State of Alaska
Department of Fish and Game
Division of Sport Fish

Nomination Form
Anadromous Waters Catalog

Region: SCN

USGS Quad(s): listed

AWC Number of Water Body: listed

Name of Water body: listed ☐ USGS Name ☐ Local Name

☐ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

Nomination #: 13-543

Revision Year: 2014

Revision to: Atlas ____ Catalog ____ Both ____

Revision Code: **F-1**

Fisheries Scientist	Date
Habitat Operations Manager	Date
AWC Project Biologist	Date
GIS Analyst	Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
see attached					☐
					☐
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments attached report ADF&G FMR 12-30 documents anadromous fish presence in Cook Inlet Management Area water bodies

Name of Observer (please print): J. Johnson

Signature: _____ Date: 11/26/2013

Agency: ADF&G SF

Address: 333 Raspberry Road
Anchorage, AK 99518

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Anadromous Waters Catalog.

Signature of Area Biologist: _____ Date: _____ Revision 11/13

Name of Area Biologist (please print):

Doc	page #	AWC#	Name	doc species	awc species	qtm	itm
FMR 12-30	84	231-30-10080-2010-3065-4010	Bear Creek	sockeye	COpr,Kp,Pp,Ss	Seward	A-7
FMR 12-30	68	232-23-10100		sockeye	COs,Ks,Ps,Sp	Seldovia	C-1
FMR 12-30	68	232-23-10100-0010	Delight Lake	pink/sockeye	COp,Kp,Ps,Ss	Seldovia	C-1
FMR 12-30	71	232-23-10120		pink	COs,Ps,Sp	Seldovia	C-1
FMR 12-30	71	232-23-10120-0010	Desire Lake	pink	Ss	Seldovia	C-1
FMR 12-30	71	232-23-10390	*Delusion Creek	pink/sockeye	COr,Ps,Ss	Seldovia	C-1
FMR 12-30	71	232-23-10390-0010	*Delusion Lakes	pink/sockeye	Ss	Seldovia	C-1
FMR 12-30	71	232-23-10390-0020	*Delusion Lakes	pink/sockeye	Ss	Seldovia	C-1
FMR 12-30	62	241-11-10730	Seldovia River	chum/pink	CHs,COs,Ps,DVs	Seldovia	B-5
FMR 12-30	61	241-11-10800	Barabara Creek	pink	CHs,Ps	Seldovia	B-5
FMR 12-30	61	241-14-10510	Humpy Creek	chum/pink	CHs,COsr,Ksr,Ps	Seldovia	C-4
FMR 12-30	61	241-15-10370	China Poot Creek	pink	Pp	Seldovia	C-4
FMR 12-30	73	242-31-10120	Rocky River	chum/pink	CHs,COsr,Ps,Ss,DVp	Seldovia	B-4
FMR 12-30	73	242-42-10460	Port Dick Creek	pink	CHs,COs,Ps,Sp	Seldovia	B-4
FMR 12-30	100	243-10-10030	Little Kamishak River	chum/pink/sockeye	CHs,COp,Kp,Ps,Ss,Acp	Iliamna	A-4
FMR 12-30	97	243-10-10040	Kamishak River	chum/pink/sockeye	CHs,COs,Ps,Ss,ACp	Iliamna	A-4
FMR 12-30	98	243-10-10150	Douglas River	chum/pink/sockeye	CHs,COs,Ps,Ss,ACp	Iliamna	A-3
FMR 12-30	100	243-20-10035	McNeil River	chum/pink	CHs,COs,Ks,Pp,ACp	Iliamna	A-4
FMR 12-30	96	243-20-10050-0010	*Mikfik Lake	sockeye	Ss,ACp	Iliamna	A-4
FMR 12-30	96	243-30-10200-0010	Chenik Lake	sockeye	Ss,ACp	Iliamna	A-4
FMR 12-30	103	243-30-10200-0010	Chenik Lake	sockeye	Ss,ACp	Iliamna	A-4
FMR 12-30	97	243-40-10010	Amakdedori Creek	pink/sockeye	CHs,COp,Ps,Ss	Iliamna	B-4
FMR 12-30	99	245-10-10010	Fitz Creek	chum	CHs	Iliamna	D-1
FMR 12-30	101	248-10-10002	Sunday Creek	chum/pink	CHs,COpr,Ps,Sp,ACp	Iliamna	B-2
FMR 12-30	99	248-20-10080	Iniskin River	chum	CHs,COs,Ps,ACp	Iliamna	D-2

Fishery Management Report No. 12-30

2011 Lower Cook Inlet Area Finfish Management Report

by

Glenn Hollowell,

Ted Otis,

and

Ethan Ford

July 2012

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. 12-30

2011 LOWER COOK INLET AREA FINFISH MANAGEMENT REPORT

by

Glenn Hollowell, Ted Otis and Ethan Ford

Alaska Department of Fish and Game, Division of Commercial Fisheries, Homer

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
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July 2012

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 2011 Lower Cook Inlet (LCI) management area (all coastal waters and inland drainages entering waters north of Cape Douglas and west of Cape Fairfield and south of Anchor Point) commercial salmon harvest was 787,000 salmon. The harvest was comprised of 362,000 pink *Oncorhynchus gorbuscha*, 393,000 sockeye *O. nerka*, 32,000 chum *O. keta*, 155 coho *O. kisutch*, and 141 Chinook salmon *O. tshawytscha*. Approximately 77.1% of the harvest, 628,000 fish, was common property harvest and 158,000 fish were sold for hatchery cost recovery. Homepack, educational permits, and donated fish accounted for less than one percent. Based on fish ticket reporting of prices, the preliminary estimated value of the commercial salmon harvest was $3.9 million, including hatchery sales. This amount does not include post season adjustments, bonuses, etc. During the 2011 season, 21 set gillnet, and 23 purse seine permit holders reported deliveries. Set gillnet harvest value was an estimated $238,000, setting average permit earnings at $11,300; purse seine fishery exvessel harvest value was an estimated $2.1 million, setting average permit earnings at $90,300. Revenue generated for hatchery operations was approximately $1.6 million. The LCI management area personal use and subsistence fisheries harvested a total of 12,000 salmon. For these fisheries, approximately 179 subsistence and personal use permits were issued to Alaska residents. In addition, 1,200 coho salmon were landed by sport fish permit holders in a derby in Seward. Though these fish were subsequently sold, they are not included in the total commercial harvest. The commercial Pacific herring *Clupea pallasii* fishery in the Kamishak Bay District was closed in 2011 for the eleventh consecutive year because the spawning biomass remained below the 6,000 ton regulatory threshold.

Key words: Lower Cook Inlet, Kamishak Bay, Kachemak Bay, Resurrection Bay, salmon, harvest, set gillnet, purse seine, commercial salmon harvest, salmon enhancement, CIAA, hatchery, cost recovery, sport fishery, subsistence fishery, personal use fishery, escapement, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, Pacific herring, *Clupea pallasii*, 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 referred to as 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 (Figures 1, 2). The management objective for all districts is the achievement of spawning escapement goals for major stocks, while allowing for orderly harvest of fish surplus to spawning requirements. In addition, ADF&G follows regulatory guidelines to manage fisheries and allow private non-profit (PNP) hatcheries to achieve cost recovery and broodstock objectives.

Two 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 Cook Inlet Aquaculture Association (CIAA). ADF&G operates the Fort Richardson hatchery near Anchorage that produces Chinook *O. tshawytscha* and coho salmon, which are released in the LCI area. In addition, the Tutka Bay Lagoon Hatchery began incubating pink salmon eggs in 2011 for release into Kachemak Bay.

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 that are 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 Lower Cook Inlet were closed to commercial herring harvest by the Alaska Board of Fisheries 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

The 2011 Lower Cook Inlet management area commercial salmon harvest was 787,423 fish. The harvest was composed of 362,393 pink, 393,016 sockeye, 31,718 chum, 155 coho, and 141 Chinook salmon (Table 1, Figure 3). Hatchery returns of sockeye salmon overall were close to forecast. Harvest of sockeye salmon was above the 10-year (2001–2010) average commercial harvest while pink salmon harvest was down (Table 2). Approximately 77.1% of the harvest, 628,000 fish, was attributed to the common property fishery and 158,000 fish were attributed to hatchery cost recovery. An additional 8,631 sockeye and 17,411 pink salmon were harvested by hatcheries for broodstock (Appendices F2 and F3). Homepack harvest (584 salmon) accounted for less than one percent of Area H harvest (Table 1). The 2011 preliminary exvessel value estimates by gear group from the common property fishery, both wild and enhanced salmon, are $2.1 million (89.7%) for purse seine, and $238,000 (10.3%) for set gillnet (Table 3, Figure 4). The average price per pound paid to fishermen was significantly above the 10-year (2001–2010) average (Table 4). The overall harvest values for all gear groups were among the highest on record (Table 5).

No commercial fisheries for herring occurred in 2011 because the spawning biomass was below the regulatory threshold of 6,000 tons.

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 Point Elizabeth, (Figures 1, 2). 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 town of Nanwalek (English Bay). Purse seine gear is permitted in all open waters of this district during periods established by emergency order. Commercial set gillnet harvest is restricted to approximately 15 miles of shoreline in 5 subdistricts in this district. These are: 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 however, would preclude that permit holder from fishing in the Northern and Upper districts in Cook Inlet 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 returns of chum and coho salmon are also targeted. 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 (Appendices F13, F15 F17, F19, and F20).

Preseason Outlook and Harvest Strategy

The 2011 commercial wild stock harvest forecast for the Southern District was 40,000 sockeye, and 8,300 pink salmon (Table 6). The enhanced sockeye salmon run to CIAA release sites was forecast to be 45,000 fish. No hatchery produced pink salmon would be returning to the Lower Cook Inlet Area in 2011 because the last release of this species from the Tutka Bay facility was in 2004 and from Port Graham in 2007.

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 specified unless modified by emergency order. The seine fishing season and fishing periods are opened and closed by emergency order depending on the available harvestable surplus of both wild and hatchery stock salmon. Given that no pink salmon would be returning to the Tutka Bay Lagoon Hatchery or the Port Graham Hatchery, and that all returning sockeye salmon were anticipated to be required to meet broodstock and cost recovery needs, subdistricts of the Southern District west of the China Poot Subdistrict were anticipated to remain closed to seine harvest. Given recent irregular returns of sockeye salmon to the Port Graham Subdistrict, the set gillnet harvest would remain closed in this area until returns to the English Bay River weir met the minimum anticipated goal required to achieve the sustainable escapement goal in addition to hatchery broodstock requirements. Hatchery harvest for this and previous seasons is discussed fully in *Cook Inlet Salmon Enhancement.*

Early season management of the Southern District, (excluding the Port Graham Subdistrict) is based on actual harvest versus anticipated harvest. Port Graham Subdistrict management is based on anticipated versus actual returns to the English Bay River as measured by the English Bay weir. Environmental conditions, fishing effort, and harvest consistency throughout the period are also taken into account. By early July, ground survey estimates of chum and early pink salmon escapement are also considered when scheduling commercial fishing periods. These surveys become primary tools in late July and August when management focus shifts to pink salmon in this district.

Season Summary

The total 2011 Southern District sockeye salmon commercial common property harvest was 32,727 fish with 22,782 (69.6%) harvested by the set gillnet fleet, and 9,945 (30.4%) harvested by seine permit holders (Appendices A1, A2, and A3). In addition 7,836 fish were harvested from Tutka Bay by CIAA for cost recovery and 1,561 fish for broodstock purposes (Appendix F2). A total of 12,036 sockeye salmon passed the English Bay weir (Appendix A4). Of those, 2,116 were harvested for broodstock use by CIAA (Appendix F2). The remaining 9,920 were wild stock escapement, slightly above the midpoint (9,750) of the sustainable escapement goal

(SEG) of 6,000–13,500 for this system. Total pink salmon harvest was 3,155 fish with 2,643 (83.8%) harvested by set gillnet permit holders and 512 fish by the seine fleet. In addition, CIAA harvested 12,665 wild stock pink salmon from Tutka Creek for use as broodstock at the adjacent hatchery facility (Appendix F3). A total of 126 Chinook salmon were harvested in this area with 100 fish harvested by set gillnet permit holders and the remaining by seine permit holders. Also, a total of 1,962 chum salmon were harvested with 1,946 by set gillnet and 16 by seine permit holders. In addition, 127 coho salmon were landed late in the season with 103 by set gillnet and 24 by seine permit holders (Appendices A1 and A2). Also, 62 sockeye, 5 Chinook, 3 coho, 27 chum and 487 pink salmon were retained by 4 commercial permit holders from this district for personal "homepack" use and not sold (Appendix E7).

The first Southern District set gillnet commercial fishing period began at 6:00 AM on Thursday, June 2 and was for 48 hours with 6 permits reporting deliveries. The harvest from this period was 1,214 sockeye, 15 Chinook and 20 chum salmon (Appendix A1). Processors paid approximately $4.00 per pound for Chinook, $1.70 per pound for sockeye, and $0.55 per pound for chum salmon. During this period, waters of the Port Graham Subdistrict remained closed to commercial set gillnet harvest as a precautionary measure due to erratic returns in recent years. The English Bay weir was in operation on June 1 and by June 6 had passed 745 sockeye salmon versus an anticipated inriver target of 213–373 fish. This inriver target is the sum of the SEG range plus broodstock requirements apportioned out daily in accordance with the historic run timing (Appendix A4, A5, and A6).

The second 48-hour period began the following Monday on June 6 at 6:00 AM and had 6 permit holders reporting 700 sockeye, 9 Chinook and 16 chum salmon harvested. During the following period on Thursday, June 9 a total of 287 sockeye, 11 Chinook and 24 chum salmon were harvested by 5 permit holders. Sockeye salmon passage at the English Bay weir continued to occur above the daily inriver target during this time. On June 13, a total of 2,454 fish had passed the weir versus a target of 956–1,673 for that date. Therefore, the Port Graham Subdistrict was opened to set gillnet harvest for a 12-hour period on Monday, June 13 with the 6:00 AM starting time concurrent with the beginning of the regular 48-hour period in the remainder of the Southern District. Overall harvest from this period was 707 sockeye, 16 Chinook and 27 chum salmon with 7 permits reporting deliveries. Harvest from the Port Graham Subdistrict specifically from this fishing period is confidential due to fewer than 3 permit holders reporting deliveries. These numbers are included in the overall harvest of 707 sockeye salmon for this period.

Daily passage at the weir diminished after the fishery in the Port Graham Subdistrict by an amount greater than expected. Consequently, this subdistrict was closed during the 48-hour period that began on Thursday, June 16. Harvest from this period was 292 sockeye, 9 Chinook and 7 chum salmon with 5 permits reporting deliveries. Harvest from the following period that began on Thursday, June 20 was similar with 6 permits reporting 382 sockeye, 6 Chinook and 16 chum salmon. (Appendix A1, A4 and A5)

Weir passage began increasing on June 19 and appeared to remain steady over the following days. As of Wednesday, June 22 a total of 5,363 sockeye salmon had been counted versus an inriver goal of 2,913–5,096 for that date. Consequently, a 12-hour period was announced to begin at 6:00 AM on Thursday, June 23 concurrent with the start time of the regular 48-hour fishing period in the remainder of the Southern District. Harvest from the Port Graham Subdistrict was 525 sockeye salmon with 3 permit holders reporting deliveries. Harvest from the

remainder of the district was 744 sockeye, 5 Chinook and 90 chum salmon with 6 permits reporting deliveries. Daily weir passage declined again just prior to the start of this fishing period and remained generally depressed over the next month with cumulative passage falling below the daily inriver targets and remaining in the lower end of the goal for the remainder of the season (Appendices A1, A4, and A5).

The Port Graham Subdistrict was opened to regular fishing periods on July 21. After this date 714 sockeye, 702 pink and 249 chum salmon were harvested by 3 permit holders from this subdistrict. In spite of the closure of the Port Graham Subdistrict after the June 23 fishing period, harvest in the remainder of the Southern District increased with the return of Trail Lakes Hatchery released salmon to Leisure Lake and Hazel Lake. In anticipation of these fish, on June 20, portions of the Southern District were opened to purse seine harvest on a schedule of regular 64-hour periods beginning at 6:00 AM on Mondays and Thursdays. There were no seine deliveries reported until the July 7 fishing period. Harvest from this period and the following two are confidential due to fewer than 3 permit holders reporting deliveries in each of these periods. Purse seine harvest from the July 18–20 fishing period was 975 sockeye salmon with 3 permit holders delivering. Seine harvest from the following period beginning on July 21 increased to 3,109 sockeye salmon with 3 permit holders delivering. Cumulative harvest for this gear group including this period was 7,760 sockeye, 26 Chinook, 24 coho, 328 pink and 16 chum salmon. Purse seine harvests from the periods beginning on July 25 and 28 are confidential due to fewer than 3 permits reporting deliveries (Appendices A1, A2, A4, and A5). Further areas within Kachemak Bay were not opened to seine gear, as the result of low pink salmon returns to spawning systems. However, higher returns (29,960) to Seldovia Bay were documented on an August 9 ground survey of the Seldovia River. This was within the SEG of 19,050–38,950 for this system. Consequently, beginning on August 11, Seldovia Bay was opened to regular commercial purse seine harvest. However, there were no additional purse seine harvests reported after July 30 until the season ended on September 10. A total of 5 purse seine permits reported deliveries from this district in 2011. While no seine fisheries were announced in this district in 2009 and 2010, the number of permits is down from the number participating during the 10 years prior (1999–2008), where an average of 21 permit holders delivered annually.

Set gillnet sockeye salmon harvest remained robust from late June through July. Peak harvest occurred during the fishing period that began on July 11, when 7 permit holders reported harvesting 5,352 fish. Peak pink salmon harvest was during the following fishing period, when 6 permit holders reported harvesting 496 fish (Appendix A1). Set gillnet commercial harvest continued into early August with the final commercial delivery occurring during the August 11–13 fishing period. However, some commercial permit holders harvested salmon through the September 8 fishing period, retaining these fish for "homepack" use, as described in 5 AAC 39.010, and not selling them. The 2011 salmon season was closed on October 1 as specified in regulation.

The final escapement index value for Southern District pink salmon stocks based on ground surveys was 102,400, and was within the SEG range of 59,700–178,500 fish (Appendix A7). Over the last 10 years, this value has ranged from a low of 41,300 in 2009, to a high of 418,700 in 2005; with a previous 10-year average index value of 172,300 (Appendix A9). Spawning escapement for chum salmon to the Port Graham River was 1,764 fish, as measured by ground surveys. This was within the SEG range of 1,450–4,800 fish for this system. Total sockeye salmon escapement past the English Bay weir was 12,036 fish. Of those, 4,054 were anticipated

preseason to have been required by CIAA for use as broodstock at the Trail Lakes and Port Graham hatcheries. However, the actual hatchery broodstock harvest was 2,116 with an estimated 9,920 remaining in the English Bay system as wild broodstock. This was within the SEG range of 6,000–13,500 for this system. The previous 10-year average spawning escapement was 14,331 for this system (Appendix A6). In addition, 219 sockeye salmon were harvested in late September for broodstock from waters adjacent to the Port Graham Hatchery (Appendix F2).

The total 2011 Southern District common property commercial harvest of sockeye salmon (32,727) was below the anticipated harvest of 40,000 sockeye. The pink salmon harvest (3,155) was below the anticipated harvest of 8,300 fish. These harvests were also below the previous 10-year average for both sockeye (118,722) and pink salmon (26,253) (Appendix A3).

OUTER DISTRICT

The Outer District includes the waters of Lower Cook Inlet 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 Aligo Point which is 35 miles southwest of Seward (Figure 2). Purse seine gear is permitted in all open waters of this district during periods established by emergency order. Historically, the primary target species are 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 face stretching from James Lagoon on the west to McCarty Lagoon on the east (Cook and Norris 1998, page 251). Pink salmon historically have returned in large numbers to Rocky Bay, Port Dick, and Windy Bay, as well as several smaller systems. In addition, modest numbers of chum salmon are regularly harvested from Dogfish Lagoon and Port Dick. There have been no regular releases of hatchery salmon into this district.

Preseason Outlook and Harvest Strategy

The 2011 commercial wild stock harvest forecast for the Outer District was 19,200 sockeye, and 491,300 pink salmon (Table 6). As specified in regulation, the seine fishing season and periods are opened and closed by emergency order depending on the available harvestable surplus of wild stock salmon returning to spawning systems in the Outer District.

Historically, sockeye, pink, and chum salmon commercial harvest management in this district have relied heavily on aerial and ground surveys of major spawning systems for those species. Beginning in 1997, daily monitoring of sockeye salmon returning to Delight Lake has been conducted using a picket weir staffed by ADF&G field personnel. Typically sockeye salmon returns to this lake as well as Desire and Delusion lakes peak in late July. By early August, chum and pink salmon returns to this district typically increase to harvestable levels.

Season Summary

The total 2011 Outer District sockeye salmon commercial common property harvest was 46,356 fish (Appendices B1, B2). A total of 16,280 sockeye salmon passed the Delight Lake weir in 2011. Aerial survey documented an additional 400 sockeye salmon in Delight Lake before the weir became operational on July 2 and 2,310 sockeye salmon in freshwater below the weir after it was removed on July 28. The total escapement estimate of 18,990 fish exceeded the SEG range of 7,500–17,650 fish. Just over half (9,536) of the total escapement passed the weir during a single 24 hour period on July 25, following a lengthy period of low water (Appendices B3, B4,

and B5). Total pink salmon harvest from this district was 357,472 fish and total chum salmon harvest was 25,763 fish (Appendix B2).

Beginning on Monday, July 25, portions of the Outer District opened for regular Monday and Thursday 40-hour periods starting at 6:00 AM on those days. Both aerial and ground surveys of index streams in those areas indicated that pink and chum salmon returns were progressing as anticipated (Appendices B6 and B7). Portions of the Port Dick Subdistrict were opened during this period; additionally, in response to large numbers of sockeye salmon passing the Delight Lake weir on that day, waters of the East Nuka Subdistrict south of James Bay opened to commercial harvest for a 14-hour period on July 26 and 27. A total of 7 permit holders harvested 32,136 sockeye salmon off of Delight Lake during this period. In addition, 8 permit holders fishing the Port Dick area harvested 14,341 pink and 3,161 chum salmon on July 25 and 26. Overall harvest from the Outer District was 32,136 sockeye, 15,817 pink and 3,536 chum salmon with 11 permit holders delivering (Appendix B1, B3, and B4).

Harvest area was expanded during the following Thursday period (July 28–30) to include the Rocky Bay Subdistrict, where 5 permit holders harvested 21,646 pink and 7,435 chum salmon. Harvest from the remainder of the Outer District decreased with 4,482 pink salmon harvested from the Port Dick area. Harvest from the East Nuka Subdistrict for this period was confidential due to fewer than 3 permit holders reporting deliveries. Overall harvest from the Outer District for this period was 2,906 sockeye, 26,380 pink and 8,692 chum salmon with 7 permit holders reporting deliveries (Appendix B1).

During the third fishing period (August 1–3) in the Outer District, fishing area was increased to include Dogfish Bay and Windy Bay. Harvest from this period was spread out geographically with deliveries reported from Dogfish Bay, South Nuka, Port Dick area, and Windy Bay. However, because fewer than 3 permit holders delivered from each area, specific harvests were confidential. The overall harvest from the Outer District during this period was 10,338 sockeye, 16,709 pink and 1,830 chum salmon with 6 permit holders reporting deliveries.

Harvest area remained the same for the August 4–6 fishing period with 6 permit holders harvesting 162 sockeye, 41,966 pink and 1,388 chum salmon. The majority of the pink salmon harvested were from the Windy Bay Subdistrict where 3 permit holders harvested 35,942 pink salmon. Harvests from other subdistricts are confidential due to fewer than 3 permit holders delivering.

Levels of pink salmon in the Port Dick area, as documented by aerial and ground surveys, showed lower than anticipated escapement to these systems in early August. Consequently, the waters of the Port Dick area were closed during the fifth fishing period (August 8–10). Waters of Windy and Rocky Bay, and portions of the East Nuka Subdistrict remained open to commercial harvest. A total of 4 permit holders reported harvesting 96,851 pink salmon from the Windy Bay Subdistrict. No deliveries were reported from other subdistricts in the Outer District for this period (Table 8, Appendix B1) .

Harvest from the following period, August 11–13 was confidential with fewer than 3 permit holders reporting deliveries from the Outer District. Deliveries were reported from only the Windy Bay and South Nuka subdistricts. Overall harvest from period 7 (August 15–17) was 49,318 pink and 8,625 chum salmon harvested by 5 permit holders. A significant portion of this harvest came from Dogfish Bay Lagoon, where 3 permit holders reported harvesting 43,920 pink and 8,625 chum salmon. Harvest was also reported from Windy Bay but is confidential due to

fewer than 3 permit holders reporting deliveries. The harvest from period 8 (August 18–20) was confidential due to fewer than 3 permit holders reporting deliveries from the Outer District. There was no harvest reported from period 9 (August 22–24) from the Outer District. Harvest area was expanded for period 10 (August 25–27) to include Port Chatham, where 49,125 pink salmon were harvested by 3 permit holders. Harvest from the Dogfish Bay Subdistrict was 28,395 pink and 1,099 chum salmon with 3 permit holders reporting deliveries(Appendix B1).

There were no further deliveries in any of the 4 additional 40-hour fishing periods that were announced. This district closed for the 2011 season at 10:00 PM on September 10. A total of 13 permits reported deliveries from the Outer District in 2011 which was above the previous 10-year annual average of 9 permits. Total harvest from this district was 46,356 sockeye, 357,472 pink and 25,763 chum salmon. Sockeye salmon harvest was more than double the anticipated harvest of 19,200 fish, while the pink salmon harvest was 73% of the anticipated harvest of 491,300 fish. Sockeye and chum salmon harvests were above the previous 10-year averages of 10,657 and 21,613 fish. However, pink salmon harvest was down from the previous 10-year average of 391,537 fish (Appendix B2).

The final escapement index value for Outer District pink salmon stocks, based on air and ground surveys, was 80,100 and was within the SEG range of 54,500–237,200 fish. Over the last 10 years, this value has ranged from a low of 174,300 in 2010, to a high of 731,000 in 2003 with a previous 10-year average index value of 401,800. Spawning escapement for chum salmon to this district was 36,250 and within the SEG of 12,850–34,600. Since 2001, this value has ranged from 12,400 to 43,400 and has a previous 10-year average value of 29,400 (Appendices B6, B7, and B10).

EASTERN DISTRICT

The Eastern District includes all state waters of the Gulf of Alaska between the longitudes of Aligo Point and Cape Fairfield (Figure 2). Purse seine gear is permitted in all open waters of this district during periods established by emergency order. Historically, the primary target species have been sockeye and pink salmon. Harvests of chum salmon were significant in this district during the 1980s when hatchery returns of this species to neighboring Prince William Sound were also robust. The major natural producers of sockeye salmon in this district have been Bear and Aialik lakes. Sockeye salmon production in Aialik Lake is a relatively recent event, with this lake having been covered by the Pederson Glacier as late as 1909 (Cook and Norris 1998, pages 8 and 9). Beginning in 1990, CIAA released up to 3.4 million sockeye salmon smolt into Bear Lake, in addition to 1.6 million annually into Resurrection Bay since 2008 (Appendix F13).

Pink salmon production in the Eastern District has been the result of natural spawning, excluding 1999 and 2000, where 24,000 and 48,000 pink salmon were released by CIAA into Resurrection Bay (Appendix F19). 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 collectively produced an average of 10,500 pink salmon per year from 1997 to 2006 (Appendix C8). Ground surveys of this area in recent years have been curtailed due to budgetary constraints combined with historic low returns to this area.

Coho salmon production has been the subject of enhancement efforts since the early 1960s in Resurrection Bay. Historically, commercial harvest of this species in the Eastern District has been minimal. 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 F15) 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) has 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 have been harvested by sport users. Since 1990, the Seward Chamber of Commerce has conducted a fishing derby that focuses on coho salmon returning to hatchery remote release sites in Resurrection Bay (Appendix F17). Fish harvested by sport users and entered in the derby were sold commercially by the chamber to local processors. These sales were listed separately from commercial common property harvests in Appendix C2.

Preseason Outlook and Harvest Strategy

The 2011 commercial wild stock harvest forecast for the Eastern District was 6,000 sockeye salmon, (Table 6). The enhanced sockeye salmon run to CIAA release sites was forecast to be 143,000 fish. As specified in regulation, the seine fishing season and fishing periods are opened and closed by emergency order depending on the available harvestable surplus of both wild stock and enhanced salmon returning to the Eastern District. CIAA announced preseason that all of the 143,000 sockeye salmon anticipated to return to Resurrection Bay release sites would be required to meet corporate cost recovery, as well as 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 5 miles (8 km) from saltwater. Beginning in July, management is based on aerial surveys of sockeye salmon returns to Aialik Lake. Historically, returns of pink salmon to this district have been below the level required to support consistent and sustainable commercial harvests.

Season Summary

The total 2011 Eastern District sockeye salmon commercial common property harvest was 56,111 fish taken by 16 seine permit holders (Appendices C1 and C2). In addition, 146,032 fish were harvested by a cost recovery seine vessel for CIAA, and 4,404 for cost recovery at the Bear Creek weir. An additional 3,831 were reported by CIAA as having been harvested from Bear Creek for broodstock (Appendix F2). Additionally, a total of 9,389 sockeye salmon were allowed to pass through the weir and into Bear Lake in order to meet the wild stock SEG requirements of 700–8,300 fish for this lake. A total of 13,220 sockeye salmon were counted at the Bear Creek weir (Appendices C3, C4).

The Eastern District was initially opened on Monday, May 23 to cost recovery harvest 7 days per week. Cumulative harvest through Sunday, May 29 was 39,180 sockeye salmon. (Appendix F2) This compares to an anticipated cumulative harvest of 2,460 fish for this date. Harvest continued to be robust and greater than anticipated through the next week with an additional 52,999 sockeye salmon harvested for a cumulative harvest of 92,180. The value of the harvest, as of June 5, was estimated at approximately $965,000 towards an overall cost recovery goal of $1.6 million. Harvest remained strong into the following week with 146,000 sockeye salmon harvested through Friday, June 10. Total value of the harvest on that date was estimated at $1.52 million. CIAA announced that the remaining $85,000 required to meet the 2011 cost recovery

goal would come from cost recovery sales at the Bear Creek and Hidden Lake weirs, as well as from sockeye salmon returns to the remote release site at Tutka Bay Lagoon Hatchery.

On Saturday, June 11 waters of eastern Resurrection Bay north of Caines Head were opened for daily 16-hour commercial common property fishing periods from 6:00 AM until 10:00 PM. Harvest from the June 11 period was 14,892 sockeye salmon with 8 permits reporting deliveries. Daily harvest continued through June 22 and an additional 36,979 sockeye salmon were harvested. Cumulative common property harvest on this date was 51,871. Due to reduced numbers of sockeye salmon passing through the Bear Creek weir and the need to collect broodstock from throughout the return, commercial harvest was closed on June 23, 25, 26 and 28 (Table 8, Appendices C1, C3 and C4).

Daily harvest resumed on the previous schedule on June 29 and continued until July 9, when this area was closed due to decreasing harvest of returning hatchery sockeye and increasing numbers of non-target chum and pink salmon taken by permit holders. Aerial surveys of Aialik Lake were conducted; weather permitting, beginning on June 21 with the last survey flown on July 28. The peak aerial survey count of 3,480 was observed on a survey flown on July 28 and was below the SEG of 3,700–8,000 fish. As a result of this and recent mediocre returns to this system, no commercial fishing periods were announced targeting sockeye salmon returns to Aialik Lake.

In addition to traditional commercial deliveries made by commercial permit holders, since 1990 the Seward Chamber of Commerce has sold sport caught coho salmon that were harvested in a derby fishery that they sponsor. Proceeds from those sales support that organization. In 2011 a total of 1,207 coho salmon were harvested by sport users and sold to local processors by the Seward Chamber of Commerce (Appendix C2).

The final escapement for Eastern District sockeye salmon stocks was 9,389 fish into Bear Lake. This compares to a previous 10-year average escapement of 8,548 fish and is above the SEG of 700–8,300 fish for this system (Appendix C5). Aialik Lake escapement (3,480) was below the previous 10-year average escapement (5,500 fish) and slightly below the SEG of 3,700–8,000 for this system (Appendix C8). In 2011, there were no aircraft or ground surveys for pink salmon index streams in this district, due to budgetary restrictions. These systems were last surveyed for pink salmon in 2006.

The total 2011 Eastern District commercial common property harvest of sockeye salmon (56,111) was above the anticipated harvest of 6,000 sockeye salmon and previous 10-year average harvest of 16,542 fish (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 (Figure 2). Purse seine gear is permitted in all open waters of this district during periods established by emergency order. Historically, the primary naturally occurring target species are chum and pink salmon. From 1959 through 1980, the average harvest was 31,000 pink, 34,000 chum and 2,000 sockeye salmon. However, after the release of hatchery sockeye salmon in this district, this species became a major component of the harvest. From 1981 to 2010, the average harvest was 67,000 pink, 52,000 chum and 55,000 sockeye salmon. In addition to sockeye releases, pink salmon were also released from 1980 to 1983, (Appendices F13 and F19). The major natural producers of pink salmon in this district have been the Bruin Bay 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. In addition, there are numerous other rivers and streams that periodically have had significant pink and chum salmon returns.

Prior to 1981, Mikfik Lake was the largest single producer of sockeye salmon in this district with an average run of 6,600 from 1970 to 980. Following this, Chenik Lake had an average run of 3,800 during this period with Amekdedori Creek and Kamishak rivers having runs of 1,200 and 1,300 sockeye salmon, respectively. Returns to Chenik Lake increased significantly overall after enhancement (1978–1996) with average harvests of 55,900 per year during this period. However, there were years where escapement dropped below 1,000 fish possibly as a result of over aggressive stocking in the parent years resulting in a documented infectious hematopoietic necrosis (IHN) outbreak. Average annual escapement to Mikfik Lake from 1981 to 2010 was 11,100 fish, with escapement to Chenik Lake at 8,700 fish and escapement to nearby Amekdedori Creek and Kamishak rivers increasing slightly to 2,700 and 1,800 respectively. Kirschner Lake has been stocked regularly with sockeye salmon since 1987. In addition, hatchery sockeye salmon were also released from 1986 to 1996 at several other smaller systems in this district (Appendix F13). Specific information regarding hatchery releases in this district is located in *Cook Inlet Salmon Enhancement.*

Preseason Outlook and Harvest Strategy

The 2011 commercial wild stock harvest forecast for the Kamishak Bay District was 24,700 sockeye and 449,700 pink salmon (Table 6). The enhanced CIAA sockeye salmon run to Kirschner Lake was forecast to be 11,800 fish. As specified in regulation, the fishing season in the Kamishak Bay District opens from June 1 until closed by emergency order. Historically, this district has been opened for extended 7 day periods, with specific areas closed as needed by emergency order to address escapement shortfalls or to allow for hatchery cost recovery harvest. CIAA initially announced that all of the 11,800 sockeye salmon anticipated to return to the Kirschner Lake release site would be required to meet corporate cost recovery as well as broodstock needs. Early season management of the Kamishak Bay District is based on actual harvest versus anticipated harvest as well as passage at 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, as well as 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 returns to spawning systems in this district. Surveys are also flown in late August and September to monitor progress of coho salmon returns to select streams in this district.

Season Summary

The total 2011 Kamishak Bay District commercial common property harvest was 99,288 sockeye, 3,850 chum, and 1,050 pink salmon harvested by 10 seine permit holders (Appendix D1). Given the success of cost recovery in the Eastern District, no corporate harvest of sockeye salmon returning to Kirchner Lake was required.

The Kamishak Bay District was opened to commercial common property harvest on Wednesday, June 1. There was no harvest reported during June. Harvest from the sixth fishing period (July 4–10) by 3 permit holders was 13,635 sockeye salmon, all of which were caught in the Chenik District and delivered on July 10. Harvest from the following weeks fishing period (July 11–17) was 73,021 sockeye, 215 pink and 153 chum salmon with 7 permit holders reporting deliveries.

Of those fish, only 64,130 sockeye salmon were harvested from the Chenik Subdistrict; the remaining sockeye, chum and pink salmon were harvested from the Kirschner Lake Subdistrict (Appendix D1).

Harvest from the district diminished during the following period (July 18–24) with 8,808 sockeye, 647 pink and 2,886 chum harvested by 6 permit holders. Of those fish, 649 sockeye, 180 pink and 1,723 chum salmon were harvested by 4 permit holders from the Douglas River Subdistrict. Harvest from the two weekly periods following, (July 25–31 and August 1–7) are both confidential due to fewer than 3 permit holders reporting deliveries. There were no additional deliveries during the 6 remaining periods that occurred this season. The 2011 commercial fishing season closed at 10:00 PM on Friday, September 9 (Table 8, Appendix D1).

The final escapement index value for Kamishak Bay District sockeye salmon stocks was 10,330 fish into Chenik Lake. This compares to a previous 10-year average escapement of 12,625 fish, and was within the SEG of 3,500–14,000 fish for this system (Appendices D3, D5, and D7). Mikfik Lake escapement (345 fish) was both below the previous 10-year average escapement (10,430 fish) and below the SEG of 6,300–12,150 for this system. Prior to this year, the fewest sockeye salmon observed as spawning escapement in this lake since 1970 was in 1974 where 900 fish were counted (Appendices D9 and D7). The peak count for Amekdedori Creek was 3,412 sockeye salmon. This was above the SEG range of 1,250–2,600 fish and slightly below the 10-year average of 3,600 fish. Overall, 7,400 pink salmon were observed in index streams in the Kamishak Bay District (Appendix D8). This is below the SEG range of 25,950–203,400 fish for the 3 index systems (Bruin River, Sunday Creek, Brown's Peak Creek) in this district combined and is also below the previous 10-year average return of 603,000 fish for these combined index streams (Appendix D11). The extremely poor return to Bruin River, the largest pink producer in Kamishak Bay, was largely responsible for the overall low pink salmon escapement to this district in 2011. Chum salmon escapement into Kamishak Bay District index streams was also down with 91,192 fish counted in the 7 index streams combined (Appendix D8). This compares to a combined SEG range of 65,550–141,600 chum salmon. The previous 10-year average escapement for this species into these streams is 140,000 fish (Appendix D11).

The total 2011 Kamishak Bay District commercial common property harvest of 99,288 sockeye salmon was above the combined anticipated harvest of 24,700 wild sockeye salmon plus the 11,800 anticipated to return to Kirchner Lake. This was also above the previous 10-year average harvest of 52,857 sockeye salmon. Total pink salmon harvest from this district was 1,050 fish, well below the 449,700 that was forecast to be harvested. The previous 10-year average harvest was 57,850 pink salmon. Total chum salmon harvest was 3,850, down from the previous 10-year average of 60,628 fish.

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 Non-subsistence Area described in 5 AAC 99.015(a)(3). This area comprises over 90% of the area described in 5 AAC 01.550 and precludes the subsistence harvest of fish and game in the non-subsistence area because residents in those areas do not meet the customary and traditional use criteria, as defined by the Alaska Board of Fisheries in 5 AAC 99.010(b). However, there are several areas within defined Cook

Inlet Subsistence Management Area that either do meet this criteria, or are federal parks. These areas include the southwest tip of the Kenai Peninsula including the towns of Seldovia, Port Graham, and Nanwalek, as well as portions of the western shore of upper Cook Inlet near Tyonek. In addition, subsistence harvest of non-aquatic resources is permitted within the boundaries of the Kenai Fjords National Park. However, in order to provide harvest opportunity to urban residents of these general areas, the Alaska Board of Fisheries has defined two personal use salmon fisheries in Lower Cook Inlet, as well as defined seasons and gear types for personal use herring and smelt fisheries. In addition, both resident and non-resident commercial permit holders historically have been allowed to retain legally harvested fish from their commercial catch for their own use as homepack.

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 as 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 pre-statehood. Fishing in these areas has tended to focus primarily on salmon returning to English Bay Lakes as well as to the Port Graham River. Over the last 20 years, sockeye salmon returns to English Bay Lakes have been significantly depressed. This has reduced both local commercial as well as subsistence salmon harvests. Partially in response to this, at the November 2001 Alaska Board of Fisheries meeting, waters of the Port Chatham and Windy Bay subdistricts were added to regulation as areas available for salmon harvest to subsistence permit holders. No subsistence fishing effort or harvest has been known to occur in either of these areas since they were first opened to subsistence fishing in 2002. Historically, separate permits have been issued to residents of Port Graham and Nanwalek. Permission to fish in Koyuktolik, Port Chatham, Port Graham and Windy Bay is specified on 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 are no bag or annual possession limits for subsistence salmon in the Port Graham, Port Chatham, Windy Bay or Koyuktulik (Dogfish Bay) subdistricts.

In 2011, a total of 41 Nanwalek (English Bay) permits were returned. Holders of these permits reported a total harvest of 18 Chinook, 5,009 sockeye, 1,381 coho, 2,499 pink, and 362 chum salmon (Appendix E2). A total of 15 Port Graham permits were returned with a total harvest of 35 Chinook, 684 sockeye, 107 coho, 132 pink, and 150 chum salmon reported (Appendix E1).

The combined total harvest of 10,377 salmon was above the previous 10-year average of 7,044 salmon and the customary and traditional use board finding of 4,800–7,200 salmon (5 AAC 01.566) for the Port Graham, Koyuktolik, Port Chatham and Windy Bay subdistricts (Appendices E1 and E2).

SELDOVIA SUBSISTENCE FISHERY

There are 2 subsistence fishing seasons specified in regulation that take place each year in the waters of Seldovia Bay Subdistrict. The first season consists of (2) 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 (2) 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. This fishery was created in 1995 by the Alaska Board of Fisheries and intended to primarily target non-local stocks of Chinook salmon. The Alaska Board of Fish carefully restricted initial seasons and bag limits to reduce potential interception of enhanced Chinook salmon bound for a popular stocking site in the Seldovia small boat harbor. This release has occurred annually since 1987 (Appendix F15). The guideline harvest level for the April and May season is 200 Chinook salmon with an annual possession limit of 20 Chinook salmon per household. There are no bag or annual possession limits for other salmon species in the Seldovia Subdistrict. A permit issued by ADF&G is required prior to setting gear, and catches are recorded on the permit and also reported to the Homer area office inseason so that cumulative harvest totals can be monitored.

In 2011, a total of 4 permits were issued for the early season. Of those, only one actively fished, one did not fish and 2 failed to return their permit. A total of 49 sockeye salmon were harvested in the early season. No Chinook salmon or other salmon species were reported harvested in the early season. Of the 3 permits issued for the August season, only one permit holder actively fished, one did not fish and one did not return their permit. The reported harvest for the late season was 6 sockeye, and 10 pink salmon (Appendix E3). Total harvest for both the early and late season was 65 salmon versus a previous 10-year harvest average of 220 salmon. No Chinook salmon were reported as harvested in this fishery in 2011. Currently, there is no customary and traditional allocation for this subsistence fishery as there are for other LCI subsistence fisheries (5 AAC 01.566).

CHINA POOT PERSONAL USE DIP NET AND PERSONAL USE COHO FISHERIES

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

The China Poot dip net fishery dates back to 1980 when returns from the 1976 releases of sockeye salmon began (Appendix F21). Further information regarding these releases may be found in the section, *Cook Inlet Salmon Enhancement* in this report.. . 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*. Currently, there are no reporting requirements to monitor overall harvest from this fishery. The daily bag limit for this fishery is 6 fish per day with an annual bag limit of 25 salmon with an additional 10 salmon for each dependent in that household.

The personal use coho fishery in the Southern District dates back 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. The most recent court action in late 1994 reestablished the boundaries of the Anchorage Non-subsistence Area (5 AAC 99.015(a)(3) that put the location of this fishery within the non-subsistence area, thereby invalidating the subsistence regulations that governed this fishery at that time. As a result, the Alaska Board of Fisheries early in 1995 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 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 primarily wild stock fish to hatchery coho salmon which have been stocked in several locations in Kachemak Bay since the mid-1970s (Appendix F17). Since the late 1980s, releases of 100,000–325,000 coho salmon smolt annually into the Nick Dudiak Fishing Lagoon (NDFL), located on the Homer Spit, have periodically contributed significantly to the personal use harvest. Samples taken in 1999 and 2000 of coho salmon caught in this fishery from sites on the Homer spit adjacent to the NDFL documented a hatchery component of 81 and 90% for these 2 years (Szarzi et al. 2010). However, as a result of decreased releases of late season coho salmon in the NDFL, harvest effort has shifted away from the Homer Spit to waters between Fritz Creek and Swift Creek (Appendix E6). The wild stock components of this return are primarily bound for the Fox River drainage at the head of Kachemak Bay. However there are numerous smaller returns 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 to participate. Beginning in 1999, ADF&G has requested that permit holders voluntarily report their harvest daily in order to facilitate inseason management and assure that the 1,000–2,000 GHL specified in 5 AAC 77.549 is not exceeded. Harvest from the 2011 season was 806 coho, 223 sockeye, 15 Chinook, 145 pink and 5 chum salmon with 119 permits issued and 81 actively fished (Appendix E4). As in recent years, the bulk of the coho salmon harvest was taken near the head of Kachemak Bay with 536 coho salmon harvested by 44 permit holders on the north shore between Fritz and Swift creeks, and on the south shore 103 fish were harvested by 27 permit holders between Bear Cove and Neptune Bay. Given their distance from the Nick Dudiak Fishing Lagoon, it is unlikely that there is a significant percentage of hatchery releases in this harvest. However, 15 permit holders harvested 54 coho salmon on the east side of the Homer Spit adjacent to the Fishing Lagoon. Some portion of this harvest was likely of hatchery origin. Of the 119 permits issued, 68% were held by Homer residents, 10% by Anchorage residents, and the remaining 22% by residents of Anchor Point, Seldovia and other locations on the Kenai Peninsula (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 Alaska Board of Fisheries appended 5 AAC 39.130(c)(10) requiring that the number of fish of any species retained by a commercial fisherman for their own use be documented on a fish ticket. Previously these fish had been voluntarily noted on fish tickets by some permit holders.

In 2011, there were 4 permit holders that reported retaining 5 Chinook, 62 sockeye, 3 coho, 487 pink and 27 chum salmon for their own personal use (Appendix E8). Of those, 2 permit holders were Homer residents, one was a resident of Seldovia, and one was a non-Alaska resident (Appendix E8).

COOK INLET SALMON ENHANCEMENT

Fisheries enhancement and rehabilitation in Alaska began in earnest in the early 1970s by the Fisheries Research and Enhancement Division (FRED) to help build and stabilize fisheries

production. In 1974, the Alaska legislature passed the Private Non-Profit Hatchery Act, this stated that,

> "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."

Prior to this, there had been sporadic releases of coho and Chinook salmon to systems in Resurrection Bay as well as at Kasitsna Bay near Homer. These fish were produced at the ADF&G hatchery at Fort Richardson, which began operation in the late 1950s (Appendix F12). In 1976 CIAA was created. Tutka Bay Lagoon Hatchery (TBLH) was built by the state of Alaska in 1977, and began rearing sockeye, and pink salmon that year (Appendix F7). In 1983, the Trail Lakes Hatchery (TLH) began operations producing sockeye and coho salmon (Appendix F8). Also in 1983, the Eklutna Hatchery began producing chum and coho salmon (Appendix F9). 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 (Appendix F10). 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 F11).

CIAA and PGHC are among 13 non-profit corporations in the State of Alaska that maintain private hatcheries that have the capacity to produce salmon for harvest in common property fisheries. CIAA is the second largest producer of hatchery sockeye salmon in Alaska and the fourth largest producer of pink salmon with PGHC (in terms of egg capacity) being the fifth largest potential producer of this species.

Current permitted egg capacities, in millions of eggs, for the 9 largest aquaculture associations in Alaska are listed below:

Hatchery non-profit corporation	Chinook salmon	sockeye salmon	coho salmon	pink salmon	chum salmon	total
PWS Aquaculture Corp. (PWSAC)	4.00	49.15	4.00	462.00	165.00	684.15
Kodiak Region Aquaculture Assn. (KRAA)	0.45	20.60	2.80	215.00	28.00	266.94
Valdez Fishery Development Assn. (VFDA)	0.30	---	2.00	230.00	---	232.30
Douglas Island Pink and Chum (DIPAC)	1.25	33.50	1.65	50.00	125.00	211.40
Southern SE Region Aquaculture Assn. (SSRAA)	3.50	2.70	14.50	---	172.00	192.70
Northern SE Region Aquaculture Assn. (NSRAA)	9.00	2.00	11.64	0.30	165.80	188.74
Cook Inlet Aquaculture Assn. (CIAA)	4.00	48.66	6.16	125.00	---	183.82
Armstrong Keta Inc. (AKI)	2.00	---	5.00	85.00	30.00	122.00
Port Graham Hatchery Corp. (PGHC)	---	1.35	---	110.00	---	111.35
all others	1.00	5.00	5.78	1.00	10.00	87.90
Statewide egg capacity totals (millions)	25.50	162.96	53.53	1,278.30	695.80	2,281.30

In 2011, CIAA contributed 74.3% (291,843) of the total Lower Cook Inlet sockeye salmon harvest of 393,000 fish (Table 1, Appendix F1). Prior to the cessation of pink salmon production at TBLH in 2004 and at PGH in 2007, these 2 hatchery corporations combined produced up to 2.6 million returning pink salmon (1995), which was 91.6% of the total pink salmon harvest for that year in Lower Cook Inlet (Appendices F6, F7, F11 and Table 2). In addition to sockeye and pink salmon releases, CIAA also has released an average of 731,000 coho salmon over the last

10 years and the Fort Richardson Hatchery (operated by ADF&G) has released an average of 578,000 Chinook salmon into Area H where both of these species are primarily harvested by sport users.

TUTKA BAY LAGOON HATCHERY

Tutka Bay Lagoon Hatchery (TBLH) is located in Tutka Bay, approximately 23 kilometers (14 miles) south of Homer (Figure 1). TBLH, constructed in 1976, is owned by ADF&G and has been operated by CIAA under contract since 1991. The facility was originally constructed as a pink and sockeye salmon hatchery, however it also produced chum salmon from 1979 to 1990. Water for hatchery operations is supplied by Tutka Creek. Permitted water capacity is 1,200 gpm, with a current usage of 1,080 gpm. The TBLH had an initial capacity of 10 million pink salmon eggs, however major renovation work in 1993–1994 increased this capacity to 150 million eggs. In addition, TBLH has a sockeye salmon egg 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 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. As a result of poor survival beginning in 2005, sockeye salmon were incubated and reared at the Trail Lakes Hatchery using Hidden Lake broodstock and were transferred to Tutka Bay for imprinting and release. Pink salmon were raised consistently at this facility from 1977 to 2004 with releases ranging in size from 318,000 (1977) to 105 million (1996) with an average release of 42.4 million fish. All pink salmon broodstock was derived locally from the adjacent Tutka Creek. Pink salmon were released not only from the hatchery site directly, but also remote released from Halibut Cove Lagoon (1975, 1977, 1986–1992), the Paint River (1980–1983), the Homer Spit (1987–1992) and also Ingram Creek (1987–1990) in Turnagain Arm (Appendices F7 and F19). Chum salmon were reared and released on site from 1979 to 1990 in numbers ranging from 7,992 (1981) to 3.2 million in 1998 with an average release of 841,000 fish. The original broodstock for the chum salmon return was taken from Port Dick Creek.

In 2011, CIAA remote released 281,900 sockeye salmon smolts (brood year (BY) 2009) from this facility. These fish were hatched at the TLH and reared at the TBLH. Of those released, 58,200 were of English Bay Lakes stock, 197,100 were of Hidden Lakes stock and 26,600 originated from adult sockeye salmon that returned to TBLH in 2009. These 2009 returns (BY06 and BY07) were of Hidden Lake stock. Sockeye salmon eggs harvested in 2011 were transported to the TLH for incubation and will be discussed in theTrail Lakes Hatchery section under *Cook Inlet Salmon Enhancement.*

Wild pink salmon were harvested for use as broodstock from 2 locations in 2011. A total of 10,980 fish (9,366,906 eggs) were harvested from Tutka Creek for use to restart a return of this species at this hatchery. In addition 5,940 fish (4,287,976 eggs) were harvested from Windy Bay to restart a remote release at Halibut Cove Lagoon (HCL). Initially, Port Dick was selected by ADF&G as a broodstock source for the HCL release, however the 2011 pink salmon return to Port Dick was late and of modest size. Once a pink salmon return to the TBLH is established using the adjacent Tutka Creek as the source, this will be the brood source for HCL releases. See LCI Remote Release under *Cook Inlet Salmon Enhancement* for further information regarding remote releases.

Currently TBLH has a permitted capacity of 125 million pink and 660,000 sockeye salmon eggs. This hatchery has not applied thermal marks to any fish cultured at this location and currently does not have the capability to apply thermal marks. CIAA has indicated that thermal marking systems will be in place at this facility for the 2012 brood year.

In 2011, the total run of sockeye salmon remote released at Tutka Bay was 15,559 fish. Of these, 8,496 were reported on fish tickets as being harvested for cost recovery, and 1,561 for broodstock. In addition, CIAA indicated that 2,000 of these fish were escapement for the hatchery watershed, and that 3,500 were harvested by sport users. Commercial set gillnet permit users in the Tutka Bay and Barabara Creek subdistricts likely harvested a portion of this return. This is supported by the increase in reported July harvests. Without a harvest sampling program in place to examine thermal marks on landed fish, an accurate estimate of the hatchery component and the hatchery age components of the commercial harvest cannot be made. The 2011 return of sockeye salmon originated from the 2008/2009 release of 483,000 BY06 and 301,000 BY07 Hidden Lake stock sockeye salmon smolt.

TRAIL LAKES HATCHERY

The Trail Lakes Hatchery (TLH) is located on the Seward Highway, approximately 19 kilometers (12 miles) north of Seward (Figure 1). The hatchery was completed in 1982 and initially produced sockeye, coho and Chinook 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) with an average of 7.9 million fish per year. In addition to release sites in upper Cook Inlet, TLH produced hatchery sockeye salmon have been released into Lower Cook Inlet 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. See thesection LCI Remote Release under *Cook Inlet Salmon Enhancement* for further information regarding specific remote release sites. Coho salmon have also been produced in consistent numbers since 1983 with releases ranging in size from 75,000 (1996) up to 1.7 million (1987) with an average release of 768,000 fish. The majority of the coho salmon reared in recent years are released into Bear Lake. Chinook salmon were released from 1984 to 1988 and chum salmon were raised for one year with a release of 455,089 in 1985 into Resurrection Bay systems. This hatchery has been consistently applying thermal marks to releases since 1991.

In 2011, the total run of sockeye salmon to remote release sites from this hatchery in Cook Inlet, was 493,641 fish. The overall run was more than the CIAA forecast run of 241,000 sockeye salmon. (Appendix F1). A total of 159,860 sockeye salmon were harvested for hatchery cost recovery and were worth 1.5 million dollars. A total of 8,620 sockeye salmon were collected for broodstock and of those, no spawned or unusable carcasses were reported sold. The common property commercial fleet harvested approximately 94,153 (19.1%) of the total TLH sockeye salmon run (Appendix F4). This includes remote releases at Kirchner Lake, Hidden Lake and all sites in Kachemak Bay. In addition to sockeye salmon, TLH also currently produces an average of 731,000 coho salmon annually (Appendix F8). Currently TLH has a permitted capacity of 6 million coho, 4 million Chinook and 30 million sockeye salmon eggs.

In 2011, a total of 13.0 million sockeye salmon eggs comprised of 3 stocks were harvested from 5 sites in Lower Cook Inlet. These sites are:

Collection site	Stock	Green eggs harvested
Bear Lake	Big River/Upper Russian Lake/Bear Lake indigenous	5,984,132
Tutka Bay Hatchery	Hidden Lake	3,012,637
Hidden Lake	Hidden Lake	1,119,538
English Bay Lakes	English Bay Lakes	2,504,876
Port Graham Hatchery	English Bay Lakes	362,142
Total Green egg harvest		12,983,325

Sockeye salmon were released at 6 locations in Lower Cook Inlet as well as into Hidden Lake in 2011. Leisure and Hazel lakes received fish that were of Hidden Lake stock, while Kirchner Lake and English Bay Lake releases were of English Bay origin. Tutka Bay received 58,200 smolt that came from eggs harvested at English Bay as well as 223,700 smolt from eggs harvested at Hidden Lake. Hidden Lake received 1,044,000 emergent fry from eggs that had been taken from that location in 2010. See the LCI Remote Release section under *Cook Inlet Salmon Enhancement* for further information regarding specific sites.

In 2011, the total run of coho salmon produced by the TLH was 2,093 fish and below the forecast run of 3,000 fish. The majority of these fish originated from the BY08 release (270,000) and had a survival rate of 0.8%. The commercial fleet harvested 49 coho salmon from Area H of which few to none are thought to be of hatchery origin. The sport fishery harvested an estimated 1,207 coho salmon originating from releases in Resurrection Bay and the Homer Spit. CIAA collected 454 coho salmon for broodstock for a total of 577,695 green eggs (Appendices F1 and F5). This is less than the 4.0 million eggs that CIAA is permitted for this species (Appendices F1, F5, and F17).

EKLUTNA HATCHERY

The Eklutna Hatchery (EH) is located 13 kilometers (8 miles) southeast of Palmer on the Old Glenn Highway. Built in 1981 to produce chum and coho salmon for stocking in upper and lower Cook Inlet systems, however sockeye salmon were also produced from 1993 to 1998 (Appendix F9). This hatchery was operated by Cook Inlet Aquaculture from 1982 until 1998 when salmon production was transferred to the Trail Lakes Hatchery. This facility continues to be maintained and provides additional fish rearing resources for CIAA when water supplies are limited at the TLH. Currently the EH has a permitted capacity of 160,000 coho, and 18 million sockeye salmon eggs. This facility does not have the ability to thermally mark salmon. Beginning in 1998, ADF&G has held and released Chinook and coho salmon smolt from the tailrace of this facility.

CROOKED CREEK HATCHERY

Crooked Creek Hatchery (CCH) is located 1.6 kilometer (1 mile) south of the Kasilof River (Figure 1) and is accessible from the Sterling Highway. CCH was built in 1975 by the State of Alaska. In July 1993, the ADF&G transferred operation of this facility to CIAA. Prior to this transfer, CCH incubated and reared sockeye, coho, and Chinook salmon as well as steelhead trout for release into various water bodies throughout the central and lower Cook Inlet drainage (Appendix F10). While under CIAA management, the hatchery stocking program focused on sockeye salmon releases to Tustumena Lake as well as several lower Cook Inlet lakes and Resurrection Bay. In November 1996, CIAA terminated operations at CCH, and transferred

sockeye salmon stocking programs for all 5 lower Cook Inlet lakes (Leisure, Hazel, Kirschner, Grouse, and Bear lakes) to its Eklutna and Trail Lakes hatcheries. CCH remained idle until 1999. Beginning that year ADF&G has used this facility to rear and imprint Chinook salmon that are incubated and thermally marked at the Fort Richardson Hatchery (FRH). In addition, eggs are also collected from returning Chinook salmon at the CCH and transferred to FRH for incubation and thermal marking. This facility thermally marked salmon during its last year of operation in 1996.

PORT GRAHAM HATCHERY

The Port Graham Hatchery (PGH) is in the village of Port Graham (Figure 1) and is located in a converted Whitney-Fidalgo salmon cannery. The hatchery was permitted in September, 1992 and is owned and was actively operated by the Port Graham Hatchery Corporation until 2007. Water for operations in the main hatchery building is 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 inch pipeline at a rate of 50-107 l/s. Prior to permitting, the hatchery had been 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 2008 with releases ranging from 85,000 (1991) to 918,000 (1999) with an average release of 316,000 fish. This facility provided sockeye salmon fry and smolt for the Nanwalek Salmon Enhancement Project from 1992 to 2008. See the NSEP section under *LCI Remote Releases* for further details on this project.

Pink salmon were released during most years from 1991 to 2007 with releases ranging from 255,000 (1991) up to 57.2 million (2003) with an average release of 11.5 million fish. In addition, coho eggs were collected from the Port Graham River in 1996 and in October 1997 a total of 29,963 coho smolt were released from this facility. The project was discontinued after this release. In January, 1998 a fire completely destroyed the original Port Graham Hatchery 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 for 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 a hatchery manager, combined with financial troubles resulted in sockeye and pink salmon releases ending in 2006 and 2007, respectively. Consequently, the PGHC contracted with the CIAA in 2007 to harvest 510,000 sockeye salmon eggs from returning PGH fish, incubate them at the TLH and then release them as presmolt in English Bay Lakes, (246,000, October 30, 2008) and as smolt in Port Graham (112,000, June 15, 2009).

No pink salmon have been released from the PGH since 2007. Currently CIAA is negotiating with PGHC about assuming management of the PGH facility in 2012. Presently the PGH has a permitted capacity of 110 million pink and 1.35 million sockeye salmon eggs.

In 2011, the overall estimated return of sockeye salmon remote released at the Port Graham Hatchery was 1,136 fish. These 4-year-old fish originated from the BY2007 release in 2009. Since that time there have been no sockeye salmon releases from this site.

FORT RICHARDSON AND ELMENDORF STATE FISH HATCHERIES

The Fort Richardson and Elmendorf state fish hatchery facilities are located on military bases near Anchorage. These facilities have historically produced coho and Chinook salmon for release to sites in LCI (Halibut Cove Lagoon, Homer Spit, Bear Lake, etc). Production from these hatcheries is intended primarily for harvest by non-commercial users (Appendix F12).

LCI REMOTE RELEASES

Nanwalek Salmon Enhancement Project (NSEP)

The English Bay Lakes system is located approximately 1.6 kilometer (1 mile) southeast of the village of Nanwalek (formerly English Bay). The English Bay Lakes 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 stock of sockeye salmon native to 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. The ADF&G's Fishery Research and Enhancement Division conducted limnology studies and reported in 1992 that these lakes were nutrient poor and given that recent escapements (1985–1990) were only 60% of the historic 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." Stocking at English Bay Lakes began in 1990 with a release of 855,000 fry that were grown from eggs collected the previous year in English Bay and reared at the Big Lake Hatchery facility near Wasilla. With the closure of Big Lake Hatchery in 1992, incubation and early rearing of sockeye salmon from English Bay Lakes occurred at the nearby PGH. EBL system has received sockeye salmon releases in all but 7 years since 1990. These releases have varied significantly in size from 50,096 to 906,057 with an average of 478,000 fry per release (Appendix F13).

Leisure Lake

Leisure (China Poot) Lake is located approximately 18 kilometers (11 miles) southeast of Homer (Figure 1). 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 adult sockeye. This lake has been stocked regularly with an average of 1.6 million sockeye salmon per year since 1976 (Appendix F13). Until the early 1990s Leisure Lake was used experimentally to determine fry stocking densities that would produce optimum adult returns. Lake fertilization was initiated in 1984 to increase salmon production. 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 (provided by the United States Fish and Wildlife Service), resulted in the loss of Tustumena Lake as a collection site. The broodstock source was changed to Hidden Lake in Upper Cook Inlet. 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 of similar timing to Tustumena Lake. This stock has also been enhanced by ADF&G and later by CIAA since 1976 (Appendix F14). Since 2004 Hidden Lake has been the source of broodstock for Tutka Bay and Leisure Lake stocking as well as for Hazel Lake stocking. 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 is drained by the Wosnesenskii River which is approximately 14

kilometers (9 miles) long. Hazel Lake has been stocked for 21 of the last 24 years with an average of 1.1 million sockeye salmon juveniles (Appendix F13).

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 advantage of these identifying features. Estimated commercial harvest contributions by returning Leisure Lake and Hazel Lake sockeye salmon are shown in Appendix F21. These values are the total seine harvest of all sockeye salmon from the Southern District. Prior to returns of significant numbers of enhanced salmon to the Southern District in 1980, the seine harvest of sockeye salmon was minimal with a range of 5 to 5,232 fish and an average of 1,749 fish since 1959, excluding 1978 where 54,000 were harvested (Appendix A3). While some hatchery salmon are likely harvested by set gillnet permit holders, it is possible that gillnet web selects for larger wild fish that are typically 5-6 years of age when they return as opposed to hatchery reared fish where the majority (~70%) are 4 years of age. Supporting this, prior to enhancement the set gillnet harvest from 1959 to 1980 ranged from 6,148 to 54,404 fish with an average of 19,538 fish. However, after enhancement, the set gillnet harvest increased only by about one-third to 30,015 fish per year on average. The seine average harvest however increased by more than fifty times the previous amount to 89,359 per year.

Kirchner Lake

Kirchner Lake is the third lake in LCI that has historically been the site for remote sockeye salmon releases. Kirchner 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 1). Kirchner Lake is approximately 140 hectares (0.54 square miles) in size and has a barrier falls at the outlet that prevents migration of returning anadromous salmon. Kirchner Lake has been stocked for 21 of the last 25 years with an average of 297,000 smolt. In 2011, CIAA submitted a Permit Alteration Request (PAR) seeking to use Bear Lake sockeye salmon as the brood source for Kirchner, Leisure and Hazel lakes until English Bay Lake stock is available. The current late-run Hidden Lake stock has proven difficult to cultivate at the Tutka Bay Lagoon Hatchery, and the returning fish have been of a smaller size than anticipated resulting in reduced cost recovery value. This permit was declined due to concern regarding introduction of the Bear Creek stock into adjacent LCI spawning systems.

Halibut Cove Lagoon

Halibut Cove Lagoon (HCL) is located approximately 18 kilometers (11 miles) southeast of Homer on the south side of Kachemak Bay (Figure 1). HCL has a surface area of approximately 220 hectares (0.85 square miles) and a maximum depth of approximately 70 meters (230 feet). The outlet to HCL is a narrow and shallow channel. Consequently this lagoon flushes very slowly. Halibut Cove Lagoon has been the site of enhancement activity since the mid-1970s and has had 5 species of Pacific salmon stocked at varying times as shown below:

Species	Release years, (n-years)	Maximum release	Average release
Chinook	1975-2011, (35)	225,000	96,000
Sockeye	1976, (1)	7,777	7,777
Coho	1974-1979, (5)	308,000	106,000
Pink	1975, 1977, 1986-1992, (9)	12.1 mil	5.8 mil
Chum	1974, 1975, (2)	7,782	4,189

In 2011, a PAR was approved by ADF&G for CIAA to remote release up to 84 million unmarked pink salmon fry into HCL. Broodstock for this release would come from fish caught during common property fisheries by commercial permit holders in specific subdistricts in the Port Dick area. These fish would be sold to processors and then purchased by CIAA. Returns from the HCL release would be harvested for cost recovery purposes while the pink salmon return to the Tutka Bay Lagoon Hatchery is developed using local stock taken from the adjacent Tutka Creek. Assuming 3% survival, a return of 2.5 million pink salmon would be expected from the proposed maximum release of 84 million fry. From 1986 to 1992, annual remote releases to HCL ranged from 4 to 12 million fry (average = 5.8 million). Commercial harvest (seine and set gillnet) from the Halibut Cove Subdistrict overall from 1988 to 1994 ranged from 58,000 to 254,000 pink salmon, (average = 115,000). Commercial seine harvest from Halibut Cove Lagoon specifically during this period of time ranged from 38,000 to 162,444 fish, (average = 77,000).

Tutka Bay Lagoon

In addition to releases from the TBLH, the lagoon has also been a remote release site for sockeye salmon since 2005. This is due to pathogen related issues at this facility that are specific to sockeye salmon and have hampered production of this species at this 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, in 2011, a total of 58,200 English Bay stock smolt were incubated at the TLH and remote released at this location.

Bear Lake and Resurrection Bay

Bear Lake is located approximately 10 kilometers (6 miles) northeast of Seward. Bear Lake has a surface area of approximately 180 hectares (0.69 square miles). Initial enhancement activities in the early 1960s focused on coho salmon and the control of predators and supposed competing species such as sockeye salmon. In 1988, the Alaska Board of Fisheries revised the *Bear Lake Management Plan* (5 AAC 21.375) to allow for the enhancement of sockeye salmon in this lake. Bear Lake has been stocked since 1963 with an average of 371,000 coho salmon smolt annually (Appendix F17). 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 (SE Alaska), Dairy Creek (Seward Lagoon) as well as Big Creek in Oregon. Sockeye salmon have been stocked into this lake annually since 1990 with an average of 1.8 million released. Sockeye salmon remote releases 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 upper Cook Inlet. In addition, in 1998, 507,000 Tustumena Lake sockeye salmon smolt were released that had also been reared at the Trail Lakes Hatchery. Since that time all other releases have been derived from broodstock harvested at Bear Lake.

In addition to Bear Lake, coho and the other species of Pacific salmon have been released into other locations in Resurrection Bay since the late 1970s. Returns for these species typically are targeted by non-commercial 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 F19 amd F20). In 2008, CIAA began releasing an average of 1.6 million sockeye salmon smolt annually from net pens anchored in Resurrection Bay.

2011 COMMERCIAL HERRING FISHERY

Similar to the salmon fishery, commercial Pacific herring *Clupea pallasii* fishing in LCI has historically occurred in 4 of 5 management districts, with the Barren Islands District the sole area where commercial herring fishing has not occurred (Figure 2). 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 operating. A purse seine fishery in Kachemak Bay began in 1923. But after 3 successive years of average annual harvests approaching 8,000 short tons (st; 1 short ton = 2,000 pounds), herring populations, and hence the fishery, collapsed.

The next LCI herring fishery began in 1939 and was centered in the Resurrection Bay and Day Harbor areas of the Eastern District (Figure 2). 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 st each of those years. After this time period, stocks sharply declined, apparently due to over-exploitation.

LOWER COOK INLET COMMERCIAL HERRING FISHERY

HARVEST STRATEGY AND STOCK ASSESSMENT

The Lower Cook Inlet (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 2). This management area is divided into 5 districts that match those for LCI salmon.

Commercial Pacific herring (*Clupea pallasii*) fishing in LCI has historically occurred in 4 of 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 with legal gear at times including both gillnet and seine. All of these fisheries have suffered periods of stock depletion and extended closures (Appendix G2).

Currently, 2 separate herring management plans regulate fisheries in LCI, both adopted in 2001 by the BOF. The first management plan (5 AAC 27.463) renders waters of the Southern, Outer and Eastern Districts closed to commercial herring harvest, citing concerns for stock abundance and sustainability of commercial harvest in these areas. The *Kamishak Bay District Herring Management Plan* (KBDHMP; 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 which 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%, and a reduction in the biomass threshold (the minimum necessary in order to allow a fishery) from 8,000 to 6,000 st. 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 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. Historical harvest and management information for the Kamishak Bay sac roe fishery can be found in Appendices G3 and G4.

The Kamishak Bay sac roe fishery was closed beginning with the 1999 season due to low abundance levels. Management since that time has concentrated on assessment of the Kamishak Bay herring biomass to determine when commercial harvest can be sustainably resumed.

The primary method of herring biomass assessment in LCI is aerial survey. When adequate funding is available, aerial surveys are conducted annually throughout the herring spawning season in the Kamishak Bay and Southern districts, from late April through early June, to determine relative abundance and distribution of herring. Because a commercial herring fishery has not occurred in the Outer and Eastern districts in many years, and is not likely to occur in the near future, aerial surveys of these areas are no longer conducted. Even though no commercial fishery is expected in Southern district, fishermen do annually participate in a personal use herring fishery in Kachemak Bay. ADF&G staff monitors Southern District herring to document general trends in these nearby waters. When funding is available, data collection methods in the Kamishak Bay and Southern Districts are consistent between 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. Three standard conversion factors are 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 st for water depths of 16 ft or less; 2) 2.56 st for water depths between 16 and 26 ft; and 3) 2.83 st 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 provide 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 has been used since 1994 to forecast herring abundance for Kamishak Bay, as well as to "hindcast" previous years' total abundance (Appendix G5). This dynamic model incorporates 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 minimizes the differences between expected and observed return data for each of its components, updates hindcasts of previous years' abundance, and produces a forecasted estimate of the following year's run. This is an important tool both for management to help determine appropriate harvest levels, and for research to revise previous biomass estimates with updated return data and gain a more accurate picture of trends over time (Appendix G5).

When funding is available, another tool ADF&G utilizes to aid in herring assessment in Kamishak Bay District, and opportunistically in the Southern District, is a chartered commercial seine vessel. In years when no commercial fishery occurs, ADF&G is unable to utilize the fleet to collect samples for age, sex, and length (ASL) composition analysis. By chartering a commercial purse seine vessel, ASL and disease samples and other related information can be collected and used to further aid in understanding the dynamics of the herring stocks. When sufficient funding is available, separate sampling charters are conducted to sample different portions of the spawning migration (early and late). In years when a fishery occurs (traditionally in the early part of the migration), a single "late season" sampling charter is employed to obtain a more complete picture of the overall run. Hydroacoustic observations and water temperature/depth parameters are concurrently accumulated during the charters. The information gathered during these sampling efforts provides age class data that: 1) allows the staff to generate

an age composition estimate of the overall biomass observed by aerial surveyors throughout the entire duration of the spawning migration; and 2) facilitates the evaluation of the relative strength of recruiting year classes. This is critical in generating the annual herring forecast. The charters further serve to informally verify the relative magnitude of herring biomass observed by aerial surveyors.

SEASON SUMMARY

The Kamishak Bay sac roe fishery remained closed in 2011. Preseason ASA modeling forecasted a herring biomass of 3,830 tons (Appendix G5, Figure 5); falling well short of the regulatory threshold of 6,000 st. Age composition of the return continued to be an additional concern with a high proportion of the projection falling in the ≤ 5 year age class (Appendix G1). LCI herring assessment was curtailed in 2011 due to a partial loss of funding. Lack of funds precluded vessel charter and age structure sampling in Kamishak Bay, while assessment of Southern District herring biomass was reduced to a single aerial survey, producing no sightings. Minimal sampling for disease prevalence in the Kamishak Bay stock was accomplished via float plane.

Aerial survey coverage to assess the Kamishak Bay herring stock was considered good in 2011. Typical for Kamishak Bay however, observation conditions were often rated as poor for observing fish due to periodic high turbidity. A total of 11 surveys were completed in the Kamishak Bay District between April 20 and June 11. Aside from a 10-day stretch in mid-May, consistently fair weather allowed surveyors to avoid lengthy gaps between flights this season. Significant numbers of herring (858 st) were observed on the second survey (April 27) with the majority of fish recorded in the Kamishak River and Douglas Reef sections. The peak daily biomass estimate for the season occurred on May 12, when a cumulative total of 1,053 st were estimated throughout the district. Although the majority of these fish were observed in Iniskin Bay, a substantial number were also observed in the Ursus Cove area. Herring continued to be observed on subsequent surveys, but numbers proved relatively modest.

ADF&G staff documented 18 individual spawning events during surveillance flights in 2011. All of the events were "spot" spawns, however and summed to just short of 2.9 linear miles of spawn. Although not particularly impressive, both the number of events and cumulative miles of spawn observed were the second highest recorded in the past twelve years.

Based on hindcast estimates from the ASA model, herring biomass steadily declined in Kamishak Bay between 1985 and 2001 and has now stabilized at a very low level over the past 11 years. Kamishak Bay surveys in 2010 resulted in a cumulative total just short of 5,000 st of herring observed. While this figure is the second highest observed since 2000, it still continues an overall trend of low abundances seen over the past decade (Figure 5, Appendix G5).

One hypothesis for the lack of herring recruitment in Kamishak Bay originates from the relatively poor condition of the fish observed recently, characterized by low average weights-at-age, which can lead to higher than normal mortality. Another speculates that herring may not always return to their birthplace to spawn. This "adopted-migrant" hypothesis is based on the concept that, upon first achieving sexual maturity, the younger herring may simply follow older repeat spawners in a given school back to a spawning area, even if that area is not where the younger fish were originally spawned (McQuinn 1997). Finally, disease may also be affecting recruitment and survival. Up to 52% of herring collected in Kamishak Bay during previous years were positive for *Ichthyophonus*, a protozoan pathogen that has been linked to epizootics in wild populations of Atlantic herring (Hershberger et al. 2002). While it is uncertain what role disease

play in recruitment and survival, the high incidence of *Ichthyophonus* in the Kamishak Bay herring stock occurred concurrently with the loss of older age classes (> age-8) from the population. A very similar occurrence was reported with Pacific herring in Puget Sound (Hershberger et al. 2002).

In 2011, 2 samples of 60 fish each were collected on May 4 and May 13. Samples were obtained during active spawning events, in separate locations via cast net and hook and line snagging. Results from these samples showed *Ichthyophonus* infection rates of 0.0% (May 4) and 1.7% (May 13) and no viral hemorrhagic septicemia or viral erythrocytic necrosis was noted.

Unfortunately, with a lack of funds for vessel charters, no herring age, sex, or size composition data were collected in Kamishak Bay in 2011. Without information traditionally provided by these charters, the ability of the ASA model used to generate the annual Kamishak herring forecast is seriously compromised. As a result, ADF&G was forced to rely solely on aerial surveys to determine relative stock abundance in 2011 and no significant age composition data are available to report.

2012 HERRING SEASON OUTLOOK

Because funding cuts precluded ADF&G staff's ability to conduct vessel surveys for collection of age composition data, an ASA model forecast of the 2012 return was also precluded. However, all information collected suggests that the biomass will be less than the KBDHMP regulatory threshold of 6,000 st for which a commercial harvest can be considered. As a result, the sac roe fishery in the Kamishak Bay district will remain closed for the 2012 season. The resource, and hence the commercial fishery, is best served by protecting the remaining spawning population in order to rebuild to a harvestable level. No commercial herring fishery is expected in any other LCI district in 2012.

Without a commercial fishery, ADF&G's ability to collect age composition information will be greatly reduced. Unfortunately, lack of funds will again preclude chartering commercial seine vessels to collect samples in 2012. ADF&G will continue to conduct aerial surveys throughout the spawning season, from mid-April to early June, as conditions permit. But a 50% reduction in funding for this program compared to recent years will translate into fewer surveys and less extensive coverage.

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TABLES AND FIGURES

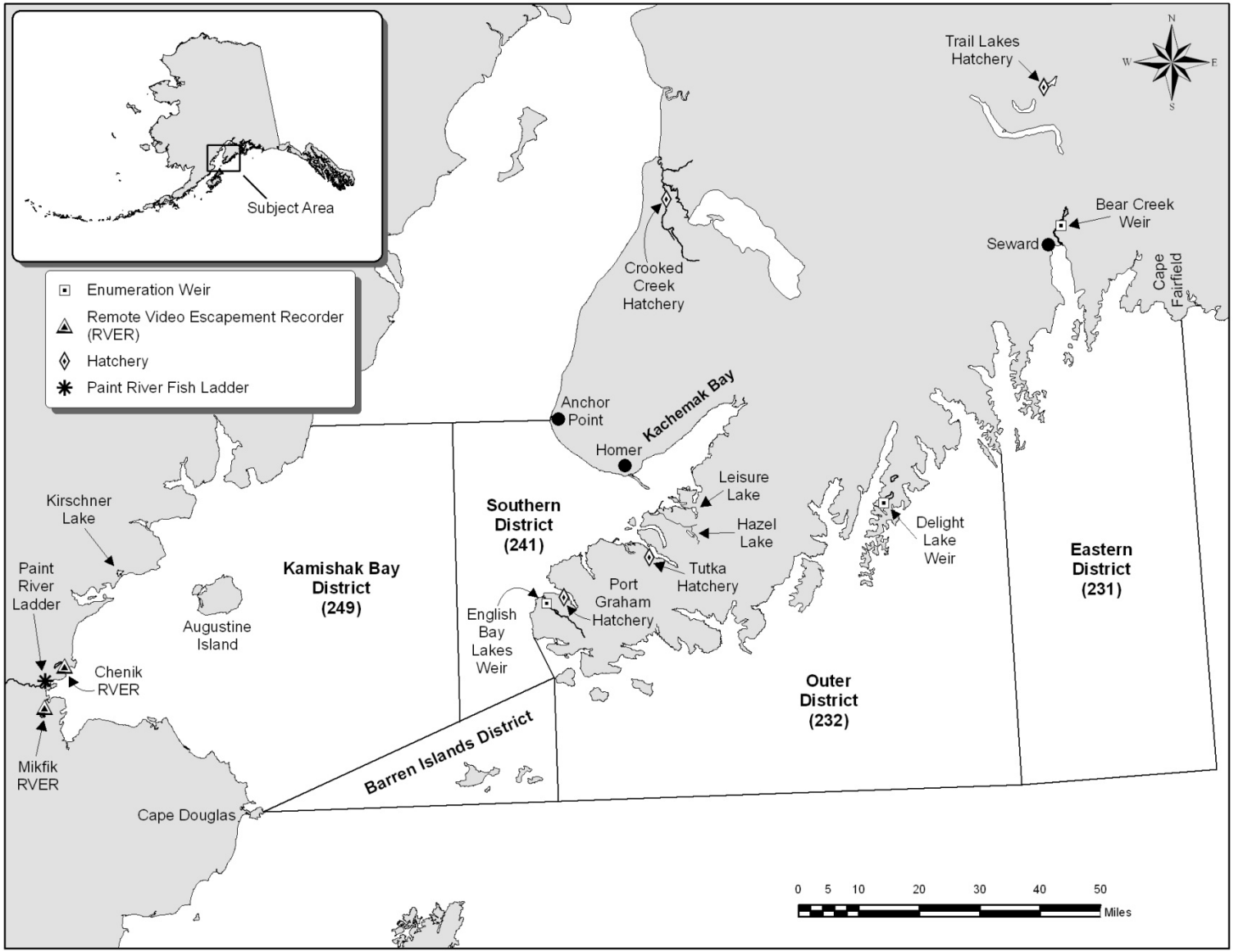


Figure 1.–Lower Cook Inlet management area showing commercial fishing districts, salmon hatcheries, weir and fish ladder locations, as well as remote salmon video monitoring sites.

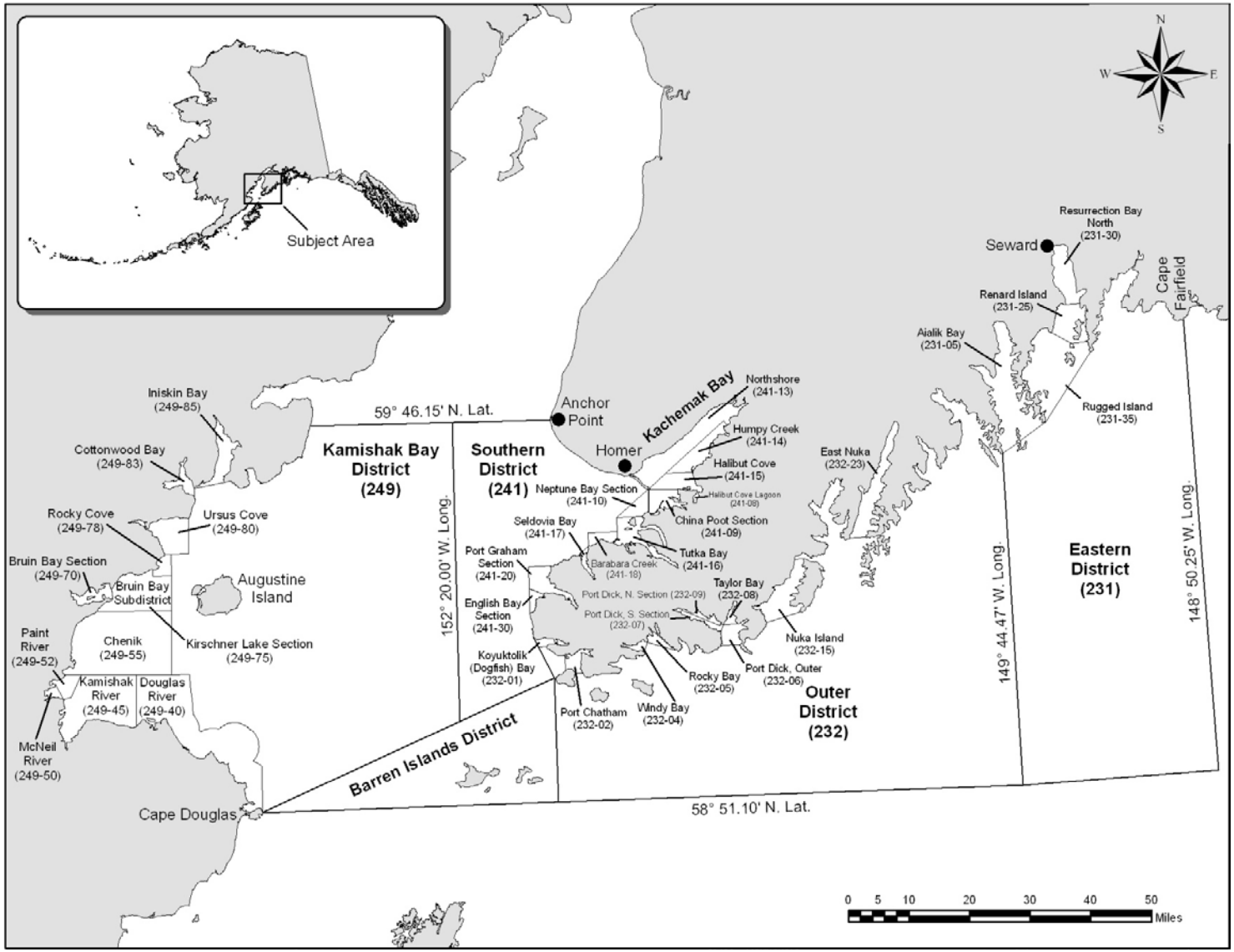


Figure 2.–Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts.

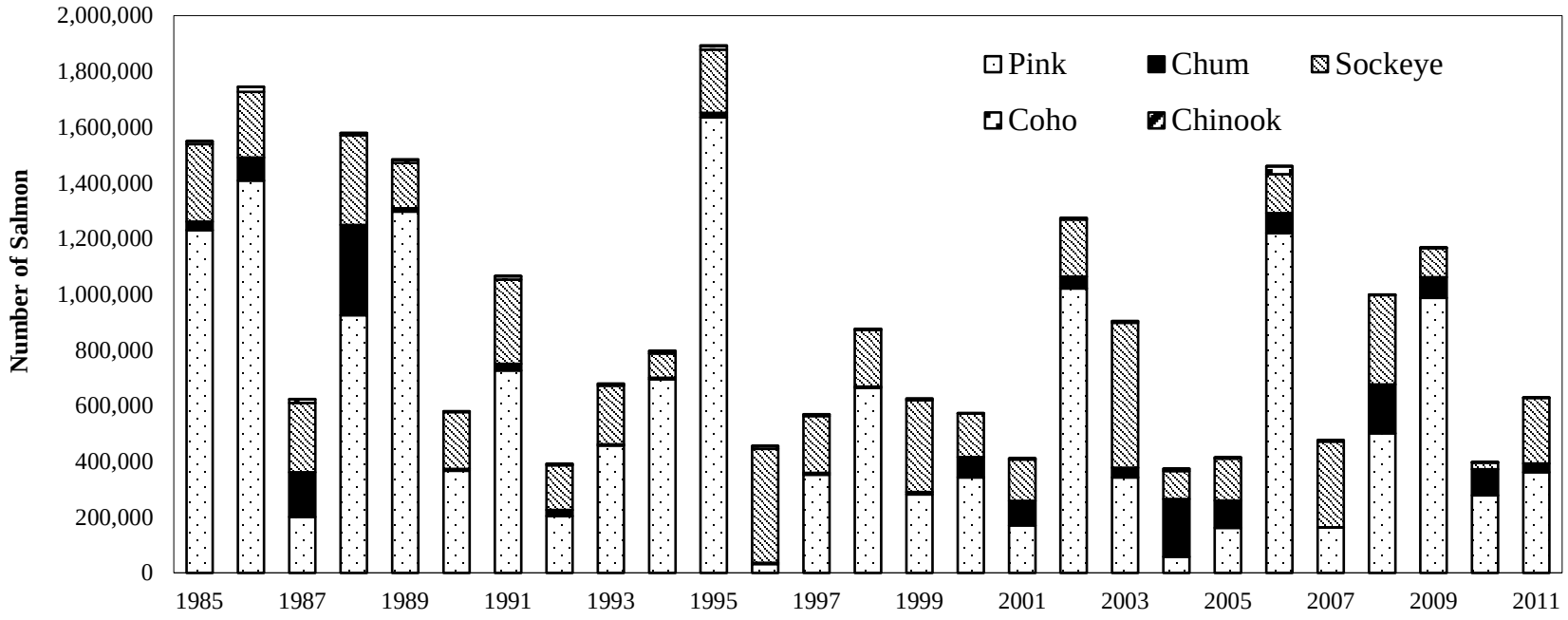


Figure 3.–Commercial common property salmon harvests in Lower Cook Inlet, 1985–2011.

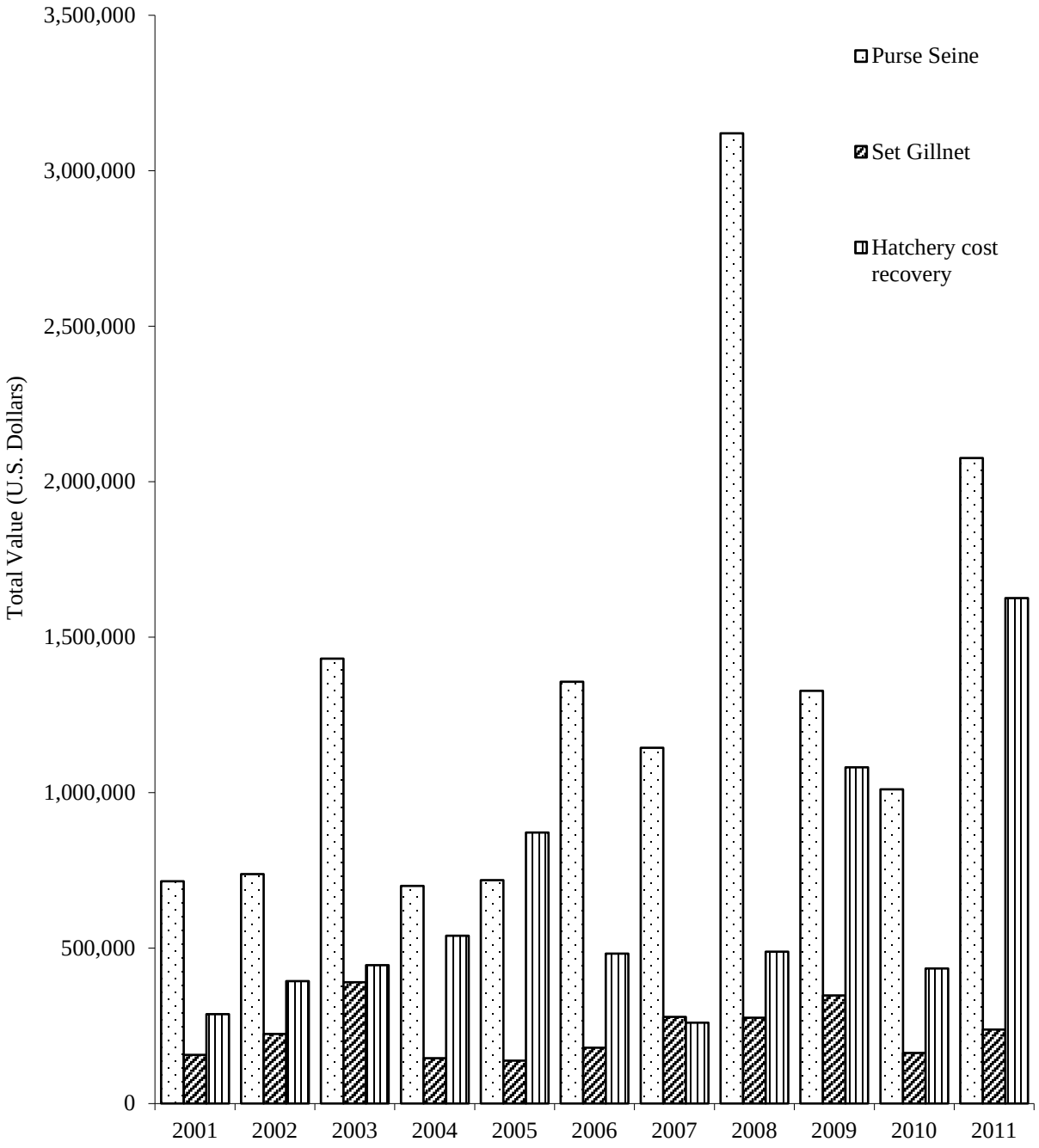
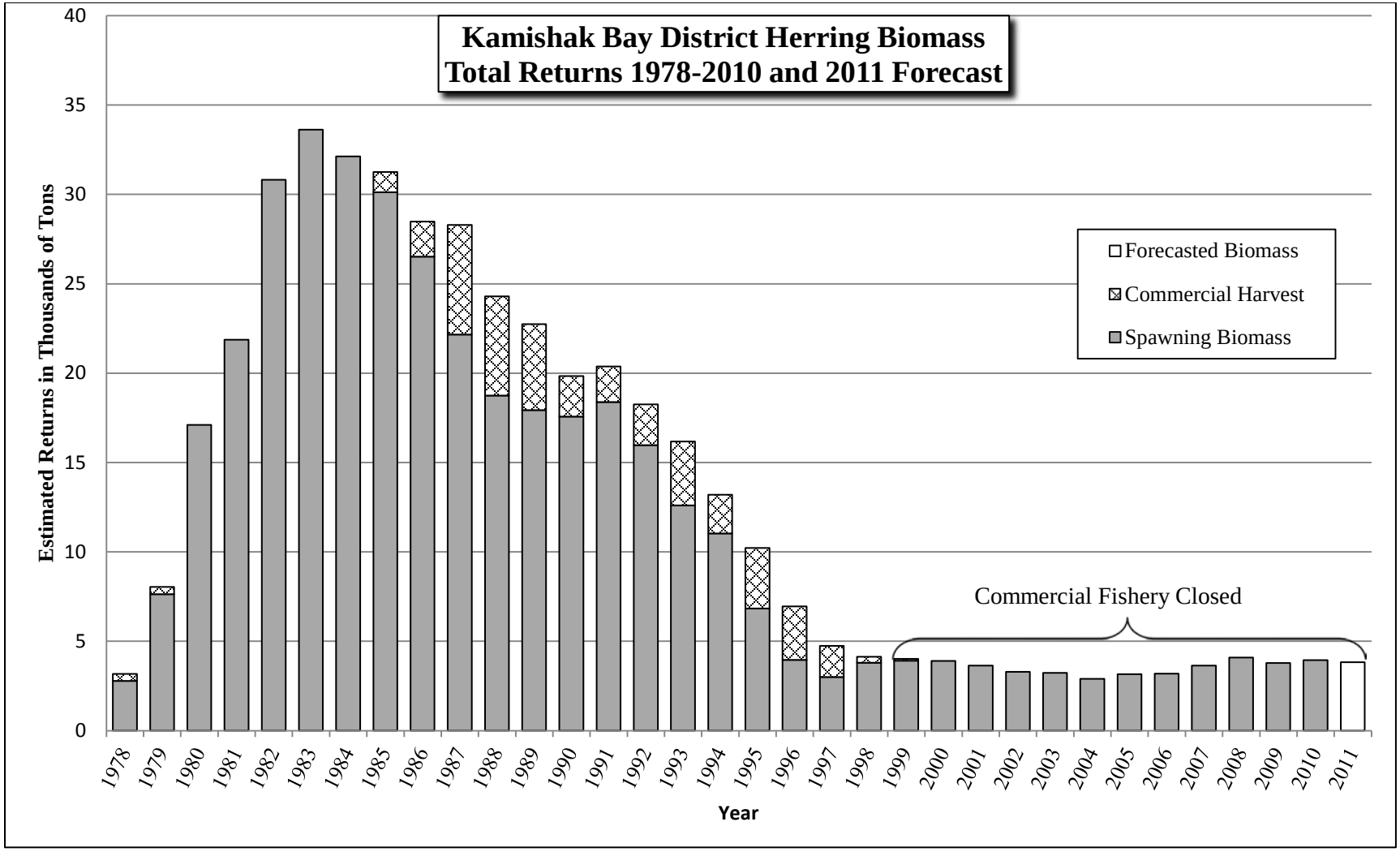


Figure 4.–Exvessel value of LCI commercial salmon harvest , 2001–2011.



Note: No age-structured-assessment (ASA) biomass estimate possible for 2011 due to lack of age composition samples. All spawning biomass estimates derived from 2010 ASA calculations.

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, 1978–2010, and 2011 projection.

Table 1.–Lower Cook Inlet Management Area commercial salmon harvest by gear type and district, 2011.

District	Permits [a]	Chinook [a]	Sockeye [a]	Coho [a, b]	Pink [a]	Chum [a]	Total
			Purse seine				
Southern	5	26	9,945	24	512	16	10,523
Kamishak Bay	10	0	99,288	0	1,050	3,850	104,188
Outer	13	10	46,356	25	357,472	25,763	429,626
Eastern	16	0	56,111	0	24	112	56,247
Purse seine total	23	36	211,700	49	359,058	29,741	600,584
			Set gillnet				
Southern District	21	100	22,782	103	2,643	1,946	27,574
Set gillnet total	21	100	22,782	103	2,643	1,946	27,574
			Hatchery				
Port Graham Hatchery		0	200	0	0	0	200
Tutka Bay Hatchery		0	7,836	0	205	4	8,045
Trail Lakes Hatchery		0	150,436	0	0	0	150,436
Hatchery total [c]		0	158,472	0	205	4	158,681
			Miscellaneous				
Home Pack	4	5	62	3	487	27	584
Donated Fish	0	0	0	0	0	0	0
Misc. Total		5	62	3	487	27	584
Lower Cook Inlet total		141	393,016	155	362,393	31,718	787,423

[a] Numbers of fish and numbers of permit holders delivering are from Statewide electronic fish ticket data.

[b] 1,676 coho salmon were harvested in the Seward Salmon Derby. These were sold by the sponsor to commercial processors. These fish were caught by sport permit holders using troll gear. This harvest is not included in the commercial harvest total catch.

[c] Hatchery sales for hatchery operating costs.

Table 2.–Total commercial salmon harvest by species from all gear types to Lower Cook Inlet, including cost recovery for all Cook Inlet Area hatcheries, 1985–2011.

Year	Gear	No. permits [a]	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
1985	Purse Seine	51	85	255,234	5,585	1,206,819	26,421
1985	Set Gillnet	34	924	23,163	3,908	22,898	4,217
1985	Hatchery[b]	0	0	0	306	0	0
	Total		1,009	278,397	9,799	1,229,717	30,638
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[b]	0	0	0	373	55	9,452
	Total		796	234,861	18,458	1,408,348	92,140
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[b]	0	0	0	1,488	0	3,111
	Total		1,179	248,857	14,483	201,431	162,495
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[b]	0	0	0	1,790	0	1,714
	Total		1,694	321,067	9,351	924,688	325,905
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[b]	0	0	78,731	4,231	0	1,779
	Total		1,893	242,002	14,887	1,296,926	13,084
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[b]	0	0	8,513	6,474	0	1,445
	Total		1,560	212,408	8,253	366,427	8,396
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[b]	0	0	3,604	6,394	0	2,569
	Total		1,418	305,379	18,473	726,489	26,769
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[b]	0	0	9,198	1,278	276,000	600
	Total		1,891	169,737	5,175	479,811	22,798
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[b]	0	1,319	37,620	8,631	409,431	12,170
	Total		3,487	248,307	13,429	866,722	16,537
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[b]	0	0	51,140	5,857	959,064	24,816
	Total		1,230	138,687	13,954	1,653,629	30,284
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[b]	0	1,385	63,404	1,180	1,213,322	31,632
	Total		3,688	290,047	14,611	2,848,429	47,266

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Year	Gear	No.permits	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
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[b]	0	1,042	76,272	854	423,306	6,628
	Total		2,222	485,236	10,525	455,665	10,366
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[b]	0	0	90,464	3,127	2,465,108	698
	Total		1,261	293,956	8,787	2,818,239	6,600
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[b]	0	0	81,889	9,910	787,538	106
	Total		1,071	285,270	13,292	1,451,446	4,743
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[b]	0	0	182,311	2,499	857,902	0
	Total		1,764	512,027	6,746	1,139,992	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[b]	0	0	94,666	5,370	1,043,705	0
	Total		1,187	250,302	6,497	1,386,892	72,983
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[b]	0	0	67,786	1,754	421,530	0
	Total		988	216,095	4,474	591,580	88,960
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[b]	0	0	85,830	2,352	1,041,529	0
	Total		1,553	290,926	6,247	2,061,919	43,222
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[b]	0	0	124,388	2,228	616,155	0
	Total		1,180	644,346	7,640	958,627	35,623
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[b]	0	0	29,943	1,224	2,459,189	0
	Total		1,658	130,663	8,035	2,517,901	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[b]	0	0	74,673	1,536	2,138,538	0
	Total		610	224,991	4,355	2,300,134	98,600
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[b]	0	0	77,590	600	246,781	0
	Total		630	217,687	29,045	1,465,700	71,829

-continued-

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Year	Gear	No. permits [a]	Chinook [a]	Sockeye [a]	Coho [a]	Pink [a]	Chum [a]
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[b]	0	0	57,305	0	112,801	0
	Total		467	364,745	3,443	275,563	1,703
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[b]	0	0	88,836	350	0	0
	Total		190	409,018	1,689	500,814	175,522
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[b]	0	0	174,980	0	0	0
	Total		84	278,971	977	987,587	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[b]	0	0	69,833	0	0	0
	Total		39	93,213	760	277,965	94,748
Previous 10-yr Average	Purse Seine	23	94	170,781	4,128	485,322	86,651
	Set Gillnet	20	646	31,169	1,534	4,805	2,435
	Hatchery[b]	0	0	85,116	1,004	703,652	0
	Total		740	287,066	6,667	1,193,779	89,086
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[b]	0	0	159,860	0	205	0
	Total		136	394,342	152	361,906	31,687

[a] Numbers of fish and numbers of permit holders delivering are from Statewide electronic fish ticket database. Alaska Department of Fish and Game, Division of Commercial Fisheries, 1974-present. (Accessed May 2012). [URL not publically available as some information is confidential.]. These numbers do not include homepacks, donated fish, or sport caught fish from the Seward salmon derby that were later sold.

[b] Numbers of hatchery cost recovery fish are from hatchery annual reports.

Table 3.–Mean price and estimated exvessel value of the total commercial salmon harvest by gear type, Lower Cook Inlet, 2011.

PURSE SEINE Species	Number [a]	Pounds [a]	Average Weight	Price [a]	Value
Chinook	36	336	9.33	$1.93	$648
Sockeye	211,700	952,268	4.50	$1.56	$1,485,538
Coho	49	301	6.14	$0.52	$157
Pink	359,058	1,031,873	2.87	$0.41	$423,068
Chum	29,741	200,832	6.75	$0.83	$166,691
	600,584	2,185,610			$2,076,101

SET GILLNET Species	Number [a]	Pounds [a]	Average Weight	Price [a]	Value
Chinook	100	1,917	19.17	$4.19	$8,032
Sockeye	22,782	140,192	6.15	$1.56	$218,700
Coho	103	618	6.00	$0.79	$488
Pink	2,643	8,686	3.29	$0.30	$2,606
Chum	1,946	13,074	6.72	$0.61	$7,975
	27,574	164,487			$237,801

HATCHERY SALES Species	Number [a]	Pounds [a]	Average Weight	Price [a]	Value
Chinook	0	0	0	$0.00	$0
Sockeye	158,272	897,900	5.67	$1.81	$1,625,199
Coho	0	0	0	$0.52	$0
Pink	205	1,218	5.94	$0.40	$487
Chum	0	0	0	$0.85	$0
	158,477	899,118			$1,625,686

TOTAL HARVEST Species	Number [a]	Pounds [a]	Average Weight	Price [a]	Value
Chinook	136	2,253	16.57	$3.85	8,680
Sockeye	392,754	1,990,360	5.07	$1.67	3,329,437
Coho	152	919	6.05	$0.70	645
Pink	361,906	1,041,777	2.88	$0.41	426,161
Chum	31,687	213,906	6.75	$0.82	174,666
	786,635	3,249,215			$3,939,588

Gear Type	Value of Catch	No. of Permits [a]	Average Earnings
Purse Seine	$2,076,101	23	$90,265
Set Gillnet	$237,801	21	$11,324
Subtotal- Value of CPF Catch	$2,313,902		
Hatchery	$1,625,686		
GRAND TOTAL	$3,939,588		

[a] Mean prices are based on weighted average prices from Statewide electronic fishticket database. Pounds and numbers of fish are based on fish ticket reporting.

Table 4.–Average price paid to permit holders for salmon, Lower Cook Inlet, 1985–2011.

	Chinook salmon			Sockeye salmon			Coho salmon			Pink salmon			Chum salmon		
Year	Seine	Set Gillnet	Sum	Seine	Set Gillnet	Sum	Seine	Set Gillnet	Sum	Seine	Set Gillnet	Sum	Seine	Set Gillnet	Sum
1985	$1.53	$1.41	$1.41	$1.26	$1.28	$1.27	$0.81	$0.80	$0.80	$0.22	$0.22	$0.22	$0.43	$0.43	$0.43
1986	$1.10	$1.25	$1.25	$1.64	$1.42	$1.51	$0.84	$0.60	$0.62	$0.15	$0.16	$0.15	$0.34	$0.41	$0.38
1987	NA	NA	$1.25	NA	$1.82	$1.82	NA	NA	$1.00	NA	NA	$0.42	NA	NA	$0.84
1988	NA	NA	$1.25	NA	NA	$2.35	NA	NA	$1.80	NA	NA	$0.70	NA	NA	$0.46
1989	NA	$1.70	$1.70	NA	$1.96	$1.96	NA	NA	$0.70	NA	$0.30	$0.30	NA	$0.58	$0.58
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
Prev. 10-yr avg	$0.58	$2.35	$2.25	$0.95	$1.28	$1.03	$0.45	$0.60	$0.53	$0.13	$0.12	$0.13	$0.35	$0.25	$0.35
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

Note: These prices are based on weighted average prices from Statewide electronic fishticket database and do not reflect postseason adjustments and bonuses. Caution should be used when estimating value from these prices.

Table 5.–Estimated exvessel value of total commercial salmon harvest by gear type with previous 10-yr average, Lower Cook Inlet, 2001–2011.

PURSE SEINE Species	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Previous 10-yr Average	2011
Chinook	1,016	89	475	628	889	344	305	228	34	15	402	648
Sockeye	377,602	466,961	1,337,270	334,326	488,641	605,442	1,080,994	1,924,898	347,202	58,349	702,168	1,485,538
Coho	1,751	1,763	4,009	17,659	1,842	96,927	5,112	2,183	41	4,131	13,542	157
Pink	44,107	218,142	55,511	10,360	43,183	473,506	57,072	408,666	665,639	328,849	230,503	423,068
Chum	290,297	51,172	33,533	336,883	183,716	180,231	443	784,343	314,421	619,305	279,434	166,691
	$714,773	$738,126	$1,430,797	$699,857	$718,271	$1,356,450	$1,143,925	$3,120,319	$1,327,338	$1,010,648	$1,226,050	$2,076,101
SET GILLNET Species												
Chinook	22,571	24,104	14,758	31,371	12,921	19,100	19,991	14,408	5,412	1,792	16,643	8,032
Sockeye	119,830	186,825	365,974	108,035	115,746	134,339	251,705	253,544	332,005	151,183	201,918	218,700
Coho	5,419	4,328	1,711	4,391	6,864	16,475	4,724	3,406	4,953	1,458	5,373	488
Pink	2,608	800	498	192	133	5,337	0	1,650	1,073	2,728	1,502	2,606
Chum	5,509	7,146	6,776	1,898	2,287	4,350	2,508	2,678	4,216	4,972	4,234	7,975
	$155,937	$223,201	$389,717	$145,888	$137,950	$179,600	$278,928	$275,685	$347,659	$162,132	$229,670	$237,801
HATCHERY SALES Species												
Chinook	0	0	0	0	0	0	0	0	0	0	0	0
Sockeye	171,744	214,605	363,443	111,890	288,482	387,055	217,319	488,215	1,081,128	433,857	375,774	1,625,199
Coho	76	409	308	0	0	0	0	0	0	0	79	0
Pink	115,758	178,544	80,721	427,334	582,829	95,149	42,187	0	0	0	152,252	487
Chum	0	0	0	0	0	0	0	0	0	0	0	0
	$287,579	$393,558	$444,473	$539,225	$871,312	$482,204	$259,506	$488,215	$1,081,128	$433,857	$528,105	$1,625,686
AVERAGE EARNINGS												
Purse Seine	$28,591	$29,525	$52,992	$29,161	$24,768	$56,519	$60,207	$124,813	$102,103	$72,189	$58,087	$90,265
Set Gillnet	$8,663	$9,300	$16,238	$7,678	$8,115	$8,164	$17,433	$15,316	$18,298	$7,721	$11,693	$11,324
NUMBER OF PERMITS FISHED												
Purse Seine	25	25	27	24	29	24	19	25	13	14	23	23
Set Gillnet	18	24	24	19	17	22	16	18	19	21	20	21

Table 6.–Preseason harvest or total run projections for the 2011 commercial common property salmon fishery by district and species, Lower Cook Inlet Area.

District/facility	Forecast type	Chinook	Sockeye[a]	Coho	Pink[b]	Chum
Southern District	comm. harvest	NA	40,000	NA	8,300	NA
Outer District	comm. harvest	NA	19,200	NA	491,300	NA
Eastern District	comm. harvest	NA	6,000	NA	0	NA
Kamishak Bay District	comm. harvest	NA	24,700	NA	449,700	NA
Total Wild Stock		0	89,900	0	949,300	NA
Tutka Lagoon Hatchery	total return	0	33,000	0	0	0
Port Graham Hatchery	total return	0	4,100	0	0	0
Kirschner Lake	total return	0	11,800	0	0	0
Leisure Lake	total return	0	5,000	0	0	0
Hazel Lake	total return	0	2,900	0	0	0
Bear Lake	total return	0	143,000	0	0	0
English Bay Lakes	total return	0	NA	0	0	0
Total Hatchery[c]			199,800	0	0	0
Total Hatchery and Wild		NA	289,700	NA	949,300	NA

[a] Numbers for natural sockeye salmon harvests are 1980–2010 average commercial catches.

[b] Numbers for pink salmon commercial harvests are projected total return minus anticipated escapement.

[c] Hatchery operators provide total return forecasts.

Table 7.–2011 escapements relative to escapement goals and methods used to monitor escapements for Chinook, chum, pink and sockeye salmon stocks in Cook Inlet, Alaska.

	2011	Goal	Escapement goal range			Monitoring Method				
Escapement		type	Lower	Mid	Upper	Aerial	Ground	Video	Weir	Sonar
Chinook Salmon										
Anchor River	3,547	SEG	≥ 5,000						X	X
Deep Creek	696	SEG	350	575	800	X				
Ninilchik River	668	SEG	550	925	1,300				X	
Chum Salmon										
Port Graham River	1,764	SEG	1,450	3,125	4,800		X			
Dogfish Lagoon	12,936	SEG	3,350	6,250	9,150		X			
Rocky River	4,480	SEG	1,200	3,300	5,400	X	X			
Port Dick Creek	7,087	SEG	1,900	3,175	4,450	X	X			
Island Creek	11,755	SEG	6,400	11,000	15,600	X	X			
Big Kamishak River	5,532	SEG	9,350	16,675	24,000	X				
Little Kamishak. River	19,310	SEG	6,550	15,175	23,800	X				
McNeil River	30,977	SEG	24,000	36,000	48,000	X				
Bruin River	3,486	SEG	6,000	8,125	10,250	X				
Ursus Cove	10,636	SEG	6,050	7,950	9,850	X				
Cottonwood Creek	4,730	SEG	5,750	8,875	12,000	X				
Iniskin Bay	16,522	SEG	7,850	10,775	13,700	X				
Pink Salmon										
Humpy Creek	1,670	SEG	21,650	53,600	85,550		X			
China Poot Creek	3,462	SEG	2,900	5,550	8,200		X			
Tutka Creek	21,974	SEG	6,500	11,750	17,000		X			
Barabara Creek	8,186	SEG	1,900	5,425	8,950		X			
Seldovia Creek	46,231	SEG	19,050	29,000	38,950		X			
Port Graham River	20,883	SEG	7,700	13,775	19,850		X			
Port Chatham	15,830	SEG	7,800	14,400	21,000		X			
Windy Creek Right	1,722	SEG	3,350	7,150	10,950		X			
Windy Creek Left	12,210	SEG	3,650	16,800	29,950		X			
Rocky River	22,706	SEG	9,350	31,800	54,250		X			
Port Dick Creek	16,868	SEG	18,550	38,425	58,300	X	X			
Island Creek	10,181	SEG	7,200	17,750	28,300	X	X			
S. Nuka Is. Creek	DNS	SEG	2,700	8,475	14,250	X	X			
Desire Lake	600	SEG	1,900	11,050	20,200	X				
Bruin River	4,534	SEG	18,650	87,200	155,750	X				
Sunday Creek	844	SEG	4,850	16,850	28,850	X				
Brown's Peak Creek	2,035	SEG	2,450	10,625	18,800	X				
Sockeye Salmon										
English Bay	9,920	SEG	6,000	9,750	13,500	X			X	
Delight Lake	20,190	SEG	7,500	12,575	17,650	X		X	X	
Desire Lake	9,630	SEG	8,800	12,000	15,200	X				
Bear Lake	8,620	SEG	700	4,500	8,300				X	
Aialik Lake	3,480	SEG	3,700	5,850	8,000	X				
Mikfik Lake	345	SEG	6,300	9,225	12,150	X		X		
Chenik Lake	10,330	SEG	3,500	8,750	14,000	X		X		
Amakdedori Creek	3,412	SEG	1,250	1,925	2,600	X				

Table 8.–Emergency orders issued for the commercial, personal use, and subsistence salmon fisheries in Lower Cook Inlet, 2011.

E.O. number/ Issue date	Description
2-F-H-01-11/ Thursday, May 19	**Bear Lake SHA.** Defines the waters of the Bear Lake Special Harvest Area and opens this area to contractors of Cook Inlet Aquaculture Association for the cost recovery harvest of returning hatchery produced sockeye salmon for weekly 6:00 AM Monday through 10:00 P.M. Friday fishing periods beginning on Monday, May 23.
2-F-H-02-11/ Thursday, May 26	**Subsistence harvest.** Restricts subsistence fishing in the Port Graham Subdistrict to one 48 hour period per week, (9:00 P.M. Friday to 9:00 P.M. Sunday) effective at 9:00 AM, Monday, May 30.
2-F-H-03-11/ Thursday, May 26	**Kamishak District, purse seine.** Establishes a seven days per week fishing schedule in waters of that district excluding the Chenik Subdistrict beginning Wednesday, June 1.
2-F-H-04-11/ Thursday, May 26	**Southern District, set gillnet.** Opens waters of the Southern District to commercial salmon harvest and establishes two weekly 48-hour set gillnet fishing periods in the Southern District excluding the Pt. Graham Subdistrict beginning at 6:00 AM on Mondays and Thursdays effective Thursday, June 2.
2-F-H-05-11/ Thursday, May 26	**Bear Lake SHA.** Extends cost recovery fishing through Sunday, May 29.
2-F-H-06-11/ Thursday, June 2	**Subsistence harvest.** Opens waters of the Pt. Graham Subdistrict to weekly fishing periods from 10:00 PM Thursday until 10:00 AM Wednesday effective Thursday, June 2.
2-F-H-07-11/ Thursday, June 2	**Bear Lake SHA.** Extends cost recovery fishing through Sunday, June 5.
2-F-H-08-11/ Wednesday, June 8	**Southern District, set gillnet.** Opens waters of the Pt. Graham Subdistrict to set gillnet harvest for a 12-hour period beginning at 6:00 AM, Monday, June 13.
2-F-H-09-11/ Friday, June 10	**Eastern District, purse seine.** Establishes daily 16-hour commercial common property fishing periods in the northern portion of Resurrection Bay from 6:00 AM Saturday June 11 through Wednesday, June 15.
2-F-H-10-11/ Wednesday, June 15	**Eastern District, purse seine.** Establishes daily 16-hour commercial common property fishing periods in the northern portion of Resurrection Bay from 6:00 AM Thursday, June 16 through Saturday, June 18.
2-F-H-11-11/ Friday, June 17	**Southern District, purse seine. E**stablishes two weekly 48-hour purse seine fishing periods in portions of the China Poot and Halibut Cove subdistricts beginning at 6:00 AM on Mondays and Thursdays effective Monday, June 20.
2-F-H-12-11/ Friday, June 17	**Eastern District, purse seine.** Establishes daily 16-hour commercial common property fishing periods in the northern portion of Resurrection Bay from 6:00 AM Sunday, June 19 through Wednesday, June 22.

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Table 8.–Page 2 of 4.

E.O. number/ Issue date	Description
2-F-H-13-11/ Wednesday, June 22	**Eastern District, purse seine.** Opens waters in the northern portion of Resurrection Bay to purse seine harvest for a 16-hour period beginning 6:00 AM Friday, June 24.
2-F-H-14-11/ Wednesday, June 22	**Southern District, set gillnet.** Opens waters of the Pt. Graham Subdistrict to set gillnet harvest for a 12-hour period beginning at 6:00 AM, Thursday, June 23.
2-F-H-15-11/ Friday, June 24	**Eastern District, purse seine.** Opens waters in the northern portion of Resurrection Bay to purse seine harvest for two 16-hour periods beginning 6:00 AM on Monday and Wednesday, June 27 and 29.
2-F-H-16-11/ Friday, June 24	**Kamishak District, purse seine.** Closes waters of McNeil and Paint River subdistricts effective 6:00 AM Saturday, June 26.
2-F-H-17-11/ Thursday, July 7	**Eastern District, purse seine.** Closes waters of Resurrection Bay to commercial salmon seining effective at 10:00 PM July 9.
2-F-H-18-11/ Friday, July 8	**Southern District, purse seine.** Opens waters of the south arm of China Poot Bay concurrent with ongoing periods in the China Poot Subdistrict to purse seine harvest effective Monday, July 4.
2-F-H-19-11/ Friday, July 8	**Eastern District, purse seine.** Rereleases the contents of 2-F-H-17-11 due to numbering error.
2-F-H-20-11/ Thursday, July 7.	**Kamishak District, purse seine.** Opens waters of the Chenik Subdistrict to commercial harvest seven days per week effective 10:00 AM Saturday, July 9.
2-F-H-21-11/ Friday, July 8	**Tutka Bay SHA.** Defines waters of the Tutka Bay Lagoon Special Harvest Area and opens this area to contractees of Cook Inlet Aquaculture Association for the cost recovery harvest of returning hatchery produced sockeye salmon seven days per week fishing periods beginning on Monday, July 11.
2-F-H-22-11/ Thursday, July 14	**Kamishak District, purse seine.** Opens waters of Chenik Lagoon to commercial harvest effective Thursday, July 14.
2-F-H-23-11/ Wednesday, July 20	**Southern District, set gillnet.** Opens waters of the Pt. Graham Subdistrict to set gillnet harvest for a 12-hour period beginning at 6:00 AM, Thursday, July 21.
2-F-H-24-11/ Friday, July 22	**Southern District, set gillnet.** Opens waters of the Pt. Graham Subdistrict regular 12-hour set gillnet fishing periods beginning at 6:00 AM on Mondays and Thursdays effective Monday, July 25.

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Table 8.–Page 3 of 4.

E.O. number/ Issue date	Description
2-F-H-25-11/ Friday, July 22	**Outer District, purse seine.** Opens waters of the Outer District to commercial salmon harvest and establishes two weekly 40-hour fishing periods on Monday and Thursday beginning at 6:00 AM in the Port Dick area effective Monday, July 25.
2-F-H-26-11/ Sunday, July 24	**Outer District, purse seine.** Opened portions of the East Nuka Subdistrict to daily 14-hour fishing periods beginning at 8:00 AM from Tuesday, July 26 through Saturday, July 30.
2-F-H-27-11/ Monday, July 25	**Outer District, purse seine.** Supersedes previous emergency order and opens portions of the East Nuka Subdistrict continuously from 8:00 AM Tuesday, July 26 until 10:00 PM, Thursday, July 28.
2-F-H-28-11/ Wednesday, July 27	**Outer District, purse seine.** Extends the ongoing fishing period in portions of the East Nuka Subdistrict until 10:00 PM Friday, July 29, and opens the Rocky Bay Subdistrict to commercial harvest from 6:00 AM Thursday, July 28 until 10:00 PM Friday, July 29.
2-F-H-29-11/ Friday, July 29	**Outer District, purse seine.** Opens portions of Windy Bay, Dogfish Bay and East Nuka subdistricts to commercial harvest on a schedule of regular 40 hour periods beginning at 6:00 AM on Mondays and Thursdays effective Monday, August 1.
2-F-H-30-11/ Friday, July 29	**Port Graham Hatchery SHA.** Defines waters of the Port Graham Special Harvest Area and opens this area to contractees of Cook Inlet Aquaculture Association for the cost recovery harvest of returning hatchery produced sockeye salmon seven days per week fishing periods beginning on Monday, August 1.
2-F-H-31-11/ Friday, August 5	**Outer District, purse seine.** Closes waters of Port Dick area to commercial harvest effective 10:00 PM August 5.
2-F-H-32-11/ Wednesday, August 10	**Southern District, purse seine.** Opens waters of Seldovia Subdistrict to commercial purse seine harvest for a 16-hour period beginning 6:00 AM Thursday, August 11.
2-F-H-33-11/ Friday, August 12	**Southern District, purse seine.** Opens waters of the Seldovia Subdistrict to commercial harvest on a schedule of regular 40-hour periods beginning at 6:00 AM on Mondays and Thursdays effective Monday, August 15.
2-F-H-34-11/ Friday, August 12	**Outer District, purse seine.** Opens waters of Dogfish Bay lagoon to commercial purse seine harvest for a 40-hour period beginning 6:00 AM, Monday, August 15.
2-F-H-35-11/ Friday, August 12	**Southern District, set gillnet.** Opens waters of the Pt. Graham Subdistrict to commercial harvest on a schedule of regular 48-hour periods beginning at 6:00 AM on Mondays and Thursdays effective Monday, August 15.

-continued-

Table 8.–Page 4 of 4.

E.O. number/ Issue date	Description
2-F-H-36-11/ Friday, August 12	**LCI closed waters.** Assigned latitude and longitude coordinates to closed waters areas as defined by physical markers and department generated maps and are NOT identified in regulation. In addition, there are additional areas referenced that either lack GPS coordinates, have incorrect coordinates printed in the regulation book, or have misspelled locations. These are corrected in this emergency order that was made effective August 15.
2-F-H-37-11/ Friday, August 12	**Personal Use fishery, Southern District.** Postpones opening of the Southern District personal use set gillnet fishery from 12:01 AM to 6:00 A.M on Tuesday, August 16.
2-F-H-38-11/ Tuesday, August 23	**Outer District, purse seine.** Opens waters of Dogfish Bay and Port Chatham subdistricts to commercial purse seine harvest for a 40-hour period beginning 6:00 AM, Thursday, August 25.
2-F-H-39-11/ Friday, August 26	**Outer District, purse seine.** Opens waters of Dogfish Bay and Port Chatham subdistricts to commercial harvest on a schedule of regular 40-hour periods beginning at 6:00 AM on Mondays and Thursdays effective Monday, August 29.
2-F-H-40-11/ Wednesday, September 14	**Personal Use fishery, Southern District.** Closes the Southern District personal use set gillnet fishery for the 2011 season effective 8:00 PM Thursday, September 15.

APPENDIX A: SOUTHERN DISTRICT

Appendix A1.–Southern District commercial set gillnet salmon harvest by period, 2011.

Period [a]	Date	Hours	Permits Fished	Permits Landings	Chinook Number	Chinook Pounds	Sockeye Number	Sockeye Pounds	Coho Number	Coho Pounds	Pink Number	Pink Pounds	Chum Number	Chum Pounds
1 [a]	06/02-06/04	48	6	9	15	261	1,214	7,397	0	0	0	0	20	143
2 [a]	06/06-06/08	48	6	7	9	132	700	4,205	0	0	0	0	16	111
3 [a]	06/09-06/11	48	5	8	11	208	287	1,769	0	0	0	0	24	168
4 [a,b]	06/13-06/15	48	7	9	16	330	707	4,369	0	0	0	0	27	187
5 [a]	06/16-06/18	48	5	8	9	164	292	1,828	0	0	0	0	7	51
6 [a]	06/20-06/22	48	6	7	6	98	382	2,356	0	0	0	0	16	109
7 [a,b]	06/23-06/25	48	6	10	5	54	1,269	7,863	0	0	0	0	90	611
8 [a]	06/27-06/29	48	7	8	4	66	998	5,987	0	0	171	502	83	549
9 [a]	06/30-07/02	48	6	7	3	41	967	5,814	0	0	48	191	120	826
10 [a]	07/04-07/06	48	7	8	9	151	1,470	9,176	2	15	70	240	26	179
11 [a]	07/07-07/09	48	5	9	5	127	2,302	14,390	2	11	62	247	110	778
12 [a]	07/11-07/13	48	7	14	3	137	5,352	34,269	0	0	270	815	285	1,943
13 [a]	07/14-07/16	48	6	11	2	60	2,131	13,469	49	301	496	1,491	183	1,259
14 [a]	07/18-07/20	48	6	11	3	88	2,405	14,481	16	96	264	922	281	1,896
15 [a,b]	07/21-07/23	48	3	7	0	0	701	4,163	7	51	87	348	171	1,130
16 [a,b]	07/25-07/27	48	6	10	0	0	906	5,147	17	95	166	578	186	1,301
17 [a,b]	07/28-07/30	48	3	6	0	0	303	1,699	6	25	306	978	207	1,236
18 [a,b]	08/01-08/03	48	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
19 [a,b]	08/04-08/06	48	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
20 [a,b]	08/08-08/10	48	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
21 [a,b]	08/11-08/13	48	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
22 [a,b]	08/15-08/17	48	0	0	0	0	0	0	0	0	0	0	0	0
[c]														
35 [a,b,c]	09/29-10/01	48	0	0	0	0	0	0	0	0	0	0	0	0
Total			21	158	100	1,917	22,782	140,192	103	618	2,643	8,686	1,946	13,074
Average weight						19.17		6.15		6.00		3.29		6.72

[a] Set gillnet sections located in Halibut Cove, Tutka Bay, Barabara Creek and Seldovia Bay Subdistricts open to commercial harvest in 48 hour periods.

[b] Set gillnet section in Port Graham Subdistrict open to commercial harvest for one 12 hour period.

[c] No deliveries during 48-hour periods 22-35 that occurred from August 18 through October 1.

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

Appendix A2.–Southern District commercial purse seine salmon harvest by period, 2011.

		Permits			Chinook		Sockeye		Coho		Pink		Chum	
Period [a]	Date	Hours	Fished	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a,b]	06/20-06/22	64	0	0	0	0	0	0	0	0	0	0	0	0
2 [a,b]	06/23-06/25	64	0	0	0	0	0	0	0	0	0	0	0	0
3 [a,b]	06/27-06/29	64	0	0	0	0	0	0	0	0	0	0	0	0
4 [a,b]	06/30-07/02	64	0	0	0	0	0	0	0	0	0	0	0	0
5 [a,b,c]	07/04-07/06	64	0	0	0	0	0	0	0	0	0	0	0	0
6 [a,b,c]	07/07-07/09	64	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]
7 [a,b,c]	07/11-07/13	64	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]
8 [a,b,c]	07/14-07/16	64	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]
9 [a,b,c]	07/18-07/20	64	3	9	15	70	975	5,226	3	13	156	512	1	5
10 [a,b,c]	07/21-07/23	64	3	4	5	84	3,109	14,188	1	4	69	228	1	6
11 [a,b,c]	07/25-07/27	64	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]
12 [a,b,c]	07/28-07/30	64	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]	[g]
13 [a,b,c]	08/01-08/03	64	0	0	0	0	0	0	0	0	0	0	0	0
14 [a,b,c]	08/04-08/06	64	0	0	0	0	0	0	0	0	0	0	0	0
15 [a,b,c]	08/08-08/10	64	0	0	0	0	0	0	0	0	0	0	0	0
16 [a,b,c,d]	08/11-08/13	64	0	0	0	0	0	0	0	0	0	0	0	0
17 [a,b,c,e]	08/15-08/17	64	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24 [a,b,c,e,f]	09/08-09/10	64	0	0	0	0	0	0	0	0	0	0	0	0
Total			5	32	26	198	9,945	53,840	24	86	512	1,552	16	82
Average weight						7.61		5.41		3.58		3.03		5.13

Note: Unless otherwise noted, regular closed waters were in effect.

[a] Waters of Halibut Cove Subdistrict, excluding waters of Halibut Cove Lagoon, open to commercial salmon seine harvest for regular 64 hour periods.

[b] Waters of China Poot Subdistrict open to commercial salmon seine harvest for regular 64 hour periods.

[c] Waters of the south arm of China Poot Bay southeast of the HEA power lines open to commercial salmon seine harvest for regular 64 hour periods.

[d] Waters of Seldovia Bay Subdistrict open to commercial salmon seine harvest for one 16 hour period.

[e] Waters of Seldovia Bay Subdistrict open to commercial salmon seine harvest for regular 64 hour periods.

[f] No deliveries during 64-hour periods 18–23 that occurred from August 18 through September 10.

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

Appendix A3.–Total commercial common property salmon harvest in the Southern District, 1959–2011.

Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Set gillnet			
1959	---	49	6,148	377	4,342	361
1960	---	6	7,007	398	3,894	347
1961	---	15	8,631	216	8,201	425
1962	---	13	11,793	1,281	12,207	1,558
1963	---	9	8,305	314	1,490	812
1964	---	5	16,632	1,576	25,935	1,972
1965	---	9	10,998	314	7,267	679
1966	---	31	10,317	505	24,981	1,790
1967	---	112	22,097	504	13,962	1,929
1968	---	31	15,741	1,431	12,614	1,289
1969	---	33	11,570	246	10,717	1,298
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
Prev 10-yr avg.	20	646	31,169	1,534	4,805	2,435
2011	21	100	22,782	103	2,643	1,946

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Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Purse seine			
1959	---	22	1,572	332	45,902	13,606
1960	---	6	5,232	839	206,095	3,753
1961	---	24	1,473	933	183,666	2,491
1962	---	45	4,776	814	551,843	7,520
1963	---	79	4,837	3,706	98,330	6,711
1964	---	79	651	7,329	240,477	9,557
1965	---	1	187	419	82,993	1,779
1966	---	29	1,875	4,302	152,563	26,964
1967	---	61	4,252	1,875	78,831	21,487
1968	---	30	2,975	3,240	141,419	3,114
1969	---	26	1,008	239	60,036	1,302
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
Prev 10-yr avg.	21	92	87,553	951	21,448	206
2011	5	26	9,945	24	512	16

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Year	Permits	Chinook	Sockeye	Coho	Pink	Chum
			Purse seine and set gillnet combined			
1959	---	71	7,720	709	50,244	13,967
1960	---	12	12,239	1,237	209,989	4,100
1961	---	39	10,104	1,149	191,867	2,916
1962	---	58	16,569	2,095	564,050	9,078
1963	---	88	13,142	4,020	99,820	7,523
1964	---	84	17,283	8,905	266,412	11,529
1965	---	10	11,185	733	90,260	2,458
1966	---	60	12,192	4,807	177,544	28,754
1967	---	173	26,349	2,379	92,793	23,416
1968	---	61	18,716	4,671	154,033	4,403
1969	---	59	12,578	485	70,753	2,600
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
Prev 10-yr avg.	---	738	118,722	2,486	26,253	2,642
2011	---	126	32,727	127	3,155	1,962

Source: Statewide electronic fish ticket database. Alaska Department of Fish and Game, Division of Commercial Fisheries, 1974-present. (Accessed May 2012). [URL not publically available as some information is confidential.]

[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 through the English Bay weir, 2011.

	Actual		Apportioned SEG plus CIAA brood goal				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
01 Jun	8	8	7	14	12	25	Weir fish tight.
02 Jun	0	8	13	27	22	47	
03 Jun	1	9	14	41	25	72	
04 Jun	621	630	17	58	29	102	
05 Jun	58	688	47	106	83	185	
06 Jun	57	745	108	213	188	373	
07 Jun	571	1,316	38	251	66	439	
08 Jun	274	1,590	68	320	120	559	
09 Jun	45	1,635	71	390	124	683	
10 Jun	276	1,911	107	497	186	869	
11 Jun	335	2,246	142	639	249	1,118	
12 Jun	77	2,323	180	820	316	1,434	
13 Jun	131	2,454	137	956	239	1,673	
14 Jun	41	2,495	145	1,102	254	1,927	
15 Jun	27	2,522	166	1,268	290	2,217	
16 Jun	30	2,552	137	1,405	240	2,457	
17 Jun	4	2,556	176	1,581	307	2,765	
18 Jun	1	2,557	201	1,781	351	3,116	
19 Jun	527	3,084	192	1,973	335	3,451	
20 Jun	1,340	4,424	328	2,301	573	4,024	
21 Jun	597	5,021	228	2,529	399	4,424	
22 Jun	342	5,363	384	2,913	672	5,096	
23 Jun	287	5,650	727	3,640	1,271	6,367	
24 Jun	676	6,326	450	4,090	787	7,154	
25 Jun	236	6,562	517	4,607	904	8,058	
26 Jun	91	6,653	423	5,030	739	8,797	
27 Jun	115	6,768	510	5,540	892	9,689	
28 Jun	422	7,190	625	6,164	1,093	10,782	
29 Jun	356	7,546	548	6,712	959	11,740	
30 Jun	265	7,811	448	7,160	783	12,524	
01 Jul	240	8,051	467	7,627	816	13,340	
02 Jul	450	8,501	487	8,114	851	14,191	
03 Jul	12	8,513	358	8,471	625	14,817	
04 Jul	31	8,544	277	8,749	485	15,302	
05 Jul	194	8,738	321	9,070	562	15,863	
06 Jul	181	8,919	301	9,371	527	16,390	
07 Jul	1,034	9,953	279	9,650	489	16,879	
08 Jul	373	10,326	244	9,894	427	17,306	
09 Jul	94	10,420	252	10,147	441	17,747	
10 Jul	262	10,682	137	10,284	240	17,987	
11 Jul	0	10,682	232	10,516	405	18,393	
12 Jul	135	10,817	250	10,766	437	18,830	
13 Jul	114	10,931	128	10,894	224	19,054	
14 Jul	161	11,092	143	11,037	250	19,304	
15 Jul	216	11,308	65	11,102	114	19,418	
16 Jul	42	11,350	162	11,265	284	19,702	

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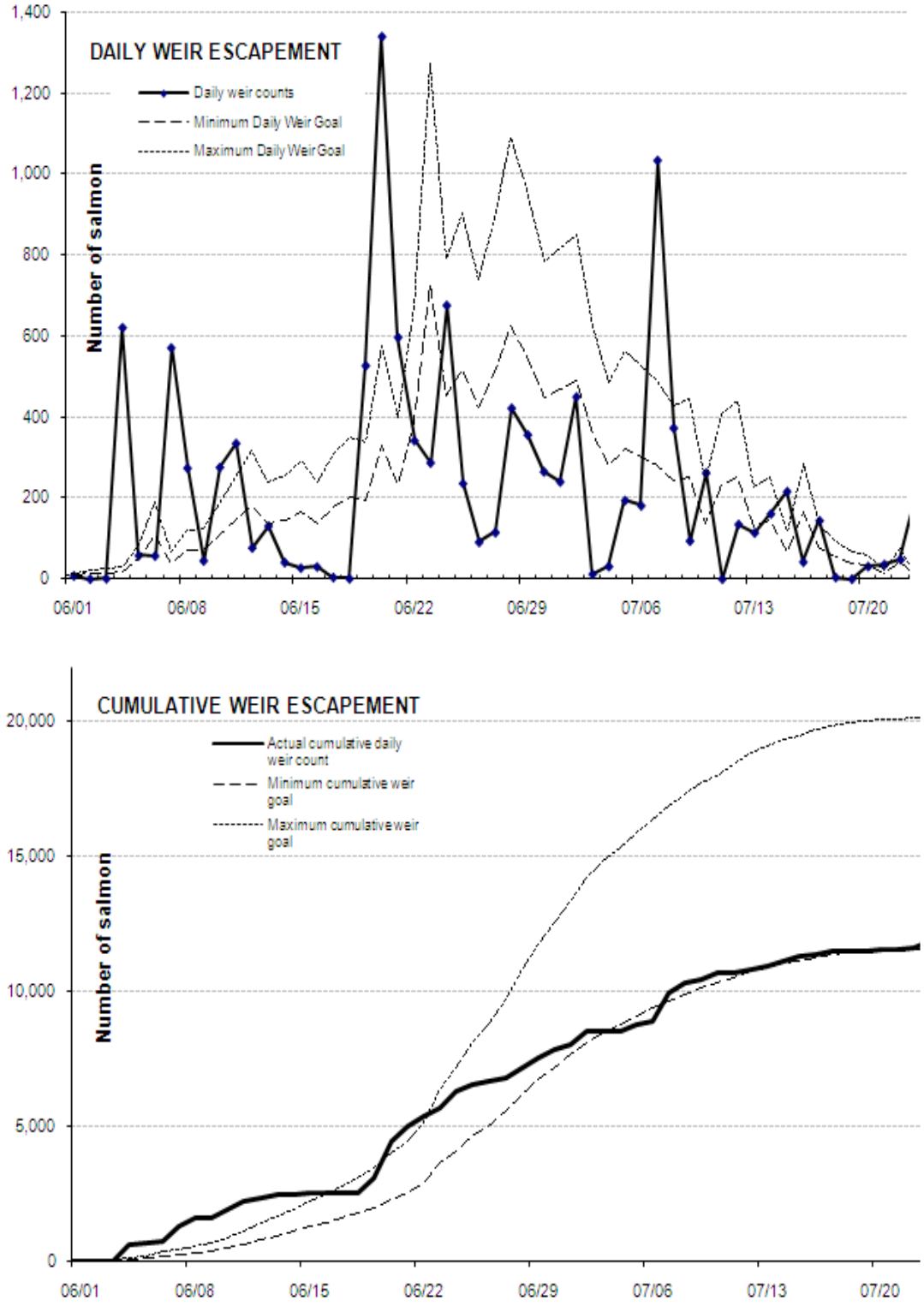
	Actual		Apportioned SEG plus CIAA brood goal				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
17 Jul	144	11,494	75	11,340	131	19,833	
18 Jul	4	11,498	53	11,392	92	19,926	
19 Jul	0	11,498	38	11,430	66	19,992	
20 Jul	31	11,529	33	11,463	59	20,050	
21 Jul	36	11,565	12	11,475	21	20,071	
22 Jul	48	11,613	42	11,517	73	20,144	
23 Jul	219	11,832	6	11,523	10	20,154	
24 Jul	175	12,007	17	11,540	29	20,183	
25 Jul	29	12,036	2	11,541	3	20,186	Last report from weir crew.

Note: English Bay River SEG range is 6,000–13,500, Trail Lakes Hatchery and Nanwalek enhancement project egg take goals combined total 5,532–6,670 for an inriver goal range of 11,532–20,170 sockeye salmon. Anticipated escapement derived using historical run timing.



Appendix A5.–Minimum and maximum anticipated cumulative and daily escapement versus actual escapement through the English Bay weir, 2011.

Appendix A6.–Sockeye salmon escapement past the English Bay weir, 1994–2011.

Year	Sustainable Escapement Goal	Total weir passage	Broodstock harvested	Spawning escapement
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
Prev. 10-yr average		14,675	860	14,331
2011	6,000-13,500	12,036	2,116	9,920

Appendix A7.–Pink and chum salmon escapements as measured by ground survey using Area Under the Curve estimation in the Southern District, 2011.

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_b)	Accum. fish days	Escape. Index[b]	Accum. Escape. Index[c]	Accum. Percent Escapement	Carcass Count	Live plus Carcass
Barabara	pink	t_{start}	8/15												
Creek		1	9/2	8/15	18	5,717	0	5,717	50,024	50,024	2,859	2,859	50%	2,469	8,186
China Poot	pink	t_{start}	8/6												
Creek		1	8/24	8/6	18	3,450	0	3,450	30,188	30,188	1,725	1,725	50%	12	3,462
Humpy	pink	t_{start}	7/15												
Creek		1	7/15	7/15	0	0	0	0	0	0	0	0	0%	0	0
		2	7/25	7/15	10	316	0	316	1,580	1,580	90	90	5%	0	316
		3	8/11	7/25	17	661	316	977	8,305	9,885	475	565	34%	2	663
		4	8/24	8/11	13	986	661	1,647	10,706	20,590	612	1,177	70%	1	987
		t_{end}	9/10		18				8,628	29,218	493	1,670	100%		
Humpy	chum	t_{start}	6/27												
Creek		1	7/15	6/27	18	1,115	0	1,115	9,756	9,756	558	558	27%	0	1,115
		2	7/25	7/15	10	1,246	1,115	2,361	11,805	21,561	675	1,232	59%	0	1,246
		3	8/11	7/25	17	303	1,246	1,549	13,167	34,728	752	1,984	95%	4	307
		4	8/24	8/11	13	1	303	304	1,976	36,704	113	2,097	100%	0	1
		t_{end}	9/10		18				9	36,713	1	2,098	100%		
Port Graham	pink	t_{start}	7/14												
River		1	7/14	7/14	0	0	0	0	0	0	0	0	0%	0	0
		2	7/26	7/14	12	1,134	0	1,134	6,804	6,804	389	389	2%	0	1,134
		3	8/15	7/26	20	12,568	1,134	13,702	137,020	143,824	7,830	8,219	39%	58	12,626
		4	8/29	8/15	14	8,486	12,568	21,054	147,378	291,202	8,422	16,640	80%	1,605	10,091
		t_{end}	9/15		18				74,253	365,455	4,243	20,883	100%		
Port Graham	chum	t_{start}	6/26												
River		1	7/14	6/26	18	731	0	731	6,396	6,396	366	366	21%	0	731
		2	7/26	7/14	12	1,120	731	1,851	11,106	17,502	635	1,000	57%	43	1,163
		3	8/15	7/26	20	127	1,120	1,247	12,470	29,972	713	1,713	97%	599	726
		4	8/29	8/15	14	1	127	128	896	30,868	51	1,764	100%	30	31
		t_{end}	9/15		18				9	30,877	1	1,764	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_b)	Accum. fish days	Escape. Index[b]	Accum. Escape. Index[c]	Accum. Percent Escapement	Carcass Count	Live plus Carcass
Seldovia	pink	t_{start}	7/2												
River		1	7/20	7/2	18	281	0	281	2,459	2,459	141	141	0%	0	281
		2	7/27	7/20	7	3,994	281	4,275	14,963	17,421	855	996	2%	1	3,995
		3	8/9	7/27	13	29,960	3,994	33,954	220,701	238,122	12,611	13,607	29%	198	30,158
		4	8/25	8/9	16	19,776	29,960	49,736	397,888	636,010	22,736	36,343	79%	7,290	27,066
		t_{end}	9/11		18				173,040	809,050	9,888	46,231	100%		
Seldovia	chum	t_{start}	7/2												
River		1	7/20	7/2	18	2,231	0	2,231	19,521	19,521	1,116	1,116	39%	11	2,242
		2	7/27	7/20	7	1,418	2,231	3,649	12,772	32,293	730	1,845	64%	249	1,667
		3	8/9	7/27	13	595	1,418	2,013	13,085	45,377	748	2,593	90%	800	1,395
		4	8/25	8/9	16	2	595	597	4,776	50,153	273	2,866	100%	64	66
		t_{end}	9/11		18				18	50,171	1	2,867	100%		
Tutka	pink	t_{start}	6/24												
Creek		1	7/12	6/24	18	135	0	135	1,181	1,181	68	68	0%	0	135
		2	7/18	7/12	6	220	135	355	1,065	2,246	61	128	1%	0	220
		3	7/28	7/18	10	1,619	220	1,839	9,195	11,441	525	654	3%	1	1,620
		4	8/3	7/28	6	6,109	1,619	7,728	23,184	34,625	1,325	1,979	9%	9	6,118
		5	8/10	8/3	7	7,435	6,109	13,544	47,404	82,029	2,709	4,687	21%	147	7,582
		6	8/17	8/10	7	7,295	7,435	14,730	51,555	133,584	2,946	7,633	35%	1,023	8,318
		7	8/23	8/17	6	7,424	7,295	14,719	44,157	177,741	2,523	10,157	46%	2,766	10,190
		8	8/30	8/23	7	12,146	7,424	19,570	68,495	246,236	3,914	14,071	64%	3,340	15,486
		9	9/12	8/30	13	3,892	12,146	16,038	104,247	350,483	5,957	20,028	91%	3,733	7,625
		t_{end}	9/29		18				34,055	384,538	1,946	21,974	100%		

Source: Bue et al. 1998.

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

[b] Escapement index = A_b / 17.5 day streamlife estimate.

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

Appendix A8.–Unexpanded escapement indices and harvests by subdistricts in the Southern District, Lower Cook Inlet, 2011.

Location	Harvest[a]				Escapement index[b]				Combined harvest and escapement index counts			
	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum
North Shore Subdistrict (241-13)	63	670	56	4	---	---	---	---	63	670	56	4
Humpy Creek Subdistrict (241-14)	75	103	49	1	---	---	1,670	2,098	75	103	1,719	2,099
Halibut Cove Subdistrict (241-15)	4,961	22	140	7	---	---	---	---	4,961	22	140	7
China Poot Bay Subdistrict (241-09)	2,715	7	247	12	---	---	1,725	---	2,715	7	1,972	12
Neptune Bay Subdistrict (241-10)	3,838	0	159	0	---	---	---	---	3,838	0	159	0
Tutka Bay Subdistrict (241-16)	20,053	123	15,304	885	---	---	21,974	---	20,053	123	37,278	885
Barabara Creek Subdistrict (241-18)	3,496	0	0	212	---	---	2,859	---	3,496	0	2,859	212
Seldovia Bay Subdistrict (241-17)	5,829	11	10	598	---	---	46,231	2,867	5,829	11	46,241	3,465
Port Graham Subdistrict (241-20/-30)	8,883	1,505	3,333	761	9,920[c]	---	20,883	1,764	18,803	1,505	24,216	2,525
Total	49,913	2,441	19,298	2,480	9,920	---	95,342	6,729	59,833	2,441	114,640	9,209

[a] Harvests include all commercial, subsistence, personal use and hatchery harvests.

[b] Unexpanded aerial or ground survey index count.

[c] Escapement from weir count minus broodstock harvest.

Appendix A9.–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, 1970–2011.

	Pink salmon							Chum salmon
	Humpy Creek	China Poot Creek	Tutka Lagoon Creek	Barabara Creek	Seldovia River	Port Graham River	Total pink salmon	Port Graham River
1970	55.2	1.5	6.5	0.4	23.0	16.6	103.2	0.9
1971	45.0	2.1	16.7	4.0	31.1	13.2	112.1	1.0
1972	13.8	1.0	1.5	0.6	5.8	2.4	25.1	1.5
1973	36.9	6.0	6.5	---	14.5	7.0	70.9	2.0
1974	17.4	5.2	2.6	0.2	13.7	2.8	41.9	0.5
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
Prev. 10-yr average	55.0	5.4	25.4	9.2	46.3	30.9	172.3	2.4
2011	1.7	3.5	22.0	8.2	46.2	20.9	102.4	1.8

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 by period, 2011.

			Permits		Chinook		Sockeye		Coho		Pink		Chum	
Period	Date	Hours	Fished	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1 [a,b]	07/25-07/27	40	11	27	3	21	32,136	166,939	6	47	15,817	47,696	3,536	25,453
2 [a,b,c]	07/28-07/30	40	7	14	2	46	2,906	16,737	10	87	26,380	80,656	8,692	58,059
3 [a,b,c,d,e]	08/01-08/03	40	6	13	5	71	10,338	58,611	1	13	16,709	52,291	1,830	14,167
4 [a,b,c,d,e]	08/04-08/06	40	6	13	0	0	162	892	4	39	41,966	127,227	1,388	10,042
5 [b,c,d,e]	08/08-08/10	40	4	15	0	0	0	0	0	0	96,851	244,947	309	1,872
6 [b,c,d,e]	08/11-08/13	40	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]
7 [b,c,d,e,g]	08/15-08/17	40	4	11	0	0	1	6	1	3	49,318	144,684	8,625	52,976
8 [b,c,d,e]	08/18-08/20	40	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]	[j]
9 [b,c,d,e]	08/22-08/24	40	0	0	0	0	0	0	0	0	0	0	0	0
10 [b,c,d,e,f,h,i]	08/25-08/27	40	4	7	0	0	0	0	0	0	77,520	225,657	1,323	7,343
11 [b,c,d,e,f]	08/29-08/31	40	0	0	0	0	0	0	0	0	0	0	0	0
12 [b,c,d,e,f]	09/01-09/03	40	0	0	0	0	0	0	0	0	0	0	0	0
13 [b,c,d,e,f]	09/05-09/07	40	0	0	0	0	0	0	0	0	0	0	0	0
14 [b,c,d,e,f]	09/08-09/10	40	0	0	0	0	0	0	0	0	0	0	0	0
Total			13	106	10	138	46,356	247,575	25	215	357,472	1,027,065	25,763	170,270
Average weight						13.80		5.34		8.60		2.87		6.61

Note: Unless otherwise noted, regular closed waters were in effect.

[a] Waters of South, Outer and Taylor Bay sections of Port Dick Subdistrict open to commercial harvest.

[b] Select Waters of East Nuka Subdistrict open to commercial harvest.

[c] Waters of Rocky Bay Subdistrict open to commercial harvest.

[d] Waters of Koyuktolik (Dogfish) Bay Subdistrict open to commercial harvest.

[e] Waters of Windy Bay Subdistrict open to commercial harvest.

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

[g] Select waters of Dogfish Lagoon in Koyuktolik (Dogfish) Bay Subdistrict open to commercial harvest.

[h] Waters of Dogfish Lagoon in Koyuktolik (Dogfish) Bay Subdistrict open to commercial harvest with anadromous stream markers removed.

[i] Waters of Port Chatham Subdistrict open to commercial harvest with anadromous stream markers removed.

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

Appendix B2.–Total commercial common property salmon harvest by species in Outer District 1959–2011.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum
1959	---	---	3	8,049	109	69,054	59,996
1960	---	---	4	11,614	574	381,375	67,187
1961	---	---	2	12,671	456	105,491	40,212
1962	---	---	2	8,697	1,893	1,684,023	126,767
1963	---	---	6	1,974	369	21,471	117,095
1964	---	---	2	1,370	431	767,473	269,514
1965	---	---	0	2,009	7	21,886	22,443
1966	---	---	1	3,120	357	398,751	87,620
1967	---	---	2	2,165	70	262,258	37,533
1968	---	---	1	1,550	106	191,691	20,398
1969	---	---	0	92	11	51,533	5,400
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
Previous 10-yr avg.	9		1	10,657	138	391,537	21,613
2011	13	106	10	46,356	25	357,472	25,763

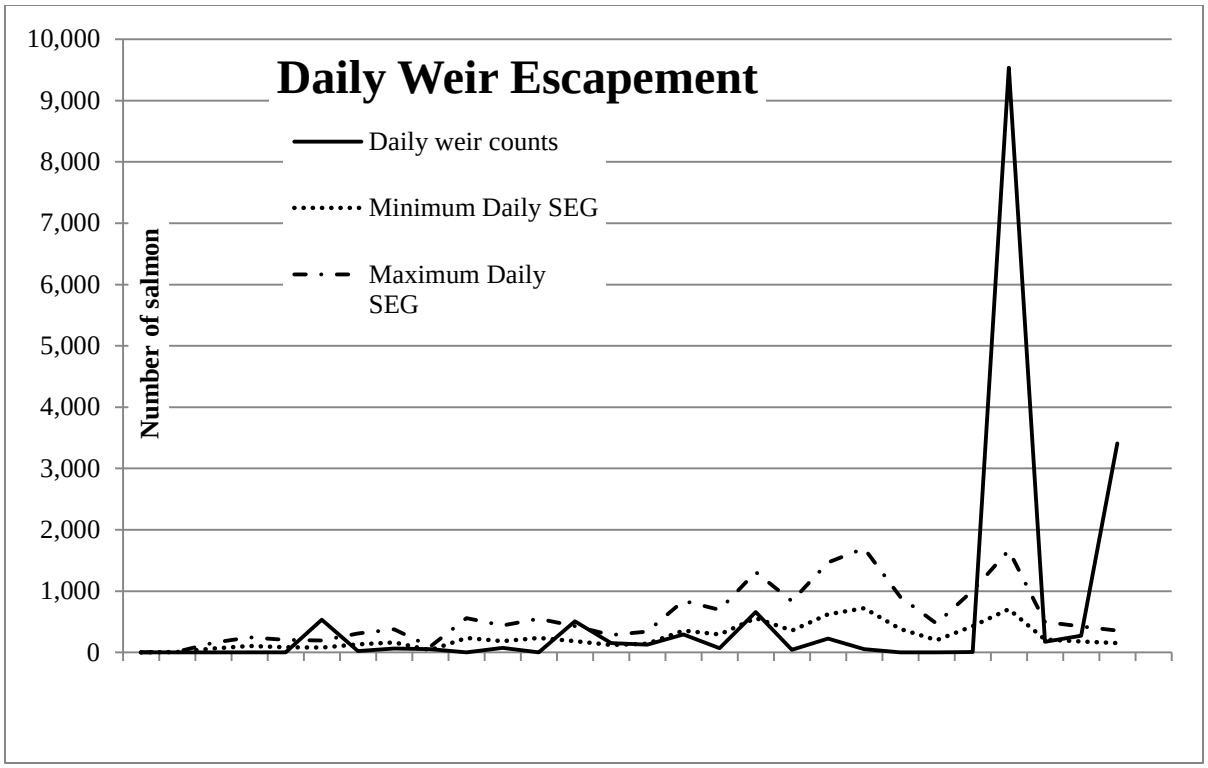
Source: Statewide electronic fish ticket database. Alaska Department of Fish and Game, Division of Commercial Fisheries, 1974-present. (Accessed May 2012). [URL not publically available as some information is confidential.]

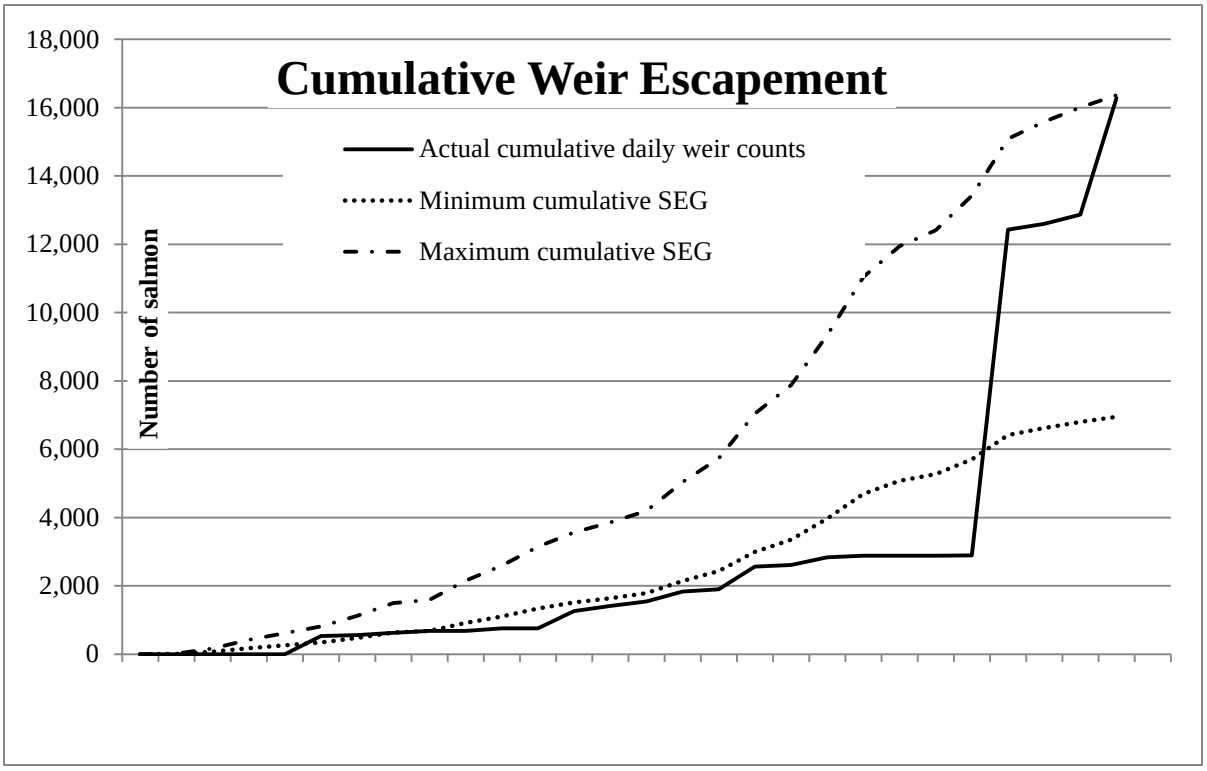
Appendix B3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the Delight Lake weir, 2011.

	Actual passage		Apportioned SEG (7,500 -17,650)				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
01 Jul	0	0	0	0	1	1	Weir fish tight at 22:40
02 Jul	0	0	4	5	10	11	
03 Jul	0	0	67	71	157	168	
04 Jul	0	0	104	176	246	414	
05 Jul	0	0	86	262	203	616	
06 Jul	535	535 [a]	82	344	192	809	
07 Jul	23	558	133	476	312	1,121	
08 Jul	65	623	161	637	379	1,500	
09 Jul	54	677	40	677	93	1,593	
10 Jul	0	677	237	914	559	2,151	
11 Jul	77	754	186	1,100	437	2,589	
12 Jul	0	754	235	1,335	552	3,141	
13 Jul	507	1,261	182	1,517	428	3,569	
14 Jul	151	1,412	120	1,637	283	3,853	
15 Jul	126	1,538	144	1,781	339	4,192	
16 Jul	296	1,834	357	2,139	841	5,034	
17 Jul	69	1,903	295	2,434	694	5,728	
18 Jul	659	2,562	558	2,992	1,313	7,041	
19 Jul	44	2,606	355	3,347	835	7,876	
20 Jul	225	2,831	623	3,970	1,466	9,342	
21 Jul	54	2,885	721	4,690	1,696	11,038	
22 Jul	0	2,885	385	5,075	905	11,943	
23 Jul	0	2,885	200	5,275	471	12,414	
24 Jul	5	2,890	429	5,704	1,010	13,424	
25 Jul	9,536	12,426	708	6,412	1,666	15,089	
26 Jul	173	12,599	211	6,622	495	15,585	
27 Jul	271	12,870	179	6,802	422	16,007	
28 Jul	3,410	16,280 [b]	151	6,953	355	16,362	Weir removed for season

Note: Anticipated escapement derived from Delight Lake sockeye salmon SEG (7,500–17,650 fish) apportioned using historical run timing.

[a] Does not include 400 sockeye salmon observed prior to weir installation in Delight Lake, or 2,310 observed in freshwater below the site after the weir was removed.





Note: Does not include 2,710 fish observed during aerial surveys in the lake prior to weir installation, or below the site after weir removal.

Appendix B4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the Delight Lake weir, 2011.

Appendix B5.–Sockeye salmon escapement past the Delight Lake weir, 1997–2011.

Year	Sockeye salmon
1997 [a]	27,820
1998 [b]	9,154
1999 [c]	13,431
2000 [d]	-----
2001 [e]	12,635
2002 [e]	17,655
2003 [e]	6,708
2004 [e]	3,842
2005 [e]	13,700
2006 [e]	10,879
2007 [e]	40,403
2008 [e]	21,333
2009 [e]	5,232
2010 [e]	23,505
Previous 10-yr average	15,589
2011 [e,f]	16,280

[a] Weir operated from June 7 to August 26.

[b] Weir operated from June 20 to August 18.

[c] Weir operated from June 26 to August 27.

[d] Weir not operated at Delight Lake.

[e] Weir operated for the month of July.

[f] An additional 400 fish were observed in the lake during an aerial survey prior to weir installation, and 2,310 observed below the weir site after the weir was removed for the season. These 2,710 fish are not included in the 2011 weir total.

Appendix B6.–Pink and chum salmon escapements as measured by aerial survey using Area Under the Curve estimation in Outer District, 2011.

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 Escapment	Peak count
Chugach Creek	pink	tstart	7/23/11											
		1	8/10/11	7/23	18	130	0	130	1,138	1,138	65	65	50%	
		tend	8/27/11		18				1,138	2,275	65	130	100%	130
Delight Lake	pink	tstart	7/23/11											
		1	8/10/11	7/23	18	300	0	300	2,625	2,625	150	150	50%	
		tend	8/27/11		18				2,625	5,250	150	300	100%	300
Delusion Lake	pink	tstart	7/10/11											
		1	7/28/11	7/10	18	120	0	120	1,050	1,050	60	60	50%	
		tend	8/14/11		18				1,050	2,100	60	120	100%	120
Desire Lake	pink	tstart	7/10/11											
		1	7/28/11	7/10	18	600	0	600	5,250	5,250	300	300	50%	
		tend	8/14/11		18				5,250	10,500	300	600	100%	600
Dogfish Lagoon	chum	tstart	7/1/11											
		1	7/19/11	7/1	18	430	0	430	3,763	3,763	215	215	2%	
		2	7/26/11	7/19	7	8,840	430	9,270	32,445	36,208	1,854	2,069	16%	
		3	7/28/11	7/26	2	9,250	8,840	18,090	18,090	54,298	1,034	3,103	24%	
		4	8/4/11	7/28	7	2,140	9,250	11,390	39,865	94,163	2,278	5,381	42%	
		5	8/10/11	8/4	6	8,880	2,140	11,020	33,060	127,223	1,889	7,270	56%	
		6	8/22/11	8/10	12	3,110	8,880	11,990	71,940	199,163	4,111	11,381	88%	
		tend	9/8/11		18				27,213	226,375	1,555	12,936	100%	9,250
Dogfish Lagoon	pink	tstart	7/8/11											
		1	7/26/11	7/8	18	210	0	210	1,838	1,838	105	105	3%	
		2	7/28/11	7/26	2	300	210	510	510	2,348	29	134	3%	
		3	8/22/11	7/28	25	2,930	300	3,230	40,375	42,723	2,307	2,441	62%	
		tend	9/8/11		18				25,638	68,360	1,465	3,906	100%	2,930

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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 Escapment	Peak count
Middle Creek	chum	[t]start	7/7/11											
		1	7/25/11	7/7	18	20	0	20	175	175	10	10	5%	
		2	7/26/11	7/25	1	130	20	150	75	250	4	14	6%	
		3	7/28/11	7/26	2	20	130	150	150	400	9	23	10%	
		4	8/10/11	7/28	13	220	20	240	1,560	1,960	89	112	50%	
		[t]end	8/27/11		18				1,925	3,885	110	222	100%	220
Middle Creek	pink	[t]start	7/7/11											
		1	7/25/11	7/7	18	20	0	20	175	175	10	10	2%	
		2	7/26/11	7/25	1	120	20	140	70	245	4	14	3%	
		3	7/28/11	7/26	2	100	120	220	220	465	13	27	6%	
		4	8/4/11	7/28	7	30	100	130	455	920	26	53	11%	
		5	8/10/11	8/4	6	600	30	630	1,890	2,810	108	161	35%	
		[t]end	8/27/11		18				5,250	8,060	300	461	100%	600
Petrof River	chum	[t]start	6/23/11											
		1	7/11/11	6/23	18	112	0	112	980	980	56	56	3%	
		2	7/19/11	7/11	8	30	112	142	568	1,548	32	88	5%	
		3	7/23/11	7/19	4	120	30	150	300	1,848	17	106	6%	
		4	7/25/11	7/23	2	430	120	550	550	2,398	31	137	8%	
		5	7/28/11	7/25	3	1,380	430	1,810	2,715	5,113	155	292	16%	
		6	8/10/11	7/28	13	1,110	1,380	2,490	16,185	21,298	925	1,217	69%	
		[t]end	8/27/11		18				9,713	31,011	555	1,772	100%	1,380
Petrof River	pink	[t]start	7/5/11											
		1	7/23/11	7/5	18	10	0	10	88	88	5	5	2%	
		2	8/10/11	7/23	18	300	10	310	2,790	2,878	159	164	52%	
		[t]end	8/27/11		18				2,625	5,503	150	314	100%	300
Port Chatham	pink	[t]start	7/17/11											
		1	8/4/11	7/17	18	340	0	340	2,975	2,975	170	170	1%	
		2	8/10/11	8/4	6	1,320	340	1,660	4,980	7,955	285	455	3%	
		3	8/22/11	8/10	12	15,830	1,320	17,150	102,900	110,855	5,880	6,335	44%	
		[t]end	9/8/11		18				138,513	249,368	7,915	14,250	100%	15,830

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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 Escapment	Peak count
Port Dick Creek	Pink	[t]start	7/5/11											
		1	7/23/11	7/5	18	300	0	300	2,625	2,625	150	150	7%	
		2	7/25/11	7/23	2	2,200	300	2,500	2,500	5,125	143	293	14%	
		3	7/26/11	7/25	1	2,010	2,200	4,210	2,105	7,230	120	413	20%	
		4	7/28/11	7/26	2	600	2,010	2,610	2,610	9,840	149	562	28%	
		5	8/10/11	7/28	13	1,440	600	2,040	13,260	23,100	758	1,320	65%	
		[t]end	8/27/11		18				12,600	35,700	720	2,040	100%	2,200
Rocky River	chum	[t]start	7/1/11											
		1	7/19/11	7/1	18	220	0	220	1,925	1,925	110	110	3%	
		2	7/23/11	7/19	4	1,000	220	1,220	2,440	4,365	139	249	6%	
		3	7/26/11	7/23	3	1,000	1,000	2,000	3,000	7,365	171	421	11%	
		4	7/28/11	7/26	2	1,400	1,000	2,400	2,400	9,765	137	558	14%	
		5	8/4/11	7/28	7	200	1,400	1,600	5,600	15,365	320	878	22%	
		6	8/10/11	8/4	6	4,480	200	4,680	14,040	29,405	802	1,680	43%	
		[t]end	8/27/11		18				39,200	68,605	2,240	3,920	100%	4,480
Rocky River	pink	[t]start	7/5/11											
		1	7/23/11	7/5	18	3,800	0	3,800	33,250	33,250	1,900	1,900	8%	
		2	7/26/11	7/23	3	12,050	3,800	15,850	23,775	57,025	1,359	3,259	14%	
		3	7/28/11	7/26	2	11,800	12,050	23,850	23,850	80,875	1,363	4,621	20%	
		4	8/4/11	7/28	7	6,000	11,800	17,800	62,300	143,175	3,560	8,181	36%	
		5	8/10/11	8/4	6	20,100	6,000	26,100	78,300	221,475	4,474	12,656	56%	
		[t]end	8/27/11		18				175,875	397,350	10,050	22,706	100%	20,100
Slide Creek	chum	[t]start	7/1/11											
		1	7/19/11	7/1	18	140	0	140	1,225	1,225	70	70	8%	
		2	7/25/11	7/19	6	400	140	540	1,620	2,845	93	163	17%	
		3	7/28/11	7/25	3	420	400	820	1,230	4,075	70	233	25%	
		4	8/10/11	7/28	13	620	420	1,040	6,760	10,835	386	619	67%	
		[t]end	8/27/11		18				5,425	16,260	310	929	100%	620
Slide Creek	pink	[t]start	7/10/11											
		1	7/28/11	7/10	18	300	0	300	2,625	2,625	150	150	19%	
		2	8/4/11	7/28	7	1,180	300	1,480	5,180	7,805	296	446	57%	
		3	8/10/11	8/4	6	210	1,180	1,390	4,170	11,975	238	684	87%	
		[t]end	8/27/11		18				1,838	13,813	105	789	100%	1,180

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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 Escapment	Peak count
Windy Creek Left	pink	[t]start	7/8/11											
		1	7/26/11	7/8	18	150	0	150	1,313	1,313	75	75	1%	
		2	7/28/11	7/26	2	400	150	550	550	1,863	31	106	1%	
		3	8/4/11	7/28	7	12,210	400	12,610	44,135	45,998	2,522	2,628	33%	
		4	8/10/11	8/4	6	4,710	12,210	16,920	50,760	96,758	2,901	5,529	70%	
		[t]end	8/27/11		18				41,213	137,970	2,355	7,884	100%	12,210

Source: Bue et al. 1998.

Note: Final counts include fish observed in bays 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 streamlife estimate.

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

Appendix B7.–Pink and chum salmon escapements as measured by ground survey using Area Under Curve estimation in Outer District, 2011.

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	chum	t_{start}	8/4												
Chatham		1	8/22	8/4	18	102	0	102	893	893	51	51	50%	19	121
		t_{end}	9/8		18				893	1,785	51	102	100%		
Port Dick -	pink	t_{start}	7/18												
Island Creek		1	8/5	7/18	18	33	0	33	289	289	17	17	0%	0	33
		2	8/16	8/5	11	3,524	33	3557	19,564	19,852	1,118	1,134	11%	1	3,525
		3	8/26	8/16	10	10,179	3,524	13703	68,515	88,367	3,915	5,050	50%	2	10,181
		t_{end}	9/12		18				89,066	177,434	5,090	10,139	100%		
Port Dick -	chum	t_{start}	7/18												
Island Creek		1	8/5	7/18	18	3,717	0	3717	32,524	32,524	1,859	1,859	16%	16	3,733
		2	8/16	8/5	11	9,350	3,717	13067	71,869	104,392	4,107	5,965	51%	429	9,779
		3	8/26	8/16	10	3,969	9,350	13319	66,595	170,987	3,805	9,771	83%	1,189	5,158
		t_{end}	9/12		18				34,729	205,716	1,985	11,755	100%		
Port Dick -	pink	t_{start}	7/13												
Head End		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	0	0
Creek		2	7/21	7/13	8	14	0	14	56	56	3	3	0%	0	14
		3	7/29	7/21	8	140	14	154	616	672	35	38	0%	0	140
		4	8/4	7/29	6	273	140	413	1,239	1,911	71	109	1%	2	275
		5	8/12	8/4	8	1,245	273	1518	6,072	7,983	347	456	3%	9	1,254
		6	9/1	8/12	20	14,654	1,245	15899	158,990	166,973	9,085	9,541	57%	908	15,562
		t_{end}	9/18		18				128,223	295,196	7,327	16,868	100%		
Port Dick -	chum	t_{start}	6/25												
Head End		1	7/13	6/25	18	982	0	982	8,593	8,593	491	491	7%	2	984
Creek		2	7/21	7/13	8	2,742	982	3724	14,896	23,489	851	1,342	19%	2	2,744
		3	7/29	7/21	8	4,187	2,742	6929	27,716	51,205	1,584	2,926	41%	0	4,187
		4	8/4	7/29	6	3,067	4,187	7254	21,762	72,967	1,244	4,170	59%	921	3,988
		5	8/12	8/4	8	2,331	3,067	5398	21,592	94,559	1,234	5,403	76%	1,142	3,473
		6	9/1	8/12	20	328	2,331	2659	26,590	121,149	1,519	6,923	98%	1,003	1,331
		t_{end}	9/18		18				2,870	124,019	164	7,087	100%		

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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.	Carcass Count	Live plus Carcass
Port Dick -	pink	t_{start}	7/13												
Slide Creek		1	7/13	7/13	0	0	0	0	0	0	0	0	0%	0	0
		2	7/21	7/13	8	1	0	1	4	4	0	0	0%	0	1
		3	7/29	7/21	8	19	1	20	80	84	5	5	0%	0	19
		4	8/4	7/29	6	60	19	79	237	321	14	18	0%	0	60
		5	8/12	8/4	8	108	60	168	672	993	38	57	1%	0	108
		6	9/1	8/12	20	5,161	108	5,269	52,690	53,683	3,011	3,068	54%	141	5,302
		t_{end}	9/18		18				45,159	98,842	2,581	5,648	100%		
Port Dick -	chum	t_{start}	6/25												
Slide Creek		1	7/13	6/25	18	4	0	4	35	35	2	2	0%	0	4
		2	7/21	7/13	8	309	4	313	1,252	1,287	72	74	2%	0	309
		3	7/29	7/21	8	1,309	309	1,618	6,472	7,759	370	443	11%	1	1,310
		4	8/4	7/29	6	2,242	1,309	3,551	10,653	18,412	609	1,052	25%	13	2,255
		5	8/12	8/4	8	2,103	2,242	4,345	17,380	35,792	993	2,045	49%	176	2,279
		6	9/1	8/12	20	836	2,103	2,939	29,390	65,182	1,679	3,725	90%	1,063	1,899
		t_{end}	9/18		18				7,315	72,497	418	4,143	100%		
Windy	chum	t_{start}	7/21												
Creek- Left		1	8/8	7/21	18	2	0	2	18	18	1	1	50%	0	2
		t_{end}	8/25		18				18	35	1	2	100%		
Windy	pink	t_{start}	7/21												
Creek- Right		1	8/8	7/21	18	1,722	0	1,722	15,068	15,068	861	861	50%	0	1,722
		t_{end}	8/25		18				15,068	30,135	861	1,722	100%		
Windy	chum	t_{start}	7/21												
Creek- Right		1	8/8	7/21	18	115	0	115	1,006	1,006	58	58	50%	0	115
		t_{end}	8/25		18				1,006	2,013	58	115	100%		

Source: Bue et al. 1998.

Note: Final counts include fish observed in bays 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 streamlife estimate.

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

Appendix B8.–Sockeye salmon aerial survey counts from the Outer District, 2011.

Location	Survey number	Survey date	Live count	Peak count
Delight Lake	1	6/21/11	2	
	2	6/28/11	1,710	
	3	7/3/11	2,242	
	4	7/6/11	4,590	
	5	7/11/11	2,910	
	6	7/14/11	3,440	
	7	7/19/11	4,140	
	8	7/23/11	2,900	
	9	7/25/11	7,560	
	10	7/28/11	3,320	7,560
Desire Lake	1	6/21/11	530	
	2	6/28/11	2,710	
	3	7/3/11	5,800	
	4	7/6/11	6,701	
	5	7/11/11	1,582	
	6	7/19/11	4,620	
	7	7/23/11	2,810	
	8	7/25/11	2,830	
	9	7/28/11	9,630	
	10	8/10/11	6,310	9,630
Delusion Lake	1	7/3/11	20	
	2	7/6/11	80	
	3	7/11/11	4	
	4	7/19/11	830	
	5	7/23/11	580	
	6	7/25/11	810	
	7	7/28/11	1,760	1,760

Appendix B9.–Unexpanded escapement indices and harvests by subdistricts in the Outer District, Lower Cook Inlet, 2011.

Location	Harvest[a]				Escapement index[b]				Combined harvest and escapement index counts			
	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum
Dogfish Bay Subdistrict (232-01)	1	1	72,315	9,724	---	---	3,906	12,936	1	1	76,221	22,660
Port Chatham Subdistrict (232-02)	---	---	49,125	224	---	---	14,250	121	---	---	63,375	345
Chugach Bay Subdistrict (232-03)	---	---	---	---	---	---	130		---	---	---	---
Windy Bay Subdistrict (232-04)	73		178,489	1,500	---	---	13,932	117	73	0	192,421	1,617
Rocky Bay Subdistrict (232-05)	---	5	22,612	7,471	---	---	22,706	4,480	---	5	45,318	11,951
Outer Port Dick Subdistrict (232-06)	---	---	65	1	---	---	---	---	---	---	65	1
Port Dick South Subdistrict (232-07)	---	6	28,243	6,464	---	---	16,868	7,087	---	6	45,111	13,551
Port Dick North Subdistrict (232-09)	---	---	---	---	---	---	15,829	15,898	---	---	---	---
Taylor Bay Subdistrict (232-08)	---	---	---	---	---	---	---	---	---	---	---	---
Port Dick area subtotal	0	6	28,308	6,465	---	---	32,697	22,985	0	6	61,005	29,450
E. Side Gore Pt. Subdistrict (232-10)	---	---	---	---	---	---	---	---	---	---	---	---
Nuka Island Subdistrict (232-15)	---	---	---	---	---	---	314	1,772	---	---	---	---
East Nuka Subdistrict (232-23)	46,282	13	6,623	379	28,070	---	1,020	---	74,352	13	7,643	379
Outer District total	46,356	25	357,472	25,763	28,070	---	88,955	42,411	74,426	25	430,154	50,504

[a] Harvests include all commercial and subsistence harvests.

[b] Unexpanded aerial or ground survey index count, or weir count.

Appendix B10.–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, 1970–2011.

	Pink salmon											Chum salmon					Sockeye salmon			
Year	Dogfish Lagoon[a]	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
1970	---	3.0	2.1	13.0	32.0	34.5	5.5	11.0	---	---	101.1	5	---	6	8.5	20	--	4.6	2.0	6.6
1971	0.3	15.5	13.0	35.4	1.6	97.8	0.1	14.0	30.0	---	207.7	5	7	3	3.5	19	--	5.0	5.0	10.0
1972	---	1.0	0.1	0.4	8.2	10.0	1.7	0.3	0.3	---	22.0	3	3	6	2	14	--	10.0	8.0	18.0
1973	1.0	5.0	4.6	12.9	2.0	26.4	0.5	16.0	3.0	---	71.4	1	2	9	7	19	--	2.5	5.2	7.7
1974	---	0.2	0.1	0.1	1.5	1.5	0.5	---	---	---	3.9	0.6	1	0.8	5	7.4	--	--	--	0.0
1975	2.3	7.7	18.7	9.7	4.4	62.8	0.1	28.0	0.4	---	134.1	5	25	4	7.4	41	--	2.0	6.5	8.5
1976	---	---	0.2	0.2	2.7	12.7	---	---	0.6	---	16.4	3	12	1.5	1	18	--	6.0	11.0	17.0
1977	8.1	14.2	11.1	47.3	36.7	109.3	0.6	12.0	0.8	---	240.1	6.4	11	5	11	33	--	5.2	10.7	15.9
1978	0.6	0.3	0.3	1.1	8.2	44.9	0.4	---	1.0	---	56.8	9.3	6.3	8.9	17	41	--	8.0	10.0	18.0
1979	7.3	20.8	10.4	74.8	85.0	116.0	0.6	15.0	3.0	---	332.9	8.2	35	4	17	64	--	8.0	12.0	20.0
1980	0.3	7.7	3.3	10.9	6.4	56.1	2.2	0.3	16.0	4.6	107.8	4	23	4.2	11	42	--	10.0	17.0	27.0
1981	2.6	11.2	4.7	31.3	25.0	106.0	25.0	16.0	5.0	14	240.8	12	13	4.1	18	46	--	7.3	12.0	19.3
1982	2.6	2.0	4.7	4.4	6.6	19.9	15.0	0.4	12.0	6	65.0	8.5	2.8	1.7	8.7	22	--	25.0	18.0	43.0
1983	1.0	3.5	4.3	11.9	16.6	64.1	15.3	22.2	8.5	5.1	146.4	5.3	4	4.5	36	50	--	7.0	12.0	19.0
1984	0.6	7.8	3.4	2.5	9.0	44.6	35.0	0.6	23.0	4	125.9	8.6	3.5	2.7	26	40	--	10.5	15.0	25.5
1985	0.2	8.9	5.4	8.9	12.1	65.3	27.9	3.6	62.5	9	194.6	4.9	2.5	1	9.1	18	--	26.0	18.0	44.0
1986	0.4	11.5	2.5	2.2	12.0	41.6	16.6	7.0	32.0	6.6	125.4	2.5	2	1.7	8.6	15	--	13.0	10.0	23.0
1987	1.2	10.2	2.0	5.6	4.5	4.5	0.1	2.8	11.0	1.1	40.7	2	0.2	6.1	13	22	--	10.5	13.4	23.9
1988	0.3	21.0	1.3	3.4	5.4	12.0	7.2	1.2	2.5	1.7	54.0	8.6	0.3	9	7.8	26	--	1.2	9.0	10.2
1989	0.2	31.7	6.6	25.2	10.3	55.4	6.7	7.3	47.0	4.9	190.2	1.8	1.2	3.3	4.8	11	2.0	7.7	9.0	18.7
1990	7.1	27.8	7.1	7.5	18.0	41.7	25.0	13.3	1.0	3.8	141.4	1	0.8	1.1	2.3	5.2	0.3	5.2	9.5	15.0
1991	9.3	23.8	20.7	34.5	26.1	54.2	24.4	16.4	1.3	4.4	201.4	3.1		7.4	17	28	0.3	4.1	8.2	12.6
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	15	1.0	5.9	11.9	18.8
1993	0.3	22.2	13.6	25.9	70.0	37.0	12.1	34.3	19.3	3.3	234.4	5.4	0.1	2.5	3.6	12	1.3	5.6	11.0	17.9
1994	1.3	3.3	2.2	3.0	17.1	18.1	28.3	1.4	---	0.8	73.4	11	1.9	3.5	8.8	26	1.3	5.6	10.5	17.4
1995	13.3	14.0	11.4	31.6	56.3	6.6	10.6	6.2	---	0.6	136.7	4.2	5.1	3.3	7.7	20	1.5	15.8	15.8	33.1
1996	2.3	8.6	9.9	2.5	80.1	23.2	40.1	6.8	---	---	171.2	6.7	2	2.3	6.9	18	0.7	7.7	9.4	17.8

-continued-

Appendix B10.–Page 2 of 2.

	Pink salmon											Chum salmon					Sockeye salmon			
Year	Dogfish Lagoon[a]	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
1996	2.3	8.6	9.9	2.5	80.1	23.2	40.1	6.8	---	---	171.2	6.7	2	2.3	6.9	18	0.7	7.7	9.4	17.8
1997	20.0	42.7	13.9	64.6	48.1	36.9	71.1	9.3	6.2	---	292.8	13	1.1	1.9	5.2	21	1.4	27.8[b]	14.7	43.9
1998	6.7	22.2	19.5	12.9	165.0	59.1	83.6	14.0	6.2	---	382.5	9.8	0.7	1.8	3.4	16	1.1	9.2[b]	7.9	18.2
1999	12.4	10.7	5.2	24.0	17.2	8.5	8.6	2.4	6.8	---	83.4	19	5.4	2.9	16	44	1.1	17.0[d]	14.6	32.7
2000	11.1	16.7	23.0	20.1	131.6	124.4	70.8	13.6	21.1	3.9	421.3	20	4.2	3.4	12	39	2.1	12.3	4.0	18.4
2001	2.0	17.9	10.3	61.8	73.0	44.7	81.8	20.7	67.5	2.3	377.7	6.1	3	1.8	6.3	17	2.8	10.1	5.5	18.4
2002	1.3	18.1	14.4	28.9	112.5	108.0	44.1	14.8	78.4	3.1	419.2	10	5.7	12	15	43	3.6	19.6[c]	16.0	39.2
2003	5.2	35.0	23.3	82.8	287.4	107.7	118.6	41.4	34.8	---	731.0	13	5.5	5.6	16	41	2.0	7.5[c]	8.4	17.9
2004	3.2	26.4	12.0	23.3	53.8	13.3	33.6	6.4	24.3	---	193.1	3.6	17	8.6	15	45	1.0	7.3[c]	10.7	19.0
2005	22.3	44.4	22.2	72.0	198.7	122.2	26.4	11.2	46.0	---	543.1	2.7	6.1	4.8	21	34	1.1	15.2[c]	4.8	21.1
2006	8.0	24.2	17.1	65.2	67.8	51.5	107.7	5.1	74.8	---	413.4	5.4	11	2.8	5.6	25	1.0	10.9[c]	18.6	30.5
2007	4.1	14.5	18.3	37.3	190.0	44.2	87.2	6.6	11.8	---	409.9	4.9	1.6	2.8	3.1	12	2.1	44.0[c]	10.0	56.1
2008	8.0	16.4	12.5	64.1	90.9	34.2	49.7	12.3	9.5	---	289.6	6.2	3.8	12	13	35	1.8	23.9[c]	10.7	36.4
2009	9.2	25.3	15.0	57.3	173.6	41.7	44.5	19.9	73.9	---	451.2	4.4	2.5	5.6	9.3	22	1.3	12.7	16.0	30.0
2010	6.3	3.0	6.4	24.2	27.0	41.1	69.5	---	3.0	---	174.3	13	1.3	2.4	3.4	20	0.6	23.8[c]	6.3	30.7
10-yr avg.	7.0	22.5	15.2	51.7	127.5	60.9	66.3	15.4	42.4	2.7	401.8	6.9	5.8	5.8	10.8	29	1.7	17.5	10.7	29.9
2011	3.9	15.8	1.7	12.2	22.7	16.9	10.2	--	0.6	0.3	80.1	12.9	4.5	7.1	11.8	36	1.8	20.2	9.6	31.6

[a] Non-index stream.

[b] Escapement derived from weir counts.

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

APPENDIX C: EASTERN DISTRICT

Appendix C1.–Eastern District common property commercial purse seine salmon harvest by period, 2011.

			Permits		Chinook		Sockeye		Coho		Pink		Chum	
Period [a]	Date	Hours	Fished	Landings	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
1	6/11/2011	16	8	8	0	0	14,892	79,816	0	0	0	0	4	29
2	6/12/2011	16	5	5	0	0	8,073	42,655	0	0	0	0	0	0
3	6/13/2011	16	3	3	0	0	1,016	5,163	0	0	0	0	0	0
4	6/14/2011	16	8	9	0	0	5,994	29,755	0	0	0	0	0	0
5	6/15/2011	16	5	6	0	0	2,698	13,220	0	0	0	0	0	0
6	6/16/2011	16	4	4	0	0	3,807	18,928	0	0	0	0	0	0
7	6/17/2011	16	8	8	0	0	3,557	17,827	0	0	0	0	1	10
8	6/18/2011	16	4	4	0	0	2,523	12,638	0	0	0	0	0	0
9	6/19/2011	16	5	5	0	0	2,570	11,918	0	0	0	0	0	0
10	6/20/2011	16	3	3	0	0	2,266	10,652	0	0	0	0	1	7
11	6/21/2011	16	4	4	0	0	3,271	15,726	0	0	0	0	52	512
12 [a]	6/22/2011	16												
13 [a]	6/24/2011	16												
14	6/27/2011	16	3	3	0	0	712	2,916	0	0	0	0	2	13
15	6/29/2011	16	3	3	0	0	1,568	7,170	0	0	4	12	19	129
16	6/30/2011	16	3	3	0	0	253	1,170	0	0	0	0	0	0
17 [a]	7/1/2011	16												
18 [a]	7/2/2011	16												
19 [a]	7/3/2011	16												
20 [a]	7/5/2011	16												
21 [a]	7/6/2011	16												
22 [a]	7/9/2011	16												
Total			16	83	0	0	56,111	282,735	0	0	24	70	112	941
Average weight						0.00		5.04		0.00		2.92		8.40

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

Appendix C2.–Historic commercial common property and derby commercial sales harvest by species in the Eastern District, 1959–2011.

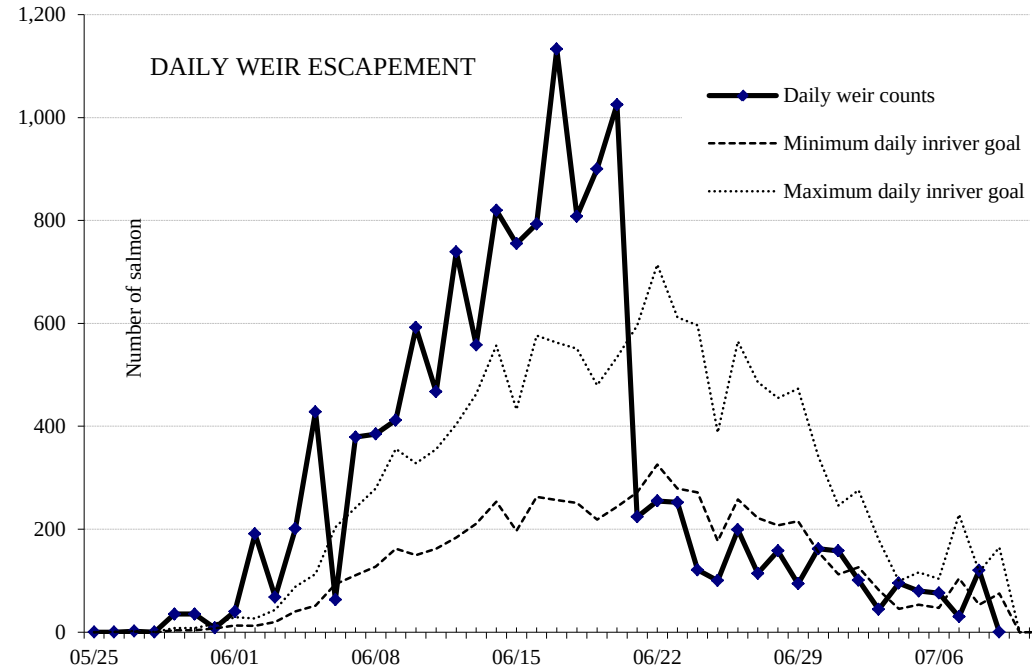
		Commercial Common property harvest					Derby sales
Year	Permits	Chinook	Sockeye	Coho	Pink	Chum	Coho
1959	--	58	4,319	5,491	125	13,301	
1960	--	0	105	853	8,720	467	
1961	--	0	0	0	0	0	
1962	--	0	0	3,728	49	10	
1963	--	0	1	2,250	11	0	
1964	--	0	22	9	813	12	
1965	--	0	0	0	0	0	
1966	--	0	0	0	0	0	
1967	--	0	348	203	3,097	275	
1968	--	2	74,484	5	41,464	872	
1969	--	3	99,403	6	1	10	
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	--	0	193	524	378	7	
1975	--	0	596	124	383	2	
1976	--	0	5	200	35,423	45	
1977	--	0	5,776	360	1,349	3,229	
1978	--	0	2	582	29,738	100	
1979	--	0	0	296	0	0	
1980	--	0	122	426	155,779	720	
1981	--	0	9,270	470	44,989	3,279	
1982	--	0	3,092	950	143,639	7,698	
1983	--	0	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	0	3,055	3	40,243	3,757	
1987	9	0	3,687	1	14,333	14,913	
1988	13	1	20,253	1	1,740	24,668	
1989	12	0	8,538	3,913	92	312	
1990	8	0	7,682	127	11,815	307	1,642
1991	6	1	4,703	331	167,250	80	917
1992	7	0	432	1,131	60,007	86	477
1993	6	0	171	247	10,616	9	1,428
1994	6	1	1,610	3,835	44,987	2,792	1,608
1995	19	0	25,626	918	12,000	330	2,960
1996	17	0	36,981	1	35	223	2,600
1997	9	0	11,044	0	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	0	19,193	332	4,099	1,273	1,689
2001	3	0	2,629	0	0	6	2,155
2002	7	0	14,647	0	0	5	2,687
2003	10	0	7,341	0	0	19	3,821
2004	8	0	16,645	0	0	1	4,400
2005	15	0	19,297	3	13,072	385	4,788
2006	13	0	32,393	1	3,460	270	2,274
2007	11	0	15,407	0	0	53	2,850
2008	11	0	57,060	0	0	34	1,223
2009	0	0	0	0	0	0	1,570
2010	0	0	0	0	0	0	1,100
2001-2010 10-yr avg.		0	16,542	0	1,653	77	2,687
2011	16	0	56,111	0	24	112	1,207

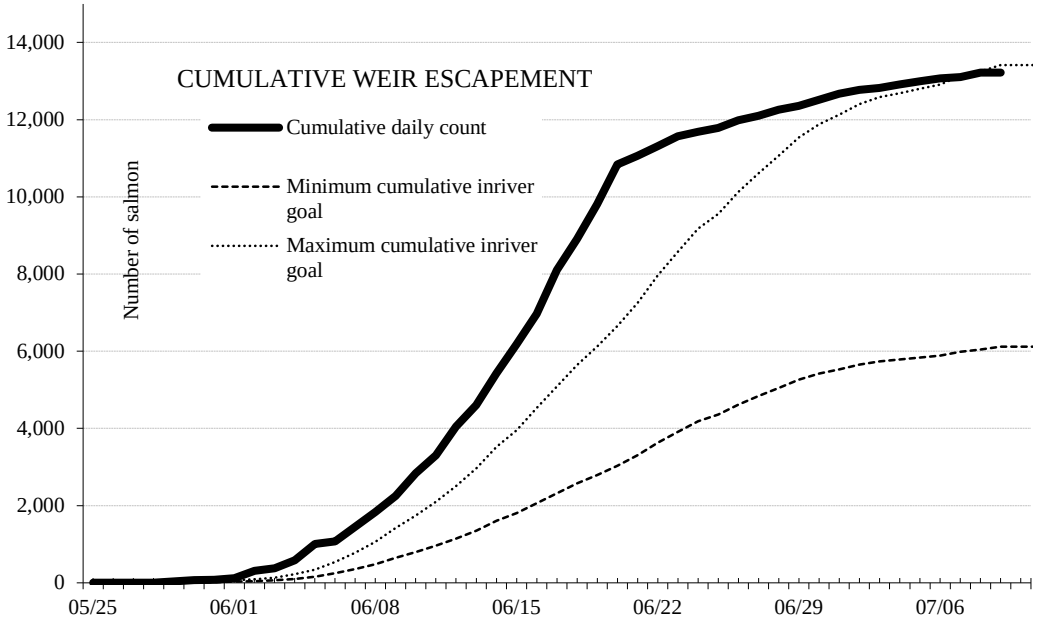
Source: Statewide electronic fish ticket database. Alaska Department of Fish and Game, Division of Commercial Fisheries, 1974-present. (Accessed May 2012). [URL not publically available as some information is confidential.]

Appendix C3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the Bear Creek weir, 2011.

	Actual		Apportioned SEG plus CIAA brood goal				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
23 May	0	0	0	0	1	1	
24 May	2	2	1	1	2	3	
25 May	0	2	0	1	0	3	
26 May	35	37	4	5	8	11	
27 May	35	72	4	9	8	19	
28 May	8	80	7	16	16	35	
29 May	40	120	13	29	29	64	
30 May	191	311	12	41	26	90	
31 May	68	379	20	61	43	134	
01 Jun	201	580	40	101	88	222	
02 Jun	428	1,008	51	153	113	335	
03 Jun	63	1,071	93	245	204	538	
04 Jun	379	1,450	110	356	242	780	
05 Jun	385	1,835	127	483	279	1,059	
06 Jun	412	2,247	162	645	356	1,415	
07 Jun	592	2,839	150	795	328	1,743	
08 Jun	467	3,306	162	957	355	2,098	
09 Jun	739	4,045	184	1,141	404	2,502	
10 Jun	558	4,603	211	1,352	462	2,965	
11 Jun	820	5,423	254	1,606	557	3,521	
12 Jun	755	6,178	197	1,803	432	3,954	
13 Jun	793	6,971	263	2,066	576	4,530	
14 Jun	1,133	8,104	256	2,322	562	5,092	
15 Jun	808	8,912	251	2,573	551	5,643	
16 Jun	900	9,812	219	2,792	480	6,123	
17 Jun	1,025	10,837	243	3,035	534	6,657	
18 Jun	224	11,061	272	3,307	596	7,252	
19 Jun	255	11,316	326	3,633	715	7,967	
20 Jun	252	11,568	279	3,912	612	8,579	
21 Jun	121	11,689	272	4,183	596	9,175	
22 Jun	100	11,789	177	4,360	388	9,562	
23 Jun	199	11,988	258	4,618	565	10,128	
24 Jun	114	12,102	222	4,840	486	10,614	
25 Jun	158	12,260	208	5,047	455	11,069	
26 Jun	94	12,354	216	5,263	473	11,542	
27 Jun	162	12,516	156	5,419	342	11,885	
28 Jun	158	12,674	112	5,531	246	12,131	
29 Jun	101	12,775	126	5,657	276	12,407	
30 Jun	44	12,819	82	5,739	179	12,586	
01 Jul	95	12,914	45	5,784	99	12,685	
02 Jul	80	12,994	53	5,837	116	12,802	
03 Jul	76	13,070	47	5,884	104	12,905	
04 Jul	30	13,100	104	5,989	229	13,134	
05 Jul	120	13,220	53	6,042	117	13,251	
06 Jul	0	13,220	75	6,117	165	13,416	

Note: Bear Creek SEG is 700–8,300 sockeye salmon. CIAA broodstock goal is 5,670 for a desired inriver return of 6,370–13,970 fish.





Note: A total of 3,831 were harvested above the weir by Cook Inlet Aquaculture Association for use as broodstock. "Inriver goal" is the sustainable escapement goal range (700–8,300) added to the CIAA hatchery broodstock goal (5,670) for this species.

Appendix C4.–Sockeye salmon passage past Bear Creek weir versus minimum and maximum inriver goals, 2011.

Appendix C5.–Sockeye salmon escapement past the Bear Creek weir, 1992–2011.

Year	Broodstock harvested	Spawning escapement	Total passage
1992	85	1,840	1,925
1993	191	4,852	5,043
1994	1,123	7,427	8,550
1995	1,808	6,526	8,334
1996	1,813	6,198	8,011
1997	356	7,589	7,945
1998	2,272	6,159	8,431
1999	1,982	1,071	3,053
2000	3,438	8,463	11,901
2001	4,195	8,606	12,801
2002	4,063	8,441	12,504
2003	3,735	9,498	13,233
2004	3,862	8,061	11,923
2005	3,122	10,285	13,407
2006	4,060	7,000	11,060
2007	4,420	7,000	11,420
2008	4,444	8,550	12,994
2009	3,341	9,478	12,819
2010	4,320	8,564	12,884
Prev. 10-yr average	3,956	8,548	12,505
2011	3,831	9,389	13,220

Appendix C6.–Sockeye salmon aerial survey counts from the Eastern District, 2011.

Location	Survey number	Survey date	Current live count	Peak count
Aialik Lake and creek	1	6/21/11	410	
	2	6/28/11	370	
	3	7/3/11	1,670	
	4	7/6/11	590	
	5	7/23/11	512	
	6	7/25/11	2,860	
	7	7/28/11	3,480	3,480

Appendix C7.–Unexpanded escapement indices and harvests by subdistrict in the Eastern District of Lower Cook Inlet, 2011.

Location	Harvest[a]				Escapement index[b]				Combined harvest and escapement index counts			
	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum
Aialik Bay Subdistrict (231-05)	---	---	---	---	3,480	0	0	0	---	---	---	---
Harding Entrance Subdistrict (231-10)	---	---	---	---	---	---	---	---	---	---	---	---
Outer Resurrection Bay Subdistrict (231-25)	---	---	---	---	---	---	---	---	---	---	---	---
Resurrection Bay Subdistrict (231-30)	70,734	1,207	24	112	9,389	444	---	---	80,123	1,651	24	112
Humpy Cove Subdistrict (231-40)	---	---	---	---	---	---	---	---	---	---	---	---
Day Harbor Subdistrict (231-60)	---	---	---	---	---	---	---	---	---	---	---	---
Total	70,734	1,207	24	112	12,869	444	0	0	80,123	1,651	24	112

[a] Harvests include all commercial, sport derby and hatchery harvests.

[b] Unexpanded aerial or ground survey index counts, or weir counts.

Appendix C8.–Estimated sockeye and pink salmon escapements in thousands of fish for the major pawning systems in the Eastern District of the Lower Cook Inlet Area, 1970–2011.

	Pink salmon						Sockeye salmon		
Year	Aialik Lagoon	Bear Creek	Salmon Creek	Thumb Cove	Humpy Cove	Total	Aialik Lake	Bear Lake [a,b,c]	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	---	1.1	0.6	6.7	2.2	0.1	2.3
1975	---	---	---	---	---	---	8.0	0	8.0
1976	0.4	10.0	16.9	2.0	1.4	30.7	8.0	0.6	8.6
1977	---	---	---	---	---	0.0	5.0	0	5.0
1978	---	7.8	11.0	2.0	0.9	21.7	3.0	0	3.0
1979	---	---	---	---	---	---	5.0	0	5.0
1980	---	13.3	15.5	1.2	5.7	35.7	6.6	1.5	8.1
1981	---	0.4	0.1	1.0	0.4	1.9	1.8	0.7	2.5
1982	5.0	7.9	21.0	7.9	4.0	45.8	22.4	0.5	22.9
1983	3.0	0.8	0.5	4.9	2.0	11.2	20.0	0.7	20.7
1984	4.0	7.7	10.2	4.2	2.5	28.6	22.0	0.5	22.5
1985	9.4	4.1	2.1	14.5	5.0	35.1	8.0	1.1	9.1
1986	6.0	14.0	8.3	4.0	0.9	33.2	7.6	0.8	8.4
1987	1.5	3.5	1.7	2.7	0.3	9.7	9.2	0.3	9.5
1988	0.7	0.2	0.1	0.3	0.4	1.7	13.0	0.1	13.1
1989	0.8	1.7	1.6	4.2	1.0	9.3	6.5	0.1	6.6
1990	---	4.4	---	---	3.8	8.2	5.7	1.1	6.8
1991	---	15.4	---	3.4	---	18.8	3.7	0.7	4.4
1992	---	2.3	---	0.4	---	2.7	2.5	1.8	4.3
1993	---	6.6	---	5.5	0.9	13.0	3.0	4.9	7.9
1994	---	34.8	---	10.8	2.2	47.8	7.3	7.4	14.7
1995	1.1	38.6	---	9.3	1.8	50.8	2.6	6.5	9.1
1996	---	8.0	---	9.5	3.4	20.9	3.5	6.2	9.7
1997	---	6.3	---	4.7	2.2	13.2	11.4	7.6	19.0
1998	0.4	13.2	---	21.0	1.2	35.8	4.9	6.2	11.1
1999	0.9	7.8	---	9.2	4.0	21.9	3.8	1.1	4.9
2000	---	35.6	---	8.5	1.7	45.8	4.3	8.5	12.8
2001	---	3.0	---	3.1	0.3	6.4	5.1	8.6	13.7
2002	---	2.7	---	3.7	1.8	8.2	6.1	8.4	14.5
2003	---	4.4	---	5.1	2.6	12.1	5.4	9.5	14.9
2004	---	1.2	---	4.3	1.0	6.5	10.1	8.1	18.2
2005	0.8	34.5	---	8.7	14.6	58.6	5.3	10.3	15.6
2006	---	9.0	---	5.2	1.9	16.1	4.8	7.0	11.8
2007	---	---	---	---	---	---	5.4	7.0	12.4
2008	---	---	---	---	---	---	4.2	8.6	12.8
2009	---	---	---	---	---	---	3.1	9.5	12.6
2010	---	---	---	---	---	---	5.3	8.6	13.9
10-yr avg.	0.8	9.1	---	5.0	3.7	---	5.5	8.5	14.0
2011	---	---	---	---	---	---	3.5	9.4	12.9

[a] Escapement limited by *Bear Lake Management Plan* since 1971.

[b] Weir counts.

[c] 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 by period, 2011.

Period [a]	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]	06/01-06/05	118	0	0	0	0	0	0	0	0	0	0	0	0
2 [a]	06/06-06/12	160	0	0	0	0	0	0	0	0	0	0	0	0
3 [a]	06/13-06/19	160	0	0	0	0	0	0	0	0	0	0	0	0
4 [a,b]	06/20-06/26	160	0	0	0	0	0	0	0	0	0	0	0	0
5 [a,b]	06/27-07/03	160	0	0	0	0	0	0	0	0	0	0	0	0
6 [a,b]	07/04-07/10	160	3	3	0	0	13,635	51,811	0	0	0	0	0	0
7 [b,c]	07/11-07/17	160	7	22	0	0	73,021	259,943	0	0	215	744	153	1,357
8 [b,c]	07/18-07/24	160	6	10	0	0	8,808	45,817	0	0	647	1,942	2,886	22,636
9 [b,c]	07/25-07/31	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
10 [b,c]	08/01-08/07	160	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
11 [b,c]	08/08-08/14	160	0	0	0	0	0	0	0	0	0	0	0	0
12 [b,c]	08/15-08/21	160	0	0	0	0	0	0	0	0	0	0	0	0
13 [b,c]	08/22-08/28	160	0	0	0	0	0	0	0	0	0	0	0	0
14 [b,c]	08/29-09/04	160	0	0	0	0	0	0	0	0	0	0	0	0
15 [b,c]	09/05-09/09	112	0	0	0	0	0	0	0	0	0	0	0	0
Total			10	36	0	0	99,288	368,118	0	0	1,050	3,186	3,850	29,539
Average weight						0		3.71		0		3.03		7.67

Note: Unless otherwise noted, all Kamishak Bay Subdistricts were open to commercial harvest from June 1, 2011 to August 31, 2011 with regular closed waters in effect.

[a] Waters of Chenik Subdistrict closed to commercial harvest from June 1, 2011 to 10:00 AM July 9, 2011.

[b] Waters of McNeil River and Paint River Subdistricts closed to commercial harvest at 6:00 AM June 25 for the remainder of the 2011 season.

[c] Waters of Chenik Lagoon were opened to commercial harvest beginning at 10:00 AM July 14 for the remainder of the 2011 season.

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

Appendix D2.–Total commercial common property harvest by species in the Kamishak Bay District 1959–2011.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum
1959	--	--	0	1,549	43	5,325	23,574
1960	--	--	11	768	28	11,563	44,328
1961	--	--	0	1	14	6,019	12,465
1962	--	--	0	20	11	219	43,404
1963	--	--	2	4	97	82,314	13,892
1964	--	--	5	1,979	115	20,719	42,280
1965	--	--	0	808	122	3,452	3,175
1966	--	--	1	21	247	2,945	12,688
1967	--	--	1	182	74	17,340	24,221
1968	--	--	0	492	101	198,253	49,461
1969	--	--	2	10,723	121	80,157	53,193
1970	--	--	0	2,846	218	22,500	95,841
1971	--	--	0	3	121	32,094	26,327
1972	--	--	0	47	31	342	26,374
1973	--	--	0	1	28	12,568	35,584
1974	--	--	0	0	2,915	48	4,554
1975	--	--	0	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	--	--	0	4,619	1,584	982	48,669
1979	--	--	9	1,778	1,116	58,484	28,711
1980	--	--	0	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	0	18,509	1,897	33	14
1995	7	27	2	31,077	6,084	169,039	10,300
1996	[a]	[a]	[a]	[a]	[a]	[a]	[a]
1997	3	6	0	5,608	0	0	3
1998	4	4	0	8,112	0	414	20
1999	6	8	0	29,409	0	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	0	1,429	52	438,352	34,604
2003	[a]	[a]	[a]	[a]	[a]	[a]	[a]
2004	6	46	0	35,285	5,367	12,969	177,395
2005	8	37	0	50,018	92	5,787	83,943
2006	5	34	0	38,267	24,269	77,833	56,494
2007	4	24	0	169,509	4	4,959	37
2008	11	44	2	171,924	20	26,397	73,209
2009	9	81	0	65,763	0	132,414	36,574
2010	9	54	10	5,612	573	2,432	70,782
Prev. 10-yr average	7	43	1	56,029	3,039	70,685	64,754
2011	5	38	0	99,288	0	1,050	3,850

Source: Statewide electronic fish ticket database. Alaska Department of Fish and Game, Division of Commercial Fisheries, 1974-present. (Accessed May 2012). [URL not publically available as some information is confidential.]

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

Appendix D3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring sites at Chenik Lake, 2011.

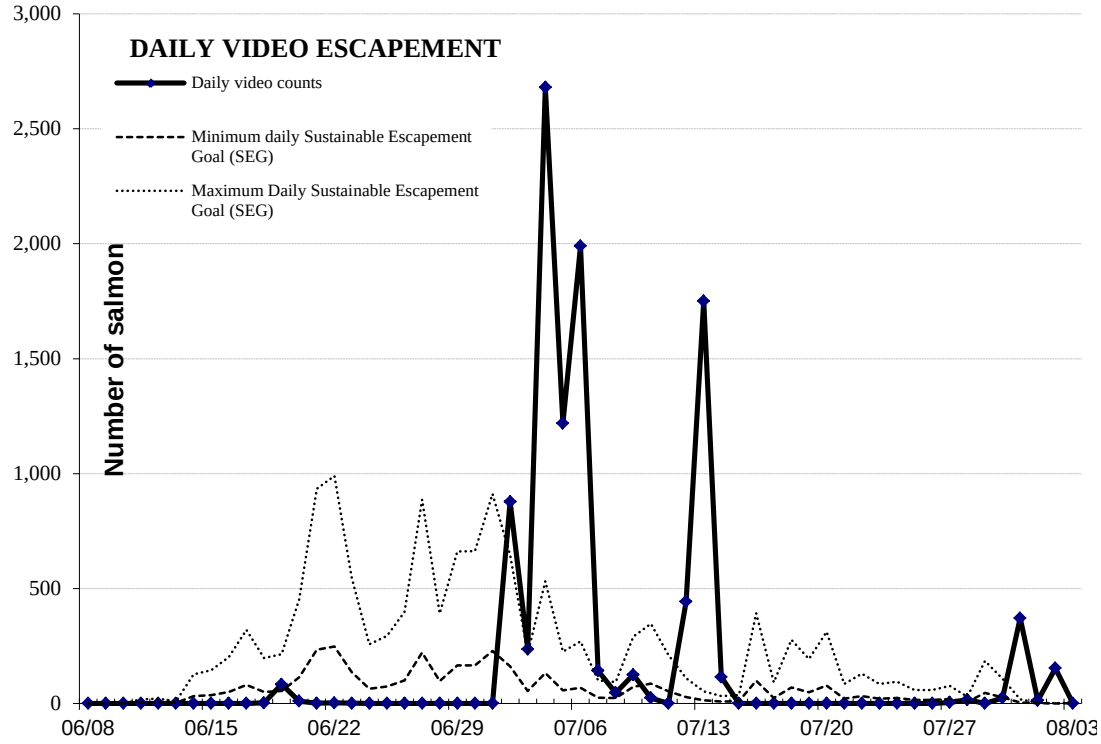
	Actual		Apportioned sustainable escapement goals				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
11 Jun	0	0	4	4	17	18	Camera installed June 8.
12 Jun	0	0	5	10	21	39	
13 Jun	0	0	2	12	9	48	
14 Jun	0	0	32	44	126	174	
15 Jun	0	0	36	80	144	318	
16 Jun	0	0	50	130	201	519	
17 Jun	0	0	80	210	320	840	
18 Jun	2	2	49	259	197	1,037	
19 Jun	83	85	54	313	214	1,251	
20 Jun	10	95	114	426	454	1,705	
21 Jun	1	96	234	660	935	2,640	
22 Jun	2	98	247	908	990	3,630	
23 Jun	1	99	137	1,044	547	4,177	
24 Jun	0	99	64	1,109	257	4,434	
25 Jun	0	99	73	1,182	293	4,727	
26 Jun	0	99	99	1,281	398	5,125	
27 Jun	0	99	222	1,503	887	6,012	
28 Jun	0	99	98	1,601	392	6,403	
29 Jun	0	99	165	1,766	661	7,064	
30 Jun	0	99	166	1,932	663	7,727	
01 Jul	0	99	228	2,160	911	8,638	
02 Jul	878	977	162	2,321	646	9,284	
03 Jul	236	1,213	54	2,375	217	9,501	
04 Jul	2,681	3,894	133	2,508	531	10,033	
05 Jul	1,219	5,113	56	2,565	226	10,258	
06 Jul	1,990	7,103	68	2,632	270	10,529	
07 Jul	142	7,245	25	2,657	100	10,629	
08 Jul	46	7,291	23	2,680	93	10,722	
09 Jul	125	7,416	73	2,753	291	11,013	
10 Jul	24	7,440	87	2,840	347	11,360	
11 Jul	0	7,440	53	2,893	211	11,571	
12 Jul	443	7,883	27	2,920	110	11,681	
13 Jul	1,751	9,634	13	2,933	53	11,734	
14 Jul	115	9,749	8	2,941	32	11,765	
15 Jul	0	9,749	9	2,950	36	11,802	
16 Jul	0	9,749	98	3,048	392	12,194	
17 Jul	0	9,749	23	3,071	92	12,286	
18 Jul	0	9,749	69	3,141	277	12,563	
19 Jul	0	9,749	48	3,189	193	12,755	
20 Jul	0	9,749	78	3,267	311	13,067	
21 Jul	0	9,749	21	3,288	84	13,151	
22 Jul	0	9,749	32	3,320	129	13,280	
23 Jul	0	9,749	21	3,341	84	13,364	
24 Jul	0	9,749	24	3,365	95	13,459	
25 Jul	0	9,749	15	3,379	58	13,518	
26 Jul	0	9,749	15	3,394	59	13,577	
27 Jul	4	9,753	19	3,413	76	13,653	
28 Jul	16	9,769	7	3,420	29	13,682	
29 Jul	0	9,769	46	3,467	185	13,867	
30 Jul	24	9,793	27	3,494	108	13,975	
31 Jul	371	10,164	5	3,498	18	13,993	
01 Aug	13	10,177	1	3,499	2	13,995	
02 Aug	153	10,330	0	3,499	1	13,996	
03 Aug	0	10,330	1	3,500	2	13,999	Camera pulled for the season.

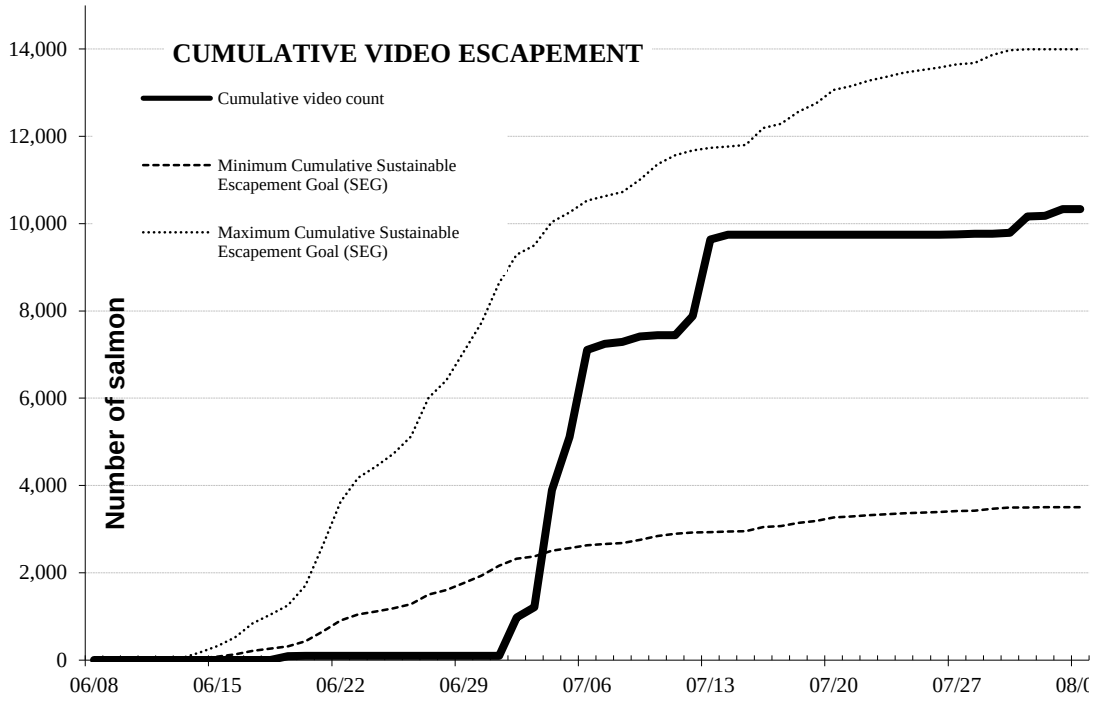
Note: Anticipated escapement derived from run timing and Chenik Lake sockeye salmon SEG (3,500–14,000 fish).

Appendix D4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring sites at Mikfik Lake, 2011.

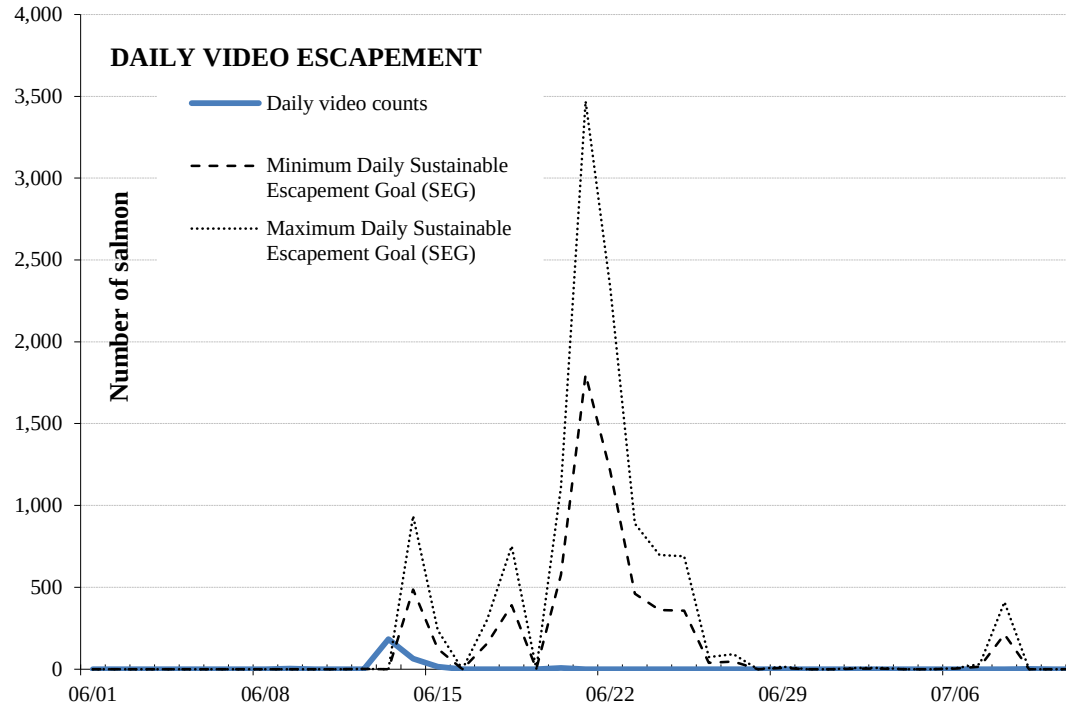
	Actual		Apportioned sustainable escapement goals				
			Projected minimum		Projected maximum		
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Comments
09 Jun	4	4	0	0	0	0	camera installed June 1
10 Jun	0	4	0	0	0	0	
11 Jun	0	4	0	0	0	0	
12 Jun	0	4	1	1	2	2	
13 Jun	183	187	0	1	0	2	
14 Jun	64	251	485	486	936	938	
15 Jun	14	265	124	610	239	1,176	
16 Jun	0	265	0	610	0	1,176	
17 Jun	0	265	156	766	301	1,477	
18 Jun	0	265	390	1,156	753	2,230	
19 Jun	0	265	1	1,157	2	2,232	
20 Jun	7	272	577	1,734	1,112	3,344	
21 Jun	0	272	1,799	3,533	3,470	6,814	
22 Jun	0	272	1,209	4,743	2,332	9,146	
23 Jun	0	272	461	5,204	890	10,036	
24 Jun	0	272	361	5,565	697	10,733	
25 Jun	0	272	357	5,923	689	11,423	
26 Jun	0	272	38	5,961	74	11,496	
27 Jun	0	272	47	6,008	91	11,587	
28 Jun	0	272	0	6,008	0	11,587	
29 Jun	0	272	7	6,015	14	11,601	
30 Jun	NF	272	0	6,015	0	11,601	camera nonfunctional
01 Jul	NF	272	0	6,015	0	11,601	
02 Jul	NF	272	4	6,019	8	11,608	
03 Jul	NF	272	3	6,022	6	11,615	
04 Jul	NF	272	0	6,022	0	11,615	
05 Jul	NF	272	0	6,022	0	11,615	
06 Jul	NF	272	3	6,025	5	11,620	
07 Jul	NF	272	16	6,041	30	11,650	camera repaired
08 Jul	0	272	212	6,253	409	12,059	
09 Jul	1	273	0	6,253	0	12,059	
10 Jul	0	273	0	6,253	0	12,059	
11 Jul	0	273	0	6,253	0	12,059	
12 Jul	2	275	0	6,253	0	12,059	
13 Jul	11	286	0	6,253	0	12,059	
14 Jul	5	291	0	6,253	0	12,059	
15 Jul	0	291	0	6,253	0	12,059	
16 Jul	0	291	0	6,253	1	12,060	
17 Jul	0	291	1	6,255	2	12,062	
18 Jul	0	291	0	6,255	1	12,063	
19 Jul	0	291	3	6,258	5	12,069	
20 Jul	0	291	14	6,271	26	12,095	
21 Jul	0	291	1	6,272	2	12,097	
22 Jul	0	291	1	6,273	2	12,098	
23 Jul	0	291	0	6,273	1	12,099	
24 Jul	0	291	0	6,273	0	12,099	Camera pulled for season

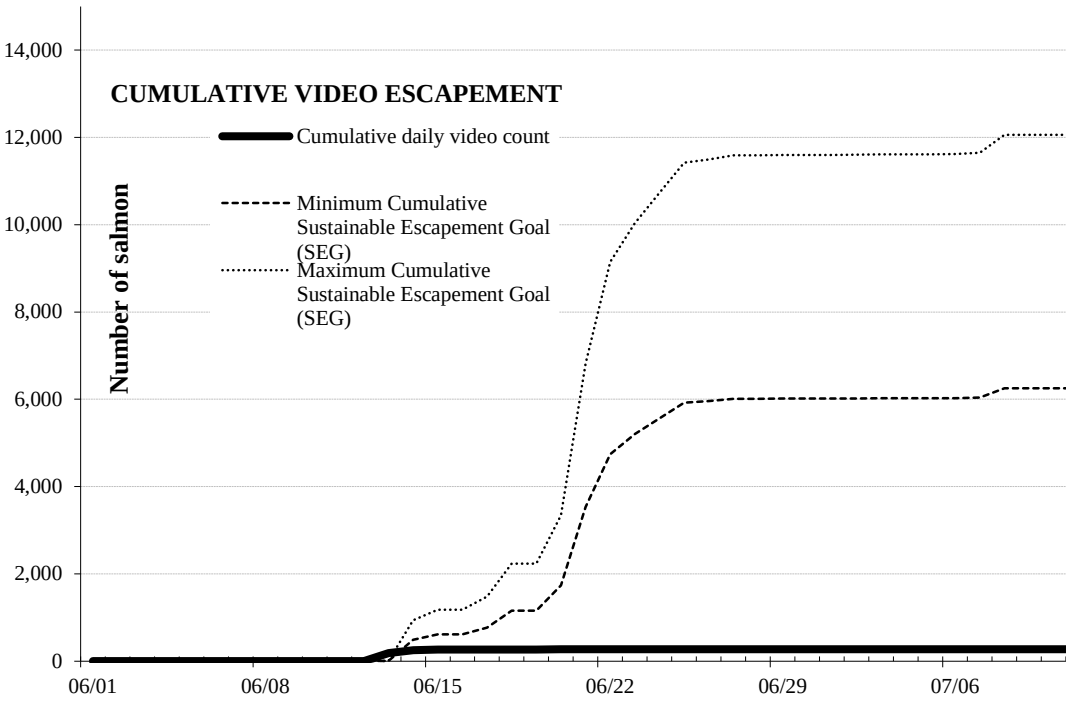
Note: Anticipated escapement derived from run timing and Mikfik Lake sockeye salmon SEG (6,300–12,150 fish).





Appendix D5.–Minimum and maximum anticipated cumulative and daily escapement versus actual escapement past the video monitoring station at Chenik Lake, 2011.





Appendix D6.–Minimum and maximum anticipated cumulative and daily escapement versus actual escapement past the Mikfik Lake video monitoring station, 2011.

Appendix D7.–Sockeye salmon escapement into Chenik Lake and Mikfik Lake, 1992–2011.

Year	Chenik	Mikfik
1992	9,269 [a]	7800 [b]
1993	4,000 [a]	6400 [b]
1994	808 [a]	9500 [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]	10,900 [b]
2001	250 [b]	5,400 [b]
2002	4,650 [b]	16,700 [b]
2003	13,825 [b]	12,800 [b]
2004	17,000 [b]	14,000 [b]
2005	14,507 [c]	6,000 [b]
2006	13,868 [c]	17,700 [b]
2007	18,288 [c]	11,200 [b]
2008	11,284 [c]	5,600 [b]
2009	15,264 [d]	15,100 [b]
2010	17,312 [d]	11,300 [b]
Prev. 10-yr average	12,625	11,580
2011	10,330 [d]	345 [b]

[a] Escapement derived from weir counts.

[b] Escapement derived from aerial surveys.

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

[d] Escapement derived from video counts.

Appendix D8.–Pink and chum salmon escapements using Area Under the Curve estimation in the Kamishak Bay District, 2011.

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
Amekdedori Creek	pink	[t]start	7/9/11											
		1	7/27/11	7/9	18	220	0	220	1,925	1,925	110	110	3%	
		2	8/11/11	7/27	15	3,300	220	3,520	26,400	28,325	1,509	1,619	38%	
		3	8/17/11	8/11	6	330	3,300	3,630	10,890	39,215	622	2,241	53%	
		4	8/28/11	8/17	11	2,320	330	2,650	14,575	53,790	833	3,074	73%	
		[t]end	9/14/11		18				20,300	74,090	1,160	4,234	100%	3,300
Big Kamishak River	chum	[t]start	7/2/11											
		1	7/20/11	7/2	18	880	0	880	7,700	7,700	440	440	8%	
		2	7/27/11	7/20	7	1,910	880	2,790	9,765	17,465	558	998	18%	
		3	8/11/11	7/27	15	5,000	1,910	6,910	51,825	69,290	2,961	3,959	72%	
		4	8/17/11	8/11	6	500	5,000	5,500	16,500	85,790	943	4,902	89%	
		5	8/28/11	8/17	11	580	500	1,080	5,940	91,730	339	5,242	95%	
		[t]end	9/14/11		18				5,075	96,805	290	5,532	100%	5,000
Big Kamishak River	pink	[t]start	7/24/11											
		1	8/11/11	7/24	18	9,260	0	9,260	81,025	81,025	4,630	4,630	72%	
		2	8/17/11	8/11	6	380	9,260	9,640	28,920	109,945	1,653	6,283	98%	
		3	8/28/11	8/17	11	10	380	390	2,145	112,090	123	6,405	100%	
		[t]end	9/14/11		18				88	112,178	5	6,410	100%	9,260
Brown's Peak Creek	chum	[t]start	7/2/11											
		1	7/20/11	7/2	18	220	0	220	1,925	1,925	110	110	3%	
		2	7/27/11	7/20	7	910	220	1,130	3,955	5,880	226	336	11%	
		3	8/11/11	7/27	15	2,500	910	3,410	25,575	31,455	1,461	1,797	57%	
		4	8/28/11	8/11	17	170	2,500	2,670	22,695	54,150	1,297	3,094	97%	
		[t]end	9/14/11		18				1,488	55,638	85	3,179	100%	2,500
Brown's Peak Creek	pink	[t]start	7/9/11											
		1	7/27/11	7/9	18	200	0	200	1,750	1,750	100	100	5%	
		2	8/11/11	7/27	15	1,000	200	1,200	9,000	10,750	514	614	30%	
		3	8/17/11	8/11	6	1,080	1,000	2,080	6,240	16,990	357	971	48%	
		4	8/28/11	8/17	11	890	1,080	1,970	10,835	27,825	619	1,590	78%	
		[t]end	9/14/11		18				7,788	35,613	445	2,035	100%	1,080

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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 Creek Right	chum	tstart	7/30/11											
		1	8/17/11	7/30	18	100	0	100	875	875	50	50	50%	
		tend	9/3/11		18				875	1,750	50	100	100%	100
Bruin River	chum	tstart	6/18/11											
		1	7/6/11	6/18	18	320	0	320	2,800	2,800	160	160	5%	
		2	7/8/11	7/6	2	230	320	550	550	3,350	31	191	5%	
		3	7/15/11	7/8	7	3,000	230	3,230	11,305	14,655	646	837	24%	
		4	7/20/11	7/15	5	2,030	3,000	5,030	12,575	27,230	719	1,556	45%	
		5	7/27/11	7/20	7	701	2,030	2,731	9,559	36,789	546	2,102	60%	
		6	8/11/11	7/27	15	1,550	701	2,251	16,883	53,671	965	3,067	88%	
		7	8/17/11	8/11	6	30	1,550	1,580	4,740	58,411	271	3,338	96%	
		8	8/28/11	8/17	11	170	30	200	1,100	59,511	63	3,401	98%	
		tend	9/14/11		18				1,488	60,999	85	3,486	100%	3,000
Bruin River	pink	tstart	7/9/11											
		1	7/27/11	7/9	18	3,040	0	3,040	26,600	26,600	1,520	1,520	34%	
		2	8/11/11	7/27	15	100	3,040	3,140	23,550	50,150	1,346	2,866	63%	
		3	8/17/11	8/11	6	1,270	100	1,370	4,110	54,260	235	3,101	68%	
		4	8/28/11	8/17	11	1,270	1,270	2,540	13,970	68,230	798	3,899	86%	
		tend	9/14/11		18				11,113	79,343	635	4,534	100%	3,040
Cottonwood Creek	chum	tstart	7/24/11											
		1	8/11/11	7/24	18	410	0	410	3,588	3,588	205	205	5%	
		2	8/17/11	8/11	6	180	410	590	1,770	5,358	101	306	7%	
		3	8/28/11	8/17	11	4,730	180	4,910	27,005	32,363	1,543	1,849	44%	
		tend	9/14/11		18				41,388	73,750	2,365	4,214	100%	4,730
Douglas River	chum	tstart	7/9/11											
		1	7/27/11	7/9	18	2	0	2	18	18	1	1	0%	
		2	8/11/11	7/27	15	10	2	12	90	108	5	6	1%	
		3	8/17/11	8/11	6	770	10	780	2,340	2,448	134	140	27%	
		tend	9/3/11		18				6,738	9,185	385	525	100%	770

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Location	Species	Survey	Survey	Previous	Days	Current	Previous	Previous	Fish	Accum. fish	Escape.	Accum.	Accum.	Peak
Douglas River	pink	[t]start	7/30/11											
		1	8/17/11	7/30	18	500	0	500	4,375	4,375	250	250	50%	
		[t]end	9/3/11		18				4,375	8,750	250	500	100%	500
Douglas Beach River	chum	[t]start	7/2/11											
		1	7/20/11	7/2	18	30	0	30	263	263	15	15	1%	
		2	7/27/11	7/20	7	20	30	50	175	438	10	25	1%	
		3	8/11/11	7/27	15	130	20	150	1,125	1,563	64	89	3%	
		4	8/17/11	8/11	6	150	130	280	840	2,403	48	137	5%	
		5	8/28/11	8/17	11	3,000	150	3,150	17,325	19,728	990	1,127	43%	
		[t]end	9/14/11		18				26,250	45,978	1,500	2,627	100%	3,000
Douglas River	chum	[t]start	7/2/11											
Clearwater		1	7/20/11	7/2	18	340	0	340	2,975	2,975	170	170	19%	
		2	8/11/11	7/20	22	580	340	920	10,120	13,095	578	748	85%	
		3	8/17/11	8/11	6	50	580	630	1,890	14,985	108	856	97%	
		[t]end	9/3/11		18				438	15,423	25	881	100%	580
Douglas River	pink	[t]start	7/24/11											
Clearwater		1	8/11/11	7/24	18	640	0	640	5,600	5,600	320	320	50%	
		2	8/17/11	8/11	6	320	640	960	2,880	8,480	165	485	75%	
		[t]end	9/3/11		18				2,800	11,280	160	645	100%	640
Fitz Creek	chum	[t]start	8/10/11											
		1	8/28/11	8/10	18	300	0	300	2,625	2,625	150	150	50%	
		[t]end	9/14/11		18				2,625	5,250	150	300	100%	300
Iniskin River	chum	[t]start	7/9/11											
		1	7/27/11	7/9	18	1,980	0	1,980	17,325	17,325	990	990	6%	
		2	8/11/11	7/27	15	5,300	1,980	7,280	54,600	71,925	3,120	4,110	25%	
		3	8/17/11	8/11	6	5,560	5,300	10,860	32,580	104,505	1,862	5,972	36%	
		4	8/28/11	8/17	11	10,810	5,560	16,370	90,035	194,540	5,145	11,117	67%	
		[t]end	9/14/11		18				94,588	289,128	5,405	16,522	100%	10,810

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Location	Species	Survey	Survey	Previous	Days	Current	Previous	Previous	Fish	Accum. fish	Escape.	Accum.	Accum.	Peak
Little Kamishak Riv.	chum	[t]start	7/2/11											
		1	7/20/11	7/2	18	2,100	0	2,100	18,375	18,375	1,050	1,050	6%	
		2	7/27/11	7/20	7	5,420	2,100	7,520	26,320	44,695	1,504	2,554	13%	
		3	8/11/11	7/27	15	19,310	5,420	24,730	185,475	230,170	10,599	13,153	69%	
		4	8/17/11	8/11	6	4,760	19,310	24,070	72,210	302,380	4,126	17,279	91%	
		5	8/28/11	8/17	11	230	4,760	4,990	27,445	329,825	1,568	18,847	99%	
		[t]end	9/14/11		18				2,013	331,838	115	18,962	100%	19,310
Little Kamishak Riv.	pink	[t]start	7/9/11											
		1	7/27/11	7/9	18	6,000	0	6,000	52,500	52,500	3,000	3,000	23%	
		2	8/11/11	7/27	15	12,300	6,000	18,300	137,250	189,750	7,843	10,843	83%	
		3	8/17/11	8/11	6	10	12,300	12,310	36,930	226,680	2,110	12,953	99%	
		4	8/28/11	8/17	11	120	10	130	715	227,395	41	12,994	100%	
		[t]end	9/14/11		18				1,050	228,445	60	13,054	100%	12,300
McNeil River	chum	[t]start	6/14/11											
		1	6/28/11	6/14	14	7,490	0	7,490	51,681	51,681	3,745	3,745	14%	
		2	7/2/11	6/28	4	6,804	7,490	14,294	28,588	80,269	2,072	5,817	22%	
		3	7/6/11	7/2	4	19,241	6,804	26,045	52,090	132,359	3,775	9,591	36%	
		4	7/8/11	7/6	2	8,870	19,241	28,111	28,111	160,470	2,037	11,628	43%	
		5	7/15/11	7/8	7	10,060	8,870	18,930	66,255	226,725	4,801	16,429	61%	
		6	7/20/11	7/15	5	3,622	10,060	13,682	34,205	260,930	2,479	18,908	71%	
		7	7/27/11	7/20	7	2,670	3,622	6,292	22,022	282,952	1,596	20,504	77%	
		8	8/11/11	7/27	15	6,242	2,670	8,912	66,840	349,792	4,843	25,347	95%	
		9	8/17/11	8/11	6	50	6,242	6,292	18,876	368,668	1,368	26,715	100%	
		[t]end	8/30/11		14				345	369,013	25	26,740[e]	100%	19,241
McNeil River	pink	[t]start	7/30/11											
		1	8/17/11	7/30	18	400	0	400	3,500	3,500	200	200	50%	
		[t]end	9/3/11		18				3,500	7,000	200	400	100%	400
North Head Creek	chum	[t]start	7/9/11											
		1	7/27/11	7/9	18	100	0	100	875	875	50	50	10%	
		2	8/17/11	7/27	21	370	100	470	4,935	5,810	282	332	64%	
		[t]end	9/3/11		18				3,238	9,048	185	517	100%	370

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Location	Species	Survey	Survey	Previous	Days between	Current	Previous	Previous	Fish	Accum.	Escape.	Accum.	Accum.	Peak
North Head Creek	pink	[t]start	8/10/11											
		1	8/28/11	8/10	18	310	0	310	2,713	2,713	155	155	50%	
		[t]end	9/14/11		18				2,713	5,425	155	310	100%	310
Sugarloaf Creek	chum	[t]start	7/9/11											
		1	7/27/11	7/9	18	290	0	290	2,538	2,538	145	145	11%	
		2	8/11/11	7/27	15	770	290	1,060	7,950	10,488	454	599	47%	
		3	8/17/11	8/11	6	650	770	1,420	4,260	14,748	243	843	66%	
		4	8/28/11	8/17	11	280	650	930	5,115	19,863	292	1,135	89%	
		[t]end	9/14/11		18				2,450	22,313	140	1,275	100%	770
Sugarloaf Creek	pink	[t]start	8/10/11											
		1	8/28/11	8/10	18	10	0	10	88	88	5	5	50%	
		[t]end	9/14/11		18				88	175	5	10	100%	10
Sunday Creek	chum	[t]start	6/27/11											
		1	7/15/11	6/27	18	120	0	120	1,050	1,050	60	60	1%	
		2	7/20/11	7/15	5	120	120	240	600	1,650	34	94	2%	
		3	7/27/11	7/20	7	1,950	120	2,070	7,245	8,895	414	508	12%	
		4	8/11/11	7/27	15	3,520	1,950	5,470	41,025	49,920	2,344	2,853	69%	
		5	8/17/11	8/11	6	180	3,520	3,700	11,100	61,020	634	3,487	85%	
		6	8/28/11	8/17	11	700	180	880	4,840	65,860	277	3,763	91%	
		[t]end	9/14/11		18				6,125	71,985	350	4,113	100%	3,520
Sunday Creek	pink	[t]start	7/24/11											
		1	8/11/11	7/24	18	600	0	600	5,250	5,250	300	300	36%	
		2	8/17/11	8/11	6	490	600	1,090	3,270	8,520	187	487	58%	
		3	8/28/11	8/17	11	250	490	740	4,070	12,590	233	719	85%	
		[t]end	9/14/11		18				2,188	14,778	125	844	100%	600
Ursus Lagoon Creek	chum	[t]start	7/2/11											
		1	7/20/11	7/2	18	10	0	10	88	88	5	5	0%	
		2	7/27/11	7/20	7	220	10	230	805	893	46	51	2%	
		3	8/17/11	7/27	21	570	220	790	8,295	9,188	474	525	21%	
		4	8/28/11	8/17	11	2,200	570	2,770	15,235	24,423	871	1,396	56%	
		[t]end	9/14/11		18				19,250	43,673	1,100	2,496	100%	2,200

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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
Ursus Lagoon	chum	tstart	7/24/11											
Right Creek		1	8/11/11	7/24	18	1,100	0	1,100	9,625	9,625	550	550	12%	
		2	8/17/11	8/11	6	1,530	1,100	2,630	7,890	17,515	451	1,001	21%	
		3	8/28/11	8/17	11	3,900	1,530	5,430	29,865	47,380	1,707	2,707	58%	
		tend	9/14/11		18				34,125	81,505	1,950	4,657	100%	3,900
Ursus Lagoon	pink	tstart	8/10/11											
		1	8/28/11	8/10	18	310	0	310	2,713	2,713	155	155	50%	
		tend	9/14/11		18				2,713	5,425	155	310	100%	310
Ursus Lagoon	pink	tstart	8/10/11											
Right Creek		1	8/28/11	8/10	18	100	0	100	875	875	50	50	50%	
		tend	9/14/11		18				875	1,750	50	100	100%	100
Ursus Head Creek	chum	tstart	7/2/11											
		1	7/20/11	7/2	18	260	0	260	2,275	2,275	130	130	50%	
		tend	8/6/11		18				2,275	4,550	130	260	100%	260
Ursus Lagoon	chum	tstart	7/20/11	7/11	9	10	0	10	88	88	5	5	50%	
Right Hand Creek		1												
		tend			9				88	175	5	10	100%	10

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 streamlife estimate.

[c] Are 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 30,977 under the curve estimate equals the cumulative escapement index.

Appendix D9.–Sockeye salmon aerial survey counts from the Kamishak Bay District, 2011.

Location	Survey number	Survey date	Live count	Peak count
Amakdedori Creek	1	6/23/11	400	
	2	6/28/11	880	
	3	7/2/11	1,130	
	4	7/6/11	950	
	5	7/8/11	1,520	
	6	7/15/11	1,640	
	7	7/20/11	3,412	
	8	7/27/11	2,173	
	9	8/11/11	202	
	10	8/17/11	90	
	11	8/28/11	60	3,412
Big Kamishak River	1	7/20/11	1,360	
	2	7/27/11	1,620	
	3	8/11/11	400	1,620
Bruin River	1	7/27/11	10	
	2	8/28/11	150	150
Chenik Lake	1	7/6/11	3,300	
	2	7/8/11	20	
	3	7/15/11	13,541	
	4	7/20/11	1,791	
	5	7/27/11	7,710	
	6	8/17/11	2,180	13,541
Cottonwood Creek	1	8/28/11	100	100
Douglas River	1	7/20/11	720	
	2	7/27/11	810	
	3	8/11/11	1,520	
	4	8/17/11	290	
	5	8/28/11	200	1,520
Douglas Reef River	1	7/20/11	391	
	2	7/27/11	31	
	3	8/11/11	30	
	4	8/17/11	670	670
Little Kamishak River	1	8/28/11	20	20
McNeil Lagoon	1	6/23/11	4,940	
	2	7/2/11	3,600	
	3	7/6/11	400	
	4	7/8/11	200	
	5	7/15/11	200	
	6	7/20/11	210	
	7	7/27/11	10	4,940

-continued-

Location	Survey number	Survey date	Live count	Peak count
Mikfik Lake	1	6/23/11	40	
	2	7/6/11	250	
	3	7/8/11	160	
	4	7/15/11	160	
	5	7/20/11	40	
	6	7/27/11	110	
	7	8/11/11	244	
	8	8/17/11	60	
	9	8/28/11	395	395
North Head Creek	1	7/27/11	40	
	2	8/11/11	303	
	3	8/17/11	20	
	4	8/28/11	440	440

Appendix D10.–Unexpanded escapement indices and harvests by subdistricts in the Kamishak Bay District, Lower Cook Inlet, 2011.

Location	Harvest[a]				Escapement index[b]				Combined harvest and escapement index counts			
	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum	Sockeye	Coho	Pink	Chum
Augustine Subdistrict (249-30)	---	---	---	---	---	---	---	---	---	---	---	---
Douglas River Subdistrict (249-40)	649	0	180	1,723	2,190	---	1,145	4,651	2,839	---	1,325	6,374
Kamishak River Subdistrict (249-45)	3,081	0	59	2	1,640	---	22,314	24,842	4,721	---	22,373	24,844
McNeil Cove Subdistrict (249-50)	---	---	---	---	5,335	---	400	26,740	---	---	---	---
Chenik/Amakdedori Subdistrict (249-55)	82,826	0	0	648	16,953	---	4,234		99,779	---	4,234	648
Bruin Bay Subdistrict (249-70)	0	0	70	788	150	---	4,534	3,586	150	---	4,604	4,374
Kirschner Lake Subdistrict (249-75)	12,732	0	741	404	---	---	---	---	12,732	---	741	404
Rocky Cove Subdistrict (249-78)	---	---	---	---	---	---	844	4,113	---	---	---	---
Ursus Cove Subdistrict (249-80)	---	---	---	---	---	---	2,445	10,602	---	---	---	---
Cottonwood Bay Subdistrict (249-83)	---	---	---	285	540	---	310	5,247	---	---	---	5,532
Iniskin Bay Subdistrict (249-85)	---	---	---	---	---	---	10	17,797	---	---	---	---
Kamishak Bay District total	99,288	0	1,050	3,850	26,808	---	36,236	97,578	120,221	---	33,277	42,176

[a] Harvests include all commercial and hatchery harvests.

[b] Unexpanded aerial survey index count, or video count.

Appendix D11.–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, 1970–2011.

	Pink salmon							Chum salmon								Sockeye salmon				
Year	Big Kamishak Riv.	Little Kamishak Riv.	Amakdedori Creek	Bruin Bay River	Sunday Creek	Brown's Peak Creek	Total	Big Kamishak River	Little Kamishak Riv.	McNeil River	Bruin Bay	Ursus Cove[a]	Cottonwood Creek	Iniskin Bay	Total	Mikfik Lake	Chenik Lake	Amakdedori Creek	Kamishak Rivers	Total
1970	---	2.0	13.0	40.0	2.0	---	57.0	--	--	--	--	--	0.6	--	0.6	1.0	--	0.3	--	1.3
1971	---	---		22.0	43.0	8.0	73.0	--	--	--	1.0	--	9.0	13.0	23.0	5.0	2.0	1.2	--	8.2
1972	---	---	0.2	2.5	2.0	1.2	5.9	--	--	--	1.0	1.6	4.0	10.0	16.6	13.0	0.7	1.0	--	14.7
1973	15.0	13.0	3.0	2.0	5.0	3.2	41.2	4.0	1.0	10.0	8.0	3.0	4.0	12.0	42.0	2.7	0.3	2.2	--	5.2
1974	1.0	---	1.0	0.6	0.1	0.1	2.8	7.1	0.6	1.5	3.0	3.5	2.5	7.0	25.2	0.9	0.1	0.4	--	1.4
1975	---	---	5.0	20.0	20.0	10.0	55.0	1.1	1.9	1.5	1.5	5.0	8.0	7.0	26.0	6.0	0.1	0.8	--	6.9
1976	8.0	6.0	---	13.5	0.3	1.2	29.0	24.0	21.0	10.0	4.0	6.0	5.0	13.5	83.5	10.0	0.9	1.6	--	12.5
1977	---	---	---	60.0	9.0	13.0	82.0	--	--	20.0	18.0	9.3	10.0	4.4	61.7	9.8	0.2	2.6	--	12.6
1978	12.0	0.4	0.9	33.0	0.2	0.9	47.4	23.0	30.0	45.0	4.0	9.7	12.5	11.4	135.6	12.0	0.1	2.6	1.0	15.7
1979	10.0	3.5	6.0	200.0	12.0	15.0	246.5	15.0	15.0	8.0	15.0	5.0	2.5	4.0	64.5	6.0	0.0	1.0	0.4	7.4
1980	2.0	0.6	3.8	400.0	5.2	2.3	413.9	10.0	13.0	8.0	15.0	8.0	4.2	9.3	67.5	6.5	3.5	2.6	0.1	12.7
1981	---	---	1.5	95.0	14.2	17.7	128.4	11.0	6.0	30.0	10.0	10.0	9.0	9.0	85.0	5.3	2.5	1.9	0.8	10.5
1982	5.0	2.2	6.3	75.0	12.0	3.5	104.0	25.0	18.0	25.0	10.0	9.0	7.0	12.8	106.8	35.0	8.0	3.2	10.0	56.2
1983	---	---	0.2	4.0	4.7	1.7	10.6	25.0	25.0	48.0	5.5	7.7	8.3	12.0	131.5	7.0	11.0	1.2	5.0	24.2
1984	---	0.1	---	110.0	12.0	6.8	128.9	19.0	12.0	21.0	8.0	7.0	6.5	9.8	83.3	6.0	13.0	1.4	2.5	22.9
1985	---	1.6	1.0	3.5	11.4	7.0	24.5	6.0	4.5	9.5	2.0	3.0	3.0	5.0	33.0	20.0	3.5	0.9	0.8	25.2
1986	5.0	2.0	6.0	1,200.0	109.0	28.0	1,350.0	24.0	17.0	22.0	1.0	11.0	11.0	5.9	91.9	7.8	7.0	1.9	5.0	21.7
1987	---	---	0.4	24.0	29.7	40.2	94.3	12.0	18.0	26.0	10.0	9.9	17.0	9.1	102.0	9.0	10.0	1.1	--	20.1
1988	1.0	0.5	1.0	29.0	18.0	17.0	66.5	15.0	13.0	49.0	7.0	9.4	16.0	9.5	118.9	10.1	9.0	0.4	0.5	20.0
1989	---	---	2.0	350.0	103.0	120.0	575.0	30.0	12.0	34.0	8.0	6.3	8.0	5.9	104.2	11.5	12.0	1.2	0.5	25.2
1990	---	---	0.1	19.0	2.8	1.0	22.9	2.5	7.9	8.0	4.0	3.8	4.3	8.4	38.9	8.8	17.0	1.8	0.2	27.8
1991	---	0.9	0.7	74.9	20.9	16.7	114.1	8.7	8.4	10.0	6.0	1.3	7.7	8.3	50.4	9.7	10.2 [a]	1.9	0.7	22.5
1992	---	---	3.2	3.2	2.9	5.0	14.3	4.5	7.1	19.2	8.5	1.7	6.1	3.4	50.5	7.8	9.3 [a]	1.9	4.9	23.9
1993	---	---	1.7	86.4	57.8	41.6	187.5	9.1	6.3	17.4	6.0	7.7	12.0	8.0	66.5	6.4	4.0 [a]	2.0	4.1	16.5
1994	---	---	0.7	5.9	3.1	1.3	11.0	---	9.0	15.0	6.1	6.2	10.2	18.9	65.4	9.5	0.8 [a]	0.8	--	11.1
1995	---	---	4.5	307.3	95.9	96.7	504.4	---	---	14.4	6.6	11.1	15.4	22.7	70.2	10.1	1.1 [a]	2.4	--	13.6

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Appendix D11.–Page 2 of 2.

	Pink salmon							Chum salmon								Sockeye salmon				
Year	Big Kamishak Riv.	Little Kamishak Riv.	Amakdedori Creek	Bruin Bay River	Sunday Creek	Brown's Peak Creek	Total	Big Kamishak River	Little Kamishak Riv.	McNeil River	Bruin Bay	Ursus Cove[a]	Cottonwood Creek	Iniskin Bay	Total	Mikfik Lake	Chenik Lake	Amakdedori Creek	Kamishak Rivers	Total
1996	16.7	---		27.5	2.8	2.4	49.4	11.1	4.4	16.1	14.9	7.6	16.1	7.8	78.0	6.5	3.0 [b]	2.9	1.8	14.2
1997	---	---	1.7	162.7	52.5	42.3	259.2	---	---	27.5	8.8	6.2	5.6	15.4	63.5	8.5	2.3 [b]	1.5	--	12.3
1998	2.0	---	---	134.9	24.0	7.9	168.8	7.1	9.7	23.5	9.4	4.6	2.3	18.6	75.2	12.6	1.9	4.1	--	18.6
1999	5.7	4.2	---	2.9	5.3	2.6	20.7	11.6	8.9	13.5	10.3	21.0	12.0	23.3	100.6	15.7	2.9	8.8	2.2	29.6
2000	14.9	13.0	---	176.7	39.8	9.8	254.2	45.3	26.9	18.6	13.6	41.7	24.1	23.6	193.8	10.9	4.8	3.3	1.5	20.5
2001	---	---	6.0	18.5	26.2	19.2	69.9	36.3	27.2	17.0	21.8	37.7	15.9	13.8	169.7	5.4	0.3	2.7	2.5	10.9
2002	---	3.4	0.9	1,598.5	81.9	27.5	1,712.2	17.4	16.4	11.3	9.9	17.1	42.2	28.5	142.8	16.7	4.7	3.2	3.3	27.9
2003	---	---	---	138.7	346.7	285.0	770.4	16.4	22.2	23.3	13.1	30.4	72.8	18.7	196.9	12.8	13.8	11.8	2.6	41.0
2004	---	3.0	---	66.5	31.5	18.1	119.1	57.9	45.3	11.2	15.9	16.0	16.3	22.0	184.6	14.0	17.0	7.2	0.8	39.0
2005	---		---	98.3	116.2	61.0	275.5	25.7	12.1	17.4	21.2	12.2	17.9	16.5	123.0	6.0	14.5 [c]	1.7	3.9	26.1
2006	---	77.0	---	515.1	70.0	35.7	697.9	58.2	42.9	28.2	7.0	15.7	13.2	15.6	180.8	17.7	13.9 [c]	0.3	--	31.9
2007	---	5.1	---	350.4	394.8	249.4	999.7	14.8	15.6	13.6	3.1	20.9	12.5	5.3	85.8	11.2	18.3 [c]	3.8	0.1	33.5
2008	---	34.3	---	150.7	20.4	17.4	222.8	4.5	21.3	9.8	17.5	6.5	11.6	20.0	91.2	5.6	11.3 [c]	3.2	0.2	20.3
2009	10.4	0.8	9.2	1,067.4	106.3	63.6	1,257.6	15.0	4.2	18.8	10.1	12.9	19.4	30.8	111.2	15.1	15.3 [d]	2.2	0.1	32.7
2010	---	---	0.7	40.3	6.6	3.1	50.6	---	18.4	10.5	6.2	11.8	15.8	19.3	82.0	11.3	17.3 [d]	1.2	0.1	29.9
10-yr average	10.4	20.6	4.2	404.4	120.1	78.0	637.6	27.4	22.6	16.1	12.6	18.1	23.8	19.1	139.5	11.6	12.1	3.7	1.5	28.9
2011	9.3	13.1	4.2	4.5	0.8	2.0	34.0	5.5	19.3	31.0	3.5	10.6	4.7	16.5	91.2	0.4	10.3 [d]	3.4	1.6	15.8

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

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

[b] Escapement derived from weir counts.

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

[d] Escapement derived from video counts.

APPENDIX E: SUBSISTENCE, PERSONAL USE AND HOMEPACK HARVESTS

Appendix E1.–Subsistence and sport salmon catch in numbers of fish by species for the village of Port Graham, Lower Cook Inlet, 1979–2011.

		Reported Harvest						
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	0	2,464
1985	23	141	481	91	32	24	0	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 [a]	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	0	74	63	12	781
2008 [c]	18	77	550	0	36	22	37	685
2009	25	33	1,982	132	49	69	40	2,265
2010	16	30	116	124	24	37	--	331
Prev. 10-yr average	25	165	658	139	136	65	77	1,163
2011	15	35	684	107	132	150	--	1,108

Source: ADF&G, Division of Subsistence, data files; gear types include set gillnet, rod/reel, and handline.

[a] Salmon totals and permits include 3 reports from non-residents of Port Graham Village.

[b] ADF&G Division of Subsistence estimate.

[c] Harvest reports for 2008 incomplete.

Appendix E2.–Subsistence and sport salmon catch in numbers of fish by species for the village of Nanwalek (formerly English Bay), Lower Cook Inlet, 1978–2011.

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	0	1,454	40	13	0	0	1,507
1984	1	18	1,225	385	404	0	0	2,032
1985	1	5	696	530	313	2	0	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	0	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	0	465	2,171
1996	27	55	1,060	598	437	25	221	2,175
1997	1	0	1	0	14	1	0	16
1998	3	5	18	0	0	0	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	0	1,514	1,324	1,030	271	365	4,139
Prev. 10-yr average	34	57	3,122	994	1,504	204	376	5,881
2011	41	18	5,009	1,381	2,499	362	---	9,269

Source: ADF&G, Division of Subsistence, data files; gear types include set gillnet, rod/reel, and handline.

Appendix E3.–Salmon set gillnet catch in numbers of fish by species and permit/effort information for the Seldovia area subsistence fishery, Lower Cook Inlet, 1996–2011.

	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	0	0	0	58
1997	19	16	12	4	44	19	0	0	0	63
1998	20	19	10	9	132	61	0	8	0	201
1999	16	15	12	3	150	130	0	0	38	318
2000	28	21	17	4	189	249	0	0	14	452
2001	19	17	14	3	134	124	0	0	0	258
2002	20	18	12	6	123	222	0	0	3	348
2003	19	13	10	3	67	210	0	1	54	332
2004	13	10	9	1	91	63	0	0	15	169
2005	15	13	4	9	46	0	0	0	0	46
2006	15	12	6	6	12	10	0	1	0	23
2007	15	12	5	7	19	27	0	0	0	46
2008	10	8	3	5	3	15	0	0	0	18
2009	6	5	1	4	14	0	0	0	0	14
2010	11	8	2	6	0	54	0	0	0	54
Prev 10-yr average	14	12	7	5	51	73	0	0	7	131
2011	4	2	1	1	0	49	0	0	0	49
Late Season: August[b]										
1996	4	3	1	2	0	1	0	0	0	1
1997	1	1	0	1	0	0	0	0	0	0
1998	3	2	1	1	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	1	1	1	0	0	9	13	31	6	59
2003	1	1	1	0	0	10	1	12	1	24
2004	1	1	1	0	0	0	4	0	0	4
2005	3	2	2	0	0	70	13	93	12	188
2006	2	2	1	1	0	0	0	21	0	21
2007	4	4	3	1	0	24	9	80	27	140
2008	2	2	2	0	0	16	41	65	5	127
2009	12	9	8	1	0	78	10	44	14	146
2010	5	4	3	1	2	46	31	66	35	180
Prev 10-yr average	3	3	2	0	0	25	12	41	10	89
2011	3	2	1	1	0	6	0	10	0	16

Source: ADF&G, Division of Subsistence, data files; gear types include set gillnet, rod/reel, and handline.

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

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

Appendix E4.–Personal use/subsistence set gillnet salmon catches, 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, 1969–2011.

	Permits				Reported harvest						
Year	Issued	Returned	Fished	Not fished	Chinook	Sockeye	Coho	Pink	Chum	Other	Total
1969	47	44	35	9	0	9	752	38	0	17	816
1970	78	73	55	18	0	12	1,179	143	13	39	1,386
1971	112	95	53	42	2	16	1,549	44	7	20	1,638
1972	135	105	64	41	1	11	975	48	69	19	1,123
1973	143	128	82	46	0	18	1,304	84	40	9	1,455
1974	148	118	52	66	0	16	376	43	77	27	539
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	0	5,244
1982	395	372	301	71	41	49	7,398	956	154	0	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	0	7,094
1987	363	339	250	89	5	50	3,979	279	61	0	4,374
1988	439	417	300	117	14	73	5,007	1,445	75	0	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	0	10,450
1991	472	459	295	164	8	47	4,931	366	23	0	5,375
1992	365	350	239	111	5	63	2,277	643	21	0	3,009
1993	326	317	215	102	6	44	1,992	463	18	0	2,523
1994	286	284	224	60	66	80	4,097	1,178	18	0	5,439
1995	235	232	178	54	118	108	2,916	343	7	0	3,492
1996	299	293	213	80	302	102	3,347	1,022	24	0	4,797
1997	276	264	186	78	384	191	1,817	257	12	0	2,661
1998	227	214	142	72	135	20	1,461	167	5	0	1,788
1999	146	141	111	30	276	119	1,803	168	3	0	2,369
2000	213	206	151	55	104	28	2,064	304	4	0	2,504
2001	154	148	112	34	86	27	1,579	150	16	0	1,858
2002	122	113	93	20	61	33	1,521	251	12	0	1,878
2003	104	96	72	24	17	57	1,071	170	9	0	1,324
2004	91	83	65	18	7	56	1,554	172	16	0	1,805
2005	108	96	69	27	8	57	833	296	13	0	1,207
2006	89	82	62	20	15	41	1,295	221	5	0	1,577
2007	141	133	95	38	10	113	1,431	641	34	0	2,229
2008	146	142	107	35	2	92	1,844	687	14	0	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	0	1,306
Prev. 10-yr average	123	116	85	31	23	90	1,265	294	14	0	1,686
2011	119	112	81	31	15	223	806	145	5	3	1,197

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, 1990–2011.

	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	83.6%	11	8.6%	1	0.8%	19	14.8%	2	1.6%	0	0.0%	5	3.9%	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
Previous 10-year Average	94	77.6%	8.6	7.3%	2	1.7%	11	9.1%	2.4	0.02	0	0.0%	3.3	2.7%	1.2	0.9%	122.6
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

[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, 1981–2011.

	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	0	0	15	118	18	65	38	466	28	194	13	32
Prev. 10-yr average	4	56	27	413	13	124	18	346	18	227	9	99
2011	3	31	15	54	10	49	44	536	27	103	14	33

Appendix E7.–Salmon retained from the commercial harvest for personal use (homepack) by species and gear type from Lower Cook Inlet districts, 1996–2011.

	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	0	19	32	5	0	0	0	0	0
1997	1	--	1	--	11	--	0	--	0	--	0	--
1998	--	--	--	--	--	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--	--	--	--	--	--
2002	1	--	0	--	20	--	0	--	100	--	3	--
2003	2	--	3	--	2	--	0	--	750	--	0	--
2004	1	--	2	--	38	--	10	--	9	--	4	--
2005	3	1	7	0	79	10	38	0	121	0	8	0
2006	4	3	9	0	58	169	73	17	72	0	13	7
2007	4	--	1	--	204	--	76	--	3	--	0	--
2008	2	--	0	--	39	--	7	--	40	--	6	--
2009	3	--	1	--	35	--	14	--	23	--	9	--
2010	2	--	2	--	29	--	4	--	0	--	3	--
Prev. 10-yr average	2	2	3	0	56	90	25	9	124	0	5	4
2011	3	1	2	3	62	0	3	0	487	0	27	0

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, 2011.

	Commercial Homepack[a]						
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Homer	2	5	5	0	4	0	14
Seldovia	1	0	55	3	483	26	567
USA balance	1	0	2	0	0	1	3
Total	4	5	62	3	487	27	584

	Southern District Personal Use set gillnet fishery [b]						
Community	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Homer area	87	13	112	632	102	2	861
Anchorage area	13	2	27	104	19	2	154
Halibut Cove	2	0	0	0	0	0	0
Anchor Pt./Ninilchik/Nikolaevsk	9	0	19	44	6	1	70
Seldovia	2	0	0	0	0	0	0
Pt.Graham/Nanwalek	0	0	0	0	0	0	0
Kenai/Soldotina	6	0	65	26	18	0	109
Total	119	15	223	806	145	5	1,194

[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*.

APPENDIX F: HATCHERY PRODUCTION AND RETURNS

Appendix F1.–Summary of salmon runs to Lower Cook Inlet hatcheries, 2011.

Sockeye salmon Hatchery or release site, (hatchery)	BY 2006 Release	BY 2007 Release	2011 Forecast Run	Estimated CPF[b] Contribution	Estimated Sales Harvest[c] Contribution	Broodstock & Unharvested Contribution	Estimated Total Run	2011 Eggs Collected
Bear Lake and Resurrection Bay, (TLH)	4,037,000	4,075,000	141,600	76,111	150,436	13,520	240,067	5,984,132
Hidden Lake, (TLH)	658,000	917,000	42,600	19,098	311	8,657	28,066	1,119,538
Leisure and Hazel lakes, (TLH)	3,726,000	3,214,000	7,900	15,118	0	0	15,118	0
Kirschner Lake, (TLH)	254,000	300,000	11,800	12,942	0	210	13,152	0
English Bay Lakes, (PGH)	0	246,000	NE	4,497	0	7,073	11,570	2,504,876
Tutka Bay Hatchery , (TLH)[a]	483,000	301,000	33,000	3,500	7,836	3,563	14,899	3,012,637
Port Graham Hatchery, (PGH)	0	112,000	4,100	717	200	219	1,136	362,142
Total Sockeye Salmon	9,158,000	9,165,000	241,000	131,983	158,783	33,242	324,008	12,983,325

Coho salmon Hatchery or release site, (hatchery)	BY 2008 Release	2011 Forecast Run	Estimated CPF Contribution	Estimated Sales Harvest Contribution	Broodstock & Unharvested Contribution	Estimated Total Run	Eggs Collected
Bear Lake, (TLH)	270,000	3,000	1,207	0	886	2,093	577,695
Total Coho Salmon	270,000	3,000	1,207	0	886	2,093	577,695

Pink salmon Hatchery or release site, (hatchery)	BY 2009 Release	2011 Forecast Run	Estimated CPF Contribution	Estimated Sales Harvest Contribution	Broodstock & Unharvested Contribution	Estimated Total Run	Eggs Collected
Tutka Bay Lagoon Hatchery (TBLH)	0	0	0	0	0	0	4,287,976
Halibut Cove Lagoon, (TBLH)	0	0	0	0	0	0	9,366,906 [d]
Total Pink Salmon	0	0	0	0	0	0	13,654,882
Total-All Salmon			133,190	158,783	34,128	326,101	27,215,902

[a] 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.

[b] Common Property Fisheries (CPF) include commercial, sport, personal use, and subsistence harvests.

[c] Hatchery cost recovery sales in number of fish.

[d] Pink salmon eggs collected for the Halibut Cove Lagoon remote release came from Windy Bay wild stock.

Appendix F2.–Daily sockeye salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2011.

			Sales Harvest		Broodstock	
Date	gear	Location	daily	cumulative	daily	cumulative
5/24/2011	seine	Resurrection Bay	5,442	5,442	0	0
5/25/2011	seine	" "	4,895	10,337	0	0
5/26/2011	seine	" "	7,422	17,759	0	0
5/27/2011	seine	" "	9,258	27,017	0	0
5/28/2011	seine	" "	4,885	31,902	0	0
5/29/2011	seine	" "	7,278	39,180	0	0
5/30/2011	seine	" "	6,896	46,076	0	0
5/31/2011	seine	" "	8,821	54,897	0	0
6/1/2011	seine	" "	8,787	63,684	0	0
6/2/2011	seine	" "	13,821	77,505	0	0
6/4/2011	seine	" "	8,002	85,507	0	0
6/5/2011	seine	" "	7,265	92,772	0	0
6/6/2011	seine	" "	9,175	101,947	0	0
6/7/2011	seine	" "	15,579	117,526	0	0
6/8/2011	seine	" "	4,782	122,308	0	0
6/9/2011	seine	" "	12,932	135,240	0	0
6/10/2011	seine	Resurrection Bay	10,792	146,032	0	0
6/18/2011	weir or beach seine	Bear Creek	762	762	0	0
6/20/2011	weir or beach seine	" "	653	1,415	0	0
6/21/2011	weir or beach seine	" "	937	2,352	0	0
6/22/2011	weir or beach seine	" "	0	2,352	0	0
6/23/2011	weir or beach seine	" "	462	2,814	0	0
6/24/2011	weir or beach seine	" "	286	3,100	0	0
6/25/2011	weir or beach seine	" "	122	3,222	0	0
6/27/2011	weir or beach seine	" "	231	3,453	0	0
6/28/2011	weir or beach seine	" "	17	3,470	0	0
6/29/2011	weir or beach seine	" "	285	3,755	0	0
7/2/2011	weir or beach seine	" "	180	3,935	0	0
7/3/2011	weir or beach seine	" "	109	4,044	0	0
7/5/2011	weir or beach seine	" "	58	4,102	0	0
7/6/2011	weir or beach seine	" "	28	4,130	0	0
7/7/2011	weir or beach seine	" "	59	4,189	0	0
7/8/2011	weir or beach seine	" "	55	4,244	0	0
7/9/2011	weir or beach seine	" "	20	4,264	0	0
7/10/2011	weir or beach seine	" "	48	4,312	0	0
7/11/2011	weir or beach seine	" "	19	4,331	0	0
7/13/2011	weir or beach seine	" "	11	4,342	0	0
7/14/2011	weir or beach seine	" "	3	4,345	0	0
7/19/2011	weir or beach seine	" "	51	4,396	0	0
7/22/2011	weir or beach seine	" "	8	4,404	0	0
7/28/2011	weir or beach seine	" "	0	4,404	208	208
7/29/2011	weir or beach seine	" "	0	4,404	209	417
7/30/2011	weir or beach seine	" "	0	4,404	197	614
7/31/2011	weir or beach seine	" "	0	4,404	182	796
8/2/2011	weir or beach seine	" "	0	4,404	361	1,157
8/3/2011	weir or beach seine	" "	0	4,404	362	1,519
8/4/2011	weir or beach seine	" "	0	4,404	187	1,706
8/6/2011	weir or beach seine	Bear Creek	0	4,404	197	1,903

-continued-

			Sales Harvest		Broodstock	
Date	gear	Location	daily	cumulative	daily	cumulative
8/8/2011	weir or beach seine	Bear Creek	0	4,404	383	2,286
8/9/2011	weir or beach seine	" "	0	4,404	198	2,484
8/10/2011	weir or beach seine	" "	0	4,404	384	2,868
8/11/2011	weir or beach seine	" "	0	4,404	197	3,065
8/12/2011	weir or beach seine	" "	0	4,404	381	3,446
8/13/2011	weir or beach seine	Bear Creek	0	4,404	385	3,831
7/20/2011	seine	Tutka Bay	362	362	0	0
7/22/2011	seine	" "	1,004	1,366	0	0
7/28/2011	seine	" "	811	2,177	0	0
7/29/2011	seine	" "	1,116	3,293	0	0
7/30/2011	seine	" "	506	3,799	0	0
8/1/2011	seine	" "	359	4,158	0	0
8/2/2011	seine	" "	1,788	5,946	0	0
8/11/2011	seine	" "	1,890	7,836	0	0
10/5/2011	seine	" "	0	7,836	299	299
10/12/2011	seine	" "	0	7,836	407	706
10/15/2011	seine	" "	0	7,836	416	1,122
10/17/2011	seine	" "	0	7,836	371	1,493
10/21/2011	seine	Tutka Bay	0	7,836	68	1,561
8/28/2011	beach seine	English Bay	0	0	395	395
9/1/2011	beach seine	" "	0	0	285	680
9/3/2011	beach seine	" "	0	0	471	1,151
9/10/2011	beach seine	" "	0	0	503	1,654
9/12/2011	beach seine	English Bay	0	0	462	2,116
9/20/2011	weir or beach seine	Hidden Lake	0	0	448	448
9/21/2011	weir or beach seine	Hidden Lake	0	0	456	904
9/25/2011	beach seine	Port Graham	200	200	219	219

Hatchery escapement summary in numbers of fish[a]	
Cost Recovery Harvest	158,472
Raceway harvest	0
Viable broodstock (spawned,eggs in incubators)	8,225
Unviable broodstock (green/over-ripe/bad)	89
Unspawned fish (e.g. excess males/females)	0
Holding mortalities (raceway, pen mortalities)	317
Estimated unharvested return	0
Estimated total return to hatchery	167,103

Sales summary	
Whole fish sales	158,472
Raceway sales	0
Carcass sales	0
Total sales	158,472

[a] CIAA 2011.

Appendix F3.–Daily pink salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2011.

			Sales Harvest		Broodstock	
Date	gear	Location	daily	cumulative	daily	cumulative
8/1/2011	seine	Tutka Bay	5	5	0	0
8/2/2011	seine	" "	0	5	0	0
8/6/2011	seine	" "	200	205	0	0
8/14/2011	seine	" "	0	205	568	568
8/15/2011	seine	" "	0	205	963	1,531
8/27/2011	seine	" "	0	205	670	2,201
8/28/2011	seine	" "	0	205	1,067	3,268
8/29/2011	seine	" "	0	205	1,622	4,890
8/30/2011	seine	" "	0	205	596	5,486
9/1/2011	seine	" "	0	205	827	6,313
9/2/2011	seine	" "	0	205	500	6,813
9/3/2011	seine	" "	0	205	403	7,216
9/4/2011	seine	" "	0	205	409	7,625
9/6/2011	seine	" "	0	205	1,231	8,856
9/11/2011	seine	" "	0	205	2,127	10,983
9/12/2011	seine	" "	0	205	1,175	12,158
9/19/2011	seine	Tutka Bay	0	205	507	12,665
9/7/2011	seine	Windy Bay	0	0	1,825	1,825
9/13/2011	seine	" "	0	0	2,233	4,058
9/14/2011	seine	Windy Bay	0	0	688	4,746

Hatchery escapement summary in numbers of fish[a]	
Cost Recovery Harvest	205
Raceway harvest	0
Viable broodstock (spawned,eggs in incubators)	15,186
Unviable broodstock (green/over-ripe/bad)	610
Unspawned fish (e.g. excess males/females)	0
Holding mortalities (raceway, pen mortalities)	1,615
Estimated unharvested return	0
Estimated total return to hatchery[a]	17,616

Sales summary	
Whole fish sales	205
Raceway sales	0
Carcass sales	0
Total sales	205

Source: CIAA 2011.

[a] Releases of pink salmon from the Tutka Bay Lagoon Hatchery (TBLH) ended in 2004 and from the Port Graham Hatchery in 2007. The Tutka Bay fish listed above were harvested from wild returns to the Tutka Bay Lagoon Creek and will be used to seed the TBLH. Windy Bay harvests were also wild fish that will be used for broodstock to start a remote release at Halibut Cove Lagoon.

Appendix F4.–Estimated historical harvest contributions, and total return of sockeye salmon to greater Cook Inlet hatchery release sites, 1978–2011.

Return Year	Hatchery Contrib. to the CCPF [a]	Hatchery Contrib. to Sub. Harvest	Hatchery Contrib. to PU Harvest	Hatchery Contrib. to Sport Harvest	Hatchery Contrib. to Broodstock Esc.	Hatchery Contrib. to Cost Recov.	Total Hatchery Return
1978	0	0	0	0	0	0	0
1979	299,858	0	1	0	3,974	0	303,833
1980	638,058	0	0	0	30,927	0	668,985
1981	358,726	0	34	0	9,700	0	368,460
1982	23,990	0	175	1,770	19,283	0	45,218
1983	151,400	0	0	6,400	16,103	0	173,903
1984	231,444	0	228	5,286	50,800	0	287,758
1985	415,493	0	25	13,334	179,400	0	608,252
1986	808,503	0	22	21,007	12,020	0	841,552
1987	521,349	0	485	16,214	34,600	0	572,648
1988	676,669	0	628	8,293	594	0	686,184
1989	251,532	0	5,300	8,700	12,000	78,731	356,263
1990	370,195	0	4,143	3,500	2,708	8,513	389,059
1991	479,910	0	6,712	13,260	86,650	3,604	590,136
1992	378,823	0	7,250	1,000	24,103	9,198	420,374
1993	459,756	0	10,250	5,600	38,231	37,620	551,457
1994	205,837	0	0	3,000	17,655	51,140	277,632
1995	260,844	2,600	7,000	4,190	6,010	63,404	344,048
1996	348,846	3,000	9,000	2,584	5,455	76,272	445,157
1997	184,409	2,142	4,900	750	1,645	90,464	284,310
1998	110,659	0	15,000	57	3,561	81,889	211,166
1999	968,473	2,564	35,750	31,333	16,317	182,311	1,236,748
2000	216,149	2,500	19,228	6,039	17,681	94,666	356,263
2001	656,309	3,500	19,206	75,950	17,773	67,786	840,524
2002	754,609	9,799	62,895	33,906	19,744	85,830	966,783
2003	1,080,584	0	70,618	10,398	20,311	124,388	1,306,299
2004	1,112,259	4,000	78,753	15,816	11,167	29,943	1,251,938
2005	924,377	0	86,032	12,137	7,379	74,673	1,104,598
2006	382,433	0	26,000	13,750	14,600	77,590	514,373
2007	345,027	0	24,300	10,750	12,754	57,305	450,136
2008	134,226	500	6,717	7,767	7,658	88,836	245,704
2009	26,798	700	9,630	12,908	10,403	174,980	235,419
2010	78,645	0	20,828	15,314	10,214	69,833	194,834
Prev. 10-yr average	549,527	1,850	40,498	20,870	13,200	85,116	711,061
2011	94,153	0	8,553	29,067	7,572	159,860	299,205

Source: Harvest estimates of hatchery fish are from CIAA 2011.

[a] CCPF - Commercial Common Property Fleet.

Appendix F5.–Estimated historical harvest contributions, and total return of coho salmon to greater Cook Inlet hatchery release sites, 1968–2011.

Return year	Hatchery Contrib. to the CCPF [a]	Hatchery Contrib. to PU Harvest	Hatchery Contrib. to Sport Harvest	Hatchery Contrib. to Cost Recov.	Hatchery Contrib. to Broodstock Esc.	Total Hatchery Return
1968[b]	--	--	--	--	--	--
1969	--	--	--	--	--	--
1970	--	--	--	--	--	--
1971	--	--	--	--	--	--
1972	--	--	--	--	--	--
1973	--	--	--	--	--	--
1974	--	--	--	--	--	--
1975	--	--	--	--	--	--
1976	--	--	--	--	--	--
1977	--	--	--	--	--	--
1978[c]	0	0	0	0	100	100
1979	0	0	0	0	7,089	7,089
1980	0	0	0	0	6,376	6,376
1981	0	0	150	0	0	150
1982	0	0	2,509	0	0	2,509
1983	--	--	--	--	--	--
1984	0	0	1,700	0	4,620	6,320
1985	0	0	1,362	0	5,335	6,697
1986	600	0	6,423	0	1,938	8,961
1987	0	0	13,800	0	300	14,100
1988	0	0	6,000	0	0	6,000
1989	0	0	7,340	0	0	7,340
1990	0	1,600	8,500	0	0	10,100
1991	0	800	17,940	0	0	18,740
1992	0	800	4,687	1,234	689	7,410
1993	0	0	10,529	7,199	678	18,406
1994	0	0	1,600	4,967	731	7,298
1995	--	--	--	--	--	0
1996	0	0	1,500	723	608	2,831
1997	0	0	4,066	2,690	594	7,350
1998	0	0	4,665	9,905	780	15,350
1999	0	0	2,500	2,499	939	5,938
2000	3,000	2,135	50,900	5,370	976	62,381
2001	0	0	1,000	1,754	644	3,398
2002	0	0	40,901	2,352	1,044	44,297
2003	0	0	60,566	2,228	1,234	64,028
2004	0	0	58,255	1,224	972	60,451
2005	0	0	61,979	1,536	953	64,468
2006	0	0	28,656	600	754	30,010
2007	48	0	32,794	0	608	33,450
2008	0	0	19,477	350	525	20,352
2009	0	0	17,971	0	483	18,454
2010	0	0	26,043	0	452	26,495
2011	0	0	20,697	0	454	21,151

[a] Return locations documented were Bear Lake, Fritz Creek, Halibut Cove Lagoon, Grouse Lake, Caribou Lake, Homer Spit, Resurrection Bay and Seldovia. Returns to other release locations identified in Appendix F17 not documented.

[b] Releases of hatchery coho salmon in LCI began in 1966. No documentation of returns prior to 1978.

[c] Harvest estimates of hatchery fish are from CIAA 2011.

Appendix F6.–Estimated historical harvest contributions and total returns of pink salmon to greater Cook Inlet hatchery release sites, 1978–2011.

Return Year	Brood Year	Fry Release	Hatchery Contribution to the CCPF [b]	Hatchery Contribution Subs. Harvest	Hatchery Contribution PU Harvest	Hatchery Contribution Sport Harvest	Hatchery Contribution Cost Recovery	Hatchery Contribution Broodstock Esc.	Total Hatchery Return	Estimated Marine Survival
1978	1976	318,280	0	0	0	0	0	3,700	3,700	1.16%
1979	1977	4,820,937	0	0	0	0	0	369,000	369,000	7.65%
1980	1978	9,243,717	0	0	0	0	0	315,000	315,000	3.41%
1981	1979	6,795,244	963,350	0	0	5,640	0	47,279	1,016,269	14.96%
1982	1980	10,268,753	181,400	0	0	2,000	0	4,400	187,800	1.83%
1983	1981	15,475,435	577,200	0	0	4,900	0	0	582,100	3.76%
1984	1982	15,232,750	230,000	0	0	8,000	0	0	238,000	1.56%
1985	1983	18,142,463	463,600	0	0	8,000	0	0	471,600	2.60%
1986	1984	23,818,500	380,135	0	0	8,030	55	50	388,270	1.63%
1987	1985	26,265,176	84,500	0	0	650	0	0	85,150	0.32%
1988	1986	8,278,967	836,000	0	0	14,030	0	0	850,030	10.27%
1989	1987	15,589,360	877,600	0	0	20,700	0	0	898,300	5.76%
1990	1988	36,977,190	167,400	0	0	2,800	0	0	170,200	0.46%
1991	1989	36,974,370	204,800	0	0	3,661	0	0	208,461	0.56%
1992	1990	30,602,576	97,577	0	0	4,500	276,000	69,000	447,077	1.46%
1993	1991	33,760,487	228,376	0	0	7,200	409,431	102,000	747,007	2.21%
1994	1992	48,700,000	604,037	0	0	5,500	959,064	153,966	1,722,567	3.54%
1995	1993	62,395,000	1,210,572	900	0	3,000	1,213,322	182,348	2,610,142	4.18%
1996	1994	63,358,000	19,510	1,000	0	1,000	423,306	140,152	584,968	0.92%
1997	1995	111,469,975	172,262	5,000	0	5,000	2,465,108	188,197	2,835,567	2.54%
1998	1996	89,918,000	507,850	0	0	1,929	787,538	175,468	1,472,785	1.64%
1999	1997	90,000,000	222,228	0	0	2,000	857,902	151,903	1,234,033	1.37%
2000	1998	64,797,691	8,580	0	0	2,000	1,043,705	269,808	1,324,093	2.04%
2001	1999	66,287,812	108,735	0	0	2,000	421,530	198,148	730,413	1.10%
2002	2000	126,635,207	9,791	0	0	0	1,041,529	252,777	1,304,097	1.03%
2003	2001	105,971,985	2,924	266	0	1,500	616,155	261,457	882,302	0.83%
2004	2002	125,167,000	1,523	5,000	0	1,500	2,459,189	117,222	2,584,434	2.06%
2005	2003	84,247,031	4,779	0	0	0	2,138,538	84,088	2,227,405	2.64%
2006	2004	26,567,983	5,000	0	0	0	246,781	27,741	279,522	1.05%
2007	2005	13,883,682	0	8,000	0	0	112,801	0	120,801	0.87%
2008	2006	13,282,049	0	0	0	0	0	0	0	
2009	2007	0	0	0	0	0	0	0	0	
2010	2008	0	0	0	0	0	0	0	0	
2011	2009	0	0	0	0	0	0	0	0	

Note: Harvest estimates of hatchery fish are from CIAA 2011. CCPF - Commercial Common Property Fleet.

Appendix F7.–Tutka Bay Lagoon Hatchery salmon releases, 1977–2011.

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]	597,377 [a]
1980		6,795,244 [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]	25,977 [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]		

[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 (Appendix F8) and are listed separately in Appendix F13.

Appendix F8.–Trail Lakes Hatchery salmon releases, 1983–2011.

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]	
Previous 10-year average		11,163,200	730,950	
2011		9,324,200	437,000	

[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.–Eklutna Hatchery salmon releases, 1983–1998.

Year released	Sockeye	Coho	Pink	Chum
1983		1,318		1,536,892
1984		87,944		928,143
1985		43,500	281,500	
1986		101,282	30,576	1,693,382
1987		147,682	38,267	2,740,773
1988		72,881		2,697,860
1989		50,775		6,121,337
1990		54,278		3,209,773
1991		21,285		2,535,335
1992		131,829		3,114,793
1993	869,000	108,070		
1994	5,000,000	62,400		
1995	6,200,000	60,967		
1996	5,000,000	69,176		
1997	8,768,000	69,000		
1998	9,564,000	108,000		

Note: No thermal marking on any salmon fry reared at this facility.

Appendix F10.–Crooked Creek Hatchery salmon and steelhead releases, 1977–1996.

Year released	Chinook	Sockeye	Coho	Steelhead
1977	92 [a]	4,193,011 [a]		
1979		8,028,759 [a]	10,740 [a]	
1980		5,738,492 [a]		
1981		10,968,002 [a]		
1982		17,476,038 [a]		
1983	53,782 [a]	19,048,111 [a]		
1984	67,800 [a]	19,160,000 [a]		
1985	54,087 [a]	11,884,760 [a]	102,356 [a]	27,429 [a]
1986	69,168 [a]	17,471,312 [a]	85,410 [a]	
1987		20,030,600 [a]	175,249 [a]	70,159 [a]
1988		14,706,400 [a]	131,810 [a]	11,600 [a]
1989		15,185,000 [a]	70,772 [a]	24,808 [a]
1990		15,513,500 [a]	381,790 [a]	106,959 [a]
1991	273,500 [a]	12,650,000 [a]	302,123 [a]	68,948 [a]
1992	273,123 [a]	13,312,000 [a]	224,000 [a]	39,677 [a]
1993	286,560 [a]	11,900,000 [a]	221,700 [a]	
1994	225,819 [a]	208,000 [a]	126,021 [a]	
1995		11,164,000		
1996		11,074,605		

[a] No thermal marks prior to 1995.

Appendix F11.–Port Graham Hatchery salmon releases, 1991–2011.

Year released	Sockeye	Coho	Pink
1991	84,757 [a]	0	255,000 [a]
1992	144,982 [a]	0	1,810,487 [a]
1993	194,700 [a]	0	0
1994	830,159 [a]	0	1,295,000 [a]
1995	0	0	358,000 [a]
1996	292,134 [a]	0	6,469,975 [a]
1997	199,000 [a]	29,963 [a]	918,000 [a]
1998	0	0	0
1999	918,348 [a]	0	4,617,362
2000	906,057 [a]	0	1,142,726
2001	0	0	27,298,797
2002	0	0	6,600,985
2003	694,647	0	57,200,000
2004	159,616	0	36,282,671
2005	203,000	0	26,567,983
2006	422,060	0	13,883,682
2007	0	0	13,282,049
2008	0	0	0
2009	0 [b]	0	0
2010	0	0	0
2011	0	0	0

[a] No thermal marks.

[b] The 112,000 sockeye salmon released in 2009 at PGH were of English Bay Lake stock and were reared at the Trail Lakes Hatchery (TLH). These fish are included in releases documented in Appendix F8 for the TLH hatchery and are listed in Appendix F13.

Appendix F12.–Fort Richardson and Elmendorf state fish hatcheries combined hatchery salmon fry releases, 1966–2011.

Year released	Chinook	Coho
1966	166,874 [a]	0
1967	538,356 [a]	38,200 [a]
1968	82,400 [a]	199,700 [a]
1969	95,900 [a]	264,000 [a]
1970	45,700 [a]	225,400 [a]
1971	217,390 [a]	92,343 [a]
1972	71,814 [a]	87,700 [a]
1973	166,134 [a]	683,685 [a]
1974	212,540 [a]	210,300 [a]
1975	91,100 [a]	281,800 [a]
1976	513,400 [a]	895,200 [a]
1977	351,952 [a]	775,803 [a]
1978	747,629 [a]	617,822 [a]
1979	1,088,542 [a]	1,471,899 [a]
1980	770,235 [a]	602,394 [a]
1981	391,950 [a]	1,553,864 [a]
1982	0	1,096,569 [a]
1983	578,441 [a]	424,542 [a]
1984	1,021,553 [a]	831,147 [a]
1985	1,727,379 [a]	660,854 [a]
1986	1,474,079 [a]	1,991,102 [a]
1987	869,520 [a]	731,202 [a]
1988	1,624,351 [a]	1,333,453 [a]
1989	3,008,315 [a]	1,970,126 [a]
1990	2,256,778 [a]	1,281,500 [a]
1991	1,693,355 [a]	1,215,136 [a]
1992	1,765,804 [a]	1,329,869 [a]
1993	1,863,391 [a]	1,196,020 [a]
1994	1,709,950 [a]	994,250 [a]
1995	1,695,164 [a]	1,121,768 [a]
1996	1,899,284 [a]	1,042,477 [a]
1997	1,801,410 [a]	1,136,845 [a]
1998	1,531,021 [a]	1,249,781 [a]
1999	1,340,334 [a]	1,113,016 [a]
2000	2,173,708 [a]	0
2001	1,353,660 [a]	1,226,342 [a]
2002	1,080,114	1,273,443
2003	2,203,046	944,706
2004	1,958,790	1,221,608
2005	2,334,649	1,457,233
2006	1,922,667	1,235,317
2007	2,067,938	1,193,374
2008	1,309,790	989,853
2009	1,205,594	1,168,549
2010	2,006,157	1,336,861
Previous 10-year average	1,744,241	1,204,729
2011	1741377	617,466

[a] No thermal marks.

Appendix F13.–Historic releases of sockeye salmon from hatcheries to Lower Cook Inlet, 1976–2011.

	Southern District						Outer	Kamishak District					Eastern District		
Year	Leisure Lake	Hazel Lake	Halibut Cove Lagoon	Tutka Bay Lagoon	English Bay Lakes	Port Graham Subdistrict	Port Dick Lake	Chenik Lake	Paint River Lakes	Kirschner Lake	Bruin Lake	Ursus Lake	Bear Lake	Resurrection Bay	Grouse Lake
1976	1,085		7,777												
1977	91,347														
1978	83,422							98,082							
1979								256,525							
1980	532,650														
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		
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	0	

Appendix F14.–Historic releases of sockeye salmon from hatcheries to Upper Cook Inlet, 1973–2011.

	Upper Cook Inlet, Kenai Peninsula (244-30, 246-20)						Matanuska Drainage (247-50)				Susitina drainage (247-41)	
Year	Coal Creek	Crooked Creek	Hidden Lake	Quartz Creek	Tustumena Lake	Packers Creek Lake	Big Lake system	Blodgett Lake	Chelatna Lake	Eklutina River	Nancy Lake	Susitina River
1973		192,000										
1976												
1977			330,318				9,338,493					
1978			602,558		400,000		2,141,868				2,102,064	
1979			8,256		7,763,978							
1980					5,205,842						1,363,398	
1981					8,776,571		3,567,878				1,473,578	
1982					15,948,162			1,176,889			2,037,024	
1983			1,085,279	1,225,472	16,934,872			2,386,633			2,229,056	18,652
1984			1,236,864		17,050,000							14,969
1985			1,805,792		9,866,760			2,096,584				11,795
1986					13,561,983							
1987			3,718,311		15,432,000							
1988			6,085,307		6,272,400	2,989,179	281,000					
1989			2,400,000		6,005,000	3,290,000						
1990			1,747,900		6,013,500	2,850,000			503,836			
1991			1,600,000		6,000,000	2,505,500	10,037,256		634,830			
1992	66,388		1,716,116		6,062,000	3,172,439	535,000	1,196,000	1,138,205			
1993			1,901,257		6,000,000	3,265,631	319,000	921,000	1,002,671	869,000		
1994			1,800,000			2,770,000	2,000,000		1,330,000			
1995	158,485		1,700,000		6,000,000	1,552,000		2,000,000	1,806,000	1,000,000		
1996			1,600,000		6,136,000	688,000		2,000,000	1,042,000			
1997			1,501,000		6,013,000	627,470		1,118,000		1,000,000		
1998			1,035,000		4,558,000			2,000,000		1,009,000		
1999			1,507,000		5,948,300		197,000					
2000			1,242,000		5,432,000							
2001			906,000									
2002			980,100		6,065,400							
2003			629,000		6,024,000							
2004			646,000		6,006,000							
2005			573,000									
2006			582,000									
2007			658,000									
2008			917,000									
2009			911,000									
2010			880,000									
2011			1,044,000									

Appendix F15.–Historic releases of Chinook salmon from hatcheries to Lower Cook Inlet, 1972–2011.

	Southern District						Eastern District					
Year	Halibut Cove Lagoon	Homer Spit	Tutka Bay	Kasitsna Bay	Seldovia Harbor	English Bay Lakes	Seward Lagoon	Resurrection Bay	Thumb Cove	Box Canyon	Lowell Creek	Spring Creek
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									218,499		
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		98,052				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		109,600	16,680			89,388	
2005	112,521	220,822			114,984		114,847	96,702			100,088	
2006	117,549	224,053			113,974		226,621	76,596				
2007	54,560	226,972			54,276			117,842				
2008	58,674	212,141			54,464		13,858	128,611				
2009	35,065	164,234			44,487							
2010	111,134	213,503			114,421		110,671				109,779	
Prev. 10-yr average	91,312	203,485			87,865		112,379	87,286			102,938	
2011	107,338	219,787			103,382		223,881					

Appendix F16.–Historic releases of Chinook salmon from hatcheries to Upper Cook Inlet drainages, 1966–2011.

	Kenai Peninsula drainage							Susitna drainage						Matanuska drainage				Turnagain Arm drainage	
Year	Cooper Lake	Crooked Creek	Deep Creek	Kenai River	Killey River	Ninilchik River	Twin Falls Creek	Bench Creek	Deshka River	Moose Creek	Montana Creek	Sheep Creek	Willow, Deception and Anderson combined	Meadow Creek	Ship Creek	Eagle River	Eklutna Tailrace	Granite Creek	Six-mile Creek
1966															166,874				
1967															538,356				
1968															82,400				
1969															95,900				
1970															45,700				
1971													30,690		186,700				
1972															71,814				
1973															160,134				
1974															204,000				
1975		3,679													83,500				
1976		82,400													63,500				
1977		131,492												56,100	170,516				
1978		172,515													274,539				
1979		379,478																	
1980		51,998													201,258				
1981		206,114																	
1983		264,782																	
1984	125,586	263,329		38,413											328,318				230,181
1985		229,323		66,907	5,102								534,447						230,206
1986		253,624			4,952			40,076					441,258					93,429	
1987		206,179						77,677							53,212			72,322	
1988		239,593		90,105		248,586					132,503	132,125	201,091		175,156			98,429	130,578
1989		335,095				200,203					200,179	208,170	240,885		120,670				
1990		234,019				215,804							655,491		102,523				
1991		239,653				87,992							391,669		211,268	102,100			
1992		229,017				132,387							179,724		176,380	107,695			
1993		274,268		153,617		184,585	100,000						160,194		217,557	121,066			
1994		224,784	13,301	88,726		201,513							177,913		199,830	107,547			
1995		184,049	13,774	60,029		54,902							167,643		218,487				
1996		193,180	8,967	6,538		51,686			1,498				216,558		231,444				

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	Kenai Peninsula drainage							Susitna drainage						Matanuska drainage				Turnagain Arm drainage	
Year	Cooper Lake	Crooked Creek	Deep Creek	Kenai River	Killey River	Ninilchik River	Twin Falls Creek	Bench Creek	Deshka River	Moose Creek	Montana Creek	Sheep Creek	Willow, Deception and Anderson combined	Meadow Creek	Ship Creek	Eagle River	Eklutna Tailrace	Granite Creek	Six-mile Creek
1997		223,200	7,454	19,455	12,750	50,698			16,113	970			335,102		326,371				
1998		137,338		10,397	6,201	48,798							298,624		204,742				
1999		192,304			47,478	49,853							201,586		197,168				
2000		108,507				51,298							206,496		265,582				
2001		109,202				54,770							207,465		254,924				
2002		99,548				54,631							197,277		290,501		106,991		
2003		98,800				47,997							101,181		329,416		218,492		
2004		80,601				51,303							212,570		320,226		215,165 [a]		
2005		113,613				55,229							163,016		358,029		164,586 [a]		
2006		111,705				57,537							50,426		176,055		213,250		
2007		111,382				56,368							103,016		333,940		110,978		
2008		114,588				56,943							112,219		341,495		114,136		
2009		115,035				54,845							111,322		282,735		77,785		
2010		106,145				58,297							155,125		332,597		152,014		
2011		64,578				59,462							140,266		314,194		122,962		

[a] Eklutna River.

Appendix F17.–Historic releases of coho salmon from hatcheries to Lower Cook Inlet, 1966–2011.

	Southern District								Eastern District								
Year	Caribou Lake	Fritz Creek	Halibut Cove Lagoon	Homer Spit	Kasitsna Bay Creek	Seldovia Harbor	Seldovia Lake	Port Graham Subdistrict	Resurrection Bay	Seward Lagoon	Bear Creek	Bear Lake	Grouse Creek	Grouse Lake	Box Canyon Creek	Lowell Creek	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							42,400
1969										27,100	47,900						75,000
1970										38,600	6,400				3,200		48,200
1971										10,900	50,983						61,883
1972					241,400						155,500	450,600					847,500
1973										30,200		443,300					473,500
1974			307,904							100,100		450,800					858,804
1975	141,217		7,100							100,700		449,900					698,917
1976	155,700		162,338			50,285	62,376			100,600	35,600	224,600		35,200			826,699
1977			7,209				99,380			100,456	35,102	10,800		35,003			287,950
1978		66,545								148,999	28,574	225,820	53,555				523,493
1979		44,717	47,810	23,015						98,566	40,503	225,460		44,010			524,081
1980		21,315								100,906		150,011		50,286			322,518
1981		55,006								109,958		246,545		54,953			466,462
1982										53,970		227,800		13,238			295,008
1983										48,000	50,000	198,801					296,801
1984	119,071						59,840			40,687		220,000		34,100			473,698
1985	139,789	31,242					81,924			50,256		300,446		56,134			659,791
1986	137,951						71,496			174,452	17,200	445,693			53,607		900,399
1987	150,000						45,000			65,514	23,997	226,300			257,461	57,232	825,504
1988	150,000			62,547			80,000			118,741		347,155				63,806	822,249
1989				153,869						152,159		981,340				66,606	1,353,974
1990	180,000			122,945			50,000			145,619	93,694	746,891				63,733	1,402,882
1991	180,000			100,236			50,000			119,057		390,841				30,400	870,534
1992	150,000			100,570						98,700		255,533					604,803
1993	150,000			116,129						159,091		620,588				64,361	1,110,169
1994	63,600			156,213						221,577		320,000				38,000	799,390
1995				110,701						133,700	7,400	509,000				50,698	811,499

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	Southern District								Eastern District								
Year	Caribou Lake	Fritz Creek	Halibut Cove Lagoon	Homer Spit	Kasitsna Bay Creek	Seldovia Harbor	Seldovia Lake	Port Graham	Resurrection Bay	Seward Lagoon	Bear Creek	Bear Lake	Grouse Creek	Grouse Lake	Box Canyon Creek	Lowell Creek	Total coho salmon released
1996				149,000						182,000		75,000				69,000	475,000
1997				120,242				29,963		144,112	153,000	448,700				61,687	957,704
1998				130,219						74,365		409,000				65,687	679,271
1999				129,602						109,142	51,000	306,000				62,580	658,324
2000				122,338						145,693	102,000	316,000				54,184	740,215
2001				225,042						124,703	121,000	311,000				125,618	907,363
2002				216,355						121,743	123,800	404,700				119,512	986,110
2003				325,735						123,718		658,000				124,389	1,231,842
2004				243,243					192,000	131,798	285,000	406,000				131,989	1,390,030
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
Previous 10-year avg.				241,429		99,667				135,768		526,770				140,857	1,132,818
2011				129,080						255,252		437,000					821,332

Appendix F18.–Historic releases of coho salmon from hatcheries to Upper Cook Inlet drainages, 1967–2011.

	Upper Cook Inlet, Kenai Peninsula drainages, (244-20, -30)											
Year	Crooked Creek	Deep Creek	Grant Lake	Grant Lake outlet	Hidden Creek	Kenai River	Quartz Creek	Tern Lake	Tern + Quartz Lake	Upper Russian Lake	Skilak Lake	Moose River
1967												
1968												
1969												
1970												
1971												
1972												
1973												
1974												
1975	5,259											
1976												
1977						7,986						
1978												
1979	10,740											
1980												
1981												
1982												
1983	119,996		517,904				38,200		37,000	27,327		
1984			699,041	1,119			37,590	37,068				
1985	102,356		545,566				38,380	38,287				
1986	155,794		230,124									
1987	521,140											
1988	350,485											
1989	426,772											
1990	71,790											
1991	72,123										14,397	
1992	74,000				21,686	1,802					18,424	75,278
1993	71,700				22,131							100,206
1994	62,421											171,563
1995		9,681										94,771
1996		4,868										98,032
1997		6,951										96,486
1998												101,133
1999												114,885
2000												103,319
2001		2,540										147,931
2002		7,415										108,520
2003		2,666										120,305
2004												83,674
2005												79,932
2006												81,953
2007												81,482
2008												
2009												
2010												
2011												

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Susitina drainages (247-41)

	Butterfly Lake	Caswell Creek	Delyndia Lake	Deshka River	Finger Lake	Hock Lake	Horseshoe Lake	My Lake	Nancy Lake	Nancy Lake + Little Susitna River	Little Susitina River	Papoose Twins Lake	Yohn Lake
1967													
1968													
1969													
1970													
1971													
1972													
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981													
1982											2,950		
1983									287,343				
1984									672,800				
1985	119,000		49,000		232,000		454,600		356,732				
1986									1,096,889				
1987		31,767								302,055			
1988	141,000	9,000	141,000			72,000	465,725	58,000	4,069,965			336,000	46,000
1989		161,822					8,400		642,394		49,349		
1990		143,102							202,197		1,269,569		
1991		155,529							277,762				
1992											312,925		
1993									279,873				
1994									126,694				
1995									151,985				
1996				13,368									
1997													
1998													
1999													
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													
2010													
2011													

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Matanuska drainages (247-50)

	Anderson Lake	Big Lake system	Blodgett Lake	Kings Lake	Meadow Creek	Neklason Lake	Rabbit Slough	Ship Creek	Six Mile Lake	Twin Lake	Wasilla Creek and lake	Chester Creek	Cornelius Lake
1967		8,200											
1968								129,300			152,900		
1969								112,400	10,000				
1970								177,200					
1971								30,400				60	
1972								87,700					
1973								77,100					
1974								90,500					
1975								106,100					
1976								121,700					
1977		40,700							51,600				
1978		41,429	12,191			110,448		111,054	20,100		110,126		
1979					47,442	25,330			28,808		121,002		14,306
1980	50,797	448,327				26,697			5,747		121,679		14,748
1981	52,097	104,030		23,383	14,041				5,500		123,307		42,571
1982	54,428		128,708	46,255	468,268	23,407					122,711	301,110	21,771
1983					1,379,209								
1984					739,200								
1985					1,568,624			118,812		150,000	346,612		
1986		579,186			2,669,028								
1987		389,444			1,765,989			56,473					44,268
1988			118,000		1,637,021		6,275			95,000	273,575		91,000
1989					15,324			56,841			21,600		
1990		481,748						64,006			152,000		
1991					400			249,800			69,500		
1992								67,178			76,315		
1993		239,000	28,500					54,764			77,174		
1994								75,799					
1995								158,981					
1996											141,923		
1997								232,066					
1998								232,765					
1999								165,388					
2000								260,070					
2001								233,563					
2002								212,639					
2003								234,716					
2004								241,066					
2005								251,446					
2006								252,775					
2007								255,400					
2008								245,490					
2009								287,825					
2010								252,319					
2011								254,718					

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	Matanuska drainages (247-50)				Turnagin Arm drainages (247-60)								
	Cottonwood Creek	Eklutna River and tailrace	Fish Creek	Jim Creek	Bird Creek	Upper and Lower Summit lakes	Six Mile Creek	Silvertip Creek	Campbell Lake Creek	Campbell Lake + Ship Creek	Granite Creek	Ingram Creek	Total coho salmon released
1967													14,101
1968	86,900												375,004
1969													128,307
1970													183,110
1971													36,373
1972													93,616
1973													83,019
1974													96,422
1975													117,284
1976													127,628
1977													106,217
1978	97,120		24,099										532,501
1979	86,124		335,853										675,542
1980	95,326												769,261
1981	95,968												466,840
1982	96,339												1,271,893
1983	368,022	1,318					299,246						3,081,514
1984	386,368	55,456				29,998	300,088						2,964,680
1985		43,500					303,779					90,190	4,563,393
1986		101,282				89,968		68,080			204,552	71,760	5,272,621
1987	156,173	147,682	206,684			110,000					407,794	160,000	4,305,430
1988	239,000	72,881	198,000	7,550			27,125				42,700	80,344	8,583,860
1989	16,900	50,775		20,100									1,476,244
1990	202,000	54,278	44,000	163,000								80,000	2,933,660
1991	72,000	21,285	81,489										1,020,258
1992	53,900	131,829	74,953		100,924				97,076				1,112,266
1993	74,198	108,070	71,934		140,382				140,797				1,414,708
1994		62,400			84,643				87,686				677,188
1995		60,967			154,753				157,241				794,364
1996		69,176			147,618					302,857			783,830
1997		69,000			294,565				71,519				776,578
1998		220,219			164,211				83,317				807,639
1999	34,834	126,602			111,430				42,046				601,182
2000	41,675	76,851			97,409				63,730				649,054
2001	19,224	124,838							69,836				603,935
2002	14,720	120,629							61,323				531,252
2003	19,566	120,736							78,576				582,574
2004		131,979			109,949				85,790				658,470
2005		132,149			100,605				60,387				630,534
2006		132,212			104,974				78,805				656,737
2007		118,054			104,979				82,794				648,730
2008		118,139			113,035				83,421				566,109
2009		120,200			113,300				15,400				542,752
2010		131,123			157,534				50,214				597,220
2011		97,087			136,047				71,960				565,845

Appendix F19.–Historic releases of pink salmon from hatcheries to upper and lower Cook Inlet, 1975–2011.

	Southern District				Eastern District	Kamishak Bay Dist.	Upper Cook Inlet		
Year	Tutka Bay	Halibut Cove Lagoon	Homer Spit	Port Graham Subdistrict	Resurrection Bay	Paint River	Eklutina River	Ingram Creek	Total pink salmon released
1975		50,916							50,916
1976									0
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	12,080,014	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									

Appendix F20.–Historic releases of chum salmon from hatcheries to upper and lower Cook Inlet, 1974–2011.

	Southern District		Eastern District		Upper Cook Inlet			
Year	Halibut Cove	Tutka Bay	Jap Creek	Spring Creek	Eklutina River	Indian River	Susitina River	Total chum salmon released
1974	7,782							7,782
1975	595							595
1976								0
1977								0
1978								9,666
1979		597,377						597,377
1980								0
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								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006								
2007								
2008								
2009								
2010								
2011								

Appendix F21.–Harvest of sockeye salmon returning to China Poot and Neptune Bays in the Southern District of Lower Cook Inlet, 1979–2011.

Return year	Sport harvest [a]	Personal Use Dipnet harvest [b]	Commercial harvest [c]	Hatchery cost recovery [d]	Unharvested [e]	Estimated total return
1979	400	0	2,975		0	3,375
1980	400	953	13,007		0	14,360
1981	400	0	24,215		0	24,615
1982	400	1,320	1,044		1,430	4,194
1983	400	5,466	91,946		10	97,822
1984	400	1,794	117,438		500	120,132
1985	400	796	60,890		920	63,006
1986	400	1,815	15,031		200	17,446
1987	400	1,231	61,453		0	63,084
1988	400	1,910	90,544		470	93,324
1989	400	5,416	84,082		0	89,898
1990	400	5,835	66,549		0	72,784
1991	400	1,528	142,560		0	144,488
1992	400	3,468	82,455	7,336	0	93,659
1993	400	4,551	131,367	0	0	136,318
1994	400	5,715	47,494	3,025	0	56,634
1995	400	8,605	132,892	12,497	450	154,844
1996	400	4,773	269,553	14,235	441	289,402
1997	400	4,773	121,184	0	1,130	127,487
1998	400	4,773	143,350	20,579	380	169,482
1999	400	4,773	187,207	16,188	522	209,090
2000	400	4,773	77,462	18,103	256	100,994
2001	400	4,773	99,866	27,037	57	132,133
2002	400	4,773	114,639	29,517	51	149,380
2003	400	4,773	391,768	35,557	121	432,619
2004	400	4,773	21,621	12,991	448	40,233
2005	400	4,773	65,333	29,737	1	100,244
2006	400	4,773	52,020	23,283	820	81,296
2007	400	4,773	61,193	22,586	501	89,453
2008	400	4,773	62,675	1,907	103	69,858
2009	400	4,773	0	205	223	5,601
2010	400	4,773	0	1,007	45	6,225
2011	400	4,773	9,945	0	18	15,136

Note: See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

[a] Sport harvest figures are an average of the 1979–2011 Statewide Annual Survey.

[b] Personal Use Harvest data from 1981 is from permits issued from the Homer office. Data from 1982 to 1995 is from the Statewide Annual Survey (SAS). Data from 1996 to present is an average of the last 5 years of SAS data.

[c] The final "Commercial Harvest " figures are the total Common Property seine harvest in the Southern District except for 1999, 2000 and 2002 that only include harvests east of the Tutka District due to returning Tutka hatchery sockeye in those years. See text for further explanation.

[d] From cost recovery conducted in China Poot Bay.

[e] "Unharvested fish" is the total count by ground survey staff of sockeye salmon remaining in China Poot Creek.

Appendix F22.–Commercial catch and escapement of sockeye salmon at Chenik Lake in the Kamishak Bay District of Lower Cook Inlet, 1976–2011.

Return year	Commercial Harvest	Cost Recovery	Escapement [a]	Total return
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		14,507 [d]	61,520
2006	11,783		13,868 [d]	25,651
2007	161,630		18,230 [d]	179,860
2008	171,255		11,284 [d]	182,539
2009	65,727		15,264 [d]	80,991
2010	5,471		17,312 [d]	22,783
2011	82,826		10,330 [d]	93,156

Note: See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

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

[b] Closed to fishing.

[c] No data.

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

Appendix F23.–Commercial catch of sockeye salmon at Kirschner Lake in the Kamishak Bay District of Lower Cook Inlet, 1989–2011.

Return year	Commercial Harvest	Cost Recovery	Unharvested [a]	Total return
1989	190	0	---	190
1990	14,465	0	---	14,465
1991	42,654	0	---	42,654
1992	40,043	0	---	40,043
1993	36,322	0	---	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	0	32,492	---	32,492
2003	11,671	38,741	---	50,412
2004	0	16,372	---	16,372
2005	0	14,969	---	14,969
2006	24,130	26,310	---	50,440
2007	7,725	27,719	---	35,444
2008	0	11,588	---	11,588
2009	0	18,771	---	18,771
2010	0	8,858	---	8,858
2011	12,732	0	210	12,942

Note: See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

[a] A barrier falls at the outlet of Kirschner Lake immediately above the intertidal zone precludes any escapement from entering this lake. In 2011, CIAA reported 210 fish as 'escapement' for this return.

Appendix F24.–Commercial catch and escapement of pink and sockeye salmon in the Tutka Bay Subdistrict in the Southern District of Lower Cook Inlet, 1985–2011.

	Sockeye salmon [a]			Pink salmon [b]					
Return year	Commercial Harvest	Cost Recovery	Total Return	Commercial Harvest	Cost Recovery	Broodstock	Escapement	Sport catch[c]	Total Return
1975	12,600	---	12,600	89,200	---	0	17,600	---	106,800
1976	14,200	---	14,200	73,100	---	10,800 [d]	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	0	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	0	9,686	130,406	2,375,653	216,786	45,000	2,100	2,769,945
1998	8,480	0	8,480	504,764	792,542	153,580	17,473	2,000	1,470,359
1999	18,711 [e]	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	14,318	0	14,318	4,725	703,205	161,864	15,884	1,500	887,178
2003	24,090	2	24,092	4,324	507,215	207,285	30,866	1,500	751,190
2004	5,827	0	5,827	1,523	1,175,326	0 [f]	17,846	1,500	1,196,195
2005	6,252	0	6,252	4,779	1,631,806	0	133,600	1,500	1,771,685
2006	5,865	0	5,865	11,223	0	0	25,800	1,500	38,523
2007	8,272	0	8,272	0	0	0	5,700	1,500	7,200
2008	6,414	14,604	21,018	1,884	377	0	14,100	1,500	17,861
2009	9,185	11,584	20,769	2,136	0	0	3,800	1,500	7,436
2010	6,307	38,087	44,394	2,536	161	0	2,100	1,500	6,297
2011	10,516	7,836	18,352	1,911	5	12,665	21,974	1,500	38,055

[a] See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

[b] See Appendix F19 for historic hatchery releases of pink salmon to this area.

[c] From CIAA 2011.

[d] Start of enhancement at Tutka Lagoon Hatchery.

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

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

Appendix F25.–Harvest of salmon from the Port Graham Section of the Port Graham Subdistrict in the Southern District of Lower Cook Inlet, 1985–2011.

	Sockeye salmon [a]			Pink Salmon [b]					
Return year	Commercial Harvest	Subsist. Harvest[c]	Cost Recovery	Commercial Harvest	Subsist. Harvest[c]	Cost Recovery	Broodstock (plus excess)	Escapement	Total Return
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		0	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

[a] See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

[b] See Appendix F19 for historic hatchery releases of pink salmon to this area.

[c] 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.

Appendix F26.–Harvest of salmon in the English Bay Section of the Port Graham Subdistrict of the Southern District of Lower Cook Inlet, 1985–2011.

	Sockeye salmon [a]			Coho salmon [b]			Pink Salmon [c]		
Return year	Comm. Harvest	Subsist. Harvest [d]	Cost Recovery	Comm. Harvest	Subsist. Harvest [d]	Cost Recovery	Comm. Harvest	Subsist. Harvest [d]	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	0		12,940	14	
1998	8,080	18	6,202	23	0		760	0	1
1999		2,775	660		1,320			1,873	
2000	984	3,880		0	1,579		0	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		0	1,277	
2005		1,934			1,142			1,259	
2006		2,215			1,179			2,038	
2007	4,270	[e]		3	[e]		0	[e]	
2008	2,421	3,615		0	1,345		0	2,646	
2009	491	1,515		0	396		0	865	
2010	1,157	1,514		0	1,324		0	1,030	
2011	1,375	5,009		0	1,381		702	2,499	200

[a] See Appendix F13 for historic hatchery releases of sockeye salmon to this area.

[b] See Appendix F17 for historic hatchery releases of coho salmon to this area.

[c] See Appendix F19 for historic hatchery releases of pink salmon to this area.

[d] 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

[e] No data available.

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, 2010, and 2011 forecast.

Age	2010 Est. Spawning Biomass	Percent by Weight	2010 Commercial Harvest[a]	Percent by Weight	2010 Total Biomass	Percent by Weight	2011 Forecast Biomass	Percent by Weight
1								
2								
3	206	5.20%	--	--	206	5.20%	263	6.90%
4	440	11.10%	--	--	440	11.10%	354	9.20%
5	721	18.30%	--	--	721	18.30%	558	14.60%
6	1,025	26.00%	--	--	1,025	26.00%	774	20.20%
7	667	16.90%	--	--	667	16.90%	826	21.60%
8	461	11.70%	--	--	461	11.70%	459	12.00%
9	220	5.60%	--	--	220	5.60%	399	10.40%
10	87	2.20%	--	--	87	2.20%	93	2.40%
11	85	2.20%	--	--	85	2.20%	58	1.50%
12	16	0.40%	--	--	16	0.40%	34	0.90%
13+	16	0.40%	--	--	16	0.40%	9	0.20%
TOTALS	3,942	100.00%	--	--	3,942	100.00%	3,830	100.00%

Note: Due to reduction in funding, there were no charters to obtain age composition samples in 2011. A copy of 2010 data is provided as the most recent age composition data available.

[a] Because of low biomass forecasts, the commercial herring fishery in Kamishak Bay was not opened in 2010 or 2011.

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, 1961–2011.

Year	Southern		Kamishak		Eastern		Outer		Total	
	Tons	Permits	Tons	Permits	Tons	Permits	Tons	Permits	Tons	Permits
1961	0	---	0	---	0	---	0	---	0	---
1962	0	---	0	---	0	---	0	---	0	---
1963	1	---	0	---	0	---	0	---	1	---
1964	0	---	0	---	0	---	0	---	0	---
1965	2	---	0	---	0	---	0	---	2	---
1966	0	---	0	---	7	---	0	---	7	---
1967	0	---	0	---	0	---	0	---	0	---
1968	20	---	0	---	0	---	0	---	20	---
1969	551	---	0	---	758	---	38	---	1,347	---
1970	2,709	---	0	---	2,100	---	0	---	4,809	---
1971	[d]	[d]	0	---	831	22	0	---	844	24
1972	[d]	[d]	0	---	[d]	[d]	0	---	[d]	[d]
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	0	0	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	[d]	[d]	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	0	---	[d]	[d]	5,605	76
1989	170	6	4,801	75	0	---	0	---	4,971	81
1990	-- CLOSED --		2,264	75	-- CLOSED --		-- CLOSED --		2,264	75
1991	-- CLOSED --		1,992	58	0	---	0	---	1,992	58
1992	-- CLOSED --		2,282	56	0	---	0	---	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 [a]	45 [a]	-- CLOSED --		-- CLOSED --		1,746	45
1998	-- CLOSED --		331 [a]	20 [a]	-- CLOSED --		-- CLOSED --		331	20
1999	-- CLOSED --		100 [b]	1 [b]	-- CLOSED --		-- CLOSED --		100	1
2000-2011	-- CLOSED --		-- CLOSED --		-- CLOSED --		-- CLOSED --		-- CLOSED --	
1961-1999 Average [c]	295	-NA-	2,520	49	556	-NA-	146	-NA-	2,205	-NA-

Source: Statewide electronic fishticket database. Commercial Fisheries Entry Commission License Statistics, 1974–2011, Juneau.

[a] Includes both commercial harvest and ADF&G test fish harvest.

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

[c] Averages based only on years with reported harvest.

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

Appendix G3.–Preseason estimates of biomass and projected commercial sac roe seine harvests, vs. actual harvests, for Pacific herring in short tons, average roe recovery, numbers of permits making landings, and exvessel value in millions of dollars, Kamishak Bay District, Lower Cook Inlet, 1978–2011.

	PRESEASON		Actual	Average	No. of	Exvessel
Year	Forecasted Biomass (st)	Projected Harvest (st)[a]	Commercial Harvest (st)[a]	Roe %	Permits w/Landings	Value[b] ($$ millions)
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	---	---	---

[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 due to lack of samples in 2008.

Appendix G4.–Summary of herring sac roe seine fishery openings and commercial harvests in the Kamishak Bay District of Lower Cook Inlet, 1969–2011.

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	" "		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	0	0		
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	0	0	0
	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
	4/22	2	136	68	11
1998	5/14[d]	[d]	10	[d]	---
	5/22[d]	[d]	23	[d]	---
1999	-				
2011	CLOSED	0	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 fish harvest.

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

Appendix G5.–Comparison of preseason biomass forecast/projected harvest and actual commercial herring sac roe seine harvest vs. hindcast (age-structured-assessment) estimates of total biomass and exploitation rate in Kamishak Bay District, Lower Cook Inlet, 1990–2011.

	PRESEASON					
Year	Forecasted Biomass (st)	Projected Harvest (st)[a]	Actual Commercial Harvest (st)[a]	Estimated Exploitation Rate (%)[b]	ASA Hindcast Total Biomass Estimate (st)[c,d,e]	Hindcast Exploitation Rate (%)[c,f]
1990	28,658	2,292	2,264	7.9	19,841	11.4
1991	17,256	1,554	1,992	11.5	20,369	9.8
1992	16,431	1,479	2,282	13.9	18,257	12.5
1993	28,805	2,592	3,570	12.4	16,176	22.1
1994	25,300	3,421	2,167	8.6	13,203	16.4
1995	21,998	2,970	3,378	15.4	10,220	33.1
1996	20,925	2,250	2,984	14.3	6,950	42.9
1997	25,300	3,420	1,746	6.9	4,742	36.8
1998	19,800	1,780	331	1.7	4,137	8.0
1999	[g]	---	CLOSED [h]	----	4,015	----
2000	6,330	---	CLOSED	----	3,904	----
2001	11,352	---	CLOSED	----	3,643	----
2002	9,020	---	CLOSED	----	3,296	----
2003	4,771	---	CLOSED	----	3,233	----
2004	3,554	---	CLOSED	----	2,906	----
2005	3,058	---	CLOSED	----	3,162	----
2006	2,650	---	CLOSED	----	3,193	----
2007	2,286	---	CLOSED	----	3,641	----
2008	2,069	---	CLOSED	----	4,087	----
2009	[i]	---	CLOSED	----	3,790	----
2010	2,963	---	CLOSED	----	3,942	----
1990 - 2010 Average [j]	13,291	2,418	2,302	10.3%	7,462	21.4%
2011	3,830	---	CLOSED	----	[i]	----

Source: 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 in 2010.

[f] Estimated exploitation rate based on ASA hindcast estimates of biomass combined with 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 abundance estimate possible due to lack of age composition samples.

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

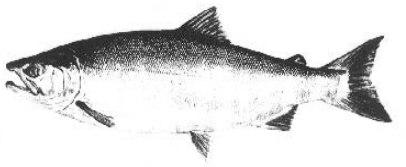
APPENDIX H: 2011 OUTLOOK

Appendix H1.–Lower Cook Inlet salmon fishery outlook, 2011.

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

Cora Campbell, Commissioner

Jeff Regnart, Director



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Date Issued: May 19, 2011
Time: 2:00 PM

2011 LOWER COOK INLET SALMON FISHERY OUTLOOK

The Alaska Department of Fish and Game has completed its annual salmon forecast and outlook for the Lower Cook Inlet (LCI) management area. This news release is intended to provide basic information for fishermen and processors in preparation for the 2011 season. Salmon management strategies in LCI are designed to insure continued health of the resource through adequate spawning escapements while providing for an orderly harvest of identifiable surplus.

Because salmon enhancement plays a major role in LCI fisheries, hatchery cost recovery has become an integral component of the management strategy. Cost recovery revenue goals for the private nonprofit (PNP) organizations have been finalized, and management schemes to attain them are published in the Annual Management Plans (AMP's) for Trail Lakes, Tutka Bay and Port Graham Hatcheries. Outlines of the anticipated management strategies for the SHA's can be found in the ***GENERAL INFORMATION*** section on page 4. Though the regulatory Trail Lakes Hatchery Management Plan expired on May 1, 2011, hatchery run strength, revenue goals and resultant cost recovery harvest will again be major factors in LCI salmon management during the 2011 season.

The overall 2011 LCI commercial total salmon harvest is projected to total about 1.34 million fish, or nearly three times the actual harvest taken during 2010. It should be noted that the forecast figure represents only the potential harvestable surplus, with no consideration given to market conditions, tender availability, weather and other similar influences on fishing activity. Enhancement efforts and resulting production are expected to contribute about two-thirds of the area wide commercial sockeye salmon harvest this season, while no hatchery pink salmon production will contribute to LCI harvest. Hatchery cost recovery is anticipated to once again account for a significant portion of the sockeye salmon harvests.

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The following table summarizes the projected harvest by species in numbers of fish:

	Natural	Enhanced	Total
Chinook salmon	[a]	[a]	1,100[a]
Sockeye salmon	89,900[b]	199,800[c]	289,700
Coho salmon	[a]	[a]	12,800[a]
Pink salmon	949,300	0	949,300
Chum salmon	89,000[d]	0	89,000
Total	1,128,200	199,800[d]	1,341,900

[a] Commercial harvest forecasts of Chinook and coho salmon are average harvests since 1980 and are comprised of a combination of naturally-produced fish as well as fish produced from enhancement programs in LCI; no attempt is made to separate the two components.

[b] Forecasts for naturally-produced sockeye are average annual commercial harvests since 1980.

[c] Includes common property plus cost recovery harvests.

[d] Forecasts for chum salmon are most recent 10-year average annual commercial harvests.

The preceding numbers include the following natural and enhanced components:

ENHANCED RUNS

SOCKEYE SALMON		PINK SALMON	
Kirschner Lake	11,800		
Leisure Lake	5,000		
Hazel Lake	2,900		
Tutka Lagoon	33,000		
Bear Lake / Res. Bay	143,000		
English Bay Lakes	NA		
Port Graham Hatchery	4,100		
Total	199,800		

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NATURAL RUNS

SOCKEYE SALMON[a]		PINK SALMON	
Southern District[b]	40,000	Southern District	8,300
Outer District	19,200	Outer District	491,300
Eastern District	6,000	Eastern District	0
Kamishak Bay District	24,700	Kamishak Bay District	449,700
Total	89,900	Total	949,300

[a] Numbers for natural sockeye harvests are not forecasts but are 1980-2010 average commercial catches.

[b] Incidental harvest of fish not originating from the Southern District.
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SUMMARY BY SPECIES

Sockeye Salmon

The forecasted 2011 LCI sockeye salmon harvest of 289,700 fish is approximately 3 times greater than the 2010 catch of 93,100 fish and close to the most recent 10-year average catch of 303,300. Cook Inlet Aquaculture Association (CIAA) anticipates a total return of 199,800 sockeye salmon to its enhancement sites and has established a sockeye salmon revenue goal of $1.62 million for Trail Lakes Hatchery in 2011. Assuming an average weight of 4.27 lbs per fish and an average price of $2.25 per pound, a total of 169,000 sockeye salmon would need to be harvested for cost recovery purposes to achieve this goal. CIAA has forecasted a return of 143,000 enhanced sockeye salmon to Resurrection Bay all of which excluding the 700 – 8,300 required to meet the Bear Lake SEG, are anticipated to be harvested by the CIAA for cost recovery and broodstock (4,920) purposes. Cost recovery harvest of returning Bear Lake sockeye salmon should account for approximately 80% of the revenue goal. The remaining 20% will be harvested from returns to special harvest areas (SHAs) at other remote release sites. SHAs of these sites may be opened to commercial common property seining for sockeye salmon in 2011 if the Trail Lakes Hatchery revenue goal is achieved or its attainment can be projected.

Runs of adult sockeye salmon to CIAA enhancement projects at Leisure and Hazel Lakes in the Southern District are expected to total just over 7,900 sockeye salmon. This is less than the recent 10-year average harvest of 106,000 fish. CIAA anticipates harvesting all sockeye salmon returning to the Leisure/Hazel enhancement sites for cost recovery purposes. Sockeye salmon total runs to the Tutka Bay Hatchery in Kachemak Bay are anticipated to be 30,000 fish, all of which is anticipated to be required by CIAA to meet cost recovery and broodstock requirements. At English Bay Lakes, where runs have contributed to Southern District commercial harvests in some recent years, opportunities for commercial sockeye harvest are questionable due to the lack of a preseason forecast. However, runs to this system have been stronger than anticipated during the last 5 seasons and have been sufficient to support limited commercial and subsistence harvest opportunities despite uncertain preseason predictions.

Total hatchery runs to Kirschner Lake on the west side of Cook Inlet in the Kamishak Bay District, is anticipated to be 11,800 fish, all of which may be required to meet corporate cost recovery goals. After eight successive seasons of relatively strong runs, as well as targeted commercial harvests during the past seven years, the naturally produced sockeye salmon run to Chenik Lake in the Kamishak Bay District is questionable but could once again provide harvest opportunities in 2011. Natural production from systems in the Outer, Eastern, and Kamishak Bay Districts, plus incidental harvest of fish not originating from the Southern District, in combination could provide up to 90,000 sockeye salmon for harvest (based solely on historical averages) as a result of natural production.

Pink Salmon

Harvestable surpluses of pink salmon in LCI during 2011 are anticipated to total approximately 949,000 fish, and for the fourth consecutive year the entire return will be the result of natural production. The 2011 pink salmon projected harvest figure represents almost 3.5 times the 2010

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commercial catch of only 278,200 fish and about 81% of the recent 10-year average. Natural pink salmon spawning escapement levels in most major systems were considered good to excellent in 2009, contributing to the reasonably optimistic harvest projection. Outer District systems are expected to have the greatest potential for harvest with a combined total of around 491,000 pink salmon, returning primarily to Port Dick, while Windy and Rocky Bays hold potential for lesser amounts. Bruin Bay, Ursus Cove, and Rocky Cove in the Kamishak Bay District are anticipated to contribute significant harvest opportunities, with a cumulative projected total of about 450,000 pink salmon in that district. However, it may be worth noting that Bruin Bay escapement in 2009 was significantly above the SEG for this system of 87,200 with an index count of 1.07 million pink salmon. Since 1960 similar escapements to this system have occurred twice: in 1986 (1.2 million) and 2002 (1.6 million). In both of these cases returns from these parent years were diminished and may have been the result of overescapement to this system. Given that pink salmon production at Tutka Bay Hatchery ended in 2004, no Cook Inlet hatchery produced pink salmon will be returning to LCI facilities in 2011.

Chum Salmon

Based on the most recent 10-year average harvest, the anticipated LCI commercial chum salmon harvest is 89,000 fish. Given that chum salmon production at Tutka Bay Hatchery ended in 1989, no Cook Inlet hatchery-produced chum salmon will be returning to LCI facilities in 2011.

GENERAL INFORMATION

1) The Trail Lakes Hatchery Sockeye Salmon Management Plan, established in 2009 by the Alaska Board of Fisheries, but expired from regulation May 1, 2011 as a result of an included sunset clause. As a result, management of fisheries targeting CIAA-enhanced runs will be directed through appropriate current regulations and the public process of the Cook Inlet Regional Planning Team (CIRPT), and subsequently outlined in hatchery Annual Management Plans (AMPs). Management of these fisheries in 2011 is anticipated to be similar to the previous two seasons, which were directed by the Trail Lakes Hatchery Sockeye Salmon Management Plan. The forecasted harvestable surplus for Resurrection Bay/Bear Lake in 2011 is approximately 130,000 sockeye salmon. Because CIAA has indicated that all forecasted sockeye salmon returning to Resurrection Bay/Bear Lake will be utilized to meet hatchery and escapement objectives in 2011, no common property opening to target these fish in Resurrection Bay is expected. Waters of the Bear Lake SHA (marine waters north of the latitude of Caines Head) will open only to hatchery cost recovery fishing beginning Monday, May 23, on a schedule of 5 days per week, from 6:00 AM Monday until 10:00 PM Friday. Closed waters during the hatchery fishing periods will be the same as during the past 12 seasons for seine permit holders and will include those waters along the west shore of Resurrection Bay west of a line from the old military dock pilings north of Caines Head to a regulatory marker near the Seward airport. Hatchery seine catches, as well as escapement at the Bear Creek weir, will be continuously monitored to assess the progress of the run and proportion of the hatchery revenue goal achieved. Management considerations will be taken into account to assure adequate escapement to Bear Lake for both hatchery broodstock (5,620 fish) as well as an SEG of 700 – 8,300 fish for wild stock escapement to the lake directly. Accurate and timely catch reporting and escapement counts will be critical in order to achieve

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the intent of the annual management plan. Waters of Resurrection Bay will only be opened to commercial common property seining for sockeye salmon in 2011 if the Trail Lakes Hatchery revenue goal is achieved or its attainment can be projected. Anyone fishing as a hatchery agent or commercially is also reminded that, by regulation, Chinook and coho salmon may not be legally taken in waters of Resurrection Bay.

2) The Kamishak Bay District commercial salmon seine season opens by regulation on Wednesday, June 1. At that time, all areas, with the exception of the Chenik Subdistrict and waters of the Kirschner Lake SHA, will open by emergency order on a fishing schedule of seven days per week. Waters of the Kirschner Lake SHA will open to fishing for hatchery cost recovery by authorized agents of CIAA beginning on June 27. However, this SHA may be opened to commercial seining if a portion of the returning sockeye salmon is not required for cost recovery purposes. Additional and more detailed information concerning hatchery cost recovery and SHA management can be found in the 2011 Trail Lakes Hatchery Annual Management Plan.

   Fishermen are advised that fishery openings in Chenik Subdistrict will be based upon observed inseason sockeye salmon run strength and estimated escapement. Similar to the last eight seasons, the Paint River Subdistrict will open to fishing on June 1 and likely will remain open for the entire month of June. Beginning at the end of June or first of July, both the McNeil River and Paint River Subdistricts will be closed in order to afford maximum protection to chum salmon returning to McNeil River and, potentially, sockeye salmon returning to Chenik Lake. The seven day per week fishing schedule for open areas in the Kamishak Bay District could be restricted on relatively short notice inseason based on effort levels and escapement rates.

3) In the Southern District, guidelines for management of the enhanced sockeye salmon returns to China Poot, Neptune, and Tutka Bays are included in the Trail Lakes Hatchery Annual Management Plan. As was the case for the last two seasons, the formerly separate SHA's for the Leisure and Hazel Lakes sockeye salmon runs are now combined into a single China Poot and Hazel Lake SHA, which also includes those waters formerly closed to all seining along McKeon Flats. Waters of this SHA will open to hatchery cost recovery fishing seven days per week beginning June 27. A common property opening to target these runs is dependent on the inseason status of the Trail Lakes Hatchery revenue goal and would only occur if the hatchery revenue goal is achieved or its attainment can be projected. As in recent years, a Dungeness crab sanctuary at the head of China Poot Bay will remain closed to all seining for the duration of the season. Additional and more detailed information concerning hatchery cost recovery and SHA management can be found in the 2011 Trail Lakes Hatchery Annual Management Plan.

   Because operations at Tutka Bay Hatchery were suspended in 2004, no hatchery-produced pink salmon returns will occur at that location in 2011. As a result, the Department will manage nearby waters for achievement of the sustainable escapement goal (SEG) of 6,500 to 17,000 pinks (natural production) into Tutka Creek. The management strategy to attain this objective will include opening waters of the Tutka Bay SHA, which now includes waters of Tutka Bay enclosed by the "offshore" seine restriction line that has been used in past years,

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to hatchery-only seining seven days per week beginning June 27. Pink salmon escapement into Tutka Creek will be monitored inseason, as will the hatchery's progress towards achievement of the sockeye salmon revenue goal. Once again, *CIAA has indicated that the entire harvestable surplus of sockeye salmon returning to Tutka Lagoon in 2011 (30,000 forecast) will likely be required for cost recovery and/or broodstock purposes, and therefore a common property seine opening to target these fish is not anticipated*.

4) Provided aerial surveys indicate adequate sockeye salmon escapement, the Nuka Bay Subdistrict in the Outer District may open to commercial salmon seining by emergency order in late June or early July. An opening in Aialik Subdistrict, possibly including Aialik Lagoon, in the Eastern District also could be allowed in early July if the run appears strong. However, sockeye returns to the Aialik system have been marginal during the past several seasons.
5) No formal preseason forecast for sockeye salmon returning to English Bay Lakes was prepared for 2011. Because recent years' sockeye salmon runs to English Bay Lakes have been sufficient to achieve established escapement objectives, the restrictive management measures imposed on local subsistence fisheries may not be required this season. However, due to increased efficiency and harvesting power, the commercial set gillnet fishery will likely remain closed in waters of Port Graham Subdistrict at the start of the season until run strength can be adequately assessed. The system's desired inriver return range is 11,830 to 19,330 sockeye salmon (with the addition of broodstock requirements for Port Graham Hatchery and Trail Lakes Hatchery projects), and if inseason information suggests this range will be achieved, a commercial opening could be considered. The staff intends to closely monitor the escapement counts at the English Bay weir to assess run strength and determine potential inseason modifications to fishing schedules in the aforementioned fisheries. Because of the questionable run strength, the availability of broodstock for the English Bay Lakes and Trail Lakes projects remain unclear.

   If a weak run to English Bay Lakes precludes a commercial set gillnet fishery in the Port Graham Subdistrict for the duration of the sockeye salmon season, this fishery in the Port Graham Subdistrict could remain closed for an undetermined length of time after the English Bay Lakes sockeye salmon run, in the absence of a hatchery produced return of pink salmon to Port Graham this season, in order to protect naturally-produced pink salmon returning to Port Graham River until that return can be assessed.

   Port Graham Hatchery is expecting a modest return of 4,000 sockeye salmon to the facility in 2011 as a result of intermittent saltwater smolt releases. The Port Graham Hatchery sockeye salmon revenue goal for the 2011 season is $126,000 while the sockeye salmon broodstock goal for English Bay Lakes is up to 1,500 fish.

6) With increasing prices and stronger markets for pink salmon in recent seasons, interest and effort targeting this species has increased. As a result, consistently productive pink salmon systems such as those in Port Dick of the Outer District are once again providing incentive to the fleet and to processors to escalate operations. In anticipation of increased effort and harvesting power in the Port Dick Subdistrict this season, a more conservative management approach than that employed in previous years is warranted to assure adequate escapement into area systems. Waters of Port Dick Subdistrict will be opened to commercial fishing by

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emergency order based on inseason assessment of pink salmon run strength, escapement, and anticipated fishing effort. Area waters will be closely monitored and modifications to sections open to seining and weekly fishing periods could occur on short notice inseason depending on these variables. The projected surplus at Port Dick in 2011 is slightly above the average catch for odd years since 1963, with a harvest forecast totaling about 239,000 pink salmon.

Elsewhere in the Outer District, other areas will be also open to commercial seining for pink salmon by emergency order based on inseason assessment of run strengths. Areas open to seining and weekly fishing periods will be modified inseason depending on run strength, efficiency of the fleet, and the observed escapement rates. Preseason forecasts for pink salmon suggest that harvestable surpluses in the Outer District could occur at Rocky and Windy Bay Subdistricts, but actual openings will be determined by inseason run strength assessment.

Seiners should take note that waters of Windy Bay and Port Chatham Subdistricts will be open to ***subsistence set gillnet fishing*** on a weekly fishing schedule of 132 hours per week, from Thursday 10:00 PM until Wednesday 10:00 AM, up until August 1 (closed to subsistence fishing after August 1). Should these waters be simultaneously opened to commercial fishing, seiners are cautioned to remain alert for subsistence set gillnet gear in order to avoid potential gear conflicts.

7) Commercial set gillnetting in the Halibut Cove, Tutka Bay, Barabara Creek, and Seldovia Bay Subdistricts will open by Emergency Order beginning at ***6:00 AM THURSDAY, JUNE 2*** on the regular schedule of two 48-hour periods per week. As stated previously, commercial set gillnetting in Port Graham Subdistrict, including both the English Bay and Port Graham Sections, will remain closed at the start of the season.

8) Set gillnet permit holders are reminded that they **MUST REGISTER WITH ADF&G PRIOR TO FISHING IN WATERS OF COOK INLET**. Registrations can be completed in person at ADF&G offices in Homer, Soldotna, or Anchorage. Alternatively, set gillnet registration forms for "Greater Cook Inlet", of which the Southern District is a part, are available on the ADF&G web site at:

http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/mailin_registration_GCI.pdf.
These forms may be printed out, completed, and then mailed to the Department's Homer, Soldotna, or Anchorage offices. At the time of registration, a valid CFEC permit number for the current fishing year must be known and entered onto the registration form. The permit holder need not be present at the time of registration. Mailing address for the Homer office is:

Alaska Department of Fish and Game
Division of Commercial Fisheries
3298 Douglas Place
Homer, AK 99603

9) Seiners are reminded that latitudes and longitudes for LCI announcements and emergency orders will be published in **DEGREES AND TENTHS OF MINUTES**. This conforms to established standards in the latest commercial salmon fishing regulations booklet.

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10) Marine VHF channel 10 will be used to issue emergency order announcements and informational updates concerning the LCI area. In addition, the same information will be broadcast on SSB frequency 2512 kHz. Announcements are also relayed to public radio station KBBI. A 24-hour telephone recording in the Homer office may be reached by dialing (907) 235-7307 to obtain the most current information on the status of the fishery. ***This recording will be updated whenever any new information becomes available or management action affecting the LCI fishery is taken***.

    Announcements will be published in real time at the following web site:

    http://csfish.adfg.state.ak.us/newsrelease/select.php?year=2011&dist=HOM&species=400&submit=Go

    Each time a new announcement is issued, it will be made available to and can be viewed (along with other fishing area announcements) at this site. Fishermen should note this internet address as another source of LCI commercial salmon fisheries information.

    The public can view preliminary inseason LCI catches on the internet as they become available. The web address for these catches is:

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

    Whenever possible, the public is encouraged to frequently check this site for updated LCI catch information.

11) The Homer ADF&G staff once again emphasizes the importance of fish ticket catch reporting, especially the accuracy of the location/area of the catch. Such reporting has remained reasonably good during recent seasons, and continued cooperation from fishermen and processors is essential to effective management in LCI. Salmon management programs rely heavily on accurate and timely catch reporting in order to effect practical decisions, which ultimately benefit both the resource and the user groups. Fish ticket data are used by the staff to evaluate inseason run strength, attribute catches to various streams, evaluate enhancement projects, measure long-term production, establish and modify escapement goals, and generate forecasts.

Charts of the LCI fishing district and subdistrict boundaries, complete with a statistical numbering scheme identifying distinct bays and specific fishing areas, are available at the Homer ADF&G office. Fishermen, dock foremen, and tendermen are requested to accurately record the sub-statistical area on the fish ticket at the time of delivery, *showing where the catch actually occurred*. Additionally, including the name of the nearest bay or headland on the fish ticket will significantly improve catch records. *Please DO NOT merely record the location of the tender vessel where the catch was delivered*. If the catch from a particular delivery is from more than one area, please include each sub-statistical area on the fish ticket and provide the estimated catch from each area. If there are any questions concerning fish tickets and/or catch reporting, please do not hesitate to call the Homer ADF&G office at (907) 235-8191.

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The ADF&G staff in Homer wishes to extend its appreciation to fishermen and processors for their past support and cooperation in the management of Lower Cook Inlet salmon fisheries, and we look forward to a successful season in 2011.