	300	5%	
(not an index		2	8/11	8/6	5	9,680	600	10,280	25,700	30,950	1,469	1,769	29%	
system)		3	8/18	8/11	7	3,450	9,680	13,130	45,955	76,905	2,626	4,395	72%	
		tend	9/4		17.5				30,188	107,093	1,725	6,120	100%	9,680

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Windy Bay-	pink	[t]start	7/13											
Left Creek		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	
(index		2	7/22	7/13	9	300	0	300	1,350	1,350	77	77	0%	
system)		3	7/29	7/22	7	400	300	700	2,450	3,800	140	217	1%	
		4	8/6	7/29	8	10,400	400	10,800	43,200	47,000	2,469	2,686	15%	
		5	8/11	8/6	5	14,190	10,400	24,590	61,475	108,475	3,513	6,199	36%	
		6	8/18	8/11	7	11,920	14,190	26,110	91,385	199,860	5,222	11,421	66%	
		[t]end	9/4		17.5				104,300	304,160	5,960	17,381[d]	100%	14,190
Windy Bay-	pink	[t]start	7/3											
Right Creek		1	7/3	7/3	0	0	0	0	0	0	0	0	0%	
(index		2	7/8	7/3	5	0	0	0	0	0	0	0	0%	
system)		3	7/22	7/8	14	200	0	200	1,400	1,400	80	80	2%	
		4	7/29	7/22	7	0	200	200	700	2,100	40	120	2%	
		5	8/6	7/29	8	1,800	0	1,800	7,200	9,300	411	531	11%	
		6	8/11	8/6	5	3,700	1,800	5,500	13,750	23,050	786	1,317	26%	
		7	8/18	8/11	7	4,280	3,700	7,980	27,930	50,980	1,596	2,913	58%	
		[t]end	9/4		17.5				37,450	88,430	2,140	5,053[d]	100%	4,280

Note: The value used for the final escapement index for each stock is underlined. AUC equations from Bue et al. 1998. Final counts include fish observed in bays on the last survey of the season if no further harvest occurred.

[a] Fish days (A_b) = (Days between surveys * (prev. count + current count)) ÷ 2

[b] Escapement index = A_b / 17.5 day stream-life estimate.

[c] Area-under-the-curve (AUC) estimate equals the cumulative escapement index.

[d] Final escapement index.

Appendix B4.–Pink and chum salmon escapements measured by ground survey using area-under-the-curve (AUC) estimation (and peak live plus carcass counts as noted) in the Outer District, 2017.

Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Carcass count	Live plus carcass
Dogfish Lagoon	chum	[t]start	7/2												
Creeks		1	7/20	7/2	17.5	1,026	0	1,026	8,978	8,978	513	513	4%	1	1,027
(Index		2	8/4	7/20	15	6,957	1,026	7,983	59,873	68,850	3,421	3,934	30%	1,677	8,634
system)		3	8/24	8/4	20	4,929	6,957	11,886	118,860	187,710	6,792	10,726	81%	6,384	11,313
		[t]end	9/10		17.5				43,129	230,839	2,465	13,191[d]	100%		
Dogfish Lagoon	pink	[t]start	7/2												
Creeks		1	7/20	7/2	17.5	21	0	21	184	184	11	11	0%	0	21
(not an		2	8/4	7/20	15	612	21	633	4,748	4,931	271	282	2%	6	618
index system)		3	8/24	8/4	20	11,828	612	12,440	124,400	129,331	7,109	7,390	56%	1,503	13,331
		[t]end	9/10		17.5				103,495	232,826	5,914	13,304	100%		
Port Chatham	chum	[t]start	7/28												
Creeks		1	8/15	7/28	17.5	281	0	281	2,459	2,459	141	141	39%	100	381
(not an		2	9/11	8/15	27	0	281	281	3,794	6,252	217	357	100%	10	10
index system)		[t]end	9/11		0				0	6,252	0	357	100%		
Port Chatham	pink	[t]start	7/28												
Creeks		1	8/15	7/28	17.5	6,250	0	6,250	54,688	54,688	3,125	3,125	7%	248	6,498
(Index		2	9/11	8/15	27	28,586	6,250	34,836	470,286	524,974	26,873	29,998	68%	9,490	38,076
system)		[t]end	9/28		17.5				250,128	775,101	14,293	44,291[d]	100%		
Port Dick-	chum	[t]start	7/3												
Headend Creek		1	7/21	7/3	17.5	1,358	0	1,358	11,883	11,883	679	679	26%	3	1,361
(Index		2	8/2	7/21	12	1,596	1,358	2,954	17,724	29,607	1,013	1,692	64%	520	2,116
system)		3	8/11	8/2	9	515	1,596	2,111	9,500	39,106	543	2,235	85%	784	1,299
		4	9/7	8/11	27	1	515	516	6,966	46,072	398	2,633	100%	20	21
		[t]end	9/24		17.5				9	46,081	1	2,633[d]	100%		
Port Dick-	pink	[t]start	7/3												
Headend Creek		1	7/21	7/3	17.5	3,475	0	3,475	30,406	30,406	1,738	1,738	3%	2	3,477
(Index		2	8/1	7/21	11	4,609	3,475	8,084	44,462	74,868	2,541	4,278	7%	184	4,793
system)		3	8/11	8/1	10	26,377	4,609	30,986	154,930	229,798	8,853	13,131	21%	22	26,399
		4	9/7	8/11	27	22,509	26,377	48,886	659,961	889,759	37,712	50,843	82%	1,789	24,298
		[t]end	9/24		17.5				196,954	1,086,713	11,255	62,098[d]	100%		

-continued-

Appendix B4.–Page 2 of 2.

Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Carcass count	Live plus carcass
Port Dick-	chum	[t]start	7/6												
Island Creek		1	7/24	7/6	17.5	1,718	0	1,718	15,033	15,033	859	859	16%	5	1,723
(Index system)		2	8/10	7/24	17	2,791	1,718	4,509	38,327	53,359	2,190	3,049	55%	221	3,012
		3	8/23	8/10	13	1,349	2,791	4,140	26,910	80,269	1,538	4,587	83%	1,405	2,754
		4	9/8	8/23	16	333	1,349	1,682	13,456	93,725	769	5,356	97%	935	1,268
		[t]end	9/25		17.5				2,914	96,639	167	5,522[d]	100%		
Port Dick-	pink	[t]start	7/6												
Island Creek		1	7/24	7/6	17.5	7	0	7	61	61	4	4	0%	0	7
(Index		2	8/10	7/24	17	1,481	7	1,488	12,648	12,709	723	726	3%	0	1,481
system)		3	8/23	8/10	13	12,563	1,481	14,044	91,286	103,995	5,216	5,943	26%	230	12,793
		4	9/8	8/23	16	11,381	12,563	23,944	191,552	295,547	10,946	16,888	75%	643	12,024
		[t]end	9/25		17.5				99,584	395,131	5,691	22,579[d]	100%		
Port Dick-	chum	[t]start	7/24												
Slide Creek		1	8/11	7/24	17.5	657	0	657	5,749	5,749	329	329	39%	58	715
(not an		2	9/7	8/11	27	13	657	670	9,045	14,794	517	845	99%	96	109
index system)		[t]end	9/24		17.5				114	14,908	7	852	100%		
Port Dick-	pink	[t]start	7/24												
Slide Creek		1	8/11	7/24	17.5	1,343	0	1,343	11,751	11,751	672	672	3%	0	1,343
(not an		2	9/7	8/11	27	13,920	1,343	15,263	206,051	217,802	11,774	12,446	64%	394	14,314
index system)		[t]end	9/24		17.5				121,800	339,602	6,960	19,406	100%		

Note: The value used for the final escapement index for each stock is underlined. AUC equations from Bue et al. 1998. Final counts include fish observed in bays on the last survey of the season if no further harvest occurred.

[a] Fish days (A_b) = (Days between surveys * (prev. count + current count)) ÷ 2

[b] Escapement index = A_b / 17.5 day stream-life estimate.

[c] Area-under-the-curve estimate equals the cumulative escapement index.

[d] Final escapement index.

Appendix B5.–Sockeye salmon aerial survey counts from the Outer District, 2017.

Location	Survey number	Survey date	Live count	Peak count
Anderson Lakes	1	7/29	630	630
Delusion Lake	1	7/1	0	
	2	7/11	110	
	3	7/21	980	980
Desire Lake	1	6/19	0	
	2	6/22	40	
	3	7/3	930	
	4	7/13	4,338	
	5	7/22	9,450	
	6	7/29	3,870	
	7	8/11	290	
	8	8/18	141	9,450
Delight Lake	1	6/19	20	
	2	6/22	210	
	3	7/3	2,050	
	4	7/13	1,556	
	5	7/22	5,380	
	6	7/29	730	
	7	8/11	330	
	8	8/18	0	5,380

Appendix B6.–Estimated pink, chum, and sockeye salmon escapements in thousands of fish for the major spawning systems in the Outer District of the Lower Cook Inlet Area, 1980–2017.

	Pink salmon											Chum salmon					Sockeye salmon			
Year	Dogfish Lagoon	Port Chatham	Windy Right Creek	Windy Left Creek	Rocky River	Port Dick Creek	Island Creek	South Nuka Creek	Desire Lake Creek	James Lagoon[a]	Total index count	Dogfish Lagoon	Rocky River	Port Dick Creek	Island Creek	Total index count	Delusion Lake[a]	Delight Lake	Desire Lake	Total index count
1980	0.3	7.7	3.3	10.9	6.4	56.1	2.2	0.3	16.0	4.6	103.2	4	23	4.2	11	42.1		7.3 [d]	17.0	24.3
1981	2.6	11.2	4.7	31.3	25.0	106.0	25.0	16.0	5.0	14	226.8	12	13	4.1	18	45.6			12.0	12.0
1982	2.6	2.0	4.7	4.4	6.6	19.9	15.0	0.4	12.0	6	67.6	8.5	2.8	1.7	8.7	21.7		13.1 [d]	18.0	31.1
1983	1.0	3.5	4.3	11.9	16.6	64.1	15.3	22.2	8.5	5.1	147.4	5.3	4	4.5	36	50		5.1 [d]	12.0	17.1
1984	0.6	7.8	3.4	2.5	9.0	44.6	35.0	0.6	23.0	4	126.5	8.6	3.5	2.7	26	40.4		5.4 [d]	15.0	20.4
1985	0.2	8.9	5.4	8.9	12.1	65.3	27.9	3.6	62.5	9	194.8	4.9	2.5	1	9.1	17.5		16.3 [d]	18.0	34.3
1986	0.4	11.5	2.5	2.2	12.0	41.6	16.6	7.0	32.0	6.6	125.8	2.5	2	1.7	8.6	14.8		8.8 [d]	10.0	18.8
1987	1.2	10.2	2.0	5.6	4.5	4.5	0.1	2.8	11.0	1.1	41.9	2	0.2	6.1	13	21.5		8.1 [d]	13.4	21.5
1988	0.3	21.0	1.3	3.4	5.4	12.0	7.2	1.2	2.5	1.7	54.3	8.6	0.3	9	7.8	25.7		0.8 [d]	9.0	9.8
1989	0.2	31.7	6.6	25.2	10.3	55.4	6.7	7.3	47.0	4.9	190.4	1.8	1.2	3.3	4.8	15		4.8 [d]	9.0	13.8
1990	7.1	27.8	7.1	7.5	18.0	41.7	25.0	13.3	1.0	3.8	148.5	1	0.8	1.1	2.3	12			9.5	9.5
1991	9.3	23.8	20.7	34.5	26.1	54.2	24.4	16.4	1.3	4.4	210.7	3.1		7.4	17	12		4.1 [d]	8.2	12.3
1992		4.3	3.9	8.2	25.4	6.9	12.5	6.1	0.4	0.4	67.7	0.8	1.7	5.4	6.7	2.4		5.9 [d]	11.9	17.8
1993	0.3	22.2	13.6	25.9	70.0	37.0	12.1	34.3	19.3	3.3	234.7	5.4	0.1	2.5	3.6	34		5.0 [d]	11.0	16.0
1994	1.3	3.3	2.2	3.0	17.1	18.1	28.3	1.4		0.8	74.7	11	1.9	3.5	8.8	16.5		5.6 [d]	10.5	16.1
1995	13.3	14.0	11.4	31.6	56.3	6.6	10.6	6.2		0.6	150.0	4.2	5.1	3.3	7.7	21.9		15.8 [d]	15.8	31.6
1996	2.3	8.6	9.9	2.5	80.1	23.2	40.1	6.8			173.5	6.7	2	2.3	6.9	24.5		9.4 [d]	9.4	18.8
1997	20.0	42.7	13.9	64.6	48.1	36.9	71.1	9.3	6.2		312.8	13	1.1	1.9	5.2	47.2		27.8 [b]	14.7	42.5
1998	6.7	22.2	19.5	12.9	165.0	59.1	83.6	14.0	6.2		389.2	9.8	0.7	1.8	3.4	31.2		9.2 [b]	7.9	17.1
1999	12.4	10.7	5.2	24.0	17.2	8.5	8.6	2.4	6.8		95.8	19	5.4	2.9	16	28.1		17.0 [d]	14.6	31.6
2000	11.1	16.7	23.0	20.1	131.6	124.4	70.8	13.6	21.1	3.9	432.4	20	4.2	3.4	12	13		12.3 [c]	4.0	16.3
2001	2.0	17.9	10.3	61.8	73.0	44.7	81.8	20.7	67.5	2.3	379.7	6.1	3	1.8	6.3	17.2	2.8	10.1 [c]	5.5	15.6
2002	1.3	18.1	14.4	28.9	112.5	108.0	44.1	14.8	78.4	3.1	420.5	10	5.7	12	15	43.4	3.6	19.6 [c]	16.0	35.6
2003	5.2	35.0	23.3	82.8	287.4	107.7	118.6	41.4	34.8		736.2	13	5.5	5.6	16	40.7	2.0	7.5 [c]	8.4	15.9
2004	3.2	26.4	12.0	23.3	53.8	13.3	33.6	6.4	24.3		196.3	3.6	17	8.6	15	44.5	1.0	7.3 [c]	10.7	18.0
2005	22.3	44.4	22.2	72.0	198.7	122.2	26.4	11.2	46.0		565.4	2.7	6.1	4.8	21	34.3	1.1	15.2 [c]	4.8	20.0
2006	8.0	24.2	17.1	65.2	67.8	51.5	107.7	5.1	74.8		421.4	5.4	11	2.8	5.6	25	1.0	10.9 [c]	18.6	29.5
2007	4.1	14.5	18.3	37.3	190.0	44.2	87.2	6.6	11.8		414.0	4.9	1.6	2.8	3.1	12.4	2.1	44.0 [c]	10.0	54.0
2008	8.0	16.4	12.5	64.1	90.9	34.2	49.7	12.3	9.5		297.6	6.2	3.8	12	13	34.7	1.8	23.9 [c]	10.7	34.6
2009	9.2	25.3	15.0	57.3	173.6	41.7	44.5	19.9	73.9		460.4	4.4	2.5	5.6	9.3	21.8	1.3	12.7 [c]	16.0	28.7
2010	6.3	3.0	6.4	24.2	27.0	41.1	69.5		3.0		180.6	12.7	1.3	2.4	3.4	19.8	0.6	23.8 [c]	6.3	30.1
2011	3.9	15.8	1.7	12.2	22.7	16.9	10.2		0.6	0.3	84.0	12.9	4.5	7.1	11.8	36.3	1.8	20.2 [c]	9.6	29.8
2012	11.4	5.4	5.8	11.7	15.7	18.1	20.1	1.3	2.3	0.0	91.7	8.8	3.2	8.4	14.9	35.2		10.9 [c]	8.8	19.7
2013	26.4	57.4	11.7	47.8	75.8	55.8	26.0	8.4	56.9	24.4	366.4	9.3	8.1	4.1	8.8	30.4	1.7	6.0 [c]	8.4	14.4
2014	8.8	10.3	5.7	10.1	17.1	48.7	50.4	11.0	0.4	1.0	162.7	11.2	6.9	1.8	2.7	22.6	0.0	22.3 [c]	11.5	33.8
2015	50.1	42.6	17.0	33.6	107.9	98.0	50.4	8.9	46.3	30.3	454.8	13.3	3.1	13.2	18.5	48.2	0.1	3.2 [d]	2.8	6.1
2016	2.3	1.1	1.4	0.5	4.3	4.8	1.7	0.0	0.2	0.1	16.4	11.3	4.6	9.3	8.5	33.7	0.1	5.1 [d]	6.7	11.9
10-yr avg.	13.6	21.5	11.1	36.4	78.9	45.0	51.6	9.2	28.0	11.2	295.2	8.9	4.6	6.0	9.1	28.6	1.1	17.8	10.3	28.1
2017	13.3	44.3	5.1	17.4	31.2	62.1	22.6	0.5	4.4	2.7	200.8	13.2	6.9	2.6	5.5	28.3	1.0	5.4 [d]	9.5	14.8

[a] Non-index stream.

[b] Escapement derived from weir counts.

[c] Escapement derived from a combination of weir, video counts, and/or aerial counts.

[d] Escapement derived from aerial survey.

APPENDIX C: EASTERN DISTRICT

Appendix C1.–Eastern District common property commercial purse seine salmon harvest (excluding homepacks) by period, 2017.

Period [a]	Statistical week	Date	Hours	Permits fished	Landings	Chinook		Sockeye		Coho		Pink		Chum	
						Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	26	6/26	16												
2	26	6/27	16												
3	26	6/28	16												
4	26	6/29	16												
5	26	6/30	16												
6	27	7/5	16												
7	27	7/6	16												
8	27	7/7	16												
9	28	7/10	16												
10	28	7/11	16												
11	28	7/12	16												
12	28	7/13	16												
13	28	7/14	16												
Total					0	0	0	0	0	0	0	0	0	0	0
Average weight							0		0		0		0		0

[a] No deliveries during Periods 1–13 (June 26–July 14).

Appendix C2.–Historic commercial common property and derby commercial sales harvest (excluding homepacks) by species in the Eastern District, 1970–2017.

		Commercial common property harvest					Derby sales
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum	Coho
1970		11	4,895	691	50,946	1,305	
1971		32	2,203	1,115	5	423	
1972		12	413	903	18,232	767	
1973		5	3,057	801	1,919	55	
1974			193	524	378	7	
1975			596	124	383	2	
1976			5	200	35,423	45	
1977			5,776	360	1,349	3,229	
1978			2	582	29,738	100	
1979				296			
1980			122	426	155,779	720	
1981			9,270	470	44,989	3,279	
1982			3,092	950	143,639	7,698	
1983			25,932	594	36,154	7,934	
1984		47	54,459	536	135,290	10,534	
1985	14	11	24,311	1	92,403	5,146	
1986	10		3,055	3	40,243	3,757	
1987	9		3,687	1	14,333	14,913	
1988	13	1	20,253	1	1,740	24,668	
1989	12		8,538	3,913	92	312	
1990	8		7,682	127	11,815	307	1,642
1991	6	1	4,703	331	167,250	80	917
1992	7		432	1,131	60,007	86	477
1993	6		171	247	10,616	9	1,428
1994	6	1	1,610	3,835	44,987	2,792	1,608
1995	19		25,626	918	12,000	330	2,960
1996	17		36,981	1	35	223	2,600
1997	9		11,044		1	66	2,167
1998	7	1	9,797	1,094	38,829	51	2,554
1999	11	1	22,682	3	1,930	1,232	1,289
2000	13		19,193	332	4,099	1,273	1,689
2001	3		2,629			6	2,155
2002	7		14,647			5	2,687
2003	10		7,341			19	3,821
2004	8		16,645			1	4,400
2005	15		19,297	3	13,072	385	4,788
2006	13		32,393	1	3,460	270	2,274
2007	11		15,407			53	2,850
2008	11		57,060			34	1,223
2009	0		0				1,570
2010	0		0				1,100
2011	16		56,111		24	112	1,207
2012							1,400
2013							1,380
2014	2		5,306		753	354	606
2015	3		4,633		155	115	1,408
2016	2		2,505		7	30	200
10-yr avg.	6		17,628		235	116	1,294
2017							1,577

Source: ADF&G fish ticket database

Appendix C3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the Bear Creek weir, 2017

	Actual escapement to Bear Lake			Anticipated SEG plus CIAA brood goal [a]				Actual weir donations[b]		Actual weir cost recovery		Actual total sockeye at Bear Creek weir	
			Antic.	Minimum		Maximum							
Date	Daily	Total	percent	Daily	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Total
5/25	4	4	0.5%	11	34	24	75					4	4
5/26	23	27	0.8%	19	53	42	116					23	27
5/27	1	28	1.1%	21	74	46	163					1	28
5/28	7	35	1.5%	25	99	55	218					7	35
5/29	25	60	2.3%	53	152	116	333					25	60
5/30	88	148	3.4%	70	222	153	486					88	148
5/31	26	174	4.4%	61	283	135	621					26	174
6/1	33	207	5.3%	61	345	134	756					33	207
6/2	88	295	6.5%	71	416	156	912					88	295
6/3	27	322	7.6%	73	489	161	1,073					27	322
6/4	58	380	9.4%	111	600	244	1,317					58	380
6/5	166	546	11.5%	137	738	301	1,618					166	546
6/6	217	763	14.1%	163	901	358	1,977					217	763
6/7	159	922	16.7%	168	1,069	369	2,345					159	922
6/8	208	1,130	19.4%	169	1,239	371	2,716				0	208	1,130
6/9	220	1,350	22.6%	206	1,445	452	3,168				0	220	1,350
6/10	232	1,582	25.1%	157	1,601	344	3,512				0	232	1,582
6/11	420	2,002	27.3%	143	1,744	314	3,826				0	420	2,002
6/12	487	2,489	29.2%	119	1,863	261	4,086				0	487	2,489
6/13	414	2,903	31.4%	144	2,007	315	4,401				0	414	2,903
6/14	432	3,335	34.0%	162	2,169	356	4,757				0	432	3,335
6/15	682	4,017	35.7%	110	2,279	241	4,998				0	682	4,017
6/16	870	4,887	37.8%	131	2,410	288	5,286				0	870	4,887
6/17	366	5,253	40.1%	150	2,560	328	5,614				0	366	5,253
6/18	565	5,818	41.6%	92	2,652	201	5,816				0	565	5,818
6/19	833	6,651	43.4%	114	2,766	251	6,066				0	833	6,651
6/20	809	7,460	46.2%	182	2,948	399	6,466	32			0	841	7,492
6/21	649	8,109	48.5%	145	3,093	317	6,783	20			0	669	8,161
6/22	314	8,423	51.4%	188	3,281	412	7,195	37			0	351	8,512
6/23	541	8,964	54.1%	168	3,448	368	7,563	51			0	592	9,104
6/24	558	9,522	56.6%	163	3,611	357	7,919	26			0	584	9,688
6/25	742	10,264	59.3%	173	3,784	379	8,298	73			0	815	10,503
6/26	446	10,710	61.2%	121	3,905	265	8,563	30			0	476	10,979
6/27	656	11,366	63.6%	148	4,053	324	8,888	0			0	656	11,635
6/28	111	11,477	65.5%	123	4,176	270	9,158	0			0	111	11,746
6/29	169	11,646	67.7%	140	4,316	308	9,466	67		141	141	377	12,123
6/30	107	11,753	70.6%	183	4,499	402	9,867	27		131	272	265	12,388
7/1	106	11,859	73.4%	181	4,681	398	10,265	0			272	106	12,494
7/2	79	11,938	76.5%	195	4,875	427	10,692	25		101	373	205	12,699
7/3	49	11,987	78.8%	150	5,025	328	11,019				373	49	12,748
7/4	122	12,109	81.0%	137	5,161	300	11,319			119	492	241	12,989
7/5	236	12,345	82.4%	93	5,254	204	11,523			58	550	294	13,283
7/6	274	12,619	83.5%	67	5,322	148	11,671	57			550	331	13,614
7/7	60	12,679	84.8%	85	5,407	187	11,858	72			550	132	13,746
7/8	17	12,696	86.0%	77	5,484	170	12,027	96			550	113	13,859
7/9	0	12,696	87.9%	116	5,601	255	12,283	24		587	1,137	611	14,470
7/10	0	12,696	89.7%	116	5,717	255	12,538	45		417	1,554	462	14,932
7/11	0	12,696	90.8%	72	5,790	159	12,697	15			1,554	15	14,947
7/12	0	12,696	91.6%	48	5,838	106	12,803	43		103	1,657	146	15,093
7/13	0	12,696	92.5%	60	5,898	133	12,936	95			1,657	95	15,188

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Appendix C3.–Page 2 of 2.

	Actual escapement to Bear Lake		Antic.	Anticipated SEG plus CIAA brood goal [a]				Actual weir donations[b]		Actual weir cost recovery		Actual total sockeye at Bear Creek weir	
				Minimum		Maximum							
Date	Daily	Total	percent	Daily	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Total
7/14	0	12,696	93.3%	52	5,950	113	13,049	110			1,657	110	15,298
7/15	0	12,696	93.7%	23	5,974	51	13,101	94	94		1,657	94	15,392
7/16	0	12,696	94.2%	35	6,008	76	13,176	88	1,127		1,657	88	15,480
7/17	0	12,696	94.7%	29	6,037	64	13,240	173	1,300		1,657	173	15,653
7/18	0	12,696	95.9%	74	6,111	161	13,402	135	1,435		1,657	135	15,788
7/19	0	12,696	96.6%	49	6,160	108	13,510	180	1,615		1,657	180	15,968
7/20	0	12,696	97.4%	52	6,212	113	13,623	67	1,682		1,657	67	16,035
7/21	0	12,696	97.9%	28	6,240	62	13,684	113	1,795		1,657	113	16,148
7/22	0	12,696	98.5%	42	6,282	92	13,777	100	1,895		1,657	100	16,248
7/23	0	12,696	98.8%	19	6,301	42	13,818	82	1,977		1,657	82	16,330
7/24	0	12,696	99.0%	10	6,311	22	13,840	87	2,064		1,657	87	16,417
7/25	0	12,696	99.1%	5	6,316	12	13,852	243	2,307		1,657	243	16,660
7/26	0	12,696	99.1%	0	6,316	0	13,852	87	2,394		1,657	87	16,747
7/27	0	12,696	99.2%	7	6,323	16	13,868	104	2,498		1,657	104	16,851
7/28	0	12,696	99.3%	5	6,329	12	13,880	113	2,611		1,657	113	16,964
7/29	0	12,696	99.3%	4	6,333	8	13,888	183	2,794		1,657	183	17,147
7/30	0	12,696	99.4%	1	6,334	3	13,891	115	2,909		1,657	115	17,262
7/31	0	12,696	99.4%	3	6,337	6	13,897	71	2,980		1,657	71	17,333
8/1	0	12,696	99.5%	5	6,341	10	13,907	64	3,044		1,657	64	17,397
8/2	34	12,730	99.5%	3	6,344	7	13,914		3,044		1,657	34	17,431
8/3	23	12,753	99.6%	2	6,346	4	13,918		3,044		1,657	23	17,454
8/4	16	12,769	99.6%	1	6,347	2	13,920		3,044		1,657	16	17,470
8/5	19	12,788	99.7%	11	6,358	24	13,944	-	3,044		1,657	19	17,489
8/6	33	12,821	99.8%	2	6,360	4	13,948		3,044		1,657	33	17,522
8/7	24	12,845	99.8%	2	6,362	5	13,952		3,044		1,657	24	17,546
8/8	23	12,868	99.8%	1	6,363	2	13,954		3,044		1,657	23	17,569
8/9	9	12,877	99.8%	0	6,363	1	13,955		3,044		1,657	9	17,578
8/10	17	12,894	99.8%	2	6,365	3	13,958		3,044		1,657	17	17,595
8/11	4	12,898	99.9%	1	6,365	2	13,960		3,044		1,657	4	17,599
8/12	16	12,914	99.9%	1	6,366	2	13,962		3,044		1,657	16	17,615
8/13	34	12,948[c]	99.9%	2	6,368	5	13,967		3,044		1,657	34	17,649

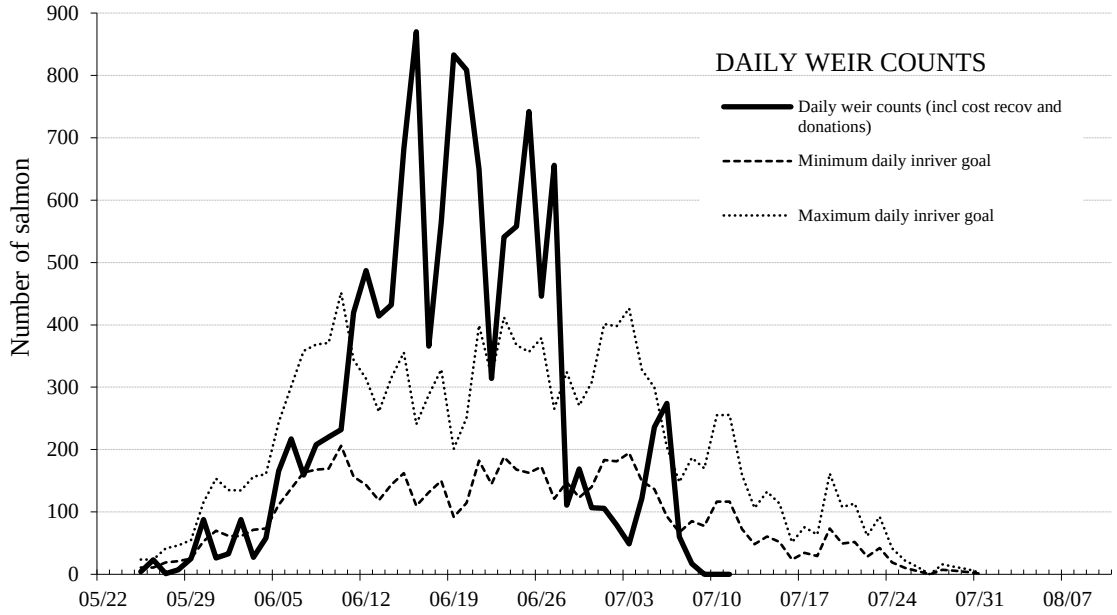
Note: Bear Creek sustainable escapement goal is 700–8,300 sockeye salmon. CIAA broodstock goal is 3,750 for a desired inriver run of 4,450–12,050 fish.

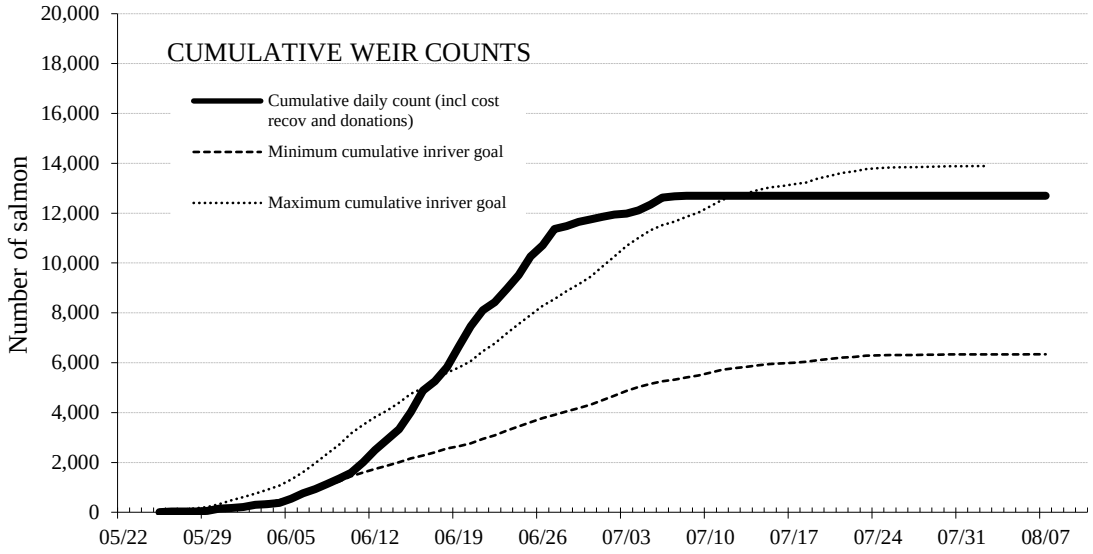
[a] Projected daily goal based on expected run timing applied to minimum and maximum cumulative goals at the end of the run.

[b] Weir harvest is cost recovery and donations of excess fish above daily SEG plus broodstock needs.

[c] A total of 3,746 sockeye salmon were beach seined from the lake for use as broodstock.

Appendix C4.–Sockeye salmon counts at the Bear Creek weir versus minimum and maximum desired inriver run, 2017.





Note: A total of 17,649 sockeye salmon returned to the Bear Creek weir in 2017. Of those, 12,948 were passed through the weir into Bear Lake. An additional 1,657 were harvested at the weir for cost recovery and 3,044 were donated to the public. A total of 3,746 were harvested from Bear Lake for use as hatchery broodstock. Total estimated natural spawning escapement is estimated at 9,202 fish. The "desired inriver run" is the CIAA hatchery broodstock goal (3,750) added to the sustainable escapement goal range (700–8,300) for this species.

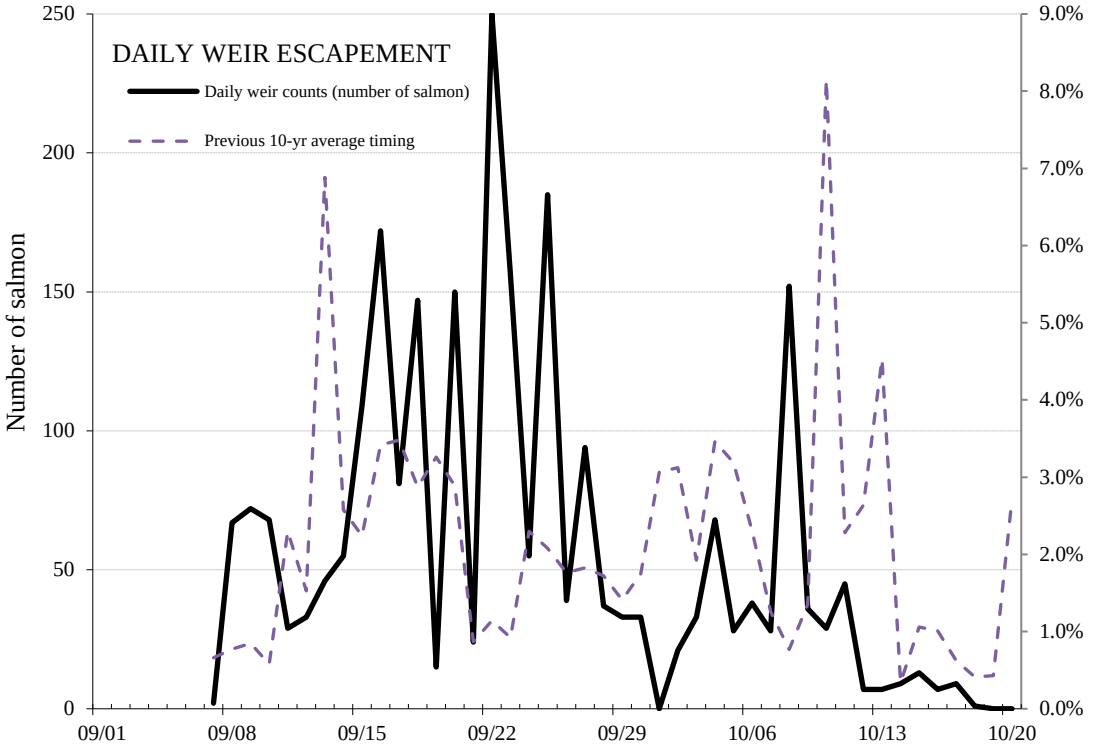
Appendix C5.–Coho salmon escapement through the Bear Creek weir, 2017.

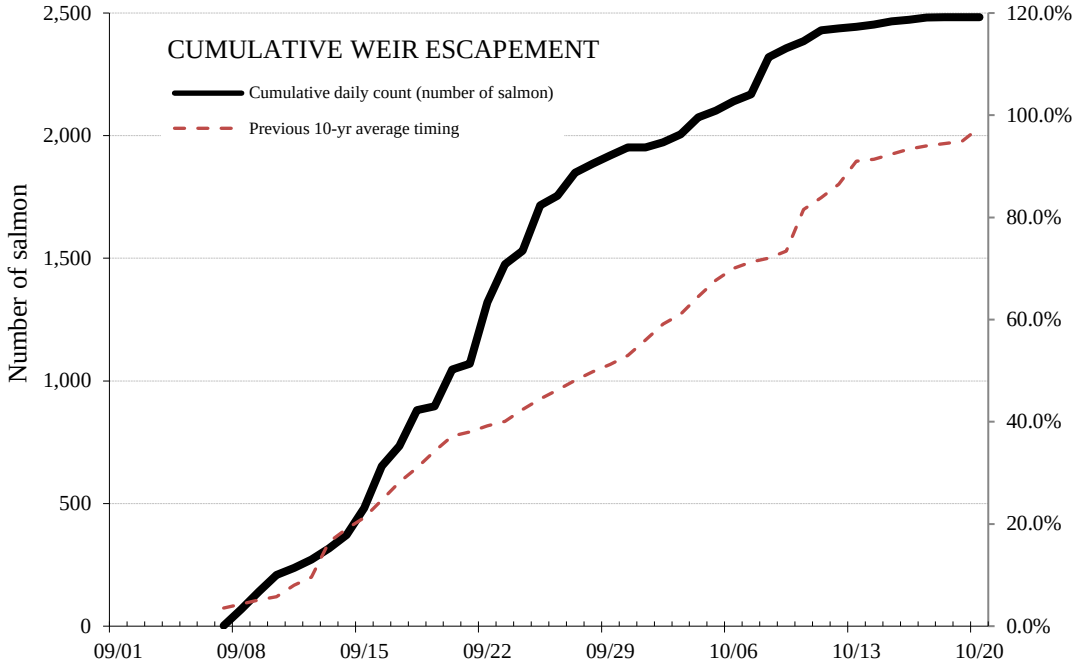
	Escapement to Bear Lake		Antic.	Broodstock harvest[a]		Weir donations		Cumulative coho at Bear Creek weir	
Date	Daily	Total	percent	Daily	total	Daily	total	Daily	Total
8/14	1	1	0.2%	0	0	0	0	1	1
9/7	2	3	3.5%	0	0	0	0	2	2
9/8	67	70	4.3%	0	0	0	0	67	69
9/9	72	142	5.2%	0	0	0	0	72	141
9/10	68	210	5.7%	0	0	0	0	68	209
9/11	8	218	8.0%	21	21	0	0	29	238
9/12	16	234	9.6%	17	38	0	0	33	271
9/13	20	254	16.4%	26	64	0	0	46	317
9/14	16	270	19.0%	39	103	0	0	55	372
9/15	35	305	21.3%	74	177	0	0	109	481
9/16	0	305	24.7%	172	349	0	0	172	653
9/17	0	305	28.2%	18	367	63	63	81	734
9/18	0	305	31.0%	26	393	121	184	147	881
9/19	0	305	34.3%	10	403	5	189	15	896
9/20	0	305	37.2%	26	429	124	313	150	1,046
9/21	0	305	38.0%	24	453	0	313	24	1,070
9/22	0	305	39.2%	25	478	225	538	250	1,320
9/23	0	305	40.1%	70	548	86	624	156	1,476
9/24	0	305	42.4%	36	584	19	643	55	1,531
9/25	0	305	44.5%	0	584	185	828	185	1,716
9/26	0	305	46.3%	39	623	0	828	39	1,755
9/27	0	305	48.1%	94	717	0	828	94	1,849
9/28	0	305	49.8%	37	754	0	828	37	1,886
9/29	0	305	51.2%	33	787	0	828	33	1,919
9/30	0	305	53.0%	0	787	33	861	33	1,952
10/1	0	305	56.0%	0	787	0	861	0	1,952
10/2	0	305	59.1%	21	808	0	861	21	1,973
10/3	0	305	61.1%	33	841	0	861	33	2,006
10/4	28	333	64.5%	40	881	0	861	68	2,074
10/5	17	350	67.7%	11	892	0	861	28	2,102
10/6	34	384	70.0%	4	896	0	861	38	2,140
10/7	20	404	71.3%	8	904	0	861	28	2,168
10/8	117	521	72.1%	35	939	0	861	152	2,320
10/9	21	542	73.4%	15	954	0	861	36	2,356
10/10	7	549	81.6%	22	976	0	861	29	2,385
10/11	45	594	83.8%	0	976	0	861	45	2,430
10/12	219	813	86.5%	-212[b]	764	0	861	7	2,437
10/13	7	820	91.0%	0	764	0	861	7	2,444
10/14	9	829	91.3%	0	764	0	861	9	2,453
10/15	13	842	92.4%	0	764	0	861	13	2,466
10/16	7	849	93.4%	0	764	0	861	7	2,473
10/17	9	858	94.0%	0	764	0	861	9	2,482
10/18	1	859	94.4%	0	764	0	861	1	2,483
10/19	0	859	94.9%	0	764	0	861	0	2,483
10/20	0	859	97.6%	0	764	0	861	0	2,483

[a] A total of 764 fish were harvested for broodstock by CIAA (561) and ADF&G (203).

[b] A total of 212 coho salmon were removed from the raceways on October 12 and released into Bear Lake.

Appendix C6.–Coho salmon counts at the Bear Creek weir, 2017.





Appendix C7.–Adult sockeye and coho salmon escapement, and Dolly Varden char and smolt outmigrations past Bear Creek weir, 1992–2017.

	Upstream migration to Bear Lake								Downstream migration to Resurrection Bay			
	Sockeye				Coho							
Year	Weir harvest (sold or donated)	Brood stock harvest	Spawning escapement	Total return at weir	Weir harvest (sold or donated)	Brood stock harvest	Spawning escapement	Total return at weir	Sockeye (smolt)	Coho (smolt)	Dolly Varden (adult)	Comments
1992	0	0	1,925	1,925	1,234	689	1,132	3,055	133,787	112,852	2,186	Est. 800 coho below weir after closure.
1993	1,663	218	4,827	6,708	7,199	678	794	8,671	345,767	53,495	378	5,000 pink salmon below weir.
1994	8,047	1,370	7,335	16,752	4,927	1,038	475	6,440	253,886	54,422	627	Est. 300 coho below weir after closure.
1995	20,869	1,808	6,526	29,203	1,125	1,726	444	3,295	73,500	89,200	278	
1996	7,945	1,813	6,199	15,957	723	608	380	1,711	156,000	154,900	406	Est. 3,600 coho below weir after closure.
1997	10,051	720	7,225	17,996	2,711	594	276	3,581	276,000	114,100	630	Est. 750 coho below weir after closure.
1998	21,020	2,272	6,155	29,447	9,862	780	350	11,023	107,800	92,200	1,203	Coho reported below weir after closure.
1999	9,146	1,982	5,833	17,439	2,499	939	368	3,812	75,800	106,800	2,212	23 coho below weir after closure.
2000	1,670	3,984	7,844	13,716	5,390	719	597	6,765	175,000	70,900	2,195	Est. 200 coho below weir after closure.
2001	3,558	4,195	8,606	16,364	1,754	644	495	2,893	387,500	101,400	1,168	Est. 20 coho below weir after closure.
2002	2,722	4,226	8,278	15,227	1,745	864	875	3,484	107,200	94,200	1,168	
2003	2,776	3,735	9,498	16,010	2,065	1,021	395	3,506	1,326,476	208,120	231	
2004	0	3,725	8,198	11,923	1,224	876	572	2,672	123,213	73,397	158	
2005	31,905	3,122	10,285	45,312	1,536	808	546	2,947	1,420,428	65,448	51	
2006	30,651	4,060	8,338	43,049	681	892	516	2,089	1,962,415	49,980	95	
2007	7,250	4,265	8,575	20,090	0	727	386	1,113	1,347,874	78,891	64	
2008	3,706	4,172	9,264	17,142	403	697	368	1,467	308,459	63,943	60	
2009	32,515	2,954	10,364	45,833	138	571	535	1,245	241,106	54,829	44	181 coho below weir after closure.
2010	2,943	4,004	8,880	15,827	248	490	492	1,230	598,911	48,867	349	
2011	4,894	3,612	9,608	18,114	0	491	359	850	477,844	40,433	2,681	
2012	1,802	4,428	8,031	14,381	31	578	315	924	466,990	45,936	1,425	4,000 pink salmon below weir.
2013	3,162	3,606	9,004	15,772	1,997	1,074	300	3,371	791,705	36,219	759	
2014	15,569	3,857	9,233	28,659	671	567	534	1,772	393,553	21,113	191	
2015	37,821	3,945	9,560	51,326	1,013	705	261	1,979	728,764	91,657	263	
2016	62,915	3,764	9,011	75,690	0	250	150	400	904,494	71,199	181	
10yr average	17,258	3,861	9,153	30,283	450	615	370	1,435	625,970	55,309	602	
2017	4,701	3,746	9,202	17,649	864	764	858	2,486	1,196,158	98,192	1,784	

Source: http://www.ciaanet.org/data/project-reports.html and ADF&G fish ticket database.

Appendix C8.–Sockeye salmon aerial survey counts from the Eastern District, 2017.

Location	Survey number	Survey date	Live count	Peak count
Aialik Lake and creek	1	6/19/17	150	
	2	7/3/17	210	
	3	7/13/17	515	
	4	7/22/17	1,643	
	5	7/29/17	4,900	
	6	8/18/17	4,090	4,900

Appendix C9.–Estimated sockeye and pink salmon escapements in thousands of fish for the major spawning systems in the Eastern District of the Lower Cook Inlet Area, 1970–2017.

	Pink salmon							Sockeye salmon		
Year	Aialik Lagoon	Bear Creek	Salmon Creek	Tonsina Creek	Thumb Cove	Humpy Cove	Total	Aialik Lake	Bear Lake [a,b]	Total
1970									5.8	5.8
1971								3.0	0.4	3.4
1972		0.5					0.5	0.6	0.7	1.3
1973								1.5	0.2	1.7
1974	0.1	4.9		1.4	1.1	0.6	8.1	2.2	0.1	2.3
1975								8.0		8.0
1976	0.4	10.0	16.9	5.7	2.0	1.4	36.4	8.0	0.6	8.6
1977								5.0		5.0
1978		7.8	11.0	1.5	2.0	0.9	23.2	3.0		3.0
1979								5.0		5.0
1980		13.3	15.5	0.7	1.2	5.7	36.4	6.6	1.5	8.1
1981		0.4	0.1	0.2	1.0	0.4	2.1	1.8	0.7	2.5
1982	5.0	7.9	21.0	7.5	7.9	4.0	53.3	22.4	0.5	22.9
1983	3.0	0.8	0.5	5.4	4.9	2.0	16.6	20.0	0.7	20.7
1984	4.0	7.7	10.2	6.0	4.2	2.5	34.6	22.0	0.5	22.5
1985	9.4	4.1	2.1	48.2	14.5	5.0	83.3	8.0	1.1	9.1
1986	6.0	14.0	8.3	11.2	4.0	0.9	44.4	7.6	0.8	8.4
1987	1.5	3.5	1.7	3.4	2.7	0.3	13.1	9.2	0.3	9.5
1988	0.7	0.2	0.1	0.1	0.3	0.4	1.8	13.0	0.1	13.1
1989	0.8	1.7	1.6	0.5	4.2	1.0	9.8	6.5	0.1	6.6
1990		4.4		1.2		3.8	9.4	5.7	1.1	6.8
1991		15.4		0.3	3.4		19.1	3.7	0.7	4.4
1992		2.3			0.4		2.7	2.5	1.9	4.4
1993		6.6		3.2	5.5	0.9	16.2	3.0	4.8	7.8
1994		34.8		7.0	10.8	2.2	54.8	7.3	7.3	14.6
1995	1.1	38.6		0.5	9.3	1.8	51.3	2.6	6.5	9.1
1996		8.0		0.4	9.5	3.4	21.3	3.5	6.2	9.7
1997		6.3		0.4	4.7	2.2	13.6	11.4	7.2	18.6
1998	0.4	13.2		2.3	21.0	1.2	38.1	4.9	6.2	11.1
1999	0.9	7.8		0.5	9.2	4.0	22.4	3.8	5.8	9.6
2000		35.6		6.6	8.5	1.7	52.4	4.3	7.8	12.1
2001		3.0		2.8	3.1	0.3	9.2	5.1	8.6	13.7
2002		2.7		6.9	3.7	1.8	15.1	6.1	8.3	14.4
2003		4.4		5.2	5.1	2.6	17.3	5.4	9.5	14.9
2004		1.2		3.5	4.3	1.0	10.0	10.1	8.2	18.3
2005	0.8	34.5		9.9	8.7	14.6	68.5	5.3	10.3	15.6
2006		9.0		6.5	5.2	1.9	22.6	4.8	8.3	13.1
2007								5.4	8.6	13.9
2008								4.2	9.3	13.5
2009								3.1	10.4	13.5
2010								5.3	8.9	14.2
2011								3.5	9.6	13.1
2012		4.1						2.1	8.0	10.1
2013		8.1		5.3	0.6	1.8	15.8	3.5	9.0	12.5
2014								0.5	9.2	9.7
2015	0.8						0.8	3.2	9.6	12.7
2016							0.0	0.4	9.2	9.6
10-yr avg.	0.3	7.1		5.9	2.9	1.8	9.8	3.6	9.1	12.6
2017	1.8						1.8	4.9	9.2	13.9

[a] Weir counts.

[b] Beginning in 1994, Bear Lake escapement figures are derived from total weir count minus number of fish collected for hatchery broodstock.

APPENDIX D: KAMISHAK BAY DISTRICT

Appendix D1.–Kamishak Bay District commercial salmon harvest (excluding homepacks) by period, 2017.

Period [a]	Statistical week	Date	Hours	Permits fished	Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
1 [a]	22	06/01–06/03	160												
2 [a]	23	06/04–06/10	160												
3 [a]	24	06/11–06/17	160												
4 [a,b]	25	06/18–06/24	160	3	3			20,711	86,940			36	128	7	51
5 [a,b,c]	26	06/25–07/01	160												
6 [a,b,c,d,e]	27	07/02–07/08	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
7 [a,b,d,e,f]	28	07/09–07/15	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
8 [a,b,d,f,g]	29	07/16–07/22	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
9 [a,b,g]	30	07/23–07/29	160	4	8			3,816	14,901			14,157	55,151	16,305	142,605
10 [a,b,g]	31	07/30–08/05	160	7	19			5,229	24,025			147,544	531,134	13,827	112,817
11 [a,b,d,g]	32	08/06–08/12	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
12 [a,b,d,g]	33	08/13–08/19	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
13 [a,b,g]	34	08/20–08/26	160												
14 [a,b,g]	35	08/27–09/02	160												
15 [a,b,g]	36	09/03–09/09	160												
Total				7	47	0	0	102,810	411,154	185	1,457	254,440	903,486	34,275	281,384
Average weight									4.00		7.88		3.55		8.21

Note: Unless otherwise noted, all Kamishak Bay Subdistricts were open to commercial harvest beginning June 1, 2017, with regular closed waters in effect.

[a] Waters of Kamishak Bay District open to commercial purse seine harvest with the McNeil and Paint River subdistricts closing after June 19.

[b] Regulatory closed waters at Chenik Lagoon suspended beginning June 19.

[c] Regulatory closed waters at Chenik Lagoon reinstated June 26.

[d] Confidential data. Fewer than 3 permits reporting.

[e] Regulatory closed waters at Chenik Lagoon suspended beginning July 6.

[f] Regulatory closed waters at Chenik Lagoon reinstated July 13.

[g] Regulatory closed waters at Chenik Lagoon suspended beginning July 22.

Appendix D2.–Total commercial common property harvest (excluding homepacks) by species in the Kamishak Bay District 1970–2017.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum
1970				2,846	218	22,500	95,841
1971				3	121	32,094	26,327
1972				47	31	342	26,374
1973				1	28	12,568	35,584
1974					2,915	48	4,554
1975				29	3,041	9,432	4,868
1976			1	3,988	1,111	1,112	48,848
1977			1	7,425	105	6,308	65,659
1978				4,619	1,584	982	48,669
1979			9	1,778	1,116	58,484	28,711
1980				3,877	2,495	101,864	35,921
1981			1	4,972	1,845	66,097	73,501
1982			11	18,014	38,685	43,871	108,946
1983			1	11,207	7,138	1,405	142,901
1984			2	24,642	13,230	137,133	70,595
1985	10	72	6	78,076	2,024	194	8,139
1986	25	386	14	146,496	9,935	423,774	61,670
1987	32	439	7	123,663	8,079	72,686	110,565
1988	38	634	33	186,011	4,471	64,468	220,579
1989	20	144	3	46,395	4	256,669	7,809
1990	30	318	12	96,397	26	2,448	3,597
1991	33	479	17	127,579	2,337	47,478	7,849
1992	23	232	39	60,078	1,488	2,594	20,051
1993	14	89	4	59,745	3	4,205	600
1994	8	17		18,509	1,897	33	14
1995	7	27	2	31,077	6,084	169,039	10,300
1996	2	3		18,093		19	1
1997	3	6		5,608			3
1998	4	4		8,112		414	20
1999	6	8		29,409		325	23
2000	10	41	1	10,245	7	6,173	66,069
2001	7	40	2	9,972	9	131	84,766
2002	5	53		1,429	52	438,352	34,604
2003	2	13		12,512	0	5,571	29,737
2004	6	46		35,285	5,367	12,969	177,395
2005	8	37		50,018	92	5,787	83,943
2006	5	34		38,267	24,269	77,833	56,494
2007	4	24		169,509	4	4,959	37
2008	11	44	2	171,924	20	26,397	73,209
2009	9	81		65,763		132,414	36,574
2010	9	54	10	5,612	573	2,432	70,782
2011	5	38		99,288		1,050	3,850
2012	6	34		55,255		61	2,425
2013	5	15		33,154		314	2,357
2014	8	20		12,137		44,227	4,449
2015	2	3				33,735	626
2016	5	13		18,218	578	350	10,984
10-yr avg.	6	33	1	63,086	118	24,594	20,529
2017	5	47		102,810	185	254,440	34,275

Source: ADF&G fish ticket database.

Appendix D3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring site at Chenik Lake, 2017.

	Actual		Antic.	Apportioned sustainable escapement goals				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
6/15			0.1%	120	650	565	3,071	Camera installed on 6/15
6/16			0.1%	152	802	719	3,790	
6/17			0.2%	167	969	787	4,577	
6/18			0.2%	248	1,217	1,172	5,749	
6/19			0.3%	103	1,320	488	6,238	
6/20			0.3%	15	1,335	69	6,306	
6/21			0.3%	41	1,376	192	6,499	
6/22	63	63	0.3%	138	1,513	650	7,149	
6/23	265	328	0.3%	8	1,522	39	7,188	
6/24		328	0.7%	8	1,530	38	7,227	
6/25		328	4.7%	48	1,577	225	7,452	
6/26		328	10.0%	191	1,768	901	8,353	
6/27		328	16.9%	105	1,873	497	8,850	
6/28		328	17.1%	7	1,881	34	8,884	
6/29		328	18.4%	38	1,919	181	9,065	
6/30		328	22.5%	19	1,938	92	9,156	
7/1		328	27.8%	34	1,973	163	9,319	
7/2		328	33.5%	0	1,973	2	9,321	
7/3		328	42.1%	80	2,053	380	9,701	
7/4	535	863	45.7%	79	2,132	372	10,073	
7/5	1,577	2,440	46.2%	89	2,222	422	10,495	
7/6	21	2,461	47.6%	31	2,252	145	10,640	
7/7	2	2,463	52.3%	48	2,300	225	10,864	
7/8	1	2,464	52.6%	29	2,329	136	11,000	
7/9		2,464	52.9%	36	2,365	171	11,171	
7/10	1	2,465	54.5%	95	2,460	451	11,622	
7/11		2,465	61.1%	44	2,504	207	11,829	
7/12		2,465	64.7%	95	2,599	451	12,279	
7/13		2,465	65.0%	142	2,741	670	12,949	
7/14	2	2,467	66.3%	54	2,795	255	13,204	
7/15	1	2,468	67.0%	24	2,819	115	13,319	
7/16	1	2,469	68.2%	8	2,827	36	13,355	
7/17		2,469	68.2%	11	2,838	53	13,409	
7/18	2,949	5,418	70.9%	5	2,844	25	13,434	
7/19	2,909	8,327	73.7%	9	2,853	44	13,478	
7/20	1,213	9,540	76.7%	13	2,866	63	13,541	
7/21	1,002	10,542	77.8%	8	2,875	39	13,581	
7/22	868	11,410	79.4%	13	2,887	60	13,641	
7/23	912	12,322	80.4%	4	2,891	17	13,657	
7/24	849	13,171	81.7%	1	2,892	5	13,662	
7/25	1,584	14,755	85.0%	0	2,892	1	13,664	
7/26	550	15,305	86.5%	1	2,893	3	13,667	
7/27	883	16,188	89.8%	2	2,895	10	13,677	
7/28	375	16,563	94.7%	1	2,896	3	13,679	
7/29	8	16,571	96.5%	0	2,896	0	13,679	
7/30	7	16,578	97.4%	0	2,896	2	13,681	
7/31	261	16,839	97.6%	0	2,896	0	13,681	
8/1	248	17,087	98.0%	0	2,896	0	13,681	
8/2	303	17,390	98.2%	0	2,896	0	13,681	

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	Actual		Antic.	Apportioned sustainable escapement goals				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
8/3	703	18,093	98.5%	0	2,896	0	13,681	
8/4	633	18,726	99.0%	0	2,896	0	13,681	
8/5	296	19,022	99.3%	0	2,896	0	13,681	
8/6	965	19,987	99.7%	0	2,896	2	13,683	
8/7	1,014	21,001	99.8%	0	2,896	0	13,683	
8/8	167	21,168	99.9%	0	2,896	0	13,683	
8/9	116	21,284	99.9%	0	2,896	0	13,683	
8/10	67	21,351	99.9%	0	2,896	0	13,683	
8/11	23	21,374	100.0%	0	2,896	0	13,683	
8/12	32	21,406	100.0%	0	2,896	0	13,683	
8/13	13	21,419	100.0%	0	2,896	0	13,683	
8/14	46	21,465	100.0%	0	2,896	0	13,683	
8/15	3	21,468	100.0%	0	2,896	0	13,683	Camera turned off

Note: Anticipated escapement derived from run timing and Chenik Lake sockeye salmon sustainable escapement goal (3,500–14,000 fish).

Appendix D4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring site at Mikfik Lake, 2017.

	Actual		Antic	Apportioned sustainable escapement goal				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
5/30			0.1%	0	0	0	0	Camera installed, 5/30.
5/31			0.3%	5	5	15	15	
6/1	277	277	0.7%	15	15	49	49	
6/2		277	2.9%	74	89	239	287	
6/3	1,119	1,396	3.8%	30	119	98	385	
6/4		1,396	5.3%	51	170	166	551	
6/5	1,886	3,282	6.5%	42	213	136	688	
6/6		3,282	6.7%	6	218	19	707	
6/7		3,282	8.3%	54	272	174	881	
6/8	3	3,285	11.3%	102	374	329	1,210	
6/9	132	3,417	13.9%	89	463	289	1,499	
6/10		3,417	18.9%	169	632	546	2,045	
6/11		3,417	30.9%	409	1,041	1,324	3,369	
6/12	88	3,505	33.7%	95	1,137	309	3,677	
6/13		3,505	36.3%	88	1,224	284	3,961	
6/14		3,505	39.3%	101	1,326	328	4,289	
6/15	139	3,644	41.9%	90	1,416	290	4,580	
6/16		3,644	42.8%	31	1,447	102	4,682	
6/17		3,644	46.9%	138	1,585	448	5,129	
6/18		3,644	48.5%	52	1,638	169	5,298	
6/19	18	3,662	54.5%	206	1,844	667	5,965	
6/20		3,662	59.0%	154	1,998	498	6,463	
6/21		3,662	61.9%	99	2,096	319	6,782	
6/22		3,662	63.4%	49	2,146	160	6,942	
6/23		3,662	63.8%	15	2,160	48	6,989	
6/24		3,662	68.5%	159	2,320	515	7,504	
6/25		3,662	71.7%	108	2,428	350	7,854	
6/26		3,662	74.9%	110	2,537	355	8,209	
6/27		3,662	78.4%	117	2,654	379	8,588	
6/28		3,662	79.7%	45	2,700	147	8,734	
6/29	1	3,663	80.3%	22	2,722	71	8,806	
6/30		3,663	80.3%	0	2,722	0	8,806	
7/1	64	3,727	80.4%	1	2,722	2	8,808	
7/2	441	4,168	81.9%	51	2,774	166	8,974	
7/3	976	5,144	82.0%	5	2,779	17	8,991	
7/4	79	5,223	82.8%	25	2,804	82	9,073	
7/5	207	5,430	83.2%	15	2,820	49	9,122	
7/6	285	5,715	88.2%	171	2,990	553	9,675	
7/7	8	5,723	90.9%	89	3,080	289	9,964	
7/8	288	6,011	91.3%	13	3,093	43	10,007	
7/9		6,011	91.5%	9	3,102	29	10,036	
7/10	1	6,012	91.9%	14	3,116	47	10,082	
7/11		6,012	92.0%	3	3,119	9	10,092	
7/12	12	6,024	92.1%	2	3,121	6	10,097	
7/13	15	6,039	92.2%	3	3,124	9	10,106	
7/14	1	6,040	92.2%	0	3,124	0	10,106	
7/15		6,040	92.3%	5	3,129	16	10,123	
7/16		6,040	92.4%	2	3,130	5	10,128	
7/17		6,040	95.4%	104	3,234	336	10,463	
7/18	434	6,474	96.9%	50	3,284	161	10,625	
7/19	183	6,657	96.9%	1	3,285	3	10,628	
7/20	173	6,830	97.0%	3	3,288	9	10,637	

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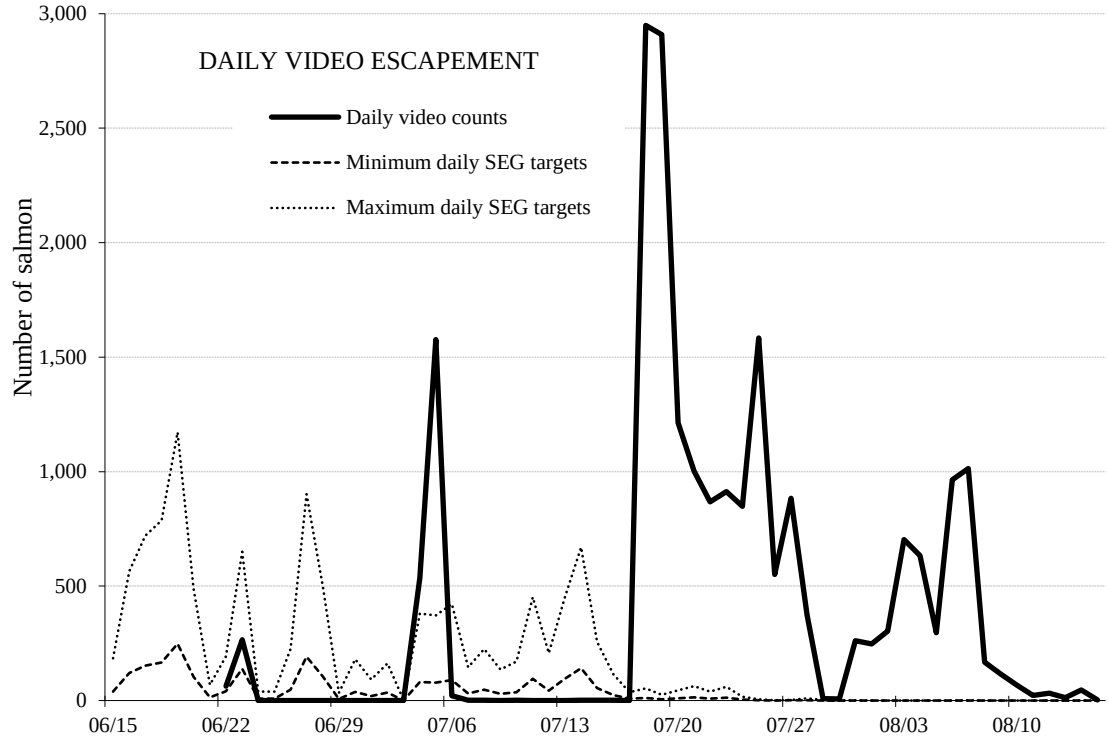
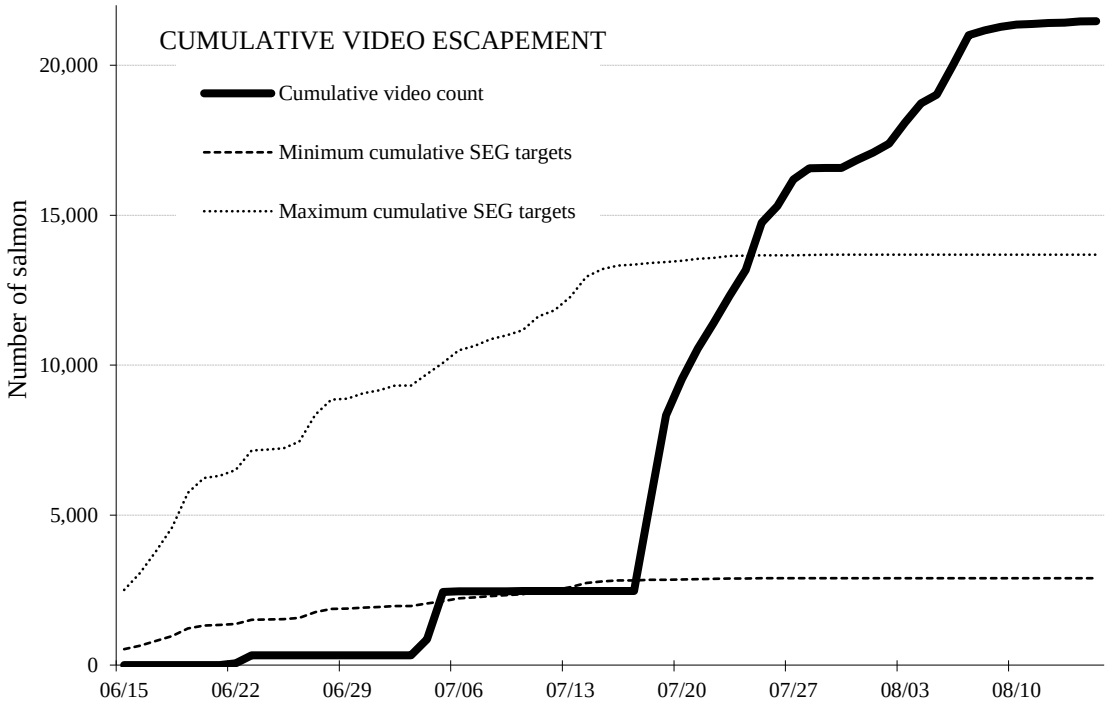
	Actual		Antic	Apportioned sustainable escapement goal				
				Projected minimum		Projected maximum		
Date	Daily	Cumulative	percent	Daily	Cumulative	Daily	Cumulative	Comments
7/21	80	6,910	97.1%	5	3,292	15	10,652	
7/22	182	7,092	97.3%	6	3,298	18	10,670	
7/23	39	7,131	97.5%	7	3,305	23	10,693	
7/24	52	7,183	97.8%	10	3,315	31	10,724	
7/25	60	7,243	97.9%	4	3,319	14	10,737	
7/26	70	7,313	98.3%	13	3,332	43	10,781	
7/27	103	7,416	98.7%	13	3,345	41	10,822	
7/28	29	7,445	99.3%	20	3,365	64	10,886	
7/29	48	7,493	99.4%	7	3,372	22	10,908	
7/30	2	7,495	99.8%	13	3,385	43	10,951	Hard drive filled.

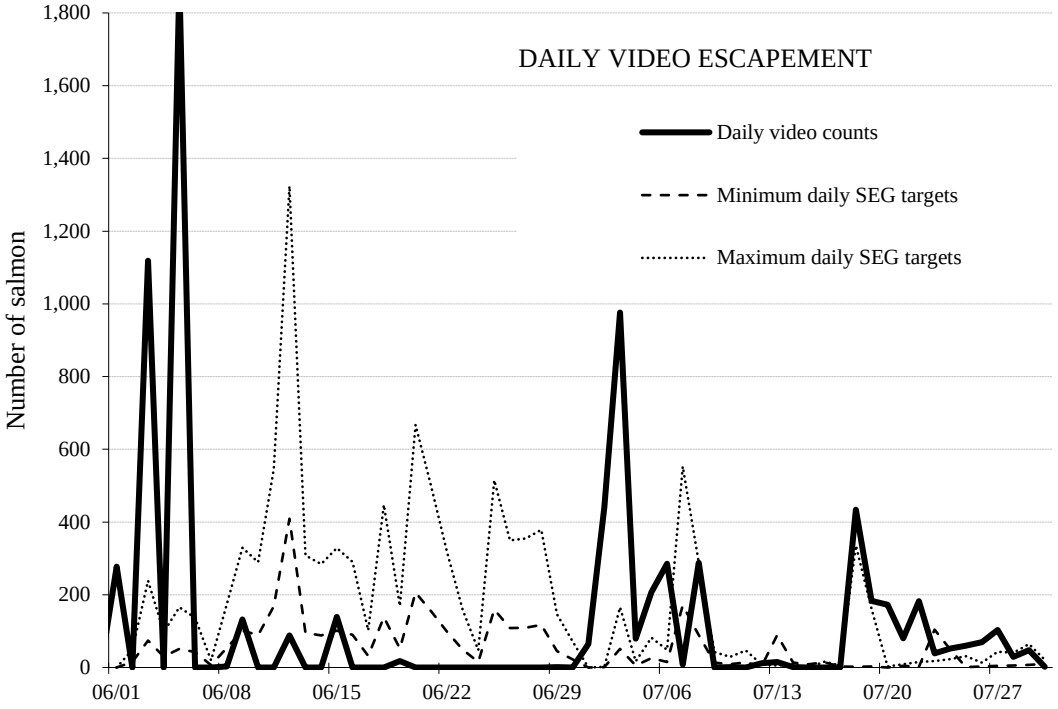
Note: Anticipated escapement derived from run timing and Mikfik Lake sockeye salmon sustainable escapement goal of 3,400–13,000 fish.

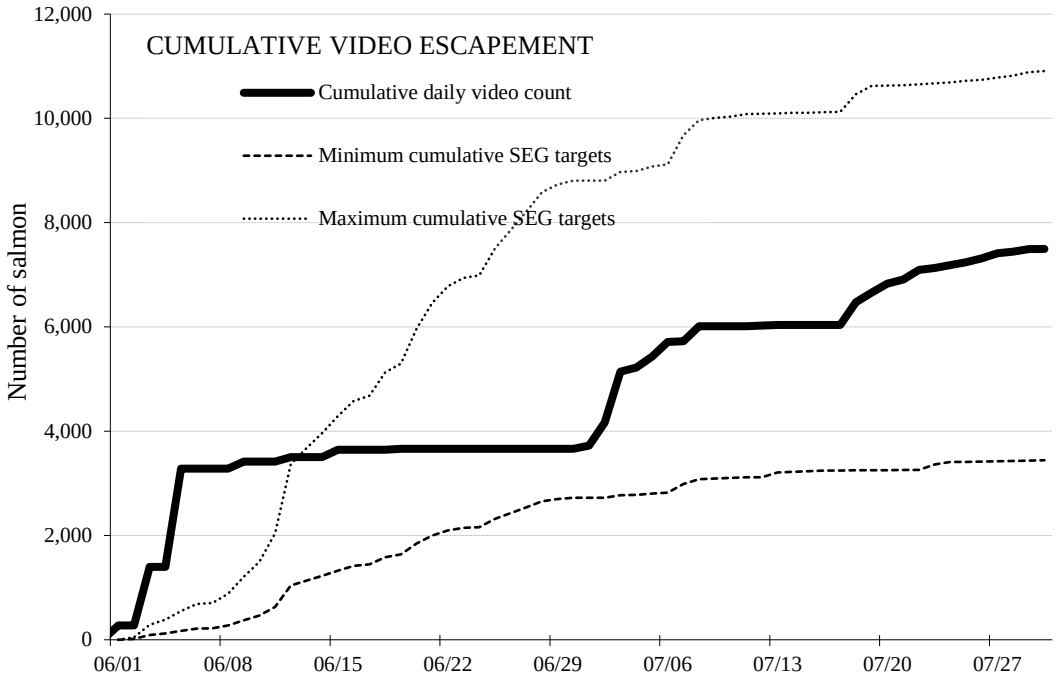
Appendix D5.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement past the video monitoring station at Chenik Lake, 2017.





Appendix D6.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement past the Mikfik Lake video monitoring station, 2017.





Appendix D7.–Sockeye salmon escapement into Chenik Lake and Mikfik Lake, 1927–2017.

Year	Chenik	Mikfik
1927	7,069 [a]	
1928	31,007 [a]	
1929	30,440 [a]	
1930	23,638 [a]	
1931	33,514 [a]	
1932	53,012 [a]	
1933	39,222 [a]	
1934	35,778 [a]	
1935	16,041 [a]	
1936	19,349 [a]	
1937	8,256 [a]	
1938	3,804 [a]	
1939	4,076 [a]	
…	(No weir from 1940–1988)	
1989	12,000 [a]	
1990	17,000 [a]	
1991	10,200 [a]	
1992	9,269 [a]	7,800 [b]
1993	4,000 [a]	6,400 [b]
1994	808 [a]	9,500 [b]
1995	1,086 [a]	10,100 [b]
1996	2,990 [a]	10,500 [b]
1997	2,338 [a]	8,500 [b]
1998	1,880 [b]	12,600 [b]
1999	2,850 [b]	15,700 [b]
2000	4,800 [b]	10,386
2001	250 [b]	5,400 **[b]**
2002	4,650 [b]	16,700 **[b]**
2003	13,825 [b]	8,009
2004	17,000 [b]	14,829
2005	14,507 [c]	6,499
2006	13,868 [c]	14,983
2007	18,288 [c]	10,975
2008	11,284 [c]	9,104
2009	15,264 [c]	20,965
2010	17,312 [c]	5,221 [b]
2011	10,330 [c]	345 [b]
2012	16,505 [c]	3,131 [c]
2013	11,333 [c]	4,042 [c]
2014	17,774 [c]	17,802 [c]
2015	19,073 [c]	3,502 [c]
2016	19,510 [c]	10,180 [c]
10-yr average	15,667	8,527
2017	21,468 [c]	7,495 [c]

[a] Escapement derived from weir counts.

[b] Escapement derived from aerial surveys.

[c] Escapement derived from video counts.

Appendix D8.–Pink and chum salmon escapements as measured by aerial survey using area-under-the-curve (AUC) estimation (and peak aerial survey counts as noted) in the Kamishak Bay District, 2017.

Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. Fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Amakdedori	pink	[t]start	6/20											
Creek		1	6/20	6/20	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/1	6/20	11	0	0	0	0	0	0	0	0%	
system)		3	7/7	7/1	6	0	0	0	0	0	0	0	0%	
		4	7/11	7/7	4	0	0	0	0	0	0	0	0%	
		5	7/25	7/11	14	0	0	0	0	0	0	0	0%	
		6	8/6	7/25	12	9,420	0	9,420	56,520	56,520	3,230	3,230	8%	
		7	8/14	8/6	8	15,820	9,420	25,240	100,960	157,480	5,769	8,999	23%	
		8	8/19	8/14	5	43,810	15,820	59,630	149,075	306,555	8,519	17,517	44%	
		[t]end	9/5		17.5				383,338	689,893	21,905	39,422	100%	43,810
Big	chum	[t]start	6/23											
Kamishak		1	7/11	6/23	17.5	20	0	20	175	175	10	10	0%	
River		2	7/25	7/11	14	6,342	20	6,362	44,534	44,709	2,545	2,555	9%	
		3	8/6	7/25	12	32,290	6,342	38,632	231,792	276,501	13,245	15,800	53%	
		4	8/14	8/6	8	7,721	32,290	40,011	160,044	436,545	9,145	24,945	84%	
(index		5	8/19	8/14	5	5,661	7,721	13,382	33,455	470,000	1,912	26,857	90%	
system)		[t]end	9/5		17.5				49,534	519,534	2,831	29,688	100%	32,290[d]
Brown's	chum	[t]start	7/1											
Peak Creek		1	7/1	7/1	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/25	7/1	24	110	0	110	1,320	1,320	75	75	3%	
system)		3	8/6	7/25	12	1,160	110	1,270	7,620	8,940	435	511	19%	
		4	8/14	8/6	8	1,000	1,160	2,160	8,640	17,580	494	1,005	36%	
		5	8/19	8/14	5	2,510	1,000	3,510	8,775	26,355	501	1,506	55%	
		[t]end	9/5		17.5				21,963	48,318	1,255	2,761	100%	2,510
Brown's	pink	[t]start	7/1											
Peak Creek		1	7/1	7/1	0	0	0	0	0	0	0	0	0%	
(index		2	7/25	7/1	24	4,400	0	4,400	52,800	52,800	3,017	3,017	8%	
system)		3	8/6	7/25	12	25,570	4,400	29,970	179,820	232,620	10,275	13,293	34%	
		4	8/14	8/6	8	12,700	25,570	38,270	153,080	385,700	8,747	22,040	57%	
		5	8/19	8/14	5	23,400	12,700	36,100	90,250	475,950	5,157	27,197	70%	
		[t]end	9/5		17.5				204,750	680,700	11,700	38,897[d]	100%	25,570

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Bruin River	chum	[t]start	6/19											
(index		1	7/7	6/19	17.5	222	0	222	1,943	1,943	111	111	0%	
system)		2	7/11	7/7	4	1,510	222	1,732	3,464	5,407	198	309	1%	
		3	7/25	7/11	14	4,647	1,510	6,157	43,099	48,506	2,463	2,772	7%	
		4	8/6	7/25	12	26,530	4,647	31,177	187,062	235,568	10,689	13,461	35%	
		5	8/14	8/6	8	6,860	26,530	33,390	133,560	369,128	7,632	21,093	55%	
		6	8/19	8/14	5	25,360	6,860	32,220	80,550	449,678	4,603	25,696	67%	
		[t]end	9/5		17.5				221,900	671,578	12,680	38,376[d]	100%	26,530
Bruin River	pink	[t]start	7/7											
(index		1	7/7	7/7	0	0	0	0	0	0	0	0	0%	
system)		2	7/11	7/7	4	0	0	0	0	0	0	0	0%	
		3	7/25	7/11	14	200	0	200	1,400	1,400	80	80	0%	
		4	8/6	7/25	12	0	200	200	1,200	2,600	69	149	0%	
		5	8/14	8/6	8	39,900	0	39,900	159,600	162,200	9,120	9,269	15%	
		6	8/19	8/14	5	71,100	39,900	111,000	277,500	439,700	15,857	25,126	41%	
		[t]end	9/5		17.5				622,125	1,061,825	35,550	60,676	100%	71,100[d]
Cottonwood	chum	[t]start	7/1											
Creek		1	7/1	7/1	0	0	0	0	0	0	0	0	0%	
(index		2	7/7	7/1	6	0	0	0	0	0	0	0	0%	
system)		3	7/25	7/7	18	153	0	153	1,377	1,377	79	79	2%	
		4	8/6	7/25	12	3,170	153	3,323	19,938	21,315	1,139	1,218	26%	
		5	8/14	8/6	8	6,150	3,170	9,320	37,280	58,595	2,130	3,348	70%	
		6	8/19	8/14	5	820	6,150	6,970	17,425	76,020	996	4,344	91%	
		[t]end	9/5		17.5				7,175	83,195	410	4,754	100%	6,150[d]
Douglas River	chum	[t]start	6/23											
(not an index		1	7/11	6/23	17.5	10	0	10	88	88	5	5	0%	
system)		2	7/25	7/11	14	758	10	768	5,376	5,464	307	312	3%	
		3	8/6	7/25	12	7,711	758	8,469	50,814	56,278	2,904	3,216	30%	
		4	8/14	8/6	8	5,790	7,711	13,501	54,004	110,282	3,086	6,302	58%	
		5	8/19	8/14	5	5,732	5,790	11,522	28,805	139,087	1,646	7,948	73%	
		[t]end	9/5		17.5				50,155	189,242	2,866	10,814	100%	7,711

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Douglas	chum	[t]start	6/23											
Reef River		1	7/11	6/23	17.5	30	0	30	263	263	15	15	1%	
(not an index		2	8/6	7/11	26	880	30	910	11,830	12,093	676	691	47%	
system)		3	8/14	8/6	8	1,330	880	2,210	8,840	20,933	505	1,196	81%	
		4	8/19	8/14	5	150	1,330	1,480	3,700	24,633	211	1,408	95%	
		[t]end	9/5		17.5				1,313	25,945	75	1,483	100%	1,330
Douglas	pink	[t]start	7/11											
Reef River		1	7/11	7/11	0	0	0	0	0	0	0	0	0%	
(not an index		2	8/6	7/11	26	0	0	0	0	0	0	0	0%	
system)		3	8/14	8/6	8	1,000	0	1,000	4,000	4,000	229	229	52%	
		4	8/19	8/14	5	100	1,000	1,100	2,750	6,750	157	386	89%	
		tend	9/5		17.5				875	7,625	50	436	100%	1,000
Iniskin River	chum	[t]start	7/1											
(index		1	7/1	7/1	0	0	0	0	0	0	0	0	0%	
system)		2	7/7	7/1	6	0	0	0	0	0	0	0	0%	
		3	7/25	7/7	18	3,745	0	3,745	33,705	33,705	1,926	1,926	12%	
		4	8/6	7/25	12	5,390	3,745	9,135	54,810	88,515	3,132	5,058	32%	
		5	8/14	8/6	8	6,451	5,390	11,841	47,364	135,879	2,707	7,765	50%	
		6	8/19	8/14	5	10,741	6,451	17,192	42,980	178,859	2,456	10,221	66%	
		[t]end	9/5		17.5				93,984	272,843	5,371	15,591[d]	100%	10,741
Little	chum	[t]start	6/2											
Kamishak		1	6/20	6/2	17.5	10	0	10	88	88	5	5	0%	
River		2	7/11	6/20	21	251	10	261	2,741	2,828	157	162	1%	
(index		3	7/25	7/11	14	4,261	251	4,512	31,584	34,412	1,805	1,966	10%	
system)		4	8/6	7/25	12	17,760	4,261	22,021	132,126	166,538	7,550	9,516	49%	
		5	8/14	8/6	8	7,950	17,760	25,710	102,840	269,378	5,877	15,393	80%	
		6	8/19	8/14	5	4,272	7,950	12,222	30,555	299,933	1,746	17,139	89%	
		[t]end	9/5		17.5				37,380	337,313	2,136	19,275[d]	100%	17,760

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Little	pink	[t]start	6/20											
Kamishak		1	6/20	6/20	0	0	0	0	0	0	0	0	0%	
River		2	7/11	6/20	21	0	0	0	0	0	0	0	0%	
(not an index		3	7/25	7/11	14	0	0	0	0	0	0	0	0%	
system)		4	8/6	7/25	12	1,400	0	1,400	8,400	8,400	480	480	37%	
		5	8/14	8/6	8	1,310	1,400	2,710	10,840	19,240	619	1,099	85%	
		6	8/19	8/14	5	20	1,310	1,330	3,325	22,565	190	1,289	99%	
		[t]end	9/5		17.5				175	22,740	10	1,299	100%	1,400
McNeil	chum	[t]start	6/6											
River		1	6/20	6/6	13.8	3,540	0	3,540	24,426	24,426	1,770	1,770	5%	
(index		2	7/7	6/20	17	7,120	3,540	10,660	90,610	115,036	6,566	8,336	24%	
system)		3	7/12	7/7	5	13,120	7,120	20,240	50,600	165,636	3,667	12,003	35%	
		4	7/25	7/12	13	8,096	13,120	21,216	137,904	303,540	9,993	21,996	63%	
		5	8/6	7/25	12	9,863	8,096	17,959	107,754	411,294	7,808	29,804	86%	
		[t]end	8/19		13.8				68,055	479,349	4,932	34,735[d]	100%	13,120
North Head	chum	[t]start	7/27											
Creek		1	8/14	7/27	17.5	1,780	0	1,780	15,575	15,575	890	890	55%	
(not an index		2	8/19	8/14	5	731	1,780	2,511	6,278	21,853	359	1,249	77%	
system)		[t]end	9/5		17.5				6,396	28,249	366	1,614	100%	1,780
North Head	pink	[t]start	7/27											
Creek		1	8/14	7/27	17.5	4,200	0	4,200	36,750	36,750	2,100	2,100	60%	
(not an index		2	8/19	8/14	5	1,220	4,200	5,420	13,550	50,300	774	2,874	82%	
system)		[t]end	9/5		17.5				10,675	60,975	610	3,484	100%	4,200
Sugarloaf	chum	[t]start	7/7											
Creek		1	7/7	7/7	0	0	0	0	0	0	0	0	0%	
(not an index		2	7/25	7/7	18	145	0	145	1,305	1,305	75	75	4%	
system)		3	8/6	7/25	12	440	145	585	3,510	4,815	201	275	17%	
			8/14	8/6	8	990	440	1,430	5,720	10,535	327	602	36%	
		4	8/19	8/14	5	1,431	990	2,421	6,053	16,588	346	948	57%	
		[t]end	9/5		17.5				12,521	29,109	716	1,663	100%	1,431

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Location	Species	Survey number	Survey date (t_i)	Previous survey date (t_i-1)	Days between surveys (t_i-t_{i-1})	Current live count (c_i)	Previous live count (c_{i-1})	Previous + current live count (c_i+c_{i-1})	Fish days[a] (A_b)	Accum. fish days (A_b)	Escape. index[b]	Accum. escape. index[c]	Accum. percent escape.	Peak count
Sunday	chum	tstart	6/19											
Creek		1	7/7	6/19	17.5	5	0	5	44	44	3	3	1%	
(not an index		2	7/25	7/7	18	3	5	8	72	116	4	7	3%	
system)		3	8/6	7/25	12	20	3	23	138	254	8	15	7%	
		4	8/14	8/6	8	420	20	440	1,760	2,014	101	115	54%	
		5	8/19	8/14	5	61	420	481	1,203	3,216	69	184	86%	
		tend	9/5		17.5				534	3,750	31	214	100%	420
Sunday	pink	tstart	7/7											
Creek		1	7/7	7/7	0	0	0	0	0	0	0	0	0%	
(index		2	7/25	7/7	18	1,163	0	1,163	10,467	10,467	598	598	3%	
system)		3	8/6	7/25	12	5,030	1,163	6,193	37,158	47,625	2,123	2,721	12%	
		4	8/14	8/6	8	20,300	5,030	25,330	101,320	148,945	5,790	8,511	38%	
		5	8/19	8/14	5	16,800	20,300	37,100	92,750	241,695	5,300	13,811	62%	
		tend	9/5		17.5				147,000	388,695	8,400	22,211[d]	100%	20,300
Ursus	chum	tstart	7/7											
Lagoon		1	7/25	7/7	17.5	152	0	152	1,330	1,330	76	76	0%	
Creeks		2	8/6	7/25	12	17,090	152	17,242	103,452	104,782	5,912	5,988	27%	
(index		3	8/14	8/6	8	12,550	17,090	29,640	118,560	223,342	6,775	12,762	58%	
system)		4	8/19	8/14	5	11,620	12,550	24,170	60,425	283,767	3,453	16,215	74%	
		tend	9/5		17.5				101,675	385,442	5,810	22,025[d]	100%	17,090
Ursus	pink	tstart	7/25											
Lagoon		1	7/25	7/25	0	0	0	0	0	0	0	0	0%	
Creeks		2	8/6	7/25	12	0	0	0	0	0	0	0	0%	
(not an index		3	8/14	8/6	8	0	0	0	0	0	0	0	0%	
system)		4	8/19	8/14	5	1,600	0	1,600	4,000	4,000	229	229	22%	
		tend	9/5		17.5				14,000	18,000	800	1,029	100%	1,600

Note: The value used as the final escapement index if underlined. *Source*: Bue et al. 1998.

[a] Fish days (A_b) = (Days between surveys x (prev. count + current count)) ÷ 2.

[b] Escapement index = A_b / 17.5 day stream-life estimate (except McNeil River chum calculations use a 13.8 day stream-life estimate plus a run-timing adjustment).

[c] The McNeil River chum salmon AUC index is not the final escapement index. After applying a run-timing expansion factor, the final escapement index was 38,679. For all other stocks, the area-under-the-curve estimate equals the cumulative escapement index.

[d] Final escapement index.

Appendix D9.–Sockeye salmon aerial survey counts from the Kamishak Bay District, 2017.

Location	Survey number	Survey date	Live count	Peak count
Amakdedori Creek	1	6/20	270	
	2	7/1	270	
	3	7/7	284	
	4	7/11	1,680	
	5	7/25	479	
	6	8/6	740	
	7	8/14	540	
	8	8/19	752	1,680
Big Kamishak	1	7/11	3,650	
	2	7/25	2,520	
	3	8/6	2,960	
	4	8/14	223	
	5	8/19	226	3,650
Douglas River	1	7/11	190	
	2	7/25	569	
	3	8/6	2,111	
	4	8/14	1,396	
	5	8/19	661	2,111

Appendix D10.–Estimated pink, chum, and sockeye salmon escapements in thousands of fish for the major spawning systems in the Kamishak Bay District of the Lower Cook Inlet Area, 1980–2017.

	Pink salmon							Chum salmon								Sockeye salmon				
Year	Big Kamishak River	Little Kamishak River	Amakdedori Creek	Bruin Bay River	Sunday Creek	Brown's Peak Creek	Total of index streams	Big Kamishak River	Little Kamishak River	McNeil River	Bruin Bay	Ursus Cove[d]	Cottonwood Creek	Iniskin Bay	Total of index streams	Mikfik Lake	Chenik Lake	Amakdedori Creek	Kamishak Rivers	Total of index streams
1980	2.0	0.6	3.8	400.0	5.2	2.3	407.5	10.0	13.0	10.0	15.0	8.0	4.2	9.3	69.5	6.5[e]	3.5	2.6	0.1	12.7
1981			1.5	95.0	14.2	17.7	126.9	11.0	6.0	44.6	10.0	10.0	9.0	9.0	99.6	5.3[e]	2.5	1.9	0.8	10.5
1982	5.0	2.2	6.3	75.0	12.0	3.5	90.5	25.0	18.0	36.6	10.0	9.0	7.0	12.8	118.4	35.0[e]	8.0	3.2	10.0	56.2
1983			0.2	4.0	4.7	1.7	10.4	25.0	25.0	56.3	5.5	7.7	8.3	12.0	139.8	7.0[e]	11.0	1.2	5.0	24.2
1984		0.1		110.0	12.0	6.8	128.8	19.0	12.0	26.6	8.0	7.0	6.5	9.8	88.9	6.0[e]	13.0	1.4	2.5	22.9
1985		1.6	1.0	3.5	11.4	7.0	21.9	6.0	4.5	10.5	2.0	3.0	3.0	5.0	34.0	20.0[e]	3.5	0.9	0.8	25.2
1986	5.0	2.0	6.0	1,200.0	109.0	28.0	1,337.0	24.0	17.0	31.9	1.0	11.0	11.0	5.9	101.8	7.8[e]	7.0	1.9	5.0	21.7
1987			0.4	24.0	29.7	40.2	93.9	12.0	18.0	40.5	10.0	9.9	17.0	9.1	116.5	9.0[e]	10.0	1.1		20.1
1988	1.0	0.5	1.0	29.0	18.0	17.0	64.0	15.0	13.0	59.8	7.0	9.4	16.0	9.5	129.7	10.1[e]	9.0	0.4	0.5	20.0
1989			2.0	350.0	103.0	120.0	573.0	30.0	12.0	48.9	8.0	6.3	8.0	5.9	119.1	11.5[e]	12.0	1.2	0.5	25.2
1990			0.1	19.0	2.8	1.0	22.8	2.5	7.9	13.9	4.0	3.8	4.3	8.4	44.8	8.8[e]	17.0	1.8	0.2	27.8
1991		0.9	0.7	74.9	20.9	16.7	112.5	8.7	8.4	6.8	6.0	1.3	7.7	8.3	47.2	9.7[e]	10.2[a]	1.9	0.7	22.5
1992			3.2	3.2	2.9	5.0	11.1	4.5	7.1	23.3	8.5	1.7	6.1	3.4	54.6	7.8[e]	9.3[a]	1.9	4.9	23.9
1993			1.7	86.4	57.8	41.6	185.8	9.1	6.3	19.3	6.0	7.7	12.0	8.0	68.4	6.4[e]	4.0[a]	2.0		12.4
1994			0.7	5.9	3.1	1.3	10.3		9.0	15.7	6.1	6.2	10.2	18.9	66.1	9.5[e]	0.8[a]	0.8		11.1
1995			4.5	307.3	95.9	96.7	499.9			12.1	6.6	11.1	15.4	22.7	67.9	10.1[e]	1.1[a]	2.4		13.6
1996	16.7			27.5	2.8	2.4	32.7	11.1	4.4	24.4	14.9	7.6	16.1	7.8	86.3	6.5[e]	3.0[a]	2.9	1.8	14.2
1997			1.7	162.7	52.5	42.3	257.5			32.2	8.8	6.2	5.6	15.4	68.2	8.5[e]	2.3[a]	1.5		12.3
1998	2.0			134.9	24.0	7.9	166.8	7.1	9.7	19.9	9.4	4.6	2.3	18.6	71.6	9.5[b]	1.9[e]	4.1		15.5
1999	5.7	4.2		2.9	5.3	2.6	10.8	11.6	8.9	10.2	10.3	21.0	12.0	23.3	97.3	20.0[b]	2.9[e]	8.8	2.2	33.9
2000	14.9	13.0		176.7	39.8	9.8	226.3	45.3	26.9	17.7	13.6	41.7	24.1	23.6	192.9	10.4[b]	4.8[e]	3.3	1.5	20.0
2001			6.0	18.5	26.2	19.2	63.9	36.3	27.2	16.9	21.8	37.7	15.9	13.8	169.6	3.3[b]	0.3[e]	2.7	2.5	8.8
2002		3.4	0.9	1,598.5	81.9	27.5	1,707.9	17.4	16.4	17.5	9.9	17.1	42.2	28.5	149.1	16.7[e]	4.7[e]	3.2	3.3	27.9
2003				138.7	346.7	285.0	770.4	16.4	22.2	30.1	13.1	30.4	72.8	18.7	203.7	11.0[b]	13.8[e]	11.8	2.6	39.2
2004		3.0		66.5	31.5	18.1	116.1	57.9	45.3	14.6	15.9	16.0	16.3	22.0	188.0	16.0[b]	17.0[e]	7.2	0.8	41.0
2005				98.3	116.2	61.0	275.5	25.7	12.1	22.5	21.2	12.2	17.9	16.5	128.1	6.5[b]	14.5[c]	1.7	3.9	26.6
2006		77.0		515.1	70.0	35.7	620.9	58.2	42.9	19.3	7.0	15.7	13.2	15.6	172.0	15.0[b]	13.5[c]	0.3		28.8
2007		5.1		350.4	394.8	249.4	994.6	14.8	15.6	22.3	3.1	20.9	12.5	5.3	94.5	11.0[b]	18.1[c]	3.8	0.1	33.1
2008		34.3		150.7	20.4	17.4	188.5	4.5	21.3	10.8	17.5	6.5	11.6	20.0	92.2	10.0[b]	10.6[b]	3.2	0.2	24.0
2009	10.4	0.8	9.2	1,067.4	106.3	63.6	1,237.3	15.0	4.2	18.4	10.1	12.9	19.4	30.8	110.9	21.0[b]	15.3[b]	2.2	0.1	38.6
2010			0.7	40.3	6.6	3.1	50.0		18.4	13.8	6.2	11.8	15.8	19.3	85.2	5.2[b]	17.3[b]	1.2	0.1	23.8
2011	9.3	13.1	4.2	4.5	0.8	2.0	7.4	5.5	19.3	31.0	3.5	10.6	4.7	16.5	91.2	0.4[b]	10.3[b]	3.4	1.6	15.8
2012	2.7	9.3	3.0	31.8	1.3	2.8	35.9	12.4	30.3	10.4	16.8	2.8	4.1	3.0	79.8	3.1[b]	16.5[b]	0.8	1.1	21.5
2013		0.5	8.0	15.0	6.1	4.1	25.2	3.3	6.7	9.5	8.9	10.3	5.2	5.9	49.9	4.0[b]	11.3[b]	1.5	0.1	17.0
2014		4.8	2.4	121.6	7.7	4.0	133.3	5.7	15.1	17.5	3.6	5.3	7.1	13.0	67.2	18.1[b]	17.8[b]	4.3	0.2	40.3
2015	0.7	1.5	24.9	40.8	60.4	29.1	130.3	7.0	14.4	20.5	11.0	14.8	17.0	7.5	92.1	3.5[b]	19.1[b]	2.9	1.2	26.7
2016	0.7	0.0	2.2	86.6	2.2	1.4	118.9	9.6	12.0	26.3	26.6	7.0	1.6	1.1	84.2	10.2[b]	19.5[b]	2.2	0.1	32.0
10-yr avg.	5.8	16.3	7.5	233.8	67.4	41.1	342.3	14.0	18.8	17.3	8.8	11.2	11.1	13.7	94.9	9.1	15.0	2.4	0.5	27.0
2017	3.8	1.4	43.8	71.1	22.2	39.2	132.5	32.3	19.3	38.7	38.5	22.0	6.2	15.6	172.5	7.5	21.5[b]	1.7	3.7	34.3

Note: Unless otherwise noted, estimated escapements are derived from aerial surveys.

[a] Escapement derived from weir counts.

[b] Escapement derived from video counts.

[c] Escapement derived from a combination of weir, video counts, and/or aerial counts.

[d] "Ursus Cove" is the sum of Ursus Lagoon RH Creek and Ursus Lagoon Creek.

[e] Escapement is derived from aerial counts.

APPENDIX E: SUBSISTENCE, PERSONAL USE AND HOMEPACK HARVESTS

Appendix E1.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Port Graham, Lower Cook Inlet, 1979–2017.

		Reported harvest [a]						
Year	Households reporting	Chinook salmon	Sockeye salmon	Coho salmon	Pink salmon	Chum salmon	Dolly Varden	Total salmon
1979		222	777	506	1,170	494		3,169
1980								
1981		116	1,694	625	298	150		2,883
1982	34	107	820	602	858	183	15	2,570
1983	30	67	1,026	431	174	95	1	1,793
1984	23	27	2,037	125	269	6		2,464
1985	23	141	481	91	32	24		769
1986	27	123	274	179	237	13	12	826
1987	33	20	219	575	230	70	20	1,114
1988	27	96	411	459	542	75	18	1,583
1989	20	51	94	460	640	58	159	1,303
1990	32	211	524	803	1,013	102	666	2,653
1991	33	155	58	541	1,494	185	257	2,433
1992	36	129	98	475	745	178	398	1,625
1993	31	253	154	346	997	135	214	1,885
1994	42	273	260	859	866	461	1,133	2,719
1995	49	486	379	369	786	376	66	2,396
1996	48	255	684	341	312	251	161	1,843
1997	25	202	324	203	497	152	57	1,378
1998	16	164	271	243	459	240	20	1,377
1999	21	383	382	427	150	214	64	1,556
2000	35	241	784	252	355	483		2,115
2001	15	104	176	57	20	32		389
2002	23	250	417	90	150	74		981
2003	16	321	1,991	425	266	150	87	3,153
2004 [b]	50	283	572	514	363	130		1,862
2005	46	265	192	51	349	52		909
2006	14	192	31	1	26	24	207	274
2007	24	92	552		74	63	12	781
2008[c]	18	77	550		36	22	37	685
2009	25	33	1,982	132	49	69	40	2,265
2010	16	30	116	124	24	37		331
2011	15	35	684	107	132	150		1,108
2012	7	24	661	14	282	26		1,007
2013	10	15	1,034	66	27	86		1,228
2014	7	19	1,089	166	410	922		2,606
2015	4	36	842	47	539	872		2,336
2016	12	2		20	10	40		72
10-year Average	14	36	751	68	158	229	13	1,268
2017 [a]	1		124		3	1		128

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

[a] Harvest recorded on permits that are received after December 31 will be reported in the following year's annual management report as harvested in the previous year.

[b] ADF&G Division of Subsistence estimate.

[c] Harvest reports for 2008 incomplete.

Appendix E2.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Nanwalek (formerly English Bay), Lower Cook Inlet, 1978–2017.

		Reported harvest[a]						
Year	Households reporting	Chinook salmon	Sockeye salmon	Coho salmon	Pink salmon	Chum salmon	Dolly Varden	Total salmon
1978								
1979		137	1,545	2,437	2,186	305		6,610
1980								
1981		24	1,075	314	621	19		2,053
1982	27	17	1,534	891	2,074	37	75	4,553
1983	16		1,454	40	13			1,507
1984	1	18	1,225	385	404			2,032
1985	1	5	696	530	313	2		1,546
1986	17	2	373	302	825	1	144	1,503
1987	22	1	682	339	484	44	20	1,550
1988	21	8	610	385	1,214	35	70	2,252
1989	24		63	695	855	16	523	1,629
1990	28	54	638	614	1,947	49	2,833	3,302
1991	30	8	630	1,512	3,093	36	848	5,279
1992	35	71	437	675	676	58	1,331	1,917
1993	25	24	994	567	1,666	122	577	3,373
1994	28	27	570	511	1,113	43	473	2,264
1995	38	99	1,416	169	487		465	2,171
1996	27	55	1,060	598	437	25	221	2,175
1997	1		1		14	1		16
1998	3	5	18				31	23
1999	32	102	2,775	1,320	1,873	890	631	6,960
2000	32	18	3,880	1,579	1,251	471		7,199
2001	34	29	909	1,238	1,434	196		3,806
2002	56	96	10,203	967	1,681	414	230	13,361
2003	35	144	3,221	513	1,306	381	102	5,565
2004	24	52	2,968	842	1,277	95	291	5,234
2005	23	27	1,934	1,142	1,259	128	605	4,490
2006	39	111	2,215	1,179	2,038	207	679	5,750
2007								
2008	53	46	3,615	1,345	2,646	76	315	7,728
2009	19	11	1,515	396	865	71	420	2,858
2010	20		1,514	1,324	1,030	271	365	4,139
2011	41	18	5,009	1,381	2,499	362		9,269
2012[b]	1		300	400	200	5	50	905
2013	4	2	3,854	2,619	383	811	500	7,669
2014	3	3	377		4	143		527
2015	1		35					35
2016	20	15	620	677	12	199		1,523
10-yr average	18	11	1,871	905	849	215	206	3,850
2017	1		215		1	36		252

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

[a] Harvest recorded on permits that are received after December 31 will be reported in the following year's annual management report as harvested in the previous year.

[b] Limited reporting from Nanwalek residents in 2012–2017 may have resulted in a conservative estimate of harvest.

Appendix E3.–Salmon set gillnet harvest in numbers of fish by species and permit/effort information for the Seldovia area subsistence fishery, Lower Cook Inlet, 1996–2017.

	Permits				Reported harvest					
Year	Issued	Returned	Fished	Not Fished	Chinook	Sockeye	Coho	Pink	Chum	Total
Early season: April–May[a]										
1996	41	41	13	28	51	7				58
1997	19	16	12	4	44	19				63
1998	20	19	10	9	132	61		8		201
1999	16	15	12	3	150	130			38	318
2000	28	21	17	4	189	249			14	452
2001	19	17	14	3	134	124				258
2002	20	18	12	6	123	222			3	348
2003	19	13	10	3	67	210		1	54	332
2004	13	10	9	1	91	63			15	169
2005	15	13	4	9	46					46
2006	15	12	6	6	12	10		1		23
2007	15	12	5	7	19	27				46
2008	10	8	3	5	3	15				18
2009	6	5	1	4	14					14
2010	11	8	2	6		54				54
2011	4	2	1	1		49				49
2012	16	6	2	4	3	26				29
2013	7	5	4	1	1	93				93
2014	12	8	4	4	3	69			2	74
2015	6	4	4		16	70		4		90
2016	3	3	3		7	53		2	1	63
10-yr average	9	6	3	3	7	46		1	3	53
2017	8	5	5		7	61				68
Late season: August[b]										
1996	4	3	1	2		1				1
1997	1	1	0	1						
1998	3	2	1	1						
1999										
2000										
2001										
2002	1	1	1			9	13	31	6	59
2003	1	1	1			10	1	12	1	24
2004	1	1	1				4			4
2005	3	2	2			70	13	93	12	188
2006	2	2	1	1				21		21
2007	4	4	3	1		24	9	80	27	140
2008	2	2	2			16	41	65	5	127
2009	12	9	8	1		78	10	44	14	146
2010	5	4	3	1	2	46	31	66	35	180
2011	3	2	1	1		6		10		16
2012	4	1	1			3		20		23
2013	5	3	3		1	5	1	45	10	62
2014	9	7	6	1	2	47		5	63	117
2015	2	2		2						
2016	1	1		1						
10-yr average	5	4	3	1	1	23	9	34	15	81
2017	5	3	1	2					2	2

Source: Data on file with ADF&G, Division of Subsistence; gear types include set gillnet, rod/reel, and handline.

[a] Early season dates in 1996 and 1997 from April 1 to May 20; subsequent years were from April 1 to May 30.

[b] Late season dates are restricted to the first 2 weekends in August.

Appendix E4.–Personal use/subsistence set gillnet salmon harvest in numbers of fish by species and effort, Southern District (excluding the Port Graham/Nanwalek subsistence fishery and the Seldovia subsistence fishery), Lower Cook Inlet, 1975–2017.

	Permits				Reported harvest						
Year	Issued	Returned	Fished	Not fished	Chinook	Sockeye	Coho	Pink	Chum	Other	Total
1975	292	276	221	55	4	47	1,960	632	61	95	2,799
1976	242	221	138	83	16	46	1,962	1,513	56	75	3,668
1977	197	179	137	42	12	46	2,216	639	119	84	3,116
1978	311	264	151	113	4	35	2,482	595	34	89	3,239
1979	437	401	238	163	6	37	2,118	2,251	41	130	4,583
1980	533	494	299	195	43	32	3,491	1,021	25	153 [a]	4,765
1981	403	383	283	100	15	73	4,370	718	68		5,244
1982	395	372	301	71	41	49	7,398	956	154		8,598
1983	344	328	210	118	5	17	2,701	305	44	2	3,074
1984	368	346	219	127	3	25	3,639	804	105	27	4,603
1985	328	302	205	97	5	49	3,317	138	34	3	3,546
1986	349	310	247	63	7	68	3,831	3,132	56		7,094
1987	363	339	250	89	5	50	3,979	279	61		4,374
1988	439	417	300	117	14	73	5,007	1,445	75		6,614
1989	477	453	333	120	41	156	7,219	883	53	49	8,401
1990	578	543	420	123	12	200	8,323	1,846	69		10,450
1991	472	459	295	164	8	47	4,931	366	23		5,375
1992	365	350	239	111	5	63	2,277	643	21		3,009
1993	326	317	215	102	6	44	1,992	463	18		2,523
1994	286	284	224	60	66	80	4,097	1,178	18		5,439
1995	235	232	178	54	118	108	2,916	343	7		3,492
1996	299	293	213	80	302	102	3,347	1,022	24		4,797
1997	276	264	186	78	384	191	1,817	257	12		2,661
1998	227	214	142	72	135	20	1,461	167	5		1,788
1999	146	141	111	30	276	119	1,803	168	3		2,369
2000	213	206	151	55	104	28	2,064	304	4		2,504
2001	154	148	112	34	86	27	1,579	150	16		1,858
2002	122	113	93	20	61	33	1,521	251	12		1,878
2003	104	96	72	24	17	57	1,071	170	9		1,324
2004	91	83	65	18	7	56	1,554	172	16		1,805
2005	108	96	69	27	8	57	833	296	13		1,207
2006	89	82	62	20	15	41	1,295	221	5		1,577
2007	141	133	95	38	10	113	1,431	641	34		2,229
2008	146	142	107	35	2	92	1,844	687	14		2,639
2009	145	142	90	52	9	273	646	101	4	1	1,034
2010	128	122	82	41	14	149	875	251	17		1,306
2011	119	112	81	31	15	223	806	145	5	3	1,197
2012	98	95	69	26	5	137	1,471	275	6		1,894
2013	123	118	89	29	9	122	1,732	135	3		2,001
2014	160	154	115	39	13	310	2,273	20	178		2,794
2015	136	131	91	40	10	509	1,373	152	22	6	2,072
2016	170	169	118	50	18	166	2,033	8	335		2,560
10-yr Average	137	132	94	38	11	209	1,448	242	62	1	1,973
2017	148	145	108	37	6	298	2,388	11	212		2,915

Note: Figures after 1991 include information from both returned permits and inseason oral reports.

[a] Steelhead trout *Oncorhynchus mykiss*.

Appendix E5.–Summary of personal use/subsistence salmon gillnet permit holders in the Southern District of Lower Cook Inlet (excluding the Port Graham/Nanwalek subsistence fishery and the Seldovia subsistence fishery) by area of residence, 1990–2017.

	Homer/ Fritz Cr.		Anchorage Area[a]		Halibut Cove		Anchor Pt./ Ninilchik		Seldovia		Pt. Graham/ Nanwalek		Kenai/ Soldotna		Other		Total Permits
Year	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Issued
1990	441	76.3%	36	6.2%	5	0.9%	65	11.2%	12	2.1%	0	0.0%	6	1.0%	13	2.2%	578
1991	384	81.4%	27	5.7%	8	1.7%	41	8.7%	6	1.3%	0	0.0%	4	0.8%	2	0.4%	472
1992	302	82.7%	21	5.8%	5	1.4%	32	8.8%	3	0.8%	0	0.0%	1	0.3%	1	0.3%	365
1993	242	74.2%	25	7.7%	5	1.5%	44	13.5%	3	0.9%	0	0.0%	5	1.5%	2	0.6%	326
1994	235	82.2%	20	7.0%	4	1.4%	21	7.3%	1	0.3%	0	0.0%	1	0.3%	4	1.4%	286
1995	191	81.3%	15	6.4%	7	3.0%	20	8.5%	1	0.4%	0	0.0%	0	0.0%	1	0.4%	235
1996	241	80.6%	16	5.4%	7	2.3%	26	8.7%	3	1.0%	1	0.3%	2	0.7%	3	1.0%	299
1997	232	84.1%	13	4.7%	3	1.1%	20	7.2%	4	1.4%	0	0.0%	1	0.4%	3	1.1%	276
1998	175	77.1%	18	7.9%	2	0.9%	24	10.6%	5	2.2%	0	0.0%	2	0.9%	1	0.4%	227
1999	96	65.8%	18	12.3%	1	0.7%	23	15.8%	3	2.1%	0	0.0%	4	2.7%	1	0.7%	146
2000	168	78.9%	15	7.0%	2	0.9%	21	9.9%	4	1.9%	0	0.0%	1	0.5%	2	0.9%	213
2001	109	70.8%	10	6.5%	3	1.9%	20	13.0%	5	3.2%	0	0.0%	4	2.6%	3	1.9%	154
2002	85	70.2%	7	5.8%	3	2.5%	14	11.6%	6	5.0%	0	0.0%	5	4.1%	1	0.8%	121
2003	74	71.2%	9	8.7%	2	1.9%	11	10.6%	4	3.8%	0	0.0%	4	3.8%	0	0.0%	104
2004	70	76.9%	9	9.9%	2	2.2%	7	7.7%	2	2.2%	0	0.0%	1	1.1%	0	0.0%	91
2005	80	74.1%	12	11.1%	2	1.9%	8	7.4%	1	0.9%	0	0.0%	3	2.8%	2	1.9%	108
2006	74	84.1%	6	6.8%	1	1.1%	4	4.5%	0	0.0%	0	0.0%	2	2.3%	1	1.1%	88
2007	116	82.3%	11	7.8%	3	2.1%	7	5.0%	0	0.0%	0	0.0%	1	0.7%	3	2.1%	141
2008	121	82.9%	3	2.1%	2	1.4%	13	8.9%	2	1.4%	0	0.0%	3	2.1%	2	1.4%	146
2009	107	73.8%	11	7.6%	1	0.7%	19	13.1%	2	1.4%	0	0.0%	5	3.4%	0	0.0%	145
2010	103	80.5%	8	6.3%	1	0.8%	9	7.0%	2	1.6%	0	0.0%	5	3.9%	0	0.0%	128
2011	87	68.0%	13	10.2%	2	1.6%	9	7.0%	2	1.6%	0	0.0%	6	4.7%	0	0.0%	119
2012	75	76.5%	7	7.1%	1	1.0%	10	10.2%	0	0.0%	0	0.0%	5	5.1%	0	0.0%	98
2013	102	82.9%	9	7.3%	0	0.0%	7	5.7%	0	0.0%	0	0.0%	5	4.1%	0	0.0%	123
2014	125	78.1%	13	8.1%	1	0.6%	11	6.9%	1	0.6%	0	0.0%	8	5.0%	1	0.6%	160
2015	112	82.4%	12	8.8%	0	0.0%	9	6.6%	0	0.0%	0	0.0%	3	2.2%		0.0%	136
2016	139	81.8%	12	7.1%	1	0.6%	10	5.9%	2	1.2%	0	0.0%	6	3.5%	0	0.0%	170
10-year Average	102	79.1%	9.3	7.2%	1.2	0.9%	9.8	7.5%	1	0.6%	0	0.0%	4	3.3%	1	0.5%	128.4
2017	122	82.4%	9	6.1%	0	0.0%	11	7.4%	0	0.0%	0	0.0%	6	4.1%	0	0.0%	148

[a] After 1989, "Anchorage Area" includes Mat-Su Valley, Eagle River, Chugiak, and/or Fort Richardson.

Appendix E6.–Historical harvest and numbers of permits actively fished by area for the Southern District personal use coho salmon set gillnet fishery, 1981–2017.

	Troublesome Creek to tip of Homer Spit		East side of Homer Spit		Mud Bay to Fritz Creek		Fritz Creek to Swift Creek		Bear Cove to Neptune Bay		Neptune Bay to Little Tutka Bay	
Year	Permits	Coho salmon	Permits	Coho salmon	Permits	Coho salmon	Permits	Coho salmon	Permits	Coho salmon	Permits	Coho salmon
1981		68		419		1,239		2,382		259		3
1982		118		471		3,307		3,260		237		5
1983		18		126		944		1,319		202		92
1984		25		274		1,686		1,517		102		35
1985		119		87		1,218		1,681		261		51
1986		36		490		1,415		1,651		166		73
1987		101		590		1,103		1,953		180		52
1988		78		472		1,248		2,769		384		56
1989		234		1,259		1,591		3,455		616		74
1990		287		2,117		1,748		3,478		465		228
1991		328		1,585		798		1,873		245		51
1992		37		938		464		719		116		18
1993		86		881		295		627		74		29
1994		211		1,413		596		1,558		314		5
1995		414		1,124		372		769		202		35
1996	16	220	85	1,871	39	364	38	603	32	272	3	17
1997	19	149	81	1,294	36	133	32	134	13	83	5	24
1998	10	86	77	1,062	29	162	10	39	13	75	3	37
1999	4	25	67	1,225	11	123	4	43	16	286	9	101
2000	11	210	84	1,372	18	169	15	126	16	120	7	67
2001	12	94	55	920	10	90	8	185	19	189	10	101
2002	11	212	38	624	13	99	8	195	13	201	10	190
2003	7	81	29	627	10	57	7	43	12	135	7	128
2004	2	75	23	610	8	131	9	228	15	365	8	145
2005	4	23	27	305	4	43	8	126	16	190	10	146
2006	1	20	20	388	9	179	9	248	18	375	5	85
2007	0	0	24	179	11	153	32	885	20	170	8	44
2008	1	28	23	322	30	368	25	776	16	259	12	91
2009	5	29	12	39	15	52	32	310	18	187	8	29
2010			15	118	18	65	38	466	28	194	13	32
2011	3	31	15	54	10	49	44	536	27	103	14	33
2012	3		11	72	13	32	42	1,202	19	140	7	25
2013	2		11	38	22	137	56	1,252	21	219	11	86
2014	5	52	27	591	22	574	37	780	13	194	10	82
2015	3	34	23	246	19	297	28	647	13	117	4	32
2016	7	115	28	382	30	550	30	780	14	124	9	82
10-yr Average	3	29	19	204	19	228	36	763	19	171	10	54
2017	3	58	32	898	29	473	22	672	17	245	5	42

Appendix E7.–Salmon retained from the commercial harvest for personal use (homepack) by species and gear type from Lower Cook Inlet districts, 1996–2017.

	Permits deliv.		Chinook salmon		Sockeye salmon		Coho salmon		Pink salmon		Chum salmon	
Year	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine	Set gillnet	Purse seine
1996	1	2	6		19	32	5					
1997	1		1		11							
1998												
1999												
2000												
2001												
2002	1		0		20				100		3	
2003	2		3		2				750		0	
2004	1		2		38		10		9		4	
2005	3	1	7		79	10	38		121		8	
2006	4	3	9		58	169	73	17	72		13	7
2007	4		1		204		76		3		0	
2008	2				39		7		40		6	
2009	3		1		35		14		23		9	
2010	2		2		29		4				3	
2011	3	1	2	3	62		3		487		27	
2012	7		4		63		61		323		31	
2013	6		16		155		150		157		13	
2014	8	1	10		180	3	128		318		17	
2015	16	4	60	7	158	120	417	62	99	302	28	
2016	14	11	35	40	115	269	171	25	205	79	41	5
10-year average	7	3	13	10	104	78	103	17	166	76	18	1
2017	15	6	36	23	513	140	189	12	121	71	110	

Note: No homepacks from commercial harvest reported before 1996. Regulations requiring reporting of fish harvested but not sold (5 AAC 39.130(c)(10)) on fish tickets established in 2008.

Appendix E8.–Lower Cook Inlet commercial homepack and personal use harvest by permit holder community of residence, 2017.

Commercial homepack[a]

Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Anchor Point	1	1	4				5
Anchorage	2	1	13		9	10	33
Halibut Cove	2	4	5	12			21
Homer	6	38	199	108	114	12	471
Ninilchik	1	3	20				23
Seldovia	8	11	412	81	69	88	661
USA balance	1	1					1
Total	21	59	653	201	192	110	1,215

Southern District personal use set gillnet fishery [b]

	Permits		Chinook	Sockeye	Coho	Pink	Chum	Total
Community	issued	returned	salmon	salmon	salmon	salmon	salmon	salmon
Anchorage area	8	7		73	96		1	170
Anchor Pt./Ninilchik/Nikolaevsk	12	9		11	236	13	1	261
Fairbanks	0	0						
Halibut Cove	0	0						
Homer	122	120	5	197	2,015	179	9	2,405
Kenai/Soldotna	6	5	1	17	41	20		79
Pt.Graham/Nanwalek	0	0						
Seldovia	0	0						
Total	148	141	6	298	2,388	212	11	2,915

Port Graham/Nanwalek subsistence fishery [c]

	Permits		Chinook	Sockeye	Coho	Pink	Chum	Total
Community	issued	returned	salmon	salmon	salmon	salmon	salmon	salmon
Anchorage area	1	0		215		1	36	252
Homer	0	0						
Nanwalek	1	1						
Port Graham	12	1		124		3	1	128
Valdez	0	0						
Total	14	2		339		4	37	380

Seldovia subsistence fishery [d,e]

	Permits		Chinook	Sockeye	Coho	Pink	Chum	Total
Community	issued	returned	salmon	salmon	salmon	salmon	salmon	salmon
Anchorage area	2	1						
Homer	2	2						
Nanwalek	0	0						
Ninilchik	0	0						
Pt.Graham/Nanwalek	0	0						
Seldovia	9	5	7	61			2	70
Total	11	7	7	61			2	70

[a] Homepack fish as defined in 5 AAC 39.010 as finfish retained from lawfully taken commercial catch for that person's own use.

[b] As defined in 5 AAC 77.549 *Personal Use Coho Salmon Fishery Management Plan*.

[c] Defined as subsistence harvest from the Port Graham and Nanwalek Sections of the Port Graham Subdistrict in the Southern District.

[d] Defined as subsistence harvest from the Seldovia Subdistrict in the Southern District.

[e] Includes harvests from both early and late season Seldovia subsistence fisheries.

APPENDIX F: HATCHERY PRODUCTION AND RETURNS

Appendix F1.–Summary of salmon runs to Lower Cook Inlet hatchery release sites, 2017.

Sockeye salmon

Hatchery or release site (hatchery [a])	BY 2012 release	BY 2013 release	2017 forecast run	Estimated CPF[b] contribution	Estimated sales harvest[c] contribution	Broodstock & unharvested contribution	Estimated total run	2017 eggs collected
Bear Lake and Resurrection Bay (TLH)	4,290,000	4,163,000	120,583	0	28,977	16,681	45,658	5,122,000
Hidden Lake (TLH)	860,000	1,540,000	32,840	12,432	474	10,032	22,938	1,282,300
Leisure and Hazel lakes (TLH)	3,250,000	2,576,000	62,811	10,334	2,929	715	13,978	0
Kirschner Lake (TLH)	0	217,000	13,020	3,352	24,001	0	27,353	0
English Bay Lakes (TLH)	211,000	211,000	3,715	ukwn	0	20,751	NA	0
Tutka Bay Lagoon (TLH)[d]	599,500	523,500	62,236	19,376	34,709	5,319	59,404	5,555,000
Port Graham Hatchery (TLH)	0	0	0	0	0	0	0	0
Shell Lake	80,000	0	0	0	0	574	0	~~0~~
Total sockeye salmon	9,210,500	9,230,500	295,205	45,494	91,090	53,498	169,312	11,959,300

Coho salmon

Hatchery or release site (hatchery)	BY 2014 release	2017 forecast run	Estimated CPF contribution	Estimated sales harvest contribution	Broodstock & unharvested contribution	Estimated total run	Eggs collected
Bear Lake and Resurrection Bay (TLH)	548,000	10,500	NA	864	1,609	NA	587,900
Total coho salmon	548,000	10,500	NA	864	1,609	NA	587,900

Pink salmon

Hatchery or release site (hatchery)	BY 2015 Release	2017 Forecast Run	Estimated CPF Contribution	Estimated Sales Harvest Contribution	Broodstock & Unharvested Contribution	Estimated Total Run	Eggs Collected
Tutka Bay Lagoon Hatchery (TBLH)	11,433,515	343,006	87,080	110,152	267,913	465,145	123,548,148
Port Graham Hatchery (PGH)	1,310,762	39,323	0	0	69,249	69,249	35,212,560
Bruin Bay (PGH)							1,530,893
Total pink salmon	12,744,277	382,329	87,080	110,152	337,162	534,394	158,760,708
Total-all salmon			132,574	202,087	392,269	703,706	171,307,908

[a] TLH = Trail Lakes Hatchery, TBLH = Tutka Bay Lagoon Hatchery.

[b] Common Property Fisheries (CPF) include commercial, sport, personal use, and subsistence harvests. Harvest estimate based on harvest location, not on otolith sampling.

[c] Hatchery cost recovery sales in number of fish. Also includes donated fish that could not be sold due to quantity or quality available.

[d] Includes hatchery donated fish. Tutka Bay Lagoon Hatchery has not produced sockeye salmon since 2004. Returns of this species are from remote releases from the Trail Lakes Hatchery. Sockeye salmon eggs collected at this facility were taken back to the Trail Lakes Hatchery for incubation.

Appendix F2.–Daily sockeye salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2017.

			Sales harvest[a]		Donated		Broodstock harvest	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
5/26	Purse seine	Bear Lake SHA	621	621				
5/27	Purse seine	Bear Lake SHA	195	816				
5/28	Purse seine	Bear Lake SHA	203	1,019				
5/30	Purse seine	Bear Lake SHA	1,578	2,597				
5/31	Purse seine	Bear Lake SHA	933	3,530				
6/1	Purse seine	Bear Lake SHA	2,473	6,003				
6/2	Purse seine	Bear Lake SHA	3,500	9,503				
6/3	Purse seine	Bear Lake SHA	278	9,781				
6/5	Purse seine	Bear Lake SHA	603	10,384				
6/6	Purse seine	Bear Lake SHA	2,250	12,634				
6/7	Purse seine	Bear Lake SHA	1,423	14,057				
6/8	Purse seine	Bear Lake SHA	1,749	15,806				
6/9	Purse seine	Bear Lake SHA	495	16,301				
6/10	Purse seine	Bear Lake SHA	1,690	17,991				
6/14	Purse seine	Bear Lake SHA	3,323	21,314				
6/16	Purse seine	Bear Lake SHA	1,751	23,065				
6/17	Purse seine	Bear Lake SHA	640	23,705				
6/20	Purse seine	Bear Lake SHA	552	24,257				
6/20	Weir or beach seine	Bear Lake SHA			32	32		
6/21	Weir or beach seine	Bear Lake SHA			20	52		
6/22	Weir or beach seine	Bear Lake SHA			37	89		
6/23	Weir or beach seine	Bear Lake SHA			51	140		
6/24	Weir or beach seine	Bear Lake SHA			26	166		
6/25	Weir or beach seine	Bear Lake SHA			73	239		
6/26	Weir or beach seine	Bear Lake SHA			30	269		
6/29	Weir or beach seine	Bear Lake SHA	141	141	67	336		
6/30	Weir or beach seine	Bear Lake SHA	131	272	27	363		
7/1	Weir or beach seine	Bear Lake SHA		272		363		
7/2	Weir or beach seine	Bear Lake SHA	101	373	25	388		
7/3	Weir or beach seine	Bear Lake SHA		373		388		
7/4	Weir or beach seine	Bear Lake SHA	119	492		388		
7/5	Weir or beach seine	Bear Lake SHA	58	550		388		
7/6	Weir or beach seine	Bear Lake SHA		550	57	445		
7/7	Weir or beach seine	Bear Lake SHA		550	72	517		
7/8	Weir or beach seine	Bear Lake SHA		550	96	613		
7/9	Weir or beach seine	Bear Lake SHA	587	1,137	24	637		
7/10	Weir or beach seine	Bear Lake SHA	417	1,554	45	682		
7/11	Weir or beach seine	Bear Lake SHA		1,554	15	697		
7/12	Weir or beach seine	Bear Lake SHA	103	1,657	43	740		
7/13	Weir or beach seine	Bear Lake SHA			95	835		
7/14	Weir or beach seine	Bear Lake SHA			110	945		
7/15	Weir or beach seine	Bear Lake SHA			94	1,039		
7/16	Weir or beach seine	Bear Lake SHA			88	1,127		
7/17	Weir or beach seine	Bear Lake SHA			173	1,300		
7/18	Weir or beach seine	Bear Lake SHA			135	1,435		
7/19	Weir or beach seine	Bear Lake SHA			180	1,615		
7/20	Weir or beach seine	Bear Lake SHA			87	1,702		
7/21	Weir or beach seine	Bear Lake SHA			113	1,815		
7/22	Weir or beach seine	Bear Lake SHA			80	1,895		
7/23	Weir or beach seine	Bear Lake SHA			82	1,977		

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			Sales harvest		Donated		Broodstock	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
7/24	Weir or beach seine	Bear Lake SHA			87	2,064		
7/25	Weir or beach seine	Bear Lake SHA			243	2,307		
7/26	Weir or beach seine	Bear Lake SHA			87	2,394		
7/27	Weir or beach seine	Bear Lake SHA			104	2,498		
7/28	Weir or beach seine	Bear Lake SHA			113	2,611		
7/29	Weir or beach seine	Bear Lake SHA			183	2,794		
7/30	Weir or beach seine	Bear Lake SHA			115	2,909		
7/31	Weir or beach seine	Bear Lake SHA			71	2,980		
8/1	Weir or beach seine	Bear Lake SHA			64	3,044	551	551
8/3	Weir or beach seine	Bear Lake SHA					559	1,110
8/4	Weir or beach seine	Bear Lake SHA					547	1,657
8/5	Weir or beach seine	Bear Lake SHA					269	1,926
8/7	Weir or beach seine	Bear Lake SHA					273	2,199
8/9	Weir or beach seine	Bear Lake SHA					431	2,630
8/10	Weir or beach seine	Bear Lake SHA					408	3,038
8/11	Weir or beach seine	Bear Lake SHA					216	3,254
8/12	Weir or beach seine	Bear Lake SHA					492	3,746
7/7	Purse seine	Tutka Bay SHA	9,717	9,717				
7/8	Purse seine	Tutka Bay SHA	5,778	15,495				
7/12	Purse seine	Tutka Bay SHA	10,246	25,741				
7/21	Purse seine	Tutka Bay SHA	3,439	29,180				
7/22	Purse seine	Tutka Bay SHA	1,855	31,035				
8/23	Purse seine	Tutka Bay SHA	2,206	33,241				
8/29	Purse seine	Tutka Bay SHA	1,468	34,709				
7/22	Purse seine	China Poot SHA	248	248				
8/23	Purse seine	China Poot SHA	2,681	2,929				
9/24	Purse seine	Tutka Bay SHA					448	448
9/26	Purse seine	Tutka Bay SHA					450	898
10/3	Purse seine	Tutka Bay SHA					573	1,471
10/4	Purse seine	Tutka Bay SHA					501	1,972
10/6	Purse seine	Tutka Bay SHA					611	2,583
10/7	Purse seine	Tutka Bay SHA					589	3,172
10/8	Purse seine	Tutka Bay SHA					258	3,430
10/9	Purse seine	Tutka Bay SHA					672	4,102
10/10	Purse seine	Tutka Bay SHA					380	4,482
10/11	Purse seine	Tutka Bay SHA					1,475	5,957
7/5	Purse seine	Kirschner SHA	8,795	8,795				
7/13	Purse seine	Kirschner SHA	6,758	15,553				
7/22	Purse seine	Kirschner SHA	7,040	22,593				
7/30	Purse seine	Kirschner SHA	1,408	24,001				
9/9	Beach seine	English Bay Lakes					0	0
9/15	Beach seine	English Bay Lakes					0	0
9/20	Beach seine	English Bay Lakes					0	0

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			Sales harvest		Donated		Broodstock	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
9/20	Weir or beach seine	Hidden Lake[b]					491	491
9/21	Weir or beach seine	Hidden Lake[b]					494	985
9/25	Weir or beach seine	Shell Lake[b]					43	43

Hatchery escapement summary in numbers of fish[c]	
Donated fish (Harv code 37)	3,044
Raceway harvest (Harvest code 22)	0
Viable broodstock (spawned,eggs in incubators)	8,248
Unviable broodstock (green/over-ripe/bad)	255
Unspawned fish (e.g. excess males/females)	0
Holding mortalities (raceway, pen mortalities)	236
Estimated unharvested return	0
Total hatchery harvest	11,783

Sales summary	
Whole fish sales (Harv code 21)	87,553
Broodstock carcass sales (Harv code 22)	0
Total sales	87,553

[a] ADF&G fish ticket database.

[b] CIAA projects conducted in Upper Cook Inlet.

[c] Data from CIAA and ADF&G fish ticket database.

Appendix F3.–Daily pink salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2017.

			Sales harvest[a]		Donated		Broodstock harvest[b]	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
7/8	Purse seine	Tutka SHA	11,494	11,494				
7/13	Purse seine	Tutka SHA	9,575	21,069				
7/21	Purse seine	Tutka SHA	6,096	27,165				
7/22	Purse seine	Tutka SHA	10,352	37,517				
8/23	Purse seine	Tutka SHA	37,570	75,087				
8/29	Purse seine	Tutka SHA	35,065	110,152				
8/8	Weir	Tutka SHA					1,680	1,680
8/9	Weir	Tutka SHA					11,710	13,390
8/10	Weir	Tutka SHA					6,529	19,919
8/11	Weir	Tutka SHA					1,562	21,481
8/12	Weir	Tutka SHA					2,261	23,742
8/13	Weir	Tutka SHA					393	24,135
8/14	Weir	Tutka SHA					7,844	31,979
8/15	Weir	Tutka SHA					9,217	41,196
8/16	Weir	Tutka SHA					5,800	46,996
8/17	Weir	Tutka SHA					8,721	55,717
8/18	Weir	Tutka SHA					14,573	70,290
8/19	Weir	Tutka SHA					10,365	80,655
8/20	Weir	Tutka SHA					13,249	93,904
8/21	Weir	Tutka SHA					11,332	105,236
8/22	Weir	Tutka SHA					14,576	119,812
8/23	Weir	Tutka SHA					10,098	129,910
8/24	Weir	Tutka SHA					11,660	141,570
8/25	Weir	Tutka SHA					20,954	162,524
8/26	Weir	Tutka SHA					9,363	171,887
8/28	Weir	Tutka SHA					20,936	192,823
8/29	Weir	Tutka SHA					19,745	212,568
8/30	Weir	Tutka SHA					10,059	222,627
9/2	Weir	Tutka SHA					10,227	232,854
9/3	Weir	Tutka SHA					2,531	235,385
9/4	Weir	Tutka SHA					8,193	243,578
9/5	Weir	Tutka SHA					6,604	250,182
9/11	Weir	Tutka SHA					997	251,179
9/12	Weir	Tutka SHA					2,485	253,664
9/13	Weir	Tutka SHA					1,619	255,283
9/14	Weir	Tutka SHA					1,932	257,215
9/15	Weir	Tutka SHA					2,904	260,119
9/18	Weir	Tutka SHA					1,679	261,798
9/19	Weir	Tutka SHA					1,508	263,306
9/20	Weir	Tutka SHA					1,702	265,008
9/21	Weir	Tutka SHA					2,240	267,248
9/22	Weir	Tutka SHA					665	267,913
7/13	Purse seine	Kirschner SHA	931	931				
7/22	Purse seine	Kirschner SHA	758	1,689				
7/30	Purse seine	Kirschner SHA	327	2,016				
7/16	Purse seine	China Poot SHA	1,523	1,523				

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			Sales harvest[a]		Donated		Broodstock harvest[b]	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
8/25	Purse seine	Port Graham SHA					655	655
8/26	Purse seine	Port Graham SHA					2,272	2,927
8/27	Purse seine	Port Graham SHA					1,612	4,539
8/28	Purse seine	Port Graham SHA					468	5,007
8/29	Purse seine	Port Graham SHA					271	5,278
8/30	Purse seine	Port Graham SHA					2,689	7,967
8/31	Purse seine	Port Graham SHA					578	8,545
9/2	Purse seine	Port Graham SHA					2,504	11,049
9/3	Purse seine	Port Graham SHA					902	11,951
9/4	Purse seine	Port Graham SHA					900	12,851
9/7	Purse seine	Port Graham SHA					2,033	14,884
9/8	Purse seine	Port Graham SHA					640	15,524
9/9	Purse seine	Port Graham SHA					1,171	16,695
9/11	Purse seine	Port Graham SHA					4,921	21,616
9/15	Purse seine	Port Graham SHA					8,203	29,819
9/18	Purse seine	Port Graham SHA					7,411	37,230
9/19	Purse seine	Port Graham SHA					2,850	40,080
9/20	Purse seine	Port Graham SHA					5,531	45,611
9/21	Purse seine	Port Graham SHA					8,763	54,374
9/22	Purse seine	Port Graham SHA					6,170	60,544
9/23	Purse seine	Port Graham SHA					7,801	68,345
9/24	Purse seine	Port Graham SHA					387	68,732
9/25	Purse seine	Port Graham SHA					268	69,000
9/26	Purse seine	Port Graham SHA					249	69,249

Hatchery escapement summary in numbers of fish[b]	
Donated fish (Harv code 37)	0
Raceway harvest	0
Viable broodstock (spawned, eggs in incubators)	196,339
Unviable broodstock (green/over-ripe/bad)	28,278
Unspawned fish (e.g. Excess males/females)	74,959
Holding mortalities (raceway, pen mortalities)	41,555
Estimated unharvested return	61,369
Total hatchery harvest	402,500

Sales summary	
Whole fish sales (Harv code 21)	113,691
Broodstock carcass sales (Harv code 22)	0
Total sales	113,691

[a] From ADF&G fish ticket database.

[b] Data from CIAA.

Appendix F4.–Daily coho sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2017.

			Sales harvest		Broodstock harvest		Weir donations	
Date	Gear	Location	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
6/14	Purse seine	Bear Lake SHA	3	3				
7/8	Purse seine	Tutka SHA	1	4				
7/12	Purse seine	Tutka SHA	14	18				
7/16	Purse seine	China Poot SHA	154	172				
7/22	Purse seine	Tutka SHA	5	177				
8/29	Purse seine	Tutka SHA	24	201				
9/11	Weir	Bear Lake SHA			21	21		
9/12	Weir	Bear Lake SHA			17	38		
9/13	Weir	Bear Lake SHA			26	64		
9/14	Weir	Bear Lake SHA			39	103		
9/15	Weir	Bear Lake SHA			74	177		
9/16	Weir	Bear Lake SHA			172	349		
9/17	Weir	Bear Lake SHA			18	367	63	63
9/18	Weir	Bear Lake SHA			26	393	121	184
9/19	Weir	Bear Lake SHA			10	403	5	189
9/20	Weir	Bear Lake SHA			26	429	124	313
9/21	Weir	Bear Lake SHA			24	453		313
9/22	Weir	Bear Lake SHA			25	478	225	538
9/23	Weir	Bear Lake SHA			70	548	86	624
9/24	Weir	Bear Lake SHA			36	584	19	643
9/25	Weir	Bear Lake SHA			0	584	185	828
9/26	Weir	Bear Lake SHA			39	623		828
9/27	Weir	Bear Lake SHA			94	717		828
9/28	Weir	Bear Lake SHA			37	754		828
9/29	Weir	Bear Lake SHA			33	787		828
9/30	Weir	Bear Lake SHA				787	33	861
10/1	Weir	Bear Lake SHA				787		
10/2	Weir	Bear Lake SHA			21	808		
10/3	Weir	Bear Lake SHA			33	841		
10/4	Weir	Bear Lake SHA			40	881		
10/5	Weir	Bear Lake SHA			11	892		
10/6	Weir	Bear Lake SHA			4	896		
10/7	Weir	Bear Lake SHA			8	904		
10/8	Weir	Bear Lake SHA			35	939		
10/9	Weir	Bear Lake SHA			15	954		
10/10	Weir	Bear Lake SHA			22	976		
10/11	Weir	Bear Lake SHA[a]			-212	764		

Hatchery escapement summary in numbers of fish	
Donated fish (Harv code 37)	861
Raceway harvest (Harvest code 22)	0
Viable broodstock (spawned,eggs in incubators)	280
Unviable broodstock (green/over-ripe/bad)	2
Broodstock for ADF&G "Salmon in the classroom" project	203
Holding mortalities (raceway, pen mortalities)	266
Escapement for hatchery watershed	858
Total hatchery return	2,470

Sales and donation summary	
Whole fish sales (Harv code 21)	201
Carcass sale (Harv code 22)	0
Total sales	201

[a] There were 212 fish released into Bear Lake from the holding pen.

Appendix F5.–Historical harvest contributions, and total run of sockeye and coho salmon to Cook Inlet hatchery release sites, 1978–2017.

	Sockeye salmon					Coho salmon[a]			
Return year	Hatchery contrib. to the CCPF	Hatchery contrib. to broodstock esc.	Hatchery contrib. to cost recov.	Hatchery donated	Total hatchery run	Hatchery contrib. to broodstock esc.	Hatchery contrib. to cost recov.	Hatchery donated	Total hatchery run
1978						100			100
1979	299,858	3,974			303,833	7,089			7,089
1980	638,058	30,927			668,985	6,376			6,376
1981	358,726	9,700			368,460				
1982	23,990	19,283			45,218				
1983	151,400	16,103			173,903				
1984	231,444	50,800			287,758	4,620			4,620
1985	415,493	179,400			608,252	5,335			5,335
1986	808,503	12,020			841,552	1,938			1,938
1987	521,349	34,600			572,648	300			300
1988	676,669	594			686,184				
1989	251,532	12,000	78,731		356,263				
1990	370,195	2,708	8,513		389,059		5,855		5,855
1991	479,910	86,650	3,604		590,136		6,035		6,035
1992	378,823	24,103	9,198		420,374	689	1,234		1,923
1993	459,756	38,231	37,620		551,457	678	7,199		7,877
1994	205,837	17,655	51,140		277,632	731	4,967		5,698
1995	260,844	6,010	63,404		344,048				
1996	348,846	5,455	76,272		445,157	608	723		1,331
1997	184,409	1,645	90,464		284,310	594	2,690		3,284
1998	110,659	3,561	81,889		211,166	780	9,905		10,685
1999	968,473	16,317	182,311		1,236,748	939	2,499		3,438
2000	216,149	17,681	94,666	13,690	356,263	976	5,370	5,146	11,492
2001	656,309	17,773	67,786	7,343	840,524	644	1,754	1,758	4,156
2002	754,609	19,744	85,830	1,364	966,783	1,044	2,352	1,436	4,832
2003	1,080,584	20,311	124,388	2,275	1,306,299	1,234	2,228	1,816	5,278
2004	1,112,259	11,167	29,943		1,251,938	972	1,224	1,215	3,411
2005	924,377	7,379	74,673	1,302	1,104,598	953	1,536	1,518	4,007
2006	382,433	14,600	77,590	784	514,373	754	600	1,511	2,865
2007	345,027	12,754	57,305	271	450,136	608			608
2008	134,226	7,658	88,836	201	245,704	525	350	402	1,277

-continued-

Appendix F5.–Page 2 of 2.

Return year	Sockeye salmon					Coho salmon[a]			
	Hatchery contrib. to the CCPF [b]	Hatchery contrib. to broodstock esc. [c]	Hatchery contrib. to cost recov.	Hatchery donated	Total hatchery return	Hatchery contrib. to broodstock esc.	Hatchery contrib. to cost recov.	Hatchery donated	Total hatchery return
2009	26,798	10,403	174,980	782	235,419	483		138	621
2010	78,645	10,214	69,833	465	194,834	452		220	672
2011	94,153	7,572	159,860	211	261,585	454		385	839
2012		12,035	114,593	254	126,628	578		321	899
2013	10,732	9,364	71,913	1,129	93,138	354		2,044	2,398
2014	8,374	10,318	172,400	1,671	192,763	383		671	1,054
2015	4,633	15,693	143,544	2,062	165,932	486	1	727	1,214
2016	10,087	6,725	171,249	1,484	189,545	268	0	0	268
10-yr avg.	79,186	10,274	122,451	853	215,568	459	117	545	985
2017	6,082	9,703	87,553	3,044	106,382	548	1	861	1,672

Note: Harvest estimates of hatchery fish are from CIAA.

[a] Historic return locations documented were Bear Lake, Fritz Creek, Halibut Cove Lagoon, Grouse Lake, Caribou Lake, Homer Spit, Resurrection Bay, and Seldovia. Releases of hatchery coho salmon in LCI began in 1966. No returns were documented prior to 1978. Includes CIAA Trail Lake Hatchery production and F&G Ship Creek Complex production.

[b] CCPF = commercial common property fishery.

[c] Does not include naturally spawning sockeye salmon in Bear or Hidden Lakes.

Appendix F6.–Estimated historical harvest contributions and total runs of pink salmon to greater Cook Inlet hatchery release sites, 1978–2017.

Return year	Brood year	Fry release	Hatchery contribution to the CCPF	Hatchery contribution cost recovery	Hatchery contribution broodstock esc.	Hatchery donated	Total hatchery return	Estimated marine survival
1978	1976	318,280			3,700		3,700	1.16%
1979	1977	4,820,937			369,000		369,000	7.65%
1980	1978	9,243,717			315,000		315,000	3.41%
1981	1979	6,795,244	963,350		47,279		1,010,629	14.87%
1982	1980	10,268,753	181,400		4,400		185,800	1.81%
1983	1981	15,475,435	577,200				577,200	3.73%
1984	1982	15,232,750	230,000				230,000	1.51%
1985	1983	18,142,463	463,600				463,600	2.56%
1986	1984	23,818,500	380,135	55	50		380,240	1.60%
1987	1985	26,265,176	84,500				84,500	0.32%
1988	1986	8,278,967	836,000				836,000	10.10%
1989	1987	15,589,360	877,600				877,600	5.63%
1990	1988	36,977,190	167,400				167,400	0.45%
1991	1989	36,974,370	204,800				204,800	0.55%
1992	1990	30,602,576	97,577	276,000	69,000		442,577	1.45%
1993	1991	33,760,487	228,376	409,431	102,000		739,807	2.19%
1994	1992	48,700,000	604,037	959,064	153,966		1,717,067	3.53%
1995	1993	62,395,000	1,210,572	1,213,322	182,348		2,606,242	4.18%
1996	1994	63,358,000	19,510	423,306	140,152		582,968	0.92%
1997	1995	111,469,975	172,262	2,465,108	188,197		2,825,567	2.53%
1998	1996	89,918,000	507,850	787,538	175,468		1,470,856	1.64%
1999	1997	90,000,000	222,228	857,902	151,903		1,232,033	1.37%
2000	1998	64,797,691	8,580	1,043,705	269,808		1,322,093	2.04%
2001	1999	66,287,812	108,735	421,530	198,148		728,413	1.10%
2002	2000	126,635,207	9,791	1,041,529	252,777		1,304,097	1.03%
2003	2001	105,971,985	2,924	616,155	261,457	590	881,126	0.83%
2004	2002	125,167,000	1,523	2,459,189	117,222		2,577,934	2.06%
2005	2003	84,247,031	4,779	2,138,538	84,088		2,227,405	2.64%
2006	2004	26,567,983	5,000	246,781	27,741		279,522	1.05%
2007	2005	13,883,682		112,801			112,801	0.81%
2008	2006	13,282,049						
2009	2007							
2010	2008							
2011	2009							
2012	2010							
2013	2011	11,246,399		48,017	143,884		191,901	1.71%
2014	2012	18,603,000	4,504	32	28,739		33,275	0.18%
2015	2013	51,298,000	44,785	2,087,024	165,008		2,296,817	4.48%
2016	2014	14,474,300	30,128	23,776	127,771	404	182,079	1.26%
2017	2015	12,744,277	87,080	110,152	267,913		465,145	3.65%
2018	2016	54,245,411						

Note: Harvest estimates of hatchery fish are from CIAA. CCPF = Commercial Common Property Fleet.

Appendix F7.–Tutka Bay Lagoon Hatchery salmon releases, 1977–2017.

Year released	Sockeye	Pink	Chum
1977	91,347 [a]	318,280 [a]	
1978	400,000 [a]	4,820,937 [a]	
1979		9,243,717 [a]	732,000 [a]
1980		6,795,244 [a]	5,872 [a]
1981		10,268,753 [a]	7,992 [a]
1982		15,475,435 [a]	15,440 [a]
1983		15,232,750 [a]	1,117,745 [a]
1984		18,142,463 [a]	140,500 [a]
1985		23,537,000 [a]	9,777 [a]
1986		26,234,600 [a]	18,000 [a]
1987		8,240,700 [a]	445,700 [a]
1988		15,589,360 [a]	3,211,200 [a]
1989		36,977,190 [a]	2,164,393 [a]
1990	355,347 [a]	36,684,662 [a]	1,508,557 [a]
1991		30,000,000 [a]	
1992		31,950,000 [a]	
1993		48,700,000 [a]	
1994		61,100,000 [a]	
1995		63,000,000 [a]	
1996	75,000 [a]	105,000,000 [a]	
1997	245,000 [a]	89,000,000 [a]	
1998		90,000,000 [a]	
1999	100,000 [a]	60,132,000 [a]	
2000		65,120,870 [a]	
2001		99,336,410 [a]	
2002		99,371,000 [a]	
2003		67,967,000 [a]	
2004		47,964,360 [a]	
2005	[b]		
2006	[b]		
2007	[b]		
2008	[b]		
2009	[b]		
2010	[b]		
2011	[b]		
2012	[b]	11,246,399 [a]	
2013		18,603,000 [c]	
2014		51,298,000 [c]	
2015		12,274,240 [c]	
2016		11,433,515 [c]	
2017		54,245,411 [c]	

[a] No thermal marking.

[b] Sockeye salmon fry reared and thermally marked at Trail Lakes Hatchery, remote released as smolt at Tutka Bay Hatchery. Release numbers are included in releases for Trail Lakes Hatchery.

[c] Thermally marked.

Appendix F8.–Trail Lakes Hatchery salmon releases, 1983–2017.

Year released	Chinook	Sockeye	Coho	Chum
1983		2,310,751	1,039,673	
1984	406,755	1,236,864	1,283,815	
1985	398,586	1,805,792	1,538,361	455,809
1986	217,648	516,000	1,530,116	
1987	268,399	3,718,311	1,702,446	
1988	98,429	9,074,486	945,999	
1989		5,690,000	1,337,340	
1990		7,679,698	840,585	
1991		6,345,252 [a]	390,841	
1992		7,575,637 [a]	255,533	
1993		7,979,820 [a]	620,588	
1994		6,640,000 [a]	320,000	
1995		6,339,485 [a]	516,400	
1996		4,110,638 [a]	75,000	
1997		10,857,470 [a]	601,700	
1998		7,653,000 [a]	409,000	
1999		9,923,500 [a]	357,000	
2000		12,521,000 [a]	418,000 [b]	
2001		1,140,000 [a]	432,000 [b]	
2002		18,907,200 [a]	528,500 [b]	
2003		16,128,000 [a]	761,000 [b]	
2004		17,272,000 [a]	996,000 [b]	
2005		9,959,000 [a]	988,000 [b]	
2006		5,785,000 [a]	1,146,000 [b]	
2007		12,668,800 [a]	956,000 [b]	
2008		13,203,000 [a]	685,000 [b]	
2009		7,953,000 [a]	382,000 [b]	
2010		8,616,000 [a]	435,000 [b]	
2011		9,324,200 [a]	437,000 [b]	
2012		7,636,300 [a]	315,000 [b]	
2013		7,482,000 [a]	405,000 [b]	
2014		9,368,500 [a]	523,000 [b]	
2015		8,302,700 [a]	546,000 [b]	
2016		6,001,790 [a]	546,600 [b]	
2017		7,207,000 [a]	180,000 [b]	

[a] Thermal marking of sockeye salmon releases began in 1991 (BY 1990).

[b] Thermal marking of coho salmon releases began in 2000 (BY 1999).

Appendix F9.–Port Graham Hatchery salmon releases, 1991–2017.

Year	Sockeye	Coho	Pink
1991	84,757		255,000
1992	144,982		1,810,487
1993	194,700		
1994	830,159		1,295,000
1995			358,000
1996	292,134		6,469,975
1997	199,000	29,963	918,000
1998			
1999	918,348		4,617,362 [a]
2000	906,057		1,142,726 [a]
2001			27,298,797 [a]
2002			6,600,985 [a]
2003	694,647 [a]		57,200,000 [a]
2004	159,616 [a]		36,282,671 [a]
2005	203,000 [a]		26,567,983 [a]
2006	422,060 [a]		13,883,682 [a]
2007			13,282,049 [a]
2008			
2009	[b]		
2010			
2011			
2012			
2013	[b]		[c]
2014			[c]
2015			2,200,060 [a]
2016			1,310,762 [a]
2017			6,059,800 [a]

[a] Thermally marked.

[b] Remote releases from Trail Lakes Hatchery.

[c] Remote releases from Tutka Bay Lagoon Hatchery.

Appendix F10.–Ship Creek Hatchery Complex (Fort Richardson, Elmendorf, and William Jack Hernandez combined) hatchery salmon fry releases, 1966–2017.

Year released	Chinook		Coho	
1966	166,874		0	
1967	538,356		38,200	
1968	82,400		199,700	
1969	95,900		264,000	
1970	45,700		225,400	
1971	217,390		92,343	
1972	71,814		87,700	
1973	166,134		683,685	
1974	212,540		210,300	
1975	91,100		281,800	
1976	513,400		895,200	
1977	351,952		775,803	
1978	747,629		617,822	
1979	1,088,542		1,471,899	
1980	770,235		602,394	
1981	391,950		1,553,864	
1982	0		1,096,569	
1983	578,441		424,542	
1984	1,021,553		831,147	
1985	1,727,379		660,854	
1986	1,474,079		1,991,102	
1987	869,520		731,202	
1988	1,624,351		1,333,453	
1989	3,008,315		1,970,126	
1990	2,256,778		1,281,500	
1991	1,693,355		1,215,136	
1992	1,765,804		1,329,869	
1993	1,863,391		1,194,994	
1994	1,709,950		994,250	
1995	1,695,164		1,121,768	
1996	1,899,284		1,042,477	
1997	1,801,410		1,136,845	
1998	1,531,021		1,249,781	
1999	1,340,334		1,113,016	
2000	2,289,290		0	
2001	1,353,660		1,226,342	
2002	1,451,227	[a]	1,273,443	[a]
2003	5,635,091	[a]	1,117,566	[a]
2004	1,958,790	[a]	1,308,038	[a]
2005	2,369,684	[a]	1,442,233	[a]
2006	1,922,667	[a]	1,235,317	[a]
2007	1,849,714	[a]	1,193,374	[a]
2008	1,309,790	[a]	989,853	[a]
2009	1,205,594	[a]	1,168,549	[a]
2010	2,006,157	[a]	1,336,861	[a]
2011	1,741,377	[a]	1,050,001	[a]
2012	1,853,150	[a]	968,716	[a]
2013	1,428,414	[a]	1,079,549	[a]
2014	2,102,235	[a]	947,363	[a]
2015	2,301,946	[a]	1,107,838	[a]
2016	2,291,484	[a]	1,240,626	[a]
10-yr average	1,808,986		1,108,273	
2017	2,192,812	[a]	1,118,428	[a]

[a] Thermally marked.

Appendix F11.–Historic releases of Chinook salmon from hatcheries to Lower Cook Inlet, 1924–2017.

	Southern District (241)						Eastern District (231)					
Year	Halibut Cove Lagoon	Homer Spit	Tutka Bay	Kasitsna Bay	Seldovia Harbor	English Bay Lakes	Resurrection Bay	Alaska Sea-Life Center	Thumb Cove	Box Canyon	Lowell Creek	Spring Creek
1924[a]												1,387,000
1972				33,800								
1975	3,463											
1976	16,183		26,000							25,100		
1977	49,947									50,036		
1978	126,306									150,488		
1979	224,708									257,530		
1980	155,054											
1981	101,861											
1983	200,900									54,521		
1984	84,000	88,753							71,427		39,206	
1985	98,000	152,226					53,587				132,708	
1986	101,331	103,946									100,900	
1987	94,100	103,860			80,420						95,963	
1988	93,874	219,572			111,435		109,020				95,673	
1989	115,682	212,737			108,300		109,464				122,800	75,063
1990	112,458	210,087			98,525	109,465	112,831				216,220	
1991	92,363	190,915			91,592		373,165				93,200	
1992	117,850	353,255			112,935		261,803				108,390	
1993	100,228	312,292			106,497		193,742				104,870	
1994	98,872	320,836			107,246		165,596				104,477	
1995	37,577	339,074			116,165		220,146				95,256	
1996	97,729	312,289			118,274		300,000				115,000	
1997	78,133	318,706			103,757		203,932				219,355	
1998	65,893	289,830			69,461		205,133				101,992	
1999	79,221	222,781			74,057		88,066				85,502	
2000	83,277	219,984			68,114		212,873				109,461	
2001	106,719	208,062			102,793		113,147				114,748	
2002	106,279	190,026			83,045		100,314				93,296	
2003	106,844	206,292			107,521		109,976				110,331	
2004	103,771	168,743			88,682		126,280	30,066			89,388	
2005	112,521	220,822			114,984		211,549	218,759			100,088	
2006	117,549	224,053			113,974		303,217	120,000				
2007	54,560	226,972			54,276		117,842	115,716				
2008	58,674	212,141			54,464		142,469					
2009	35,065	164,234			44,487							
2010	111,134	213,503			114,421		110,671				109,779	
2011	107,338	219,787			103,382		223,881					
2012	110,253	221,547			95,800		219,743					
2013	60,666	216,292			63,311		141,550					
2014	85,856	206,254			74,259		183,464					
2015	102,718	210,543			72,233		298,542	100				
2016	110,596	214,139			102,552		320,711	150				
2017	94,196	202,358			104,806		328,337					

[a] Grouse Lake Hatchery burned in 1926.

Appendix F12.–Historic releases of sockeye salmon from hatcheries to Lower Cook Inlet, 1925–2017.

	Southern District (241)						Outer (232)	Kamishak District (249)						Eastern District (231)		
Year	Leisure Lake	Hazel Lake	Halibut Cove Lagoon	Tutka Bay Lagoon	English Bay Lakes	Pt Graham Subdist.	Port Dick Lake	Chenik Lake	Paint River Lakes	Kirschner Lake	Bruin Lake	Ursus Lake	Bear Lake	Resurrection Bay	Grouse Lake
1925															846,360
1926[a]															4,085,727
1981	1,094,713							1,096,718							
1982	1,527,876														
1983	2,113,239														
1984	2,110,000														
1985	2,018,000														
1986	2,250,303							839,000	820,026						
1987	2,022,000						704,900	1,005,000		866,700					
1988	2,100,000	783,000					221,700	2,601,000	2,207,300	521,000					
1989	2,000,000	1,000,000					430,000	3,500,000	2,000,000	250,000					
1990	2,000,000	1,500,000			855,347			3,250,000	2,000,000	250,000			2,577,962		
1991	2,000,000	1,300,000			255,071	84,757		2,100,000	750,000	250,000	250,000		1,604,922		
1992	2,000,000	1,000,000			290,298	144,982		2,750,000	750,000	250,000	250,000	250,000	1,482,489		
1993	2,000,000	1,000,000			755,692			1,400,000	750,000	250,000	250,000	250,000	1,810,261		
1994					820,174	9,985				208,000			170,000		570,000
1995	1,632,000	1,061,000						1,129,000	588,000	251,000	251,000	252,000	330,000		993,000
1996	1,490,000	1,030,000		75,000	292,134			951,000	500,000	250,000	250,000	250,000	780,638		217,605
1997	2,000,000	1,000,000		245,000	199,000					250,000			788,000		2,428,000
1998	1,877,000	1,218,000								234,000			772,000		1,514,000
1999	265,400	453,100		100,000	918,348					172,700			1,380,000		
2000	1,708,000	1,248,000			906,057					249,000			1,796,000		
2001	89,000												145,000		
2002	2,246,200	1,280,100							507,700	301,500			3,210,300		
2003	2,240,000	1,547,000			694,647					298,000			1,801,000		
2004	2,002,000	351,000			50,096	109,520				251,000			3,012,000		
2005	2,252,000	1,558,000		96,000	203,000					316,000			3,422,000		
2006	680,000			260,000		422,060							3,393,000		
2007	2,315,000	1,411,000		143,800						254,000			3,056,000		

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	Southern District (241)						Outer (232)	Kamishak District (249)					Eastern District (231)		
Year	Leisure Lake	Hazel Lake	Halibut Cove Lagoon	Tutka Bay Lagoon	English Bay Lakes	Pt Graham Subdist.	Port Dick Lake	Chenik Lake	Paint River Lakes	Kirschner Lake	Bruin Lake	Ursus Lake	Bear Lake	Resurrection Bay	Grouse Lake
2008	2,053,000	1,161,000		483,000	246,000					300,000			2,400,000	1,600,000	
2009	1,225,000	1,186,000		301,000		112,000							2,543,000	1,675,000	
2010	1,933,000	1,218,000		278,000	202,000					255,000			2,200,000	1,650,000	
2011	1,415,000	1,244,000		281,900	203,300					160,000			2,488,000		
2012	2,074,000	1,240,000		371,300	213,000					300,000			2,490,000	1,305,000	
2013	1,800,000	1,450,000		511,000	211,000	102,000							2,548,000	2,090,000	
2014	1,353,000	1,223,000		599,500	209,000					217,000			2,405,000	1,742,000	
2015	1,051,000	621,000		523,500	200,200					237,000			2,415,000	1,758,000	
2016				531,625						185,000			2,374,000	1,680,165	
2017	1,387,000	834,000		356,000		86,000				260,000			2,468,000	1,816,000	

[a] Grouse Lake Hatchery burned in 1926.

Appendix F13.–Historical releases of coho salmon from hatcheries to Lower Cook Inlet, 1963–2017.

	Southern District (241)							Eastern District (231)						
Year	Caribou Lake	Fritz Creek	Halibut Cove Lagoon	Homer Spit	Kasitsna Bay Creek	Seldovia	Port Graham Sub.	Resurrection Bay	Seward Lagoon	Bear Lake	Grouse Lake	Lowell Creek	misc. small releases combined	Total coho salmon released
1963										148,057				148,057
1964										43,000				43,000
1965										69,800				69,800
1966										360,100				360,100
1967										246,400				246,400
1968									42,400	0				42,400
1969									27,100	47,900				75,000
1970									38,600	6,400			3,200	45,000
1971									10,900	50,983				61,883
1972					241,400				66,500	606,100				914,000
1973			326,800						30,200	443,300				800,300
1974			755,279						100,000	450,800				1,306,079
1975	141,217		475,600						100,700	449,900				1,167,417
1976	155,700		461,244			112,661			100,600	260,200	35,200			1,125,605
1977			7,253			99,380			100,456	45,902	35,003			287,994
1978		66,545							148,999	254,394	53,455			523,393
1979		44,717	47,810	23,015					98,566	265,963	44,010			524,081
1980		21,315							100,757	150,011	50,286			322,369
1981		55,006							109,958	246,545	54,953			466,462
1982									53,970	227,800	13,238			295,008
1983									82,506	248,801				331,307
1984	119,071					59,840			67,722	220,000	53,100			519,733
1985	139,789	31,242				81,924			50,256	300,446	56,134			659,791
1986	137,951					71,496			212,812	445,693			53,607	867,952
1987	150,000					45,000			66,525	223,300		57,232	257,461	542,057
1988	150,000			62,547		80,000			118,741	347,155		63,806		822,249
1989				153,869					272,346	490,000		66,606		982,821
1990	180,000			122,945		50,000			145,619	426,911		63,733		989,208
1991	180,000			100,236		50,000			119,057	390,060		30,400	4,000	869,753
1992	150,000			100,570					154,219	255,533		59,492		719,814
1993	150,000			116,129					159,091	620,588		64,361	8,000	1,110,169

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	Southern District (241)							Eastern District (231)						
Year	Caribou Lake	Fritz Creek	Halibut Cove Lagoon	Homer Spit	Kasitsna Bay Creek	Seldovia	Port Graham	Resurrection Bay	Seward Lagoon	Bear Lake	Grouse Lake	Lowell Creek	misc. small releases combined	Total coho salmon released
1994	63,600			156,213					221,577	320,000		38,000		799,390
1995				110,701					133,700	516,400		50,698		811,499
1996				149,000					182,000	425,000		69,000		825,000
1997				120,242			29,963		144,112	601,700		61,687		957,704
1998				148,410			30,000		74,365	409,000		65,687		727,462
1999				129,602					109,142	357,000		62,580		658,324
2000				122,338					145,693	418,000		54,184		740,215
2001				225,042					124,703	432,000		125,618		907,363
2002				216,355					121,743	528,500		119,512		986,110
2003				325,735					123,718	658,000		124,225		1,231,678
2004				243,243				192,000	323,798	691,000		131,989		1,582,030
2005				220,707					132,229	893,000		132,276		1,378,212
2006				449,216		114,000			131,326	562,000		277,261		1,533,803
2007				228,244		97,000			132,811	758,000		130,892		1,346,947
2008				217,843		88,000			233,365	502,000				1,041,208
2009				157,696					91,979	338,000		91,833		679,508
2010				130,206					134,008	435,000		133,947		833,161
2011				129,080					255,252	437,000				821,332
2012				107,250					249,309	315,000				671,559
2013				132,027					216,444	405,000				753,471
2014				76,535					97,675	523,000				697,210
2015				122,963					279,546	546,000				948,509
2016				122,602					272,212	546,600				941,414
2017				135,713					264,935	180,000				580,648

Appendix F14.–Historical releases of pink salmon from hatcheries to greater Cook Inlet, 1975–2017.

	Southern District (241)					Eastern District (231)	Kamishak Bay District (249)	Upper Cook Inlet (247-50, -60)		
Year	Tutka Bay	Halibut Cove Lagoon	Halibut Cove-bight	Homer Spit	Port Graham Subdistrict	Resurrection Bay	Paint River	Eklutna River	Ingram Creek	Total pink salmon released
1975		50,916								50,916
1976										
1977		318,280								318,280
1978	4,820,937									4,820,937
1979	9,243,717									9,243,717
1980	6,245,103						550,141			6,795,244
1981	9,759,144						509,609			10,268,753
1982	15,070,927						404,508			15,475,435
1983	14,730,794						501,956			15,232,750
1984	18,142,463									18,142,463
1985	23,537,000							281,500		23,818,500
1986	22,228,600	4,006,000						30,576		26,265,176
1987	4,385,600	3,001,400		594,500				38,267	259,200	8,278,967
1988	12,003,878	3,022,491		310,016					252,975	15,589,360
1989	30,091,053	6,229,062		331,695					325,380	36,977,190
1990	23,689,702	6,000,000		603,845					311,101	36,974,370
1991	23,657,112	6,039,062		303,826	255,000					30,602,576
1992	25,700,000	5,950,000		300,000	1,810,487					33,760,487
1993	48,700,000									48,700,000
1994	61,100,000				1,295,000					62,395,000
1995	63,000,000				358,000					63,358,000
1996	105,000,000				6,469,975					111,469,975
1997	89,000,000				918,000					89,918,000
1998	90,000,000									90,000,000
1999	60,132,000				4,617,362	48,329				64,797,691
2000	65,120,870				1,142,726	24,216				66,287,812
2001	99,336,410				27,298,797					126,635,207
2002	99,371,000				6,600,985					105,971,985
2003	67,967,000				57,200,000					125,167,000
2004	47,964,360				36,282,671					84,247,031
2005					26,567,983					26,567,983
2006					13,883,682					13,883,682
2007					13,282,049					13,282,049
2008										
2009										
2010										
2011										
2012	8,100,399		3,146,000[a]							11,246,399
2013	4,353,000				14,250,000					18,603,000
2014	51,110,000				188,000					51,298,000
2015	11,249,240				2,200,060		1,025,000			14,474,300
2016	11,433,515				1,310,762					12,744,277
2017	54,245,411				6,059,800					60,305,211

[a] Released outside of Halibut Cove Lagoon, 1 kilometer east.

Appendix F15.–Historical releases of chum salmon from hatcheries to greater Cook Inlet, 1974–2017.

	Southern District (241)		Eastern District (231)		Upper Cook Inlet (247-41, -50)			
Year	Halibut Cove	Tutka Bay	Jap Creek	Spring Creek	Eklutna River	Indian River	Susitna River	Total chum salmon released
1974	7,782							7,782
1975	595							595
1976								
1977								
1978								9,666
1979		597,377						597,377
1980								
1981		7,992						7,992
1982		15,440						15,440
1983		1,117,745			1,536,892		24,848	2,679,485
1984		140,500			928,143	10,278	19,797	1,098,718
1985		25,977	282,622	173,187			14,312	496,098
1986		18,000			1,693,382			1,711,382
1987		445,700			2,740,773			3,186,473
1988		3,211,200			2,697,860			5,909,060
1989		2,164,393			6,121,337			8,285,730
1990		1,508,557			3,209,773			4,718,330
1991					2,535,335			2,535,335
1992					3,114,793			3,114,793
1993								
1994								
1995								
1996								
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2015								
2016								
2017								

Appendix F16.–Harvest of sockeye salmon returning to China Poot and Neptune Bays in the Southern District of Lower Cook Inlet, 1979–2017.

Return year	Sport harvest [a]	Personal use dip net harvest [b]	Commercial harvest [c]	Hatchery cost recovery [d]	Unharvested [e]	Total run
1979	650					650
1980	1,000	953	58			2,011
1981	1,500		81			1,581
1982	450	1,320	1		1,430	3,201
1983	480	5,466	81		10	6,037
1984	500	1,794	263		500	3,057
1985	500	796	6		920	2,222
1986	100	1,815	83		200	2,198
1987	200	1,231				1,431
1988	500	1,910	63,550		470	66,430
1989	1,000	5,416	35,795			42,211
1990	500	5,835	49,900			56,235
1991	1,000	1,528	109,625			112,153
1992	300	3,468	68,643	7,336		79,747
1993	400	4,551	114,002			118,953
1994	500	5,715	35,704	3,025		44,944
1995	1,000	8,605	120,590	12,497	450	143,142
1996	1,000	4,773	211,716	14,235	441	232,165
1997	650	4,773	116,094		1,130	122,647
1998	640	4,773	79,642	20,579	380	106,014
1999	640	4,773	154,424	16,188	522	176,547
2000	640	4,773	60,199	18,103	256	83,971
2001	640	4,773	90,649	27,037	57	123,156
2002	640	4,773	96,996	29,517	51	131,977
2003	640	4,773	330,642	35,557	121	371,733
2004	640	4,773	20,379	12,991	448	39,231
2005	640	4,773	60,848	29,737	1	95,999
2006	640	4,773	50,643	23,283	820	80,159
2007	640	4,773	61,193	22,586	501	89,693
2008	640	4,773	62,175	1,907	103	69,598
2009	640	4,773		205	223	5,841
2010	640	4,773		1,007	45	6,465
2011	640	4,773	6,553		18	11,984
2012	640	4,773	5,559	11,938	45	22,955
2013	640	4,773	15,554	8,755	13	29,735
2014	640	4,773	7,280		366	13,059
2015	640	4,773	16,644		36	22,093
2016	640	4,773	35,528	10,575	214	51,730
2017	640	4,773	38,068	2,929	100	46,510

[a] Sport harvest figures for 1997–2017 represent the estimated previous (1987–1996) 10-year average.

[b] Personal use harvest data for 1979–1981 from permits issued from the Homer office. Data from 1983 to 1995 is from historical sport fish harvest reports (e.g., Mills 1984). Data from 1996 to current is an average of the last 5 years that the data was collected specifically for this fishery.

[c] The final commercial harvest figures are the total common property seine harvest in the Neptune and China Poot subdistricts.

[d] From cost recovery conducted in China Poot and Neptune Bays.

[e] Unharvested fish are the total count by ADF&G ground survey staff of sockeye salmon remaining in China Poot Creek.

Appendix F17.–Commercial harvest and escapement of sockeye salmon at Chenik Lake in the Kamishak Bay District of Lower Cook Inlet, 1976–2017.

Return year	Commercial harvest	Cost recovery	Escapement [a]	Total run
1976	[b]		900	900
1977	[b]		200	200
1978	[b]		100	100
1979	[b]		[c]	[c]
1980	[b]		3,500	3,500
1981	[b]		2,500	2,500
1982	[b]		8,000	8,000
1983	2,800		11,000	13,800
1984	16,500		13,000	29,500
1985	10,624		3,500	14,124
1986	111,348		7,000	118,348
1987	97,411		10,000	107,411
1988	161,936		9,000	170,936
1989	38,905		12,000	50,905
1990	70,347		17,000	87,347
1991	51,773		10,189	61,962
1992	5,609	8,769	9,269	14,878
1993	19,988		4,000	23,988
1994	[b]		808	808
1995	[b]		1,086	1,086
1996	[b]		2,990	2,990
1997	[b]		2,338	2,338
1998	[b]		1,880	1,880
1999	[b]		2,850	2,850
2000	[b]		4,800	4,800
2001	[b]		250	250
2002	[b]		4,650	4,650
2003	[b]		13,825	13,825
2004	33,177		17,000	50,177
2005	47,013		13,037 [d]	60,050
2006	11,783		13,493 [d]	25,276
2007	161,630		18,230 [e]	179,860
2008	171,255		10,647 [e]	181,902
2009	65,727		15,264 [e]	80,991
2010	5,471		17,460 [e]	22,931
2011	82,826		10,330 [e]	93,156
2012	55,255		16,505 [e]	71,760
2013	33,154		11,333 [e]	44,487
2014	7,241		17,774 [e]	25,015
2015			19,073 [e]	19,073
2016	8,779		19,510 [e]	28,289
2017	97,537		21,468 [e]	119,005

[a] Estimated from aerial surveys between 1976–1990 and 1998–2004, weir counts between 1991 and 1997, and remote video from 2005–present, unless otherwise noted.

[b] Closed to fishing.

[c] No data.

[d] Estimated from a combination of weir, video counts, and/or aerial counts.

[e] Estimated from video counts.

Appendix F18.–Commercial harvest of sockeye salmon at Kirschner Lake in the Kamishak Bay District of Lower Cook Inlet, 1989–2017.

Return year	Common property commercial harvest	Cost recovery	Broodstock	Unharvested [a]	Total run
1989	190				190
1990	14,465				14,465
1991	42,654				42,654
1992	40,043				40,043
1993	36,322				36,322
1994	14,465	16,787			31,252
1995	8,772	5,350			14,122
1996	18,093	13,511			31,604
1997	2,842	6,125			8,967
1998	8,112	19,390			27,502
1999	22,256	17,504			39,760
2000	10,236	21,391			31,627
2001	9,198	29,740			38,938
2002		32,492			32,492
2003	11,671	38,741			50,412
2004		16,372			16,372
2005		14,969			14,969
2006	24,130	26,310			50,440
2007	7,725	27,719			35,444
2008		11,588			11,588
2009		18,771			18,771
2010		8,858			8,858
2011	12,732			210	12,942
2012		1,260		1,300	2,560
2013		8,288			8,288
2014	3,068	16,555			19,623
2015		23,571	3,666		27,237
2016	5,893	44,765			50,658
2017	3,352	24,001			27,353

[a] A barrier falls at the outlet of Kirschner Lake immediately above the intertidal zone precludes any escapement from entering this lake.

Appendix F19.–Commercial harvest and escapement of pink and sockeye salmon in the Tutka Bay Subdistrict in the Southern District of Lower Cook Inlet, 1975–2017.

	Sockeye salmon [a]				Pink salmon [a]					
Return year	Comm. Harvest	Cost Recov.	Brood stock	Total Run	Comm. Harvest	Cost Recov.	Brood stock	Escapement	Sport catch	Total Run
1975	12,600			12,600	89,200		0	17,600		106,800
1976	14,200			14,200	73,100		10,800 [b]	11,500		95,400
1977	21,300			21,300	21,900		6,528	14,000		42,428
1978	92,100			92,100	167,862		21,100	15,000		203,962
1979	15,600			15,600	421,816		21,200	10,600	2,000	455,616
1980	13,200			13,200	321,513		26,897	17,300	5,000	370,710
1981	41,000			41,000	1,026,574		22,000	28,000	6,000	1,082,574
1982	15,800			15,800	184,876		41,200	18,500	2,000	246,576
1983	35,900			35,900	615,459		53,800	12,900	5,000	687,159
1984	26,700			26,700	241,054		41,000	10,500	8,000	300,554
1985	14,886			14,886	491,181		43,000	14,000	8,000	556,181
1986	16,340			16,340	400,150		43,000	13,400	8,000	464,550
1987	14,659			14,659	56,465		22,000	4,800	500	83,765
1988	12,900			12,900	723,929		65,000	11,200	8,500	808,629
1989	13,461			13,461	632,147		5,100	11,900	10,000	659,147
1990	7,922			7,922	20,183	17,243	62,000	38,500	2,000	139,926
1991	7,039	34		7,073	14,691	101,837	103,100	16,820	2,000	238,448
1992	8,578			8,578	41,642	275,897	67,324	25,921	2,500	413,284
1993	5,797	8		5,805	128,347	409,431	107,242	27,403	2,000	674,423
1994	9,129	8		9,137	498,436	953,231	154,000	14,546	2,000	1,622,213
1995	12,323	3		12,326	1,212,342	1,213,322	166,052	15,899	3,000	2,610,615
1996	20,226	74		20,300	6,941	420,411	138,021	3,456	1,000	569,829
1997	9,686			9,686	130,406	2,375,653	216,786	45,000	2,100	2,769,945
1998	8,480			8,480	504,764	792,542	153,580	17,473	2,000	1,470,359
1999	18,711 [c]	88		18,799	222,228	857,902	151,903	27,947	2,000	1,261,980
2000	6,602	896		7,498	8,580	1,043,705	179,970	19,048	1,500	1,252,803
2001	16,500	5		16,505	109,682	421,408	179,006	4,451	1,500	716,047
2002	14,338			14,338	4,825	703,205	161,864	15,884	1,500	887,278
2003	24,090	2		24,092	5,074	507,215	207,285	30,866	1,500	751,940
2004	5,827			5,827	1,523	1,175,326	0 [d]	17,846	1,500	1,196,195
2005	6,262			6,262	4,789	1,631,806		133,600	1,500	1,771,695
2006	5,895			5,895	11,223			25,800	1,500	38,523
2007	8,449			8,449	3			5,700	1,500	7,203
2008	6,431	14,604	150	21,185	1,924	377		14,100	1,500	17,901
2009	9,203	11,584	3,067	23,854	2,139			3,800	1,500	7,439
2010	6,324	38,087	4,894	49,305	2,536	161		2,100	1,500	6,297
2011	10,571	7,836		18,407	2,394	5	12,665 [e]	21,974	1,500	38,538
2012	4,893	17,756	2,590	25,239	4,681	171	8,140	10,436	1,500	24,928
2013	16,285	9,707		25,992	866	39,153	143,884	9,541	1,500	194,944
2014	27,425	30,404	4,205	62,034	11,004	32	22,401	10,152	1,500	45,089
2015	47,002	32,455	6,769	86,226	111,957	2,087,024	165,008	82,400	1,500	2,447,889
2016	14,473	13,133	2,961	30,567	48,333	23,776	127,771	33,242	1,500	234,622
2017	19,380	34,709	5,319	59,408	269,246	110,152	267,913	61,369	1,500	710,180

[a] Data from CIAA.

[b] Start of enhancement at Tutka Lagoon Hatchery.

[c] First return of enhanced BY95 sockeye salmon. Previous year's harvest is intercepted China Poot runs and wild production.

[d] CIAA announced suspension of operations at Tutka Lagoon Hatchery.

[e] CIAA resumed operations at Tutka Lagoon Hatchery.

Appendix F20.–Harvest of salmon from the Port Graham Section of the Port Graham Subdistrict in the Southern District of Lower Cook Inlet, 1985–2017.

	Sockeye salmon			Pink salmon					
Return year	Commercial harvest	Subsist. harvest[a]	Cost recovery	Commercial harvest	Subsist. harvest[a]	Cost recovery	Broodstock (plus excess)	Escapement	Total run
1985	787	481		3,668	32			26,300	30,000
1986	363	274		4,658	237			17,500	22,395
1987	246	219		359	230			3,800	4,389
1988	103	411		126	542			7,900	8,568
1989		94			640			19,100	19,740
1990		524			1,013			20,100	21,113
1991		58			1,494			29,000	30,494
1992		98			745			5,400	6,145
1993		154			997			12,800	13,797
1994		260			866			7,600	8,466
1995		379			786		16,224	10,000	27,010
1996	5,203	684		821	312		2,131	7,000	10,264
1997	8,597	324		46,854	497	85,354	21,888	12,500	167,093
1998	3,652	271		598	459		21,888	12,600	35,545
1999		382			150			9,700	9,850
2000	1,153	784			355		89,838	15,600	105,793
2001		176			20		34,773	10,300	45,093
2002	3,576	417		14	150	238,672	146,433	58,500	443,769
2003	5,034	1,991			266		78,241	14,900	93,407
2004	1,032	572			363	1,283,517	99,376	44,000	1,427,256
2005		192			349	510,802	84,088	69,100	664,339
2006		31			26	247,990	27,741	31,200	306,957
2007		552	23		74	117,962		25,600	143,636
2008	2,971	550	26,274		36	2,670		24,700	27,406
2009	9,057	1,982	8,292		49	866		14,000	14,915
2010	740	116			24			16,600	16,624
2011	59	687			132			20,883	21,015
2012	30	661	30	21,645	282		[b]	34,486	56,413
2013	463	1,034		13,188	27		[c]	11,893	25,108
2014	42	136		43,442	164		1,740	32,295	77,641
2015	29	842		34,522	539		[d]	82,356	117,417
2016				1,000	10	2,647	11,342	14,629	29,628
2017	7	124		72,529	3		69,249	20,642	162,423

[a] Harvest as reported by Port Graham subsistence permit holders. The preponderance of harvest reported on the Port Graham permits are from the Port Graham section of the Port Graham Subdistrict.

[b] Commercial Common Property pink salmon; 19,918 fish of the 21,645 harvested commercially were sold alive to processor for resale to hatchery as broodstock.

[c] Commercial Common Property pink salmon; 11,800 fish of the 13,188 harvested commercially were sold alive to processor for resale to hatchery as broodstock.

[d] Commercial Common Property pink salmon; 21,408 fish of the 34,522 harvested commercially were sold alive to processor for resale to hatchery as broodstock.

Appendix F21.–Harvest of salmon in the English Bay Section of the Port Graham Subdistrict of the Southern District of Lower Cook Inlet, 1985–2017.

	Sockeye salmon			Coho salmon			Pink salmon		
Return year	Commercial harvest	Subsist. harvest [a]	Cost recovery	Commercial harvest	Subsist. harvest [a]	Cost recovery	Commercial harvest	Subsist. harvest [a]	Cost recovery
1985	2,712	696		2,250	530		8,830	313	
1986	1,592	373		1,475	302		4,106	825	
1987	2,114	682		1,352	339		1,985	484	
1988	1,254	610		1,384	385		10,562	1,214	
1989		63			695			855	
1990		638			614			1,947	
1991		630			1,512			3,093	
1992		437			675			676	
1993		994			567			1,666	
1994		570			511			1,113	
1995	2,580	1,416		1,823	169		10,168	487	
1996	6,981	1,060	5,934	1,553	598		658	437	
1997	16,657	1	7,817	1,414			12,940	14	
1998	8,080	18	6,202	23			760		1
1999		2,775	660		1,320			1,873	
2000	984	3,880			1,579			1,251	
2001		909			1,238			1,434	
2002	10,912	10,203	20,245	1	967		6	1,681	
2003	16,525	3,221	45,011	2	513		82	1,306	
2004	1,537	2,968		3	842			1,277	
2005		1,934			1,142			1,259	
2006		2,215			1,179			2,038	
2007	4,270	[b]		3	[b]			[b]	
2008	2,421	3,615			1,345			2,646	
2009	491	1,515			396			865	
2010	1,157	1,514			1,324			1,030	
2011	1,375	5,009			1,381		702	2,499	200
2012		300			400			200	
2013		3,854			2,619			383	
2014		211							
2015		35							
2016		620			677			12	
2017		215						1	

[a] Harvest as reported by Nanwalek subsistence permit holders. The preponderance of harvest reported on the Nanwalek permits are from the English Bay section of the Port Graham Subdistrict.

[b] No data available.

Appendix F22.–English Bay: Second Lake egg takes and fry release locations, 1989–2017.

Egg takes from English Bay Lakes (Second Lake)				Fry and smolt releases from eggs taken from English Bay Lakes[a].				
Brood year	Adults harvested	Green eggs taken	Eyed eggs	English Bay Lakes	Port Graham	Tutka Bay Lagoon	Kirschner Lake	Hazel Lake
1989	383	427,000		855,347				
1990	291	420,000		255,071				
1991	362	512,000		290,298				
1992	966	995,000	200,000	755,692				
1993	1,031	1,100,000	865,728	820,174				
1994	1,236	1,408,800	926,900	0[b]				
1995	1,750	2,209,000	1,896,000	292,134				
1996	1,498	1,593,155	1,133,059	199,000				
1997	1,289	1,331,000	1,152,000	0[c]				
1998	1,289	1,462,185	1,330,632	918,348				
1999	1,234	1,228,000	1,126,000	906,057				
2000	1,376	1,478,000	1,260,000	0[a]				
2001	0							
2002	1,248	1,419,416	806,530	694,647				
2003	200	205,343	168,457	50,096	109,520			
2004	1,390	1,562,000	1,349,000	203,400	422,060			
2005	0							
2006	0							
2007	372	510,000	409,000	246,000	112,000			
2008	0							
2009	240	307,000	288,000	202,000		58,200		
2010	1,023	1,113,000	1,013,000	203,300		371,300	160,000	
2011	2,110	2,504,876	2,204,262	213,000	102,000	511,000		1,240,000
2012	412	432,022	383,597	211,000	139,000			
2013	1,753	2,120,000	1,904,000	209,000			1,675,500	
2014	877	1,093,154	847,069	200,200			607,110	
2015	0							
2016	0							
2017	0							

[a] Indicates total resultant release of fry and/or smolt from associated brood year.

[b] All eggs destroyed due to infectious hematopoietic necrosis virus.

[c] All eggs lost due to fire at the hatchery facility.

Appendix F23.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the set gillnet commercial common property harvest by statistical week, 2013.

Hatchery thermal marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)					0	2	6	8						16
TLH - LCI (%)					0.0%	2.2%	6.7%	9.2%						4.2%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	0	0	2	6	8	0	0	0	0	0	16
Hatchery total (%)					0.0%	2.1%	6.3%	8.4%						4.2%
Unmarked (#)					96	93	90	87						366
Unmarked (%)					100.0%	97.9%	93.8%	91.6%						95.8%
Sample n	0	0	0	0	96	95	96	95	0	0	0	0	0	382
Sample events:	0	0	0	0	1	1	1	1	0	0	0	0	0	4

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Samples from each statistical week in 2014 were mixed and included fish from Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

Appendix F24.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the set gillnet commercial common property harvest by statistical week, 2014.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)	17	10	4	27	44	38	13	8						161
TLH - LCI (%)	18.9%	10.8%	4.4%	28.7%	46.3%	39.6%	13.8%	8.4%						21.5%
MBH - PWS (#)		1	2				1							4
MBH - PWS (%)		1.1%	2.2%				1.1%							0.5%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	17	11	6	27	44	38	14	8	0	0	0	0	0	165
Hatchery total (%)	18.9%	11.8%	6.6%	28.7%	46.3%	39.6%	14.9%	8.4%						22.1%
Unmarked (#)	73	82	85	67	51	58	80	87						583
Unmarked (%)	81.1%	88.2%	93.4%	71.3%	53.7%	60.4%	85.1%	91.6%						77.9%
Sample n	90	93	91	94	95	96	94	95	0	0	0	0	0	748
Sample events:	1	1	1	1	1	1	1	1	0	0	0	0	0	8

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Samples from each statistical week in 2014 were mixed and included fish from Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

Appendix F25.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the set gillnet commercial common property harvest by statistical week, 2015.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)	30	37	35	20	12	19	7	14	17	11				202
TLH - LCI (%)	31.3%	40.2%	37.2%	21.3%	12.1%	19.4%	7.1%	14.4%	17.3%	11.2%				21.0%
MBH - PWS (#)		2	3	6	1	2		1						15
MBH - PWS (%)		2.2%	3.2%	6.4%	1.0%	2.0%		1.0%						1.6%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	30	39	38	26	13	21	7	15	17	11	0	0	0	217
Hatchery total (%)	31.3%	42.4%	40.4%	27.7%	13.1%	21.4%	7.1%	15.5%	17.3%	11.2%				22.5%
Unmarked (#)	66	53	56	68	86	77	91	82	81	87				747
Unmarked (%)	68.8%	57.6%	59.6%	72.3%	86.9%	78.6%	92.9%	84.5%	82.7%	88.8%				77.5%
Sample n	96	92	94	94	99	98	98	97	98	98	0	0	0	964
Sample events:	1	1	1	1	1	1	1	1	1	1	0	0	0	10

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Samples from each statistical week in 2014 were mixed and included fish from Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

Appendix F26.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the set gillnet commercial common property harvest by statistical week, 2016.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)			72	49	45	74	34	19	42					335
TLH - LCI (%)			38.7%	19.0%	28.1%	27.2%	11.9%	6.7%	25.9%					20.9%
MBH - PWS (#)			6	26	18	15	32	32	2					131
MBH - PWS (%)			3.2%	10.1%	11.3%	5.5%		11.3%						8.2%
PCH - KOD (#)						1		2						3
PCH - KOD (%)						0.4%		0.7%						0.2%
Hatchery total (#)	0	0	78	75	63	90	66	53	44	0	0	0	0	469
Hatchery total (%)			41.9%	29.1%	39.4%	33.1%	23.2%	18.8%	27.2%					29.2%
Unmarked (#)			108	183	97	182	219	229	118					1,136
Unmarked (%)			58.1%	70.9%	60.6%	66.9%	76.8%	81.2%	72.8%					70.8%
Sample n	0	0	186	258	160	272	285	282	162	0	0	0	0	1,605
Sample events:	0	0	2	3	2	3	3	3	2	0	0	0	0	18

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week:

25 Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17)

26 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

27 Halibut Cove Subdistrict (241-15); Seldovia Bay Subdistrict (241-17)

28 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

29 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

30 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

31 Tutka Bay Subdistrict (241-06); Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

Appendix F27.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the set gillnet commercial common property harvest by statistical week, 2017.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)	4	6	18	50	36	22	20	29	17	11				213
TLH - LCI (%)	2.0%	3.1%	9.7%	21.6%	13.0%	7.9%	7.1%	10.3%	5.9%	11.5%				9.2%
MBH - PWS (#)	2	2			6	4			7	1				22
MBH - PWS (%)	1.0%	1.0%			2.2%	1.4%			2.4%	1.0%				1.0%
PCH - KOD (#)			2	2	13	17	1	3	1					39
PCH - KOD (%)			1.1%	0.9%	4.7%	6.1%	0.4%	1.1%	0.3%					1.7%
Hatchery total (#)	6	8	20	52	55	43	21	32	25	12	0	0	0	274
Hatchery total (%)	3.0%	4.2%	10.8%	22.4%	19.9%	15.4%	7.4%	11.3%	8.7%	12.5%				11.9%
Unmarked (#)	196	183	166	180	221	236	261	250	261	84				2,038
Unmarked (%)	97.0%	95.8%	89.2%	77.6%	80.1%	84.6%	92.6%	88.7%	91.3%					88.1%
Sample n	202	191	186	232	276	279	282	282	286	96	0	0	0	2,312
Sample events:	3	3	2	3	3	3	3	3	3	1	0	0	0	27

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week:

23 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

24 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

25 Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17)

26 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

27 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

28 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

29 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

30 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

31 Halibut Cove Subdistrict (241-15); Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18); Seldovia Bay Subdistrict (241-17).

32 Tutka Bay Subdistrict (241-06)/Barabara Creek Subdistrict (241-18).

Appendix F28.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine commercial common property harvest by statistical week, 2015.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)					82	58		14	6					160
TLH - LCI (%)					92.1%	61.7%		15.1%	6.5%					43.4%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	0	82	58	0	14	6	0	0	0	0	160
Hatchery total (%)					92.1%	61.7%		15.1%	6.5%					43.4%
Unmarked (#)					7	36		79	87					209
Unmarked (%)					7.9%	38.3%		84.9%	93.5%					56.6%
Sample n	0	0	0	0	89	94	0	93	93	0	0	0	0	369
Sample events:	0	0	0	0	1	1	0	1	1	0	0	0	0	4

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week: 27 and 28: Tutka Bay Subdistrict (241-06); 30 and 31: Neptune Bay Section (241-91).

Appendix F29.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine commercial common property harvest by statistical week, 2016.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)				92	149	136	39	40						456
TLH - LCI (%)				96.8%	81.0%	77.7%	14.0%	21.5%						49.6%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	92	149	136	39	40	0	0	0	0	0	456
Hatchery total (%)				96.8%	81.0%	77.7%	14.0%	21.5%						49.6%
Unmarked (#)				3	35	39	240	146						463
Unmarked (%)				3.2%	19.0%	22.3%	86.0%	78.5%						50.4%
Sample n	0	0	0	95	184	175	279	186	0	0	0	0	0	919
Sample events:	0	0	0	1	2	2	3	2	0	0	0	0	0	10

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week:

26 Tutka Bay Subdistrict (241-06);

27 Tutka Bay Subdistrict (241-06); China Poot SHA (241-92)

28 Tutka Bay Subdistrict (241-06); Neptune Bay Section (241-91)

29 Halibut Cove Subdistrict (241-15); China Poot Section (241-90); China Poot SHA (241-92)

30 Tutka Bay Subdistrict (241-06); Neptune Bay Section (241-91).

Appendix F30.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine commercial common property harvest by statistical week, 2017.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)			170	143	193	84	78	40	18					726
TLH - LCI (%)			91.9%	77.3%	68.2%	29.9%	27.4%	25.5%	27.3%					50.3%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	170	143	193	84	78	40	18	0	0	0	0	726
Hatchery total (%)			91.9%	77.3%	68.2%	29.9%	27.4%	25.5%	27.3%					50.3%
Unmarked (#)			15	42	90	197	207	117	48					716
Unmarked (%)			8.1%	22.7%	31.8%	70.1%	72.6%	74.5%	72.7%					49.7%
Sample n	0	0	185	185	283	281	285	157	66	0	0	0	0	1,442
Sample events:	0	0	2	2	3	3	3	2	1	0	0	0	0	16

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week:

25 Hazel Lake SHA (241-93).

26 Neptune Bay Section (241-91).

27 Halibut Cove (241-15), China Poot Section (241-90).

28 China Poot Section (241-90), Neptune Bay Section (241-91).

29 China Poot Section (241-90), Neptune Bay Section (241-91), Halibut Cove (241-15).

30 Tutka Bay Subdistrict (241-06), China Poot Section (241-90).

31 Neptune Bay Section (241-91).

Appendix F31.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine hatchery cost-recovery harvest by statistical week, 2015.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)						91	51							142
TLH - LCI (%)						97.8%	92.7%							95.9%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	0	0	91	51	0	0	0	0	0	0	142
Hatchery total (%)						97.8%	92.7%							95.9%
Unmarked (#)						2	4							6
Unmarked (%)						2.2%	7.3%							4.1%
Sample n	0	0	0	0	0	93	55	0	0	0	0	0	0	148
Sample events:	0	0	0	0	0	1	1	0	0	0	0	0	0	2

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week: 28: Tutka Hatchery SHA-Inside Lagoon (241-07); 29: Tutka Hatchery SHA-Outside Lagoon (241-07).

Appendix F32.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine hatchery cost-recovery harvest by statistical week, 2016.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)						85								85
TLH - LCI (%)						94.4%								94.4%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	0	0	85	0	0	0	0	0	0	0	85
Hatchery total (%)						94.4%								94.4%
Unmarked (#)						5								5
Unmarked (%)						5.6%								5.6%
Sample n	0	0	0	0	0	90	0	0	0	0	0	0	0	90
Sample events:	0	0	0	0	0	1	0	0	0	0	0	0	0	1

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week: 28: Tutka Hatchery SHA (241-07).

Appendix F33.–Count and relative percentage of marked/unmarked sockeye salmon sampled from the purse seine hatchery cost-recovery harvest by statistical week, 2017.

Hatchery marks[a]	Statistical week[b]													Grand
(# and %)	23	24	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)						92								92
TLH - LCI (%)						97.9%								97.9%
MBH - PWS (#)														0
MBH - PWS (%)														0.0%
PCH - KOD (#)														0
PCH - KOD (%)														0.0%
Hatchery total (#)	0	0	0	0	0	92	0	0	0	0	0	0	0	92
Hatchery total (%)						97.9%								97.9%
Unmarked (#)						2								2
Unmarked (%)						2.1%								2.1%
Sample n	0	0	0	0	0	94	0	0	0	0	0	0	0	94
Sample events:	0	0	0	0	0	1	0	0	0	0	0	0	0	1

[a] TLH-LCI = Trail Lakes Hatchery-Lower Cook Inlet; MBH-PWS = Main Bay Hatchery-Prince William Sound; PCH-KOD = Pillar Creek Hatchery-Kodiak.

[b] Sample locations by statistical week: 28: Kirschner Lake SHA (249-72).

Appendix F34.–Count and relative percentage of marked/unmarked pink salmon sampled from the set gillnet commercial common property harvest by statistical week, 2017.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)							19	11				30
PGH - LCI (#)							1					1
LCI total (%)							20.8%	11.5%				16.1%
AFKH -PWS (#)								8				8
CCH - PWS (#)								1				1
SGH - PSW (#)							4	8				12
WNH - PWS (#)								2				2
PWS total (%)							4.2%	19.8%				12.0%
Hatchery total (#)	0	0	0	0	0	0	24	30	0	0	0	54
Hatchery total (%)							25.0%	31.3%				28.1%
Unmarked (#)							72	66				138
Unmarked (%)							75.0%	68.8%				71.9%
Sample n	0	0	0	0	0	0	96	96	0	0	0	192
Sample events:	0	0	0	0	0	0	1	1	0	0	0	2

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH=Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH=Wally Noerenberg Hatchery.

[b] Sample locations by statistical week: 31 and 32: mixed Barabara Creek (241-18) and Tutka Bay subdistricts (241-06).

Appendix F35.–Count and relative percentage of marked/unmarked pink salmon sampled from the purse seine commercial common property harvest by statistical week, 2015.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)			79	75	79	53	34					320
PGH - LCI (#)							3					3
LCI total (%)			82.3%	78.9%	84.9%	55.2%	38.9%					68.0%
AFKH -PWS (#)												0
CCH - PWS (#)												0
SGH - PSW (#)						1	3					4
WNH - PWS (#)												0
PWS total (%)			0.0%	0.0%	0.0%	1.0%	3.2%					0.8%
Hatchery total (#)	0	0	79	75	79	54	40	0	0	0	0	327
Hatchery total (%)			82.3%	78.9%	84.9%	56.3%	42.1%					68.8%
Unmarked (#)			17	20	14	42	55					148
Unmarked (%)			17.7%	21.1%	15.1%	43.8%	57.9%					31.2%
Sample n	0	0	96	95	93	96	95	0	0	0	0	475
Sample events:	0	0	1	1	1	1	1	0	0	0	0	5

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH=Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH=Wally Noerenberg Hatchery.

[b] Sample locations by statistical week:

27 Tutka Bay Subdistrict (241-06).

28 Tutka Bay Subdistrict (241-06).

29 Tutka Bay Subdistrict (241-06).

30 Neptune Bay Subdistrict (241-91).

31 Neptune Bay Subdistrict (241-91).

Appendix F36.–Count and relative percentage of marked/unmarked pink salmon sampled from the purse seine commercial common property harvest by statistical week, 2016.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)					76	72		73	105			326
PGH - LCI (#)						1		2				3
LCI total (%)					80.0%	83.0%		79.8%	88.2%			83.1%
AFKH -PWS (#)												0
CCH - PWS (#)												0
SGH - PSW (#)												0
WNH - PWS (#)												0
PWS total (%)					0.0%	0.0%		0.0%	0.0%			0.0%
Hatchery total (#)	0	0	0	0	76	73	0	75	105	0	0	329
Hatchery total (%)					80.0%	83.0%		79.8%	88.2%			83.1%
Unmarked (#)					19	15		19	14			67
Unmarked (%)					20.0%	17.0%		20.2%	11.8%			16.9%
Sample n	0	0	0	0	95	88	0	94	119	0	0	396
Sample events:	0	0	0	0	1	1	0	1	1	0	0	4

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH = Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH=Wally Noerenberg Hatchery.

[b] Sample locations by statistical week: 29 Tutka Bay Subdistrict (241-06), 30 Tutka Bay Subdistrict (241-06), 32 Tutka Hatchery SHA (241-07), 33 Tutka Hatchery SHA (241-07).

Appendix F37.–Count and relative percentage of marked/unmarked pink salmon sampled from the purse seine commercial common property harvest by statistical week, 2017.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)				37	41	30	25	122	45	12	1	313
PGH - LCI (#)						1					11	12
LCI total (%)				38.9%	32.8%	16.6%	26.3%	47.1%	23.8%	12.8%	12.6%	28.5%
AFKH -PWS (#)											7	7
CCH - PWS (#)											6	6
SGH - PSW (#)					1		3	1	3	1		9
WNH - PWS (#)											2	2
PWS total (%)				0.0%	0.8%	0.0%	3.2%	0.4%	1.6%	1.1%	15.8%	2.1%
Hatchery total (#)	0	0	0	37	42	31	28	123	48	13	27	349
Hatchery total (%)				38.9%	33.6%	16.6%	29.5%	47.5%	25.4%	13.8%	28.4%	30.6%
Unmarked (#)				58	83	156	67	136	141	81	68	790
Unmarked (%)				61.1%	66.4%	83.4%	70.5%	52.5%	74.6%	86.2%	71.6%	69.4%
Sample n	0	0	0	95	125	187	95	259	189	94	95	1,139
Sample events:	0	0	0	1	2	2	1	3	2	1	1	13

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH = Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery.

[b] Sample locations by statistical week:

28 Tutka Bay Subdistrict (241-06).

29 Tutka Bay Subdistrict (241-06) and Neptune Bay Section (241-91).

30 Tutka Bay Subdistrict (241-06) and Neptune Bay Section (241-91).

31 Neptune Bay Section (241-91).

32 Tutka Hatchery SHA (241-07).

33 Tutka Hatchery SHA (241-07).

34 Tutka Hatchery SHA (241-07).

35 Port Graham Section (241-20).

Appendix F38.–Count and relative percentage of marked/unmarked pink salmon sampled from the purse seine hatchery cost-recovery harvest by statistical week, 2015.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)				94	90	90	88					362
PGH - LCI (#)					1		1					2
LCI total (%)				100.0%	94.8%	94.7%	92.7%					95.5%
AFKH -PWS (#)						1						1
CCH - PWS (#)												0
SGH - PSW (#)							1					1
WNH - PWS (#)												0
PWS total (%)				0.0%	0.0%	1.1%	1.0%					0.5%
Hatchery total (#)	0	0	0	94	91	91	90	0	0	0	0	366
Hatchery total (%)				100.0%	94.8%	95.8%	93.8%					96.1%
Unmarked (#)				0	5	4	6					15
Unmarked (%)				0.0%	5.2%	4.2%	6.3%					3.9%
Sample n	0	0	0	94	96	95	96	0	0	0	0	381
Sample events:	0	0	0	1	1	1	1	0	0	0	0	4

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH = Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery.

[b] Sample locations by statistical week:

28 Tutka Bay Hatchery SHA (241-07; inside the lagoon).

29 Tutka Bay Hatchery SHA (241-07; outside the lagoon).

30 Tutka Bay Hatchery SHA (241-07; outside the lagoon).

31 Tutka Bay Hatchery SHA (241-07; inside the lagoon).

Appendix F39.–Count and relative percentage of marked/unmarked pink salmon sampled from the purse seine hatchery cost-recovery harvest by statistical week, 2016.

Hatchery marks[a]	Statistical week[b]											Grand
(# and %)	25	26	27	28	29	30	31	32	33	34	35	total
TLH - LCI (#)				96						3		99
PGH - LCI (#)										67		67
LCI total (%)				100.0%						83.3%		92.2%
AFKH -PWS (#)												0
CCH - PWS (#)												0
SGH - PSW (#)										1		1
WNH - PWS (#)												0
PWS total (%)				0.0%						1.2%		0.6%
Hatchery total (#)	0	0	0	96	0	0	0	0	0	71	0	167
Hatchery total (%)				100.0%						84.5%		92.8%
Unmarked (#)				0						13		13
Unmarked (%)				0.0%						15.5%		7.2%
Sample n	0	0	0	96	0	0	0	0	0	84	0	180
Sample events:	0	0	0	1	0	0	0	0	0	1	0	2

[a] Hatcheries: TBLH = Tutka Bay Lagoon Hatchery, PGH = Port Graham Hatchery, AFKH = Armin F. Koernig Hatchery, CCH = Cannery Creek Hatchery, WNH = Wally Noerenberg Hatchery.

[b] Sample locations by statistical week:

28 Tutka Bay Hatchery SHA (241-07; inside Lagoon).

34 Port Graham Net pens (241-20).

Appendix F40.–Occurrence of hatchery pink salmon in LCI index streams, 2017.

Location, collection date	AFK	CCH	SGH	WNH	PGH	TBLH	PWS hatcheries combined	LCI hatcheries combined	Hatchery total	No mark	Not read	Total	Total % hatchery	Total % PWS	Total % LCI	% unmarked
Barabara Creek, 8/18/2017			5			1	5	1	6	89	1	95	6.3%	5.3%	1.1%	93.7%
Barabara Creek, 8/29/2017	8		22			4	30	4	34	62	0	96	35.4%	31.3%	4.2%	64.6%
Barabara Creek- combined	8	0	27	0	0	5	35	5	40	151	1	191	20.9%	18.3%	2.6%	79.1%
Beluga Slough, 9/5/2017	51	8	3	6			68	0	68	27	1	95	71.6%	71.6%	0.0%	28.4%
Beluga Slough, 9/11/2017	21	20		12		1	53	1	54	42	0	96	56.3%	55.2%	1.0%	43.8%
Beluga Slough, 9/18/2017	15	14		12		3	41	3	44	49	3	93	47.3%	44.1%	3.2%	52.7%
Beluga Slough- combined	87	42	3	30	0	4	162	4	166	118	4	284	58.5%	57.0%	1.4%	41.5%
English Bay River, 8/15/2017	4		12		1	2	16	3	19	11	2	30	63.3%	53.3%	10.0%	36.7%
English Bay River, 9/20/2017	12	21		3	1	3	36	4	40	102	2	142	28.2%	25.4%	2.8%	71.8%
English Bay River- combined	16	21	12	3	2	5	52	7	59	113	4	172	34.3%	30.2%	4.1%	65.7%
Humpy Creek, 8/25/2017			3			1	3	1	4	91	1	95	4.2%	3.2%	1.1%	95.8%
Humpy Creek, 9/12/2017							0	0	0	95	1	95	0.0%	0.0%	0.0%	100.0%
Humpy Creek- combined	0	0	3	0	0	1	3	1	4	186	2	190	2.1%	1.6%	0.5%	97.9%
Port Dick- Island Creek, 8/23/2017			4				4	0	4	41	3	45	8.9%	8.9%	0.0%	91.1%
Port Dick- Island Creek, 9/8/2017	18	7	3	4		2	32	2	34	116	1	150	22.7%	21.3%	1.3%	77.3%
Port Dick- Island Ck.- combined	18	7	7	4	0	2	36	2	38	157	4	195	19.5%	18.5%	1.0%	80.5%
Seldovia River, 8/8/2017							0	0	0	48	0	48	0.0%	0.0%	0.0%	100.0%
Seldovia River, 8/17/2017			5				5	0	5	45	1	50	10.0%	10.0%	0.0%	90.0%
Seldovia River, 8/30/2017	7	2	9	1			19	0	19	75	2	94	20.2%	20.2%	0.0%	79.8%
Seldovia River- combined	7	2	14	1	0	0	24	0	24	168	3	192	12.5%	12.5%	0.0%	87.5%
Tutka Lagoon Creek, 8/25/2017						90	0	90	90	3	3	93	96.8%	0.0%	96.8%	3.2%
Tutka Lagoon Creek, 9/15/2017	1	3		1		77	5	77	82	14	0	96	85.4%	5.2%	80.2%	14.6%
Tutka Lagoon Creek- combined	1	3	0	1	0	167	5	167	172	17	3	189	91.0%	2.6%	88.4%	9.0%
China Poot, 9/1/2017	4	2	2	2		2	10	2	12	82	2	94	12.8%	10.6%	2.1%	87.2%
Dogfish Lagoon Creeks, 8/24/2017	12	2	31	1			46	0	46	42	8	88	52.3%	52.3%	0.0%	47.7%
Fritz Creek, 9/14/2017	39	20	3	5			67	0	67	28	1	95	70.5%	70.5%	0.0%	29.5%
Lou's Creek, 9/18/2017	24	14		9	1	12	47	13	60	35	1	95	63.2%	49.5%	13.7%	36.8%
Port Chatham, 9/11/2017	28	13	1	4			46	0	46	50		96	47.9%	47.9%	0.0%	52.1%
Port Dick Creek- Head End, 9/7/2017	3	1				2	4	2	6	85	5	91	6.6%	4.4%	2.2%	93.4%
Port Graham River, 8/21/2017	2		3		1		5	1	6	89	1	95	6.3%	5.3%	1.1%	93.7%
Sadie Cove, 8/28/2017	2		12			4	14	4	18	75	3	93	19.4%	15.1%	4.3%	80.6%
Tutka Head End Creek, 8/25/2017			11			64	11	64	75	108	9	183	41.0%	6.0%	35.0%	59.0%
Total	251	127	129	60	4	268	567	272	839	1,504	51	2,343	35.8%	24.2%	11.6%	64.2%
Percent of total fish in creeks	10.7%	5.4%	5.5%	2.6%	0.2%	11.4%	24.2%	11.6%	35.8%	64.2%	2.2%	100.0%				
Percent of hatchery fish in creeks	30.0%	15.2%	15.4%	7.2%	0.5%	31.9%	67.6%	32.4%	100.0%							
Percent of PWS hatchery fish by facility	44.3%	22.4%	22.8%	10.6%												
Percent of LCI hatchery fish by facility					1.5%	98.5%										

Note: Otoliths were collected from spawned out carcasses. AFK = Armin F. Koernig Hatchery; CCH = Cannery Creek Hatchery; SGH = Solomon Gulch Hatchery; WNH = Wally Noerenberg Hatchery; PGH = Port Graham Hatchery; TBLH = Tutka Bay Lagoon Hatchery.

Appendix F41.–Occurrence of hatchery pink salmon in LCI index streams, 2016.

Location, collection date	AFK	CCH	SGH	WNH	PGH	TBLH	PWS hatcheries combined	LCI hatcheries combined	Hatchery total	no mark	not read	Total fish	Total % hatchery	Total % PWS	Total % LCI	% unmarked
Barabara Creek, 8/16/2016					1		0	1	1	39		40	2.5%	0.0%	2.5%	97.5%
Barabara Creek, 8/26/2016	3	1	6			2	10	2	12	36	1	48	25.0%	20.8%	4.2%	75.0%
Barabara Creek, 9/9/2016	9	3	7	2	4	2	21	6	27	69		96	28.1%	21.9%	6.3%	71.9%
Barabara Creek- combined	12	4	13	2	5	4	31	9	40	144	1	184	21.7%	16.8%	4.9%	78.3%
Humpy Creek, 8/17/2016							0	0	0	37		37	0.0%	0.0%	0.0%	100.0%
Humpy Creek, 8/24/2016			1				1	0	1	58	1	59	1.7%	1.7%	0.0%	98.3%
Humpy Creek, 9/7/2016							0	0	0	94	2	94	0.0%	0.0%	0.0%	100.0%
Humpy Creek - combined	0	0	1	0	0	0	1	0	1	189	3	190	0.5%	0.5%	0.0%	99.5%
Port Dick- Head End, 8/9/2016							0	0	0	3		3	0.0%	0.0%	0.0%	100.0%
Port Dick- Head End, 8/31/2016							0	0	0	28	1	28	0.0%	0.0%	0.0%	100.0%
Port Dick- Head End, 9/13/2016							0	0	0	9		9	0.0%	0.0%	0.0%	100.0%
Port Dick Creek- Head End - combined	0	0	0	0	0	0	0	0	0	40	1	40	0.0%	0.0%	0.0%	100.0%
Port Graham River, 8/11/2016					10		0	10	10	41	0	51	19.6%	0.0%	19.6%	80.4%
Port Graham River, 9/2/2016	1	1	1		19	5	3	24	27	67	2	94	28.7%	3.2%	25.5%	71.3%
Port Graham River - combined	1	1	1	0	29	5	3	34	37	108	2	145	25.5%	2.1%	23.4%	74.5%
Seldovia River, 8/8/2016							0	0	0	25	1	25	0.0%	0.0%	0.0%	100.0%
Seldovia River, 8/29/2016	2	2	1		4	4	5	8	13	82	1	95	13.7%	5.3%	8.4%	86.3%
Seldovia River, 9/14/2016				1	1		1	1	2	95	2	97	2.1%	1.0%	1.0%	97.9%
Seldovia River - combined	2	2	1	1	5	4	6	9	15	202	4	217	6.9%	2.8%	4.1%	93.1%
Tutka Lagoon Creek, 8/12/2016						95	0	95	95	1	0	96	99.0%	0.0%	99.0%	1.0%
Tutka Lagoon Creek, 9/12/2016		1				84	1	84	85	13	0	98	86.7%	1.0%	85.7%	13.3%
Tutka Lagoon Creek - combined	0	1	0	0	0	179	1	179	180	14	0	194	92.8%	0.5%	92.3%	7.2%
China Poot Creek, 8/30/2016							0	0	0	8		8	0.0%	0.0%	0.0%	100.0%
Dogfish Lagoon Creeks, 9/6/2016	2	1		1	12		4	12	16	77	3	93	17.2%	4.3%	12.9%	82.8%
English Bay River, 9/8/2016	3	4			13		7	13	20	71	5	91	22.0%	7.7%	14.3%	78.0%
Port Dick- Island Creek, 9/1/2016							0	0	0	10		10	0.0%	0.0%	0.0%	100.0%
Total	20	13	16	4	64	192	53	256	309	863	19	1172	26.4%	4.5%	21.8%	73.6%
Percent of total fish in creeks	1.7%	1.1%	1.4%	0.3%	5.5%	16.4%	4.5%	21.8%	26.4%	73.6%	1.6%	100.0%				
Percent of hatchery fish in creeks	6.5%	4.2%	5.2%	1.3%	20.7%	62.1%	17.2%	82.8%	100.0%							
Percent of PWS hatchery fish by facility	37.7%	24.5%	30.2%	7.5%												
Percent of LCI hatchery fish by facility					25.0%	75.0%										

Note: Otoliths were collected from spawned out carcasses. AFK = Armin F. Koernig Hatchery; CCH = Cannery Creek Hatchery; SGH = Solomon Gulch Hatchery; WNH = Wally Noerenberg Hatchery; PGH = Port Graham Hatchery; TBLH = Tutka Bay Lagoon Hatchery.

Appendix F42.–Occurrence of hatchery pink salmon in LCI index streams, 2015.

Location, collection date	AFK	CCH	SGH	WNH	PGH	TBLH	PWS hatcheries combined	LCI hatcheries combined	Hatchery total	No mark	Not read	Total fish	Total % hatchery	Total % PWS	Total % LCI	% unmarked
Barabara Creek, 8/14/2015			5				5	0	5	90	1	95	5.3%	5.3%	0.0%	94.7%
Barabara Creek, 8/28/2015	1		6	5		3	12	3	15	81	0	96	15.6%	12.5%	3.1%	84.4%
Barabara Creek, 9/10/2015	3	9		7		7	19	7	26	69	1	95	27.4%	20.0%	7.4%	72.6%
Barabara Creek- combined	4	9	11	12	0	10	36	10	46	240	2	286	16.1%	12.6%	3.5%	83.9%
China Poot Creek, 8/27/2015			5		1	1	5	2	7	34	1	41	17.1%	12.2%	4.9%	82.9%
China Poot Creek, 9/9/2015							0	0	0	96	0	96	0.0%	0.0%	0.0%	100.0%
China Poot Creek - combined	0	0	5	0	1	1	5	2	7	130	1	137	5.1%	3.6%	1.5%	94.9%
Humpy Creek, 8/19/2015			1			3	1	3	4	91	1	95	4.2%	1.1%	3.2%	95.8%
Humpy Creek, 9/3/2015	1		1				2	0	2	92	2	94	2.1%	2.1%	0.0%	97.9%
Humpy Creek - combined	1	0	2	0	0	3	3	3	6	183	3	189	3.2%	1.6%	1.6%	96.8%
Port Dick Creek- Head End, 8/5/2015					1		0	1	1	31	1	32	3.1%	0.0%	3.1%	96.9%
Port Dick Creek- Head End, 9/15/2015	4	8		2			14	0	14	76	0	90	15.6%	15.6%	0.0%	84.4%
Port Dick Creek- Head End - combined	4	8	0	2	1	0	14	1	15	107	1	122	12.3%	11.5%	0.8%	87.7%
Port Dick- Island Creek, 9/2/2015	12	3	2	5			22	0	22	74	0	96	22.9%	22.9%	0.0%	77.1%
Port Dick- Island Creek, 9/15/2015	10	5		1			16	0	16	79	1	95	16.8%	16.8%	0.0%	83.2%
Port Dick- Island Creek - combined	22	8	2	6	0	0	38	0	38	153	1	191	19.9%	19.9%	0.0%	80.1%
Port Graham River, 8/6/2015					1	1	0	2	2	92	2	94	2.1%	0.0%	2.1%	97.9%
Port Graham River, 8/24/2015					1		0	1	1	93	2	94	1.1%	0.0%	1.1%	98.9%
Port Graham River - combined	0	0	0	0	2	1	0	3	3	185	4	188	1.6%	0.0%	1.6%	98.4%
Seldovia River, 8/4/2015					3		0	3	3	92	1	95	3.2%	0.0%	3.2%	96.8%
Seldovia River, 9/8/2015	3	3	1	2			9	0	9	87	0	96	9.4%	9.4%	0.0%	90.6%
Seldovia River - combined	3	3	1	2	3	0	9	3	12	179	1	191	6.3%	4.7%	1.6%	93.7%
Tutka Lagoon Creek, 8/13/2015						94	0	94	94	2	0	96	97.9%	0.0%	97.9%	2.1%
Tutka Lagoon Creek, 9/4/2015						88	0	88	88	8	0	96	91.7%	0.0%	91.7%	8.3%
Tutka Lagoon Creek - combined	0	0	0	0	0	182	0	182	182	10	0	192	94.8%	0.0%	94.8%	5.2%
Dogfish Bay Creeks, 8/20/2015	3	1				1	4	1	5	90	1	95	5.3%	4.2%	1.1%	94.7%
English Bay River, 8/11/2015			31	1		4	32	4	36	60	0	96	37.5%	33.3%	4.2%	62.5%
South Nuka Bay, 9/2/2015	6				1	1	6	2	8	87	1	95	8.4%	6.3%	2.1%	91.6%
Tutka Head End Creek, 8/26/2015			5			74	5	74	79	17	0	96	82.3%	5.2%	77.1%	17.7%
Total	43	29	57	23	8	277	152	285	437	1,441	15	1,878	23.3%	8.1%	15.2%	76.7%
Percent of total fish in creeks	2.3%	1.5%	3.0%	1.2%	0.4%	14.7%	8.1%	15.2%	23.3%	76.7%	0.8%	100.0%				
Percent of hatchery fish in creeks	9.8%	6.6%	13.0%	5.3%	1.8%	63.4%	34.8%	65.2%	100.0%							
Percent of PWS hatchery fish by facility	28.3%	19.1%	37.5%	15.1%												
Percent of LCI hatchery fish by facility					2.8%	97.2%										

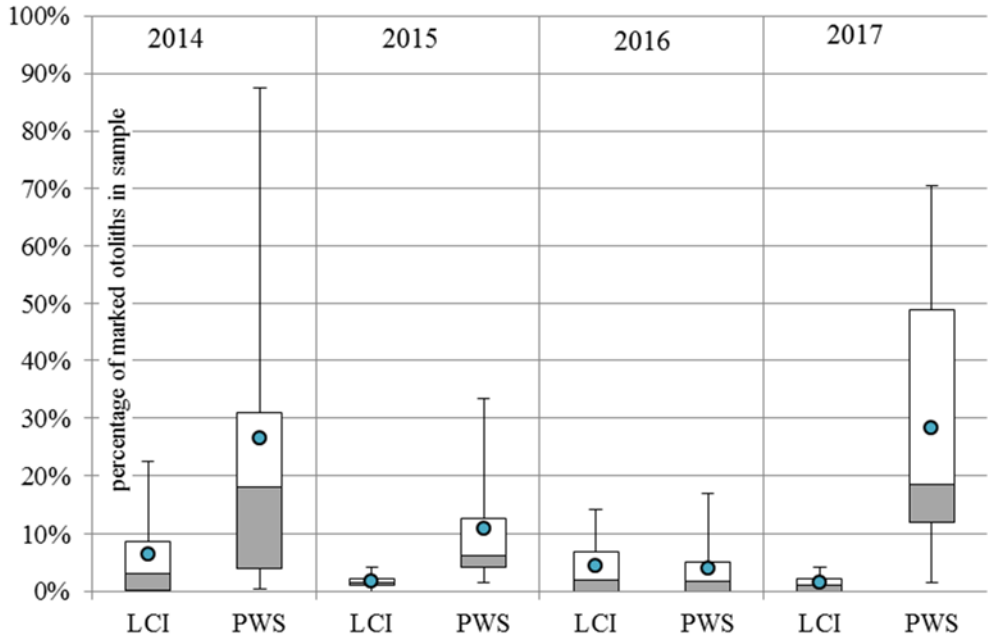
Note: Otoliths were collected from spawned out carcasses. AFK = Armin F. Koernig Hatchery; CCH = Cannery Creek Hatchery; SGH = Solomon Gulch Hatchery; WNH = Wally Noerenberg Hatchery; PGH = Port Graham Hatchery; TBLH = Tutka Bay Lagoon Hatchery.

Appendix F43.–Occurrence of hatchery pink salmon in LCI index streams, 2014.

Location, collection date	AFH	CCH	SGH	WNH	PGH	TBLH	PWS hatcheries combined	LCI hatcheries combined	Hatchery total	No mark	Not read	Total fish	Total % marked	Total % PWS	Total % LCI	% unmarked
Barabara Creek, 8/26/2014	6		2	3	2	1	11	3	14	2	2	16	87.5%	68.8%	18.8%	12.5%
Barabara Creek, 9/8/2014	25	25	1	21	2		72	2	74	5		79	93.7%	91.1%	2.5%	6.3%
Barabara Creek - combined	31	25	3	24	4	1	83	5	88	7	2	95	92.6%	87.4%	5.3%	7.4%
China Poot Creek, 8/28/2014				2			2	0	2	49	5	51	3.9%	3.9%	0.0%	96.1%
China Poot Creek, 9/5/2014				1			1	0	1	41	3	42	2.4%	2.4%	0.0%	97.6%
China Poot Creek - combined	0	0	0	3	0	0	3	0	3	90	8	93	3.2%	3.2%	0.0%	96.8%
Humpy Creek, 8/11/2014							0	0	0	94	2	94	0.0%	0.0%	0.0%	100.0%
Humpy Creek, 9/4/2014				1			1	0	1	94	1	95	1.1%	1.1%	0.0%	98.9%
Humpy Creek - combined	0	0	0	1	0	0	1	0	1	188	3	189	0.5%	0.5%	0.0%	99.5%
Port Graham River, 8/25/2014	1	1	1	1	50		4	50	54	41	1	95	56.8%	4.2%	52.6%	43.2%
Port Graham River, 9/11/2014	10	8		8	38		26	38	64	33		97	66.0%	26.8%	39.2%	34.0%
Port Graham River - combined	11	9	1	9	88	0	30	88	118	74	1	192	61.5%	15.6%	45.8%	38.5%
Seldovia River, 8/14/2014					5		0	5	5	102	3	107	4.7%	0.0%	4.7%	95.3%
Seldovia River, 8/27/2014	5	3		4	40		12	40	52	41	3	93	55.9%	12.9%	43.0%	44.1%
Seldovia River - combined	5	3	0	4	45	0	12	45	57	143	6	200	28.5%	6.0%	22.5%	71.5%
Tutka Lagoon 8/18/2014			1		2	85	1	87	88	7	1	95	92.6%	1.1%	91.6%	7.4%
Tutka Lagoon, 9/8/2014	2	5		5	4	70	12	74	86	6	5	92	93.5%	13.0%	80.4%	6.5%
Tutka Lagoon - combined	2	5	1	5	6	155	13	161	174	13	6	187	93.0%	7.0%	86.1%	7.0%
Dogfish Lagoon Creeks, 9/9/2014	14	5		10	8	1	29	9	38	55	5	93	40.9%	31.2%	9.7%	59.1%
English Bay River, 8/26/2014	14	5	1	8	1		28	1	29	64	3	93	31.2%	30.1%	1.1%	68.8%
Total	77	52	6	64	152	157	199	309	508	634	34	1,142	44.5%	17.4%	27.1%	55.5%
Percent of total fish in creeks	6.7%	4.6%	0.5%	5.6%	13.3%	13.7%	17.4%	27.1%	44.5%	55.5%	3.0%	100.0%				
Percent of hatchery fish in creeks	15.2%	10.2%	1.2%	12.6%	29.9%	30.9%	39.2%	60.8%	100.0%							
Percent of PWS hatchery fish by facility	38.7%	26.1%	3.0%	32.2%												
Percent of LCI hatchery fish by facility					49.2%	50.8%										

Note: Otoliths were collected from spawned out carcasses. AFK = Armin F. Koernig Hatchery; CCH = Cannery Creek Hatchery; SGH = Solomon Gulch Hatchery; WNH = Wally Noerenberg Hatchery; PGH = Port Graham Hatchery; TBLH = Tutka Bay Lagoon Hatchery.

Appendix F44.–Box and whisker plot with table showing percent occurrence of Prince William Sound hatchery marked otoliths versus Lower Cook Inlet hatchery marked otoliths from pink salmon carcasses in LCI index streams excluding hatchery special harvest areas, 2014-2017. Bottom and top of the box are the 25th and 75th percentile. Horizontal line in the box is the 50th percentile (median). Circle is the mean (average).



	2014		2015		2016		2017	
Location	LCI	PWS	LCI	PWS	LCI	PWS	LCI	PWS
Barabara Creek	5.3%	87.4%	3.5%	12.6%	4.9%	16.8%	2.6%	18.3%
China Poot Creek	0.0%	3.2%	1.5%	3.6%	0.0%	0.0%	2.1%	10.6%
Dogfish Lagoon Creek	9.7%	31.2%	1.1%	4.2%	12.9%	4.3%	0.0%	52.3%
English Bay River	1.1%	30.1%	4.2%	33.3%	14.3%	7.7%	4.1%	30.2%
Humpy Creek	0.0%	0.5%	1.6%	1.6%	0.0%	0.5%	0.5%	1.6%
Port Dick - Headend Ck.			0.8%	11.5%	0.0%	0.0%	2.2%	4.4%
Port Dick - Island Creek			0.0%	19.9%	0.0%	0.0%	1.0%	18.5%
Seldovia River	22.5%	6.0%	1.6%	4.7%	4.1%	2.8%	0.0%	12.5%
South Nuka Bay			2.1%	6.3%				
Beluga Slough							1.4%	57.0%
Fritz Creek							0.0%	70.5%
Sadie Cove							4.3%	15.1%
Port Chatham							0.0%	47.9%
marked otolith levels overall	7.9%	20.4%	0.8%	10.2%	3.4%	5.9%	1.3%	28.0%
average	6.4%	26.4%	1.8%	10.9%	4.5%	4.0%	1.5%	28.2%
lower 25%	0.3%	3.4%	1.1%	2.6%	0.0%	0.0%	0.0%	10.4%
median (50%)	2.9%	14.1%	0.5%	2.1%	2.1%	1.7%	1.2%	6.4%
upper (75%)	5.4%	12.9%	0.5%	6.3%	4.9%	3.5%	1.1%	30.6%

Appendix F45.–Thermal marks on pink salmon otoliths sampled from Lower Cook Inlet streams, excluding hatchery special harvest areas, 2014–2017.

Release location	2014	2015	2016	2017	All years combined
Tutka Bay Hatchery (LCI)	2 (0.3%)	20 (1.4%)	8 (1.0%)	25 (1.4%)	55 (1.2%)
Port Graham Hatchery (LCI)	58 (7.6%)	6 (0.4%)	35 (4.2%)	2 (0.1%)	101 (2.1%)
Armin Fritz Koernig Hatchery (PWS)	64 (8.4%)	43 (3.1%)	19 (2.3%)	224 (12.8%)	350 (7.4%)
Cannery Creek Hatchery (PWS)	38 (5.0%)	29 (2.1%)	11 (1.3%)	110 (6.3%)	188 (4.0%)
Solomon Gulch Hatchery (PWS)	4 (0.5%)	52 (3.7%)	15 (1.8%)	115 (6.6%)	186 (3.9%)
Wally Noerenberg Hatchery (PWS)	50 (6.6%)	23 (1.6%)	4 (0.5%)	50 (2.9%)	127 (2.7%)
unmarked[a]	547 (71.7%)	1,229 (87.7%)	741 (89.0%)	1,225 (70.0%)	3,742 (78.8%)
LCI total	60 (7.9%)	26 (1.9%)	43 (5.2%)	27 (1.5%)	156 (3.3%)
PWS total	156 (20.4%)	147 (10.5%)	49 (5.9%)	499 (28.5%)	851 (17.9%)
LCI and PWS combined	216 (28.3%)	173 (12.3%)	92 (11.0%)	526 (30.0%)	1,007 (21.2%)
Unmarked, marked, and questionable combined[b]	763 (100.0%)	1,402 (100.0%)	833 (100.0%)	1,751 (100.0%)	4,749 (100.0%)

[a] Unmarked otoliths include wild and possibly unmarked Kitoi Bay Hatchery fish.

[b] Otoliths damaged during sampling or processing excluded.

APPENDIX G: HERRING

Appendix G1.–Total biomass estimates and commercial catch of Pacific herring in short tons by age class, Kamishak Bay District, Lower Cook Inlet, 2015, and 2016 forecast.

Age	2015 Est. spawning biomass	Percent by weight	2015 commercial harvest[a]	Percent by weight	2015 total biomass	Percent by weight	2016 forecast biomass	Percent by weight
1								
2								
3	0	0.0%	0	0	0	0.0%	267	16.7%
4	15	0.8%	0	0	15	0.8%	0	0.0%
5	136	6.7%	0	0	136	6.7%	17	1.1%
6	158	7.8%	0	0	158	7.8%	124	7.7%
7	176	8.8%	0	0	176	8.8%	134	8.4%
8	706	35.1%	0	0	706	35.1%	126	7.9%
9	169	8.4%	0	0	169	8.4%	483	30.1%
10	301	14.9%	0	0	301	14.9%	102	6.4%
11	260	12.9%	0	0	260	12.9%	168	10.5%
12	67	3.3%	0	0	67	3.3%	141	8.8%
13+	27	1.3%	0	0	27	1.3%	40	2.5%
TOTALS	2,015	100.0%	0	0	2,015	100.0%	1,603	100.0%

Note: st = short ton = 2,000 lb. Funding was not available for herring stock assessment after 2015 so the 2016 forecast was the last one produced.

[a] The commercial herring fishery in Kamishak Bay did not open in 2015.

Appendix G2.–Catch of Pacific herring in short tons and effort in number of permits making deliveries by district in the commercial sac roe seine fishery, Lower Cook Inlet, 1961–2017.

	Southern		Kamishak		Eastern		Outer		Total	
Year	Tons	Permits	Tons	Permits	Tons	Permits	Tons	Permits	Tons	Permits
1961										
1962										
1963	1								1	
1964										
1965	2								2	
1966					7				7	
1967										
1968	20								20	
1969	551				758		38		1,347	
1970	2,709				2,100				4,809	
1971	[a]	[a]			831	22			844	24
1972	[a]	[a]			[a]	[a]			[a]	[a]
1973	204	16	243	14	831	25	301	12	1,579	37
1974	110	7	2,114	26	47	5	384	26	2,655	45
1975	24	5	4,119	40		CLOSED		CLOSED	4,143	41
1976			4,842	66		CLOSED		CLOSED	4,842	66
1977	291	13	2,908	57		CLOSED		CLOSED	3,199	58
1978	17	7	402	44		CLOSED		CLOSED	419	44
1979	13	3	415	35		CLOSED		CLOSED	428	36
1980		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1981		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1982		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1983		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1984		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1985		CLOSED	1,132	23	204	7	[a]	[a]	1,348	29
1986		CLOSED	1,959	54	167	4	28	3	2,154	57
1987		CLOSED	6,132	63	584	4	202	9	6,918	69
1988		CLOSED	5,548	75			[a]	[a]	5,605	76
1989	170	6	4,801	75					4,971	81
1990		CLOSED	2,264	75		CLOSED		CLOSED	2,264	75
1991		CLOSED	1,992	58					1,992	58
1992		CLOSED	2,282	56					2,282	56
1993		CLOSED	3,570	60		CLOSED		CLOSED	3,570	60
1994		CLOSED	2,167	61		CLOSED		CLOSED	2,167	61
1995		CLOSED	3,378	60		CLOSED		CLOSED	3,378	60
1996		CLOSED	2,984	62		CLOSED		CLOSED	2,984	62
1997		CLOSED	1,746[b]	45[b]		CLOSED		CLOSED	1,746	45
1998		CLOSED	331[b]	20[b]		CLOSED		CLOSED	331	20
1999		CLOSED	100[c]	1[c]		CLOSED		CLOSED	100	1
2000–2017		CLOSED		CLOSED		CLOSED		CLOSED		CLOSED
1961–1999 Average [d]	295		2,520	49	556		146		2,205	

Source: ADF&G fish ticket database. Commercial Fisheries Entry Commission License Statistics, 1974–2017, Juneau.

[a] Confidential data. Fewer than 3 permits reporting.

[b] Includes both commercial harvest and ADF&G test fishery harvest.

[c] Commercial fishery closed, ADF&G test fishery harvest only.

[d] Averages are based only on years with reported harvest.

Appendix G3.–Preseason estimates of biomass and projected commercial sac roe seine harvests, versus actual harvests, for Pacific herring in short tons (st), average roe recovery, numbers of permits making landings, and exvessel value in millions of dollars, Kamishak Bay District, Lower Cook Inlet, 1978–2017.

Year	Preseason		Actual commercial harvest (st)[a]	Average roe %	No. of permits w/landings	Exvessel value[b] (in millions)
	Forecasted biomass (st)	Projected harvest (st)[a]				
1978	[c]	[d]	402	33.4	44	[e]
1979	[c]	[d]	415	12.5	[e]	[e]
1980	[c]	[d]	CLOSED			
1981	[c]	[d]	CLOSED			
1982	[c]	[d]	CLOSED			
1983	[c]	[d]	CLOSED			
1984	[c]	[d]	CLOSED			
1985	[c]	[d]	1,132	11.3	23	1
1986	[c]	[d]	1,959	10.4	54	2.2
1987	[c]	3,833	6,132	11.3	63	8.4
1988	[c]	5,190	5,548	11.1	75	9.3
1989	37,785	5,000	4,801	9.5	75	3.5[f]
1990	28,658	2,292	2,264	10.8	75	1.8
1991	17,256	1,554	1,992	11.3	58	1.3
1992	16,431	1,479	2,282	9.7	56	1.4
1993	28,805	2,592	3,570	10.2	60	2.2
1994	25,300	3,421	2,167	10.6	61	1.5
1995	21,998	2,970	3,378	9.8	60	4.0
1996	20,925	2,250	2,984	10.1	62	6.0[f]
1997	25,300	3,420	1,746	9.3	45	0.4
1998	19,800	1,780	331	8.5	20	0.1
1999	[g]		CLOSED[h]			
2000	6,330		CLOSED			
2001	11,352		CLOSED			
2002	9,020		CLOSED			
2003	4,771		CLOSED			
2004	3,554		CLOSED			
2005	3,058		CLOSED			
2006	2,650		CLOSED			
2007	2,286		CLOSED			
2008	2,069		CLOSED			
2009	[i]		CLOSED			
2010	2,963		CLOSED			
2011	3,830		CLOSED			
2012	[i]		CLOSED			
2013	[i]		CLOSED			
2014	6,318		CLOSED			
2015	5,699		CLOSED			
2016	1,603		CLOSED			
2017	[i]		CLOSED			

[a] Kamishak Bay allocation only; does not include Shelikof Strait food/bait allocation.

[b] Exvessel values exclude any postseason retroactive adjustments (except where noted).

[c] Prior to 1989, preseason forecasts of biomass were not generated.

[d] Prior to 1987, preseason harvest projections were not generated.

[e] Data not available.

[f] Includes retroactive adjustment.

[g] 1999 preseason biomass calculated as a range of 6,000 to 13,000 st.

[h] ADF&G test fishing harvested 100 st.

[i] No forecast of abundance generated for 2009, 2012, 2013, and 2017 due to lack of samples in previous year(s).

Appendix G4.–Summary of herring sac roe seine fishery openings and commercial harvests in the Kamishak Bay District of Lower Cook Inlet, 1969–2017.

Year	Dates of openings	Total hours open	Harvest (short tons)	Catch Rate (short tons/ hour open)	Number of permits w/landings
1969–1972	No closed periods				
1973	No closed periods		243		8
1974	1/1–5/20		2,114		26
1975	1/1–6/6	Closed Iniskin Bay, 5/17	4,119		40
1976	1/1–5/21	Closed Iniskin Bay, 5/17. Reopened Kamishak, 6/2.	4,824		66
1977	1/1–5/31	(Closed Kamishak Dist. 5/12; reopened 5/14–5/17; reopened 5/29–5/31)	2,908		57
1978[a]	4/16–5/31	96	402	4	44
1979	5/12–5/24	112	415	4	36
1980–1984	CLOSED				
1985	4/20–6/15	1,350	1,132	1	23
1986	4/20–6/13	1,303	1,959	2	54
1987	4/21–4/23	65	6,132	94	63
1988	4/22–4/29	42	5,548	132	74
1989	4/17–4/30	24.5	4,801	196	74
1990	4/22–4/23	8	2,264	283	75
1991	4/26	1	1,992	1,992	58
1992	4/24	0.5	2,282	4,564	56
1993	4/21	0.75	3,570	4,760	60
1994	4/25	0.5	778	1,556	35
	4/29	1	1,338	1,338	53
1995	4/27	0.5	1,685	3,370	45
	4/28	1	1,693	1,693	44
1996	4/24	0.5	2,984	5,968	62
	4/25[b]	0.5			
	4/29	1.5	1,580	1,053	42
1997	4/30	[c]	[c]	[c]	[c]
	5/1	12	51	4	4
	5/22[d]	[d]	54	[d]	–
	4/21	0.5	160	320	12
1998	4/22	2	136	68	11
	5/14[d]	[d]	10	[d]	–
	5/22[d]	[d]	23	[d]	–
1999–2017	CLOSED		100[e]		

[a] Management by emergency order began (closed until opened).

[b] Despite the open fishing period, the entire fleet collectively agreed not to fish due to ongoing price negotiations with processors.

[c] Confidential data. Fewer than 3 permits reporting.

[d] ADF&G test fishery harvest.

[e] ADF&G test fishery harvest in 1999.

Appendix G5.–Comparison of preseason biomass forecast/projected harvest and actual commercial herring sac roe seine harvest versus hindcast (age-structured-assessment) estimates of total biomass and exploitation rate in Kamishak Bay District, Lower Cook Inlet, 1990–2017.

	Preseason		Actual	Estimated	ASA Hindcast	Hindcast
	Forecasted	Projected	commercial	exploitation	total biomass	exploitation
Year	biomass (st)	harvest (st)[a]	harvest (st)[a]	rate (%)[b]	estimate (st)[c,d,e]	rate (%)[c,f]
1990	28,658	2,292	2,264	7.9	17,102	13.2
1991	17,256	1,554	1,992	11.5	18,108	11.0
1992	16,431	1,479	2,282	13.9	16,583	13.8
1993	28,805	2,592	3,570	12.4	14,777	24.2
1994	25,300	3,421	2,167	8.6	12,183	17.8
1995	21,998	2,970	3,378	15.4	9,805	34.5
1996	20,925	2,250	2,984	14.3	7,559	39.5
1997	25,300	3,420	1,746	6.9	5,710	30.6
1998	19,800	1,780	331	1.7	5,074	6.5
1999	[g]		CLOSED[h]		5,030	
2000	6,330		CLOSED		5,074	
2001	11,352		CLOSED		4,751	
2002	9,020		CLOSED		4,548	
2003	4,771		CLOSED		4,666	
2004	3,554		CLOSED		4,825	
2005	3,058		CLOSED		5,245	
2006	2,650		CLOSED		5,143	
2007	2,286		CLOSED		5,979	
2008	2,069		CLOSED		6,652	
2009	[i]		CLOSED		5,852	
2010	2,963		CLOSED		6,327	
2011	3,830		CLOSED		5,619	
2012	[i]		CLOSED		4,810	
2013	[i]		CLOSED		3,743	
2014	6,318		CLOSED		2,778	
2015	5,699		CLOSED		2,015	
2016	1,603		CLOSED		[i]	
1990–2016 Average [j]	11,738	2,418	2,302	10	7,306	21.2
2017	[i]		CLOSED		[i]	

Note: st = short ton.

Sources: Otis 2004; Otis and Cope 2004; Yuen 1994.

[a] Kamishak Bay allocation only; does not include Shelikof Strait food/bait allocation.

[b] Estimated exploitation rate based on preseason forecasted biomass and actual commercial harvest for each year.

[c] Figures are based on the best available data at the time of publishing and are subject to change as new data is incorporated into the model; therefore, all figures herein supersede those previously reported.

[d] Age-structured-assessment (ASA) model integrates heterogeneous data sources and simultaneously minimizes differences between observed and expected return data to forecast the following year's biomass as well as hindcast previous years' biomass.

[e] ASA estimates based on the most recent available hindcast, run after the 2015 survey season.

[f] Estimated exploitation rate based on ASA hindcast estimates of biomass divided by actual commercial harvest.

[g] 1999 preseason biomass calculated as a range of 6,000 to 13,000 short ton.

[h] ADF&G test fishing harvested 100 short ton.

[i] No ASA forecasted or hind-casted abundance estimate possible due to lack of age composition samples.

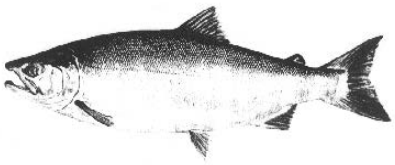
[j] Averages based only on years with data presented.

APPENDIX H: 2017 OUTLOOK

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE

Sam Cotten, Commissioner

Scott Kelley, Director



Contact:
Glenn Hollowell, Area Finfish Management Biologist
Ted Otis, Area Finfish Research Biologist
Ethan Ford, Fisheries
Phone: (907) 235-8191

Homer Area Office
3298 Douglas Place
Homer, AK 99603
Date Issued: February 3, 2017,
Time: 2:00 PM

2017 LOWER COOK INLET SALMON FISHERY OUTLOOK

General Information

This outlook is provided to assist the commercial salmon industry in planning for the 2017 season in the Lower Cook Inlet (LCI) Management Area. Preseason forecasts and recent 5 year commercial common property harvest averages are the basis for the information provided. Forecasts for LCI can be found on ADF&G's web site:

http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon

Cook Inlet Aquaculture Association (CIAA) manages the Trail Lakes Hatchery (TLH), Port Graham Hatchery (PGH), and Tutka Bay Lagoon Hatchery (TBLH). Hatchery forecasts can be found through the CIAA web site:

http://www.ciaanet.org

Inseason modifications to harvest projections, season opening dates, and strategies for weekly fishing periods may occur as fisheries develop.

The forecasts for commercial common property fishery (CCPF) harvests by species are summarized in Table 1. The wild stock pink salmon forecast is derived from a spawner-recruit analysis, whereas run projections for other wild stock species are based on recent 5-year average historical production. Projected runs of hatchery-origin salmon are provided by CIAA. These projections of hatchery and wild stock runs will provide the basis for early-season management in all districts with other management tools such as aerial survey estimates, weir counts, remote video monitoring and anticipated harvest used as the season progresses.

Management of the LCI commercial salmon fisheries is based in the Homer area office. Fishery announcements from the Homer ADF&G office will routinely occur on Fridays at 2:00 p.m., or earlier if possible. Announcement recordings will be available for commercial fisheries at 907-235-

-continued-

7307. Emergency order announcement information is also transmitted by email to all registered processors, local radio stations, news media and interested members of the public. Harvest information and fisheries announcements are located on the ADF&G web site: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon

In addition, interested individuals may sign up to receive email announcements:

http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main

The first announcement is anticipated to be released at 2:00 PM, Friday, April 28.

CIAA anticipates a total of 262,400 hatchery produced sockeye and 382,300 pink salmon to return to LCI release sites in 2017, valued at 1.8 million dollars excluding broodstock. CIAA anticipates harvesting 1.5 million dollars of hatchery produced salmon with the remainder available to commercial common property fisheries. The overall commercial common property harvest from Lower Cook Inlet is anticipated to be 817,000 salmon. Of which, 4.2% of the salmon are anticipated to be of hatchery origin harvested from SHAs. Additional hatchery origin fish are harvested mixed with wild fish outside of SHAs (Table 1).

Set Gillnet Fishery

The **Southern District** is anticipated to open for the 2017 season on Thursday, June 1 at 6:00 a.m. for a 48-hour period. Following periods will likely be 48-hours in length beginning at 6:00 a.m. on Monday and Thursday, as specified in regulation. Harvests for 2017 are anticipated to be similar to the historic average. The 5-year average harvest for this area and gear are 400 Chinook, 1,500 coho and 4,500 chum salmon. The 5-year commercial harvest average for the wild sockeye salmon is 27,400 fish. The department's preliminary pink salmon forecast estimated a harvestable surplus of 117,400 fish from the Southern District; which is to be shared by commercial set gillnet and purse seine permit holders. Fishing time in the Port Graham Subdistrict will be closely linked to escapement levels to English Bay Lakes. Management priority will be to provide for subsistence needs (4,800–7,200 salmon). The Port Graham Subdistrict is anticipated to remain closed to commercial harvest until English Bay River escapement is tracking to meet the overall sockeye salmon spawning escapement goal (6,000–13,500) and hatchery broodstock goals. Further information regarding previous year's hatchery releases and commercial harvests may be found in Annual Management Reports for this area at:

http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon#harvest

Purse Seine Fishery

Portions of the **Southern District** are anticipated to open to purse seine harvest in mid-June coinciding with enhanced runs to Leisure and Hazel lakes. Historically, this run peaks from July 10–16 (statistical week 29). CIAA anticipates a return of 62,800 sockeye salmon to Leisure and Hazel lakes combined, as well as 62,200 sockeye salmon to Tutka Bay.

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Commercial fishing time after mid-July will be correlated to pink salmon escapement at Humpy Creek, Seldovia Bay, Port Graham and other locations in this district. A total of 382,300 hatchery produced pink salmon are anticipated to return to release sites in the Southern District.

Hatchery sockeye salmon runs to the **Eastern District** are forecasted by CIAA to be 120,600 fish. Of those, 10,000 may be available for commercial common property harvest with the balance required for cost recovery and broodstock purposes. Wild stock harvest opportunity in the Eastern District will be linked to aerial survey observations of wild sockeye and pink salmon escapements to Aialik Lake and other spawning systems in this district. In addition, surveys of chum salmon index systems in Resurrection Bay and Day Harbor will be flown weather and time permitting.

Portions of the **Outer District** may open to commercial harvest in mid-July focusing on sockeye salmon runs to McCarty Fjord lakes. Escapement to these systems is monitored by aerial survey (Delight, Desire, and Delusion lakes). In addition, waters in the western portion of this district may be open by this time focusing on pink and chum salmon runs to Port Dick, as well as Windy and Rocky bays. There are numerous other smaller systems in the Nuka Passage area that are also monitored for chum and pink salmon. In the far west end of this district, systems with the latest run timing: Dogfish Bay, Chugach Bay and Port Chatham will be evaluated for chum and pink salmon harvest potential from August to early September. The previous 5-year average harvest for this district is 5,000 sockeye and 63,800 chum salmon. The department forecast a harvestable surplus of 436,400 pink salmon from this district. The 2 most recent pink salmon odd year harvests for this district in 2013 and 2015 were 2.0 and 4.1 million fish.

Portions of the **Kamishak Bay District** typically open by regulation to commercial harvest on June 1. Previous 5-year average harvests for this district (excluding the Kirschner Subdistrict) were 27,500 sockeye and 4,200 chum salmon with the majority of the sockeye salmon harvest attributed to Chenik Lake runs and the chum salmon harvest spread throughout the district. Chenik Lagoon is anticipated to open in mid-June and remain open throughout the season. Commercial harvest of pink salmon from this district is anticipated to be 61,200 fish with much of the harvestable surplus occurring outside of the Bruin Bay area. Hatchery released sockeye salmon to the Kirschner Lake outfall remote release site are anticipated to be 13,000 fish all of which will likely be required for hatchery cost recovery. The department tracks salmon escapement in this district using remote video monitoring sites at Chenik and Mikfik lakes, as well as regular aerial survey observations of index streams.

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Table 1.–Projected commercial common property harvests and hatchery returns for Lower Cook Inlet, 2017.

SOCKEYE SALMON			Total anticipated harvest =	**125,515**
Natural stocks (5-yr average commercial harvest)				
Southern District (purse seine, excluding hatchery SHAs)				31,400
Southern District (set gillnet)				27,400
Eastern District (Aialik Bay)				0
Outer District				5,000
Kamishak Bay District (excluding Kirschner Lake Subdistrict)				27,500
Sockeye salmon hatchery programs[a]	**Hatchery run**	**Broodstock harvest**	**Cost recovery harvest**	**Commercial common property harvest**
Resurrection Bay	120,583	13,000	97,583	10,000
China Poot and Hazel lakes	62,811	0	62,311	500
Tutka Bay Lagoon	62,236	7,000	35,236	20,000
Kirschner Lake	13,020	0	13,020	0
Port Graham Bay	0	0	0	0
English Bay Lakes	3,715	0	0	3,715
PINK SALMON, ADF&G Preliminary Pink Salmon Forecast[b]			Total anticipated harvest =	**615,000**
Southern District (combined gear)				117,400
Eastern District				0
Outer District				436,400
Kamishak Bay District				61,200
Pink salmon hatchery programs[a]	**Hatchery run**	**Broodstock harvest**	**Cost recovery harvest**	**Commercial common property harvest**
Tutka Bay Lagoon	343,006	180,000	163,006	0
Port Graham Bay	39,323	39,323	0	0
CHUM SALMON - 5-year average harvest			Total anticipated harvest =	**73,700**
Southern District (purse seine)				1,100
Southern District (set gillnet)				4,500
Eastern District				100
Outer District				63,800
Kamishak Bay District				4,200
COHO SALMON - 5-year average harvest			Total anticipated harvest =	**2,300**
Southern District (purse seine)				700
Southern District (set gillnet)				1,500
Eastern District				0
Outer District				0
Kamishak Bay District				100
CHINOOK SALMON – 5-year average harvest			Total anticipated harvest =	**500**
Southern District (purse seine)				100
Southern District (set gillnet)				400
Eastern District				0
Outer District				0
Kamishak Bay District				0
Total LCI anticipated commercial common property harvest- all salmon species =				**817,015**

[a] Available online at: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon#/forecasts.

[b] Provided by Cook Inlet Aquaculture Association, based on parent year releases and recent ocean survival.

APPENDIX I: PINK SALMON OTOLITH SAMPLING SUMMARY MEMO, 12/1/2017

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES

BILL WALKER, GOVERNOR

3298 Douglas Place
Homer, AK 99603-7942
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MEMORANDUM

TO: Bill Templin, Chief Fisheries Scientist, Division of Commercial Fisheries
Jack Erickson, Regional Research Coordinator, Central Region
Chris Habicht, Genetics Section, Division of Commercial Fisheries

FROM: Ted Otis, Lower Cook Inlet Area Finfish Research Biologist
Glenn Hollowell, Lower Cook Inlet Area Finfish Management Biologist

DATE: 1 December 2017

SUBJECT: *Lower Cook Inlet Pink Salmon Otolith Sampling Summary, 2017*

Lower Cook Inlet staff received data requests from the public, media, and the Marine Stewardship Council for results of pink salmon otolith sampling in 2017. The text, table, and map below provide a response to those data requests.

In 2017 Lower Cook Inlet staff continued a fourth year of sampling pink salmon otoliths as part of baseline data collection associated with two recently restarted hatchery production programs. Otolith sampling of harvest and escapement allows for a complete assessment of hatchery programs and wild stock performance. Beginning in brood year 2012, otoliths of all pink salmon cultivated at the Tutka Bay Lagoon Hatchery and Port Graham Hatchery were thermally marked. Otolith sampling associated with these programs is comprised of two components: 1) sampling otoliths from pink salmon commercial harvests (purse seine and set gillnet) in the Southern District, and 2) sampling otoliths from spawned out pink salmon carcasses in streams throughout the Southern and Outer districts (Figure 1). This is an ongoing work that is intended to continue as the two programs come up to full production levels.

Similar to the previous three years, pink salmon from Tutka and Port Graham Bay hatcheries were found to have spawned in 11 of the 16 Lower Cook Inlet streams surveyed (Table 1). Port Graham Hatchery marks were found in samples at low levels (1%) in three streams. Tutka Bay Lagoon Hatchery marks were found in 10 of the 16 streams at widely varying proportions (1%–87%) with highest proportions generally found closest to release sites. In addition, Prince William Sound hatchery-produced pink salmon were found at levels similar to previous years (2%–70%). Hatchery-marked pink salmon (Prince William Sound and Lower Cook Inlet combined) outnumbered unmarked pink salmon on 5 of the 16 streams sampled, including three small streams sampled in response to public reports of unusually high escapements (i.e., Beluga Slough, Fritz Creek, Lou's Creek). Preliminary escapement indices (either peak count or area-under-the-curve) derived from periodic ground surveys were estimated to provide context to the proportions of hatchery marks in the samples (Table 1).

cc: Prince William Sound Aquaculture Corporation, Cook Inlet Aquaculture Association, Valdez Fishery Development Association

Table 1.–Preliminary percentages of thermally marked pink salmon otoliths in samples from Lower Cook Inlet streams and commercial fisheries, 2017.

	Port Graham Hatchery (LCI)	Tutka Lagoon Hatchery (LCI)	LCI hatchery total	Armin F. Koernig Hatchery (PWS)	Cannery Creek Hatchery (PWS)	Wally Noerenberg Hatchery (PWS)	Solomon Gulch Hatchery (PWS)	PWS hatchery total	unmarked otoliths[1]	Total otoliths sampled	Preliminary 2017 escapement index
LCI streams											
1. Beluga Slough[2]		1.4%	1.4%	30.2%	14.6%	10.4%	1.0%	56.3%	42.4%	288	2,500
2. Fritz Creek[2]			0.0%	40.6%	20.8%	5.2%	3.1%	69.8%	30.2%	96	2,000
3. Humpy Creek			0.0%				1.6%	1.6%	98.4%	191	71,073
4. China Poot		1.1%	1.1%	4.3%	2.1%	2.1%	2.1%	10.6%	88.3%	94	2,379
5. Sadie Cove		4.2%	4.2%	2.1%			12.5%	14.6%	81.3%	96	5,790
6. Tutka Head End Creek[2]		33.9%	33.9%				5.8%	5.8%	60.3%	189	19,786
7. Tutka Lagoon Creek[2]		87.4%	87.4%	0.5%	1.6%	0.5%		2.6%	9.9%	191	61,369
8. L. Tutka Bay (Lou's Ck.)[2]	1.0%	12.5%	13.5%	25.0%	14.6%	9.4%		49.0%	37.5%	96	3,000
9. Barabara Creek		2.1%	2.1%	4.2%			14.2%	18.4%	79.5%	190	25,002
10. Seldovia River			0.0%	3.7%	1.0%	0.5%	7.3%	12.6%	87.4%	191	27,025
11. Port Graham River	1.1%		1.1%	2.1%			3.2%	5.3%	93.7%	95	20,642
12. English Bay River	1.1%	2.9%	4.0%	9.2%	12.1%	1.7%	6.9%	29.9%	66.1%	174	30,000
13. Dogfish Lagoon Creeks			0.0%	13.3%	2.2%	1.1%	34.4%	51.1%	48.9%	90	13,331
14. Port Chatham			0.0%	29.2%	13.5%	4.2%	1.0%	47.9%	52.1%	96	44,291
15. Port Dick Creek		2.1%	2.1%	3.2%	1.1%			4.2%	93.7%	95	62,098
16. Port Dick-Island Creek		1.0%	1.0%	9.0%	3.5%	2.0%	3.5%	18.1%	80.9%	199	22,579
Commercial harvest (Southern District)											Total harvest
Purse Seine	1.0%	26.7%	27.7%	0.6%	0.5%	0.2%	0.8%	2.1%	70.2%	1,154	352,000
Set Gillnet	0.5%	15.6%	16.1%	4.2%	0.5%	1.0%	6.3%	12.0%	71.9%	192	44,000

[1]Unmarked otoliths- otoliths without discernable hatchery thermal marks.

[2]Denotes streams where 100% of the otoliths were read a second time to evaluate reader agreement.

Figure 1. Map of Southern and Outer districts of Lower Cook Inlet, illustrating the locations of pink salmon hatcheries (denoted by asterisks*), pink salmon index streams, and the 16 streams that were targeted for otolith sampling in 2017 (numbers correspond with those in Table 1).