**Fishery Management Report No. 14-30**

# 2013 Lower Cook Inlet Area Finfish Management Report

**by**

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**and**

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

## Symbols and Abbreviations

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

**Weights and measures (metric)**

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

**Weights and measures (English)**

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

**Time and temperature**

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

**Physics and chemistry**

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

**General**

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

**Mathematics, statistics**

| | |
|---|---|
| *all standard mathematical signs, symbols and abbreviations* | |
| alternate hypothesis | $H_A$ |
| base of natural logarithm | *e* |
| catch per unit effort | CPUE |
| coefficient of variation | CV |
| common test statistics | (F, t, $\chi^2$, 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. 14-30*

# 2013 LOWER COOK INLET AREA FINFISH MANAGEMENT REPORT

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# TABLE OF CONTENTS

# TABLE OF CONTENTS (Continued)

**Page**

# LIST OF FIGURES

# LIST OF TABLES



# LIST OF APPENDICES

# LIST OF APPENDICES (Continued)

# LIST OF APPENDICES (Continued)

# ABSTRACT

The 2013 Lower Cook Inlet (LCI) management area (all coastal waters and inland drainages entering waters north of Cape Douglas, west of Cape Fairfield, and south of Anchor Point) commercial salmon harvest was 2.3 million salmon. The harvest was composed of 2.1 million pink *Oncorhynchus gorbuscha*, 171,020 sockeye *O. nerka*, 54,403 chum *O. keta*, 7,615 coho *O. kisutch*, and 391 Chinook salmon *O. tshawytscha*. Approximately 95% of the harvest, 2.2 million fish, was common property harvest, and 118,230 fish were sold for hatchery cost recovery. Homepack, educational permits, and donated fish accounted for less than 1% of the harvest. Based on fish ticket reporting of prices, the preliminary estimated value of the commercial salmon harvest was $4.8 million, including hatchery sales. This amount does not include postseason adjustments, bonuses, etc. During the 2013 season, 19 set gillnet and 11 purse seine permit holders reported deliveries. Set gillnet harvest value was an estimated $548,000, setting average permit earnings at $29,000; purse seine fishery exvessel harvest value was an estimated $3.3 million, setting average permit earnings at $297,000. Revenue generated by cost recovery for hatchery operations was approximately $968,000. An additional $1.1 million was disbursed to Cook Inlet Aquaculture Association from a 2% salmon enhancement tax. The LCI management area personal use and subsistence fisheries harvested a total of 10,940 salmon. For these fisheries, approximately 150 subsistence and personal use permits were issued to Alaska residents. In addition, 1,380 coho salmon were landed by sport fish permit holders in a derby in Seward. Although these fish were subsequently sold commercially, they are not included in the total commercial harvest. The commercial Pacific herring *Clupea pallasii* fishery in the Kamishak Bay District was closed in 2013 for the 12th consecutive year to allow the spawning population to continue rebuilding.

Key words Lower Cook Inlet, Kamishak Bay, Kachemak Bay, Resurrection Bay, salmon, harvest, set gillnet, purse seine, commercial salmon harvest, salmon enhancement, Cook Inlet Aquaculture Association, 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 included in Area H and encompasses all coastal waters and inland drainages entering this area (Figure 1).

This salmon management area is divided into 5 districts that correspond to local geography and distribution of the 5 species of Pacific salmon (*Oncorhynchus* spp.) harvested by commercial fisheries (Figures 1–18). 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, Alaska Department of Fish and Game (ADF&G) follows regulatory guidelines to manage fisheries and allow private nonprofit hatcheries to achieve cost recovery and broodstock objectives.

Three hatcheries currently contribute to the area's salmon fisheries. The Trail Lakes Hatchery (TLH) at Mile 29 of the Seward Highway produces sockeye *O. nerka* and coho salmon *O. kisutch* and is operated by the Cook Inlet Aquaculture Association (CIAA). ADF&G operates the Ship Creek Hatchery Complex 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 *O. gorbuscha* 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 and divided between the commercial purse seine sac roe fishery in that district (90%) and the Shelikof Strait food and bait fishery (10%) in the Kodiak management area. Other districts in LCI were closed to commercial herring harvest by the Alaska Board of Fisheries (BOF) in 2002 pending an increase in stock levels sufficient to ensure that a commercial herring fishery can be conducted in a sustainable manner.

### OVERVIEW OF AREAWIDE SALMON AND HERRING FISHERIES

The 2013 LCI management area commercial salmon harvest was 2,332,114 fish. The harvest was composed of 2,098,685 pink, 171,020 sockeye, 54,403 chum *O. keta*, 7,615 coho, and 391 Chinook salmon (Table 1; Figure 19). Hatchery returns of sockeye salmon in general were below forecast. Harvest of coho and pink salmon were above previous 10-year (2003–2012) harvest averages (Table 2). Approximately 95% of the harvest, 2,210,555 fish, was attributed to the common property fishery, and 118,230 fish were attributed to hatchery cost recovery. An additional 9,364 sockeye and 155,173 pink salmon were harvested by hatcheries for broodstock (Appendices F2 and F3). Homepack harvest (491 salmon) accounted for less than 1% of the commercial harvest from LCI districts (Table 1). The 2013 preliminary exvessel value estimates by gear group from the common property fishery, both wild and enhanced salmon, are $3.3 million (85.6%) for purse seine and $547,736 (14.4%) for set gillnet (Table 3; Figure 20). The average price per pound paid to fishermen was significantly above the previous 10-year average for all species (Table 4). The overall harvest values for both gear groups were above the previous 10-year harvest average (Table 5).

No commercial fisheries for herring occurred in 2013 in order to allow the population further opportunity to rebuild from historically low abundance (Figure 21).

## SALMON SEASON SUMMARY BY DISTRICT

### SOUTHERN DISTRICT

The Southern District includes the waters of eastern Cook Inlet south of Anchor Point and north of a line from Cape Elizabeth to Cape Douglas excluding waters east of a line from Point Adam to the tip of Cape Elizabeth (Figures 1–5). Commercial fishing in this district is restricted by regulation to waters along the south shore of Kachemak Bay from Chugachik Island near the terminus of Kachemak Bay to Point Bede approximately 4 miles south of the village of Nanwalek (English Bay). Purse seine gear is permitted in all open waters of this district during periods established by emergency order (EO). Commercial set gillnet harvest is restricted to approximately 15 miles of shoreline in 5 subdistricts in this district: east shore of Ismailof Island near Halibut Cove; waters surrounding McDonald Spit extending to Jakolof Bay; waters east of Barabara Point extending approximately 1.4 miles; waters along the west shore of outer Seldovia Bay; and waters of a portion of the south shore of Port Graham and English Bay. Any Cook Inlet Area (Area H) commercial set gillnet permit holder may register to fish in these areas. This registration, however, would preclude that permit holder from fishing in the Northern and

Central 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 numbers of chum and coho salmon are also harvested. The major natural producer of sockeye salmon in this district is the English Bay River. Pink salmon historically have returned in large numbers to Humpy Creek, as well as numerous smaller streams in the Southern District. Hatchery releases began in 1972, when 241,000 coho and 34,000 Chinook salmon were released into Kasitsna Creek. This was followed by releases of chum and pink salmon into Halibut Cove Lagoon in 1974 and 1975. Sockeye salmon were released into Leisure Lake and Halibut Cove Lagoon in 1976 (Appendices F16, F17, F19, F21, and F22).

## Preseason Outlook and Harvest Strategy

The 2013 commercial wild stock harvest forecast for the Southern District was 1,100 sockeye and 40,000 pink salmon (Table 6, Appendix H1). The enhanced sockeye salmon run to CIAA release sites was forecast to be 155,514 fish. A total of 339,033 hatchery-produced pink salmon were anticipated to return to the LCI Area in 2013 from the 2012 release of 8.1 million fry from Tutka Bay Lagoon and 3.1 million from Halibut Cove Bight (Appendices F7 and F11).

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 EO. The seine fishing season and fishing periods are opened and closed by EO depending on the available harvestable surplus of both wild and hatchery stock salmon. Given that all returning sockeye and pink salmon were anticipated to be required to meet broodstock and cost recovery needs, hatchery specials harvest areas (SHA) were anticipated to remain closed to common property commercial seine harvest. Given recent irregular returns of sockeye salmon to the Port Graham Subdistrict, the set gillnet commercial fishery 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 (SEG) in addition to hatchery broodstock requirements. Hatchery harvest for this and previous seasons is discussed fully in the *Cook Inlet Salmon Enhancement* section.

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 Lakes as measured by the English Bay River 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 2013 Southern District sockeye salmon commercial common property harvest was 66,270 fish, with 38,238 (57.7%) harvested by the set gillnet fleet and 28,032 harvested by seine permit holders (Appendices A1–A3). In addition 18,462 sockeye salmon were harvested from Tutka and China Poot bays by CIAA for cost recovery, and 2,480 fish were harvested for broodstock purposes (Appendix F2). Total pink salmon harvest was 35,092 fish with 33,288 (95%) harvested by the seine fleet and 1,804 harvested by set gillnet permit holders. In addition, CIAA harvested 203,190 pink salmon from Tutka Hatchery Special Harvest Area (SHA) and

Port Graham Hatchery SHA for use as broodstock and cost recovery (Appendix F3). See the *Cook Inlet Salmon Enhancement* section of this report for specific information regarding these harvests. A total of 374 Chinook salmon were harvested in the Southern District with 234 fish harvested by set gillnet permit holders and the remaining by seine permit holders. Also, a total of 2,950 chum salmon were harvested, with 2,685 by set gillnet and 265 by seine permit holders. In addition, 5,368 coho salmon were landed, with 3,466 by set gillnet and 1,902 by seine permit holders (Appendices A1 and A2; Table 1). Also, 155 sockeye, 16 Chinook, 150 coho, 13 chum and 157 pink salmon were retained by 6 commercial set gillnet permit holders for personal "homepack" use and not sold (Appendix E7; Table 1).

The Southern District set gillnet commercial fishing season was announced by EO on May 24 and opened on June 1 (Table 7). The first 48-hour commercial fishing period was also announced in this EO to begin at 6:00 AM on Monday, June 3. The harvest from this period was 1,777 sockeye, 20 Chinook, and 29 chum salmon with 7 permit holders reporting deliveries (Appendix A1). Processors paid approximately $3.20 per pound for sockeye, $0.35 per pound for chum, and $5.60 per pound for Chinook salmon. During this period, waters of the Port Graham Subdistrict remained closed to commercial set gillnet harvest as a precautionary measure due to irregular sockeye salmon returns in recent years. The English Bay weir began operation on May 27 and by June 8 had passed 48 sockeye salmon versus an anticipated SEG range of 420–945 fish for this period. This anticipated range is the SEG range apportioned out daily in accordance with the historic run timing that would be required to meet the SEG on July 31 (Appendices A4–A6; Table 8).

The second 48-hour period began the following Thursday on June 6 at 6:00 AM and had 9 permit holders reporting 3,485 sockeye, 36 Chinook, and 49 chum salmon harvested. During the following period on Monday, June 10, a total of 3,449 sockeye, 34 Chinook, and 78 chum salmon were harvested by 11 permit holders (Appendix A1). English Bay weir passage increased during the week of June 9–15 with 924 sockeye salmon passed. Passage during this 7-day period was anticipated to have increased to 787–1,769 in order to fall within the final SEG range of 6,000–13,500 on July 31.

A commercial fishing period occurred beginning on Thursday, June 13, in the Southern District excluding the Port Graham Subdistrict with 10 permit holders reporting a harvest of 29 Chinook, 2,309 sockeye, and 99 chum salmon. Harvest from the following period beginning on Monday, June 17, declined with 8 permit holders delivering 18 Chinook, 1,544 sockeye, and 59 chum salmon (Appendix A1). Although sockeye salmon passage at the English Bay weir increased slightly, it continued to occur well below the daily SEG target during this time. During the week of June 16–22, a total of 1,083 sockeye salmon were counted at the weir versus an anticipated count of 733–1,647 for this week. Cumulative passage on June 22 was 2,055 fish versus an anticipated cumulative count of 1,939–4,362 fish (Appendix A4). As a result of weir passage that was only slightly above the minimum apportioned SEG, common property commercial harvest remained closed with subsistence harvest open on a regular schedule. Harvest from the Thursday, June 20, fishing period improved with 14 Chinook, 2,358 sockeye, and 63 chum harvested by 8 permit holders (Appendix A1).

Weir passage over the next week showed a marked increase with 4,471 fish counted from June 23–29 versus an anticipated passage of 1,699–3,826 during this time. Historically, approximately 68% of the English Bay weir escapement has been counted as of July 1 (Appendix A4). Commercial set gillnet harvest in other portions of the Southern District during the week of June

23–29 was above the harvest in the previous week with 10 permit holders reporting 42 Chinook, 5,081 sockeye, and 250 chum salmon landed from the Monday and Thursday periods combined (Appendix A1).

The Southern District commercial purse seine season was opened by EO on July 1 with a fishing schedule of 2 weekly 16-hour periods (6:00 AM to 10:00 PM) established on Mondays and Thursdays in portions of this district east of Tutka Bay. Harvest from the Monday and Thursday periods combined for this gear during this week (June 30–July 6) was 71 Chinook, 4,438 sockeye, 128 coho, 175 pink, and 119 chum salmon, with 6 permit holders reporting deliveries. Harvest the following week increased significantly for this gear group with 11 permit holders reporting 10,844 sockeye, 486 coho, and 688 pink salmon. Similarly, set gillnet harvests also increased during the first 2 weeks of July with 11 permit holders reporting 5,094 sockeye, 78 coho, and 330 chum salmon during the first week and 12 permit holders reporting 7,170 sockeye and 1,052 coho during the second. Passage at the English Bay weir remained steady during the first half of July with 3,239 passed during the first week versus an SEG range of 1,245–2,800 during this time. Cumulative passage on July 6 was 9,765 toward an SEG range of 4,884–10,998 sockeye salmon. Passage diminished during the following week (July 7–13) with 1,563 counted versus an apportioned SEG range of 775–1,742 fish. Cumulative passage on July 13 was 11,370 versus a corresponding SEG range of 5,658–12,730 fish. After subtracting the anticipated CIAA broodstock harvest goal of 4,000 sockeye salmon from English Bay Lakes, the remaining spawning escapement already counted past the weir fell within the SEG (6,000-13,500) for this system. On Friday, July 12, ADF&G announced that the Port Graham Subdistrict would open on Monday, July 15, to commercial set gillnet harvest for regular 48-hour periods concurrent with the ongoing fishing schedule for that gear in the remainder of this district (Table 7; Appendices A1 and A2).

During the week of July 14–20, the purse seine fishing schedule was expanded to three 16-hour periods on Monday, Wednesday, and Friday as a result of significant harvests by this gear in waters behind the Homer Spit. During this week, 13 purse seine permit holders reported harvesting 7,424 sockeye, 1,256 coho, and 1,322 pink salmon. Set gillnet permit holders reported harvesting 5,444 sockeye, 2,169 coho, 882 chum, and 645 pink salmon during this week. Harvests the following week (July 21–27) diminished markedly for both gear types with 5 seine permit holders reporting 5,311 sockeye, 31 coho, and 678 pink salmon. A total of 6 set gillnet permit holders reported 397 sockeye, 50 coho, and 822 pink salmon harvested commercially (Appendix A1 and A2). Passage at the English Bay weir was robust for the second half of July until the weir was dismantled on July 27. A total of 12,910 sockeye salmon were counted. From these, 1,753 fish were beach seined from English Bay Lakes for use as broodstock for back-stocking into English Bay Lakes as well as planting into other remote release locations in LCI. An additional 253 fish were sampled for their otoliths to determine the hatchery contribution to this run. The total spawning escapement into English Bay Lakes is total weir passage minus broodstock and otolith sampled fish harvested, or 10,904 sockeye salmon. This is within the SEG range for this system (6,000–13,500) (Appendices A4–A6).

Set gillnet harvests in the 5th week of July diminished significantly with the seasonal closure of Kachemak Bay Salmon Producers that happened the previous week. Set gillnet harvests from this and all following weeks are confidential due to fewer than 3 permit holders reporting deliveries in all remaining fishing periods.

There were no purse seine commercial deliveries from any of the 16-hour periods from July 27 through August 6. Harvests from August 7 to 25 are confidential because there were no further fishing periods in which more than 2 permit holders reported deliveries. This is probably due to the strong return of pink salmon to systems in the Outer District west of Gore Point, where approximately a dozen permit holders were fishing aggressively.

There were no further purse seine deliveries after August 25 from the Southern District in 2013 (Appendix A2). The 2013 salmon season was closed to purse seine fishing on September 15 and to set gillnet fishing on October 1.

The final escapement index value for Southern District pink salmon stocks based on ground surveys was 89,504 and was within the cumulative SEG ranges of 59,700–178,500 fish (Appendices A7–A9). 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 177,700. Spawning escapement for chum salmon to the Port Graham River was 1,944 fish, as measured by ground surveys. This was within the SEG range of 1,450–4,800 fish for this system. Final spawning escapement for English Bay River was 10,904 sockeye salmon. This is within the SEG range of 6,000–13,500 fish. The previous 10-year average spawning escapement was 13,119 for this system (Appendix A6).

The total 2013 Southern District common property commercial harvest of 66,270 sockeye salmon was above the anticipated harvest of 1,100 sockeye salmon but below the previous 10-year average harvest of 94,036 (Table 6; Appendix H1). The pink salmon commercial common property harvest (35,092) was below the anticipated harvest of 40,000 fish; however, it was above the previous 10-year average harvest of 31,831 fish (Appendix A3).

## OUTER DISTRICT

The Outer District includes the waters of LCI along the Kenai Peninsula south and east of a line from Point Adam to Cape Elizabeth, and east of the longitude of Cape Elizabeth to the longitude of Aligo Point, which is 35 miles southwest of Seward (Figures 1, 2, and 6–9). Purse seine gear is permitted in all open waters of this district during periods established by EO. 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 terminus 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 (Appendix F17).

### Preseason Outlook and Harvest Strategy

The 2013 commercial wild stock harvest forecast for the Outer District was 10,200 sockeye and 63,000 pink salmon (Table 6; Appendix H1). As specified in regulation, the seine fishing season and periods are opened and closed by EO depending on the available harvestable surplus of wild stock salmon returning to spawning systems in the Outer District.

Historically, 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. Escapement into these lakes is frequently driven by rain events with weeks of limited passage followed by a significant spike in escapement as the result of increased water volume in the lake outflow. By early August, chum and pink salmon returns to this district may increase to harvestable levels.

## Season Summary

The total 2013 Outer District sockeye salmon commercial common property harvest was 119 fish (Appendices B1 and B2). A total of 5,961 sockeye salmon were counted at the Delight Lake weir in 2013. Unlike passage in many previous years, the majority of these fish entered Delight Lake in the first half of July as a result of several days of rain on the outer coast during the first week of that month. An aerial survey of Delight Lake under good conditions on June 29 counted 695 sockeye salmon in the lake. An aerial survey of the lake on July 8 counted 2,991 fish. This compared favorably with the cumulative weir count of 1,853 for that date. Passage remained steady over the following week with close to 4,700 counted through July 15. Passage slowed over the next week due to sunny and dry weather with a cumulative passage of only 5,961 through the weir as of July 22. The weir was removed on July 27 with no additional fish counted and very low water conditions. An aerial survey flown on July 31 estimated over 1,000 dead sockeye salmon in the freshwater lagoon downstream of the weir due to anoxia related to low water and warm temperatures. Including the 695 sockeye counted in late June by aerial survey prior to installation of the weir; total escapement into the lake was estimated at 6,656 fish. This is below the SEG of 7,500–17,650 sockeye salmon for this system (Appendices B3, B4, and B5). Total pink salmon harvest from this district was 2.0 million fish, and total chum salmon harvest was 49,062 fish (Appendices B1 and B2).

Commercial fishing in the Outer District began during statistical week 30 (July 21–27) with 16-hour fishing periods (6:00 AM–10:00 PM) occurring on Monday, Wednesday, and Friday in the Port Dick, Rocky Bay, Windy Bay, and Nuka Bay areas. This schedule continued until August 15 when daily 16-hour fishing periods were announced. The primary intent of the 16-hour periods was to allow regular windowed salmon escapement throughout the return. This strategy allows various components of the run similar opportunities for harvest as well as escapement. Harvest from week 30 was over 272,000 pink salmon with the majority of these fish taken from Port Dick by 9 permit holders. Windy and stormy conditions in late July and early August prevented timely aerial surveys of the Outer District. Reports by and harvests from commercial permit holders indicated that the pink salmon return to the Outer District was robust and significantly above anticipated. Harvest from week 31 (July 28–August 3) was just under 250,000 pink salmon with 9 permit holders reporting deliveries. Harvest the following week (August 4–10) was just over 350,000 pink salmon with 9 permit holders reporting deliveries. Weather improved the following week (August 11–17), allowing for an aerial survey to be flown on August 14. This survey documented generally “good” levels of pink salmon in many smaller systems east of Gore Point. West of Gore Point, escapement levels were very good to excellent with many index streams easily within SEGs. In addition, ground surveyors on August 14 reported 45,498 pink salmon in Port Dick Head End Creek, and 2,308 chum and 21,892 pink salmon in Island Creek the following day (Appendices B1, B3, B6, and B7). Consequently, areas previously opened on a schedule of Monday, Wednesday, and Friday were expanded to daily fishing periods with processors and tenders putting the seine fleet on a limited delivery schedule to match processing capability. In addition, closed waters restrictions were relaxed on many

systems, allowing commercial fishing up to the freshwater of those systems. Harvest from week 33 (August 11–17) was over 660,000 pink salmon with 9 permit holders reporting deliveries. Harvest the following week declined to just over 319,000 pink salmon with 8 permit holders reporting deliveries. Harvest and participation continued declining in week 34 (August 25–31) with just under 162,000 pink salmon harvested by 5 permit holders. There were no further deliveries reported from the Outer District (Appendices B1, B2, B6, and B7).

This district closed for the 2013 season on September 15. A total of 11 permits reported deliveries from the Outer District in 2013, which was above the previous 10-year annual average of 10 permits. Total harvest from this district was 119 sockeye, 2,015,105 pink, 49,062 chum, 53 coho, and 1 Chinook salmon. Sockeye salmon harvest was less than the anticipated harvest of 10,200 fish. The chum salmon harvest was above the anticipated harvest of 47,100 fish. The actual harvest of more than 2 million fish was 32 times larger than the anticipated harvest of 63,000 fish. The pink salmon preseason estimate was based significantly on parent year (2011) escapement to index streams in the Outer District. In 2011, pink salmon escapement was 80,100 fish. This was below the previous 10-year average of 401,800 fish (Appendix B2, B10).

The final escapement index value for Outer District pink salmon stocks, based on air and ground surveys, was 339,985 and was above the SEG range of 54,500–237,200 fish (Appendix B10). 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 339,103. Spawning escapement for chum salmon to this district was 30,353 and within the SEG of 12,850–34,600. Since 2002, this value has ranged from 12,400 to 43,400 and has a previous 10-year average value of 30,465 (Appendices B6–B10).

## EASTERN DISTRICT

The Eastern District includes all state waters of the Gulf of Alaska between the longitudes of Aligo Point and Cape Fairfield (Figures 1, 2, and 10). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary target species have been sockeye and pink salmon with commercial harvests in modest numbers occurring sporadically (Appendix C2). 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 Pedersen 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 juveniles into Bear Lake, in addition to 1.3 million to 1.7 million annually into Resurrection Bay since 2008 (Appendix F17).

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 the Alaska Sea Life Center into Resurrection Bay (Appendix F21). Significant 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 and Humpy coves collectively produced an average of 10,500 pink salmon per year from 1997 to 2006 (Appendix C11). Ground surveys of this area in recent years have been curtailed due to budgetary constraints combined with historic low returns to this area.

Since the early 1960s, coho salmon production has been the subject of enhancement efforts in Resurrection Bay. Historically, commercial harvest of this species in the Eastern District has been minimal (Appendix C2). In 1966, commercial harvest of coho salmon north of a line from Cape Resurrection to Callisto Head was prohibited, and in 1968 this regulatory line was moved south to its current position at Aialik Cape. Beginning in 1985 with the start of hatchery releases of Chinook salmon in the Seward area (Appendix 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 in this area have been harvested by sport users, and returns of pink and chum salmon have eluded significant commercial fishing pressure. Since 1956, the Seward Chamber of Commerce has conducted a fishing derby that focuses on enhanced and wild coho salmon returning to local spawning systems at the head of Resurrection Bay. Beginning in 1990, coho salmon harvested by participants in the derby have been sold commercially by the Chamber of Commerce to a local processor as a fund raiser for that organization. These sales are listed separately from commercial common property harvests in Appendix C2.

## Preseason Outlook and Harvest Strategy

The enhanced sockeye salmon run to CIAA release sites in Resurrection Bay was forecast to be 70,666 fish (Table 6, Appendix H1). As specified in regulation, the seine fishing season and fishing periods are opened and closed by EO depending on the available harvestable surplus of both wild stock and enhanced salmon returning to the Eastern District. CIAA announced preseason that all of the 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

In 2013, there were no common property fishery openings in the Eastern District due to a smaller-than-anticipated sockeye salmon return to CIAA release sites in Resurrection Bay and modest wild stock sockeye and pink salmon returns (Appendices C1 and C2). Returning enhanced sockeye salmon were harvested by cost recovery seine vessels in Resurrection Bay for CIAA, as well as at the Bear Creek weir.

The Eastern District was initially opened on Monday, May 20, to cost recovery harvest 7 days per week. Harvest remained slow but moderately steady with several thousand fish harvested daily with a final cost recovery harvest of 41,410 from saltwater in Resurrection Bay. An additional 2,033 were harvested at the weir for cost recovery, as well as 1,129 jack salmon that were donated to members of the public for a total harvest of 44,572 sockeye salmon (Appendix F2). An additional 12,610 sockeye salmon were passed into Bear Lake, where 3,606 were collected by CIAA using a beach seine for hatchery broodstock. The remaining 9,004 were allowed to spawn naturally in Bear Lake and thereby exceeded the SEG range of 700–8,300 fish for this system (Appendices C3, C4, and C7).

A total of 300 coho salmon were passed through the weir. An additional 803 coho salmon were harvested at the weir for broodstock. Also, 2,044 coho salmon were donated to members of the public (Appendices C5–C7). A ground survey of Bear Creek from the weir to the Seward Highway was conducted on August 29 where 2 Dolly varden (*Salvelinus malma*) char and 8,125 pink, 2 coho, and 3 sockeye salmon were counted (Appendix C9).

Aerial surveys of Aialik Lake were conducted; weather permitting, beginning on July 23 with the last survey flown on August 25. The peak aerial survey count of 3,530 was observed on a survey flown on July 31 and was below the SEG of 3,700–8,000 fish. Conditions on this survey were poor with high turbidity in the lake preventing good observation. The Aialik Lake escapement of 3,530 was below the previous 10-year average escapement of 4,917 fish (Appendices C8, C9, and C11). 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 2013 (Appendices C8 and C9). A total of 1,380 coho salmon were harvested by sport users and sold to local processors by the Seward Chamber of Commerce during the annual silver salmon derby (Appendix C2).

The final spawning escapement for Bear Lake sockeye salmon stocks was 9,004 fish. This compares to a previous 10-year average escapement of 9,104 fish (Appendix C7). Coho spawning escapement to Bear Lake was 300 fish, which was below the previous 10-year average spawning escapement of 448 fish (Appendices C5–C7). In 2013, there was 1 aircraft survey of Day Harbor pink and chum salmon systems on the east side of Resurrection Bay and 1 ground survey of Bear Creek and other salmon streams near Seward. Consistent ground and aerial surveys of many pink and chum salmon index streams in the eastern portion of this district have not been implemented since 2006 due to budgetary restrictions.

## KAMISHAK BAY DISTRICT

The Kamishak Bay District includes all state waters on the west side of Cook Inlet south of the latitude of Anchor Point and north of a line from Cape Douglas to Elizabeth Island (Figures 1, 2, and 11–13). Purse seine gear is permitted in all open waters of this district during periods established by EO. Historically, the primary naturally occurring target species have been chum and pink salmon. From 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 to systems 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 F17 and F21). 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, numerous other rivers and streams have periodically produced 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 1980. The second largest producer, Chenik Lake had an average run of 3,800 during this period with Amekdedori Creek and Kamishak rivers having average runs of 1,200 and 1,300 sockeye salmon, respectively. Runs to Chenik Lake increased significantly overall after enhancement (1978–1996) with average harvests of 55,900 per year during this period (Appendix F24). However, there were years when escapement dropped below 1,000 fish, possibly as a result of over-aggressive stocking resulting in an infectious

hematopoietic necrosis (IHN) outbreak. Stocking of Chenik Lake was curtailed in 1996 and the population recovered quickly. The large runs experienced since 2002 have derived entirely from natural production. Average annual escapement to Mikfik Lake from 1981 to 2010 was 11,100 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 F17). Specific information regarding hatchery releases in this district is located in the *Cook Inlet Salmon Enhancement* section of this report.

## Preseason Outlook and Harvest Strategy

The 2013 commercial wild stock harvest forecast for the Kamishak Bay District was 77,000 sockeye salmon. A commercial pink salmon harvest was not anticipated (Table 6; Appendix H1). The enhanced CIAA sockeye salmon run to Kirschner Lake was forecast to be 21,700 fish (Appendix F1; Table 6). As specified in regulation, the fishing season in the Kamishak Bay District opens from June 1 until closed by EO. Historically, this district has been opened for extended 7-day periods, with specific areas closed as needed by EO to address escapement shortfalls or to allow for hatchery cost recovery harvest. CIAA initially announced that all of the 21,700 sockeye salmon anticipated to return to the Kirschner Lake release site would be required to meet corporate cost recovery 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 2013 Kamishak Bay District commercial common property harvest was 33,154 sockeye, 2,357 chum, and 314 pink salmon harvested by 5 seine permit holders (Appendix D1 and D2). Given the lackluster success of cost recovery in the Eastern District in 2013, commercial common property harvest in the Kirschner Lake SHA was closed to allow for corporate harvest of this entire return.

The Kamishak Bay District was opened to commercial common property harvest on Saturday, June 1. There was no harvest reported during June. Harvest from the 6th fishing period (July 1–7) by 5 permit holders was 23,046 sockeye salmon, all of which were caught in the Chenik Subdistrict. An additional 7,170 sockeye salmon were harvested by 5 permit holders the following week with harvest from the following 2 weeks' fishing periods (July 8–14, and July 15-21) confidential due to fewer than 3 permit holders reporting deliveries. There was no further harvest from this district reported in 2013 (Appendix D2).

Video monitoring of returning sockeye salmon to Mikfik and Chenik Lakes occurred with moderate technical difficulty at Mikfik Lake in 2013. A late breakup of ice delayed floatplane access for installation of the Mikfik Lake video system. A total of 4,042 sockeye salmon were counted from video at Mikfik Lake from June 19 to August 17. During this time, the camera was offline from June 2 to July 7 and from July 11 to 16 (Appendices D4 and D6). The count was

below the SEG range of 6,300–12,150 and below the previous 10-year average of 10,014 fish (Appendix D7). Aerial surveys of the lower portion of Mikfik Creek observed significant numbers of sockeye salmon on several occasions as well as the constant presence of numerous brown bears (*Ursus arctos horribilus*) catching these fish. A total of 11,333 sockeye salmon were documented in Chenik Lake from June 19 to August 9 with the camera operational continuously (Appendices D3 and D5). This was within the SEG range of 3,500–14,000 fish and below the previous 10-year average of 14,818 sockeye salmon (Appendix D7).

The peak aerial survey count for Amekdedori Creek was 1,540 sockeye salmon. This was within the SEG range of 1,250–2,600 fish and below the 10-year average of 3,560 fish. Overall, 25,212 pink salmon were observed in index streams in the Kamishak Bay District (Appendices D8 and D9). This was slightly below the SEG range of 25,950–203,400 pink salmon for the 3 index systems (Bruin River, Sunday Creek, Brown's Peak Creek) in this district combined and was also below the previous 10-year average return of 430,000 fish for these combined index streams (Appendix D11). Chum salmon escapement into Kamishak Bay District index streams was also down with 49,938 fish counted in the 7 index streams combined (Appendix D8 and D10). 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 was 125,000 fish (Appendix D11). Poor observational conditions due to stormy weather or excessive glacial silt resulted in an erratic aerial survey schedule that may have contributed to reduced counts of pink and chum salmon in this district.

The total 2013 Kamishak Bay District commercial common property harvest of 33,154 sockeye salmon was below the anticipated harvest of 77,000 wild sockeye and below the previous 10-year average harvest of 70,343 sockeye salmon. Total pink salmon harvest from this district was 314 fish versus an anticipated harvest of no fish. The previous 10-year average harvest was 26,947 pink salmon. Total chum salmon harvest was 2,357, down from the previous 10-year average of 53,445 fish (Appendix D2). In addition, 8,288 sockeye salmon were harvested by CIAA for cost recovery purposes from the Kirschner Lake SHA.

# LOWER COOK INLET SUBSISTENCE, PERSONAL USE AND HOMEPACK COMMERCIAL FISHERIES

The Cook Inlet Subsistence management area (5 AAC 01.550) includes all state waters between Cape Douglas and Cape Fairfield, excluding waters of the upper Susitna River (5 AAC 01.550). Superimposed on this area is the Anchorage-Matsu-Kenai Nonsubsistence Area described in 5 AAC 99.015(a)(3). This area makes up more than 90% of the area described in 5 AAC 01.550. Under Alaska Statute 16.05.258 (c), the BOF may not permit subsistence fishing in nonsubsistence areas. A small portion of the LCI management area is outside the nonsubsistence areas, including the southwest tip of the Kenai Peninsula with the communities of Seldovia, Port Graham, and Nanwalek, as well as portions of the western shore of upper Cook Inlet near Tyonek in the Northern Cook Inlet management area. However, in order to provide harvest opportunity in addition to sport fishing to Alaska residents within these nonsubsistence areas, the BOF has defined 2 personal use salmon fisheries in LCI, as well as defined seasons and gear types for personal use herring and smelt fisheries. In addition, both resident and nonresident commercial permit holders historically have been allowed to retain legally harvested fish from their commercial catch for their own use as homepacks.

## 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 (Stanek 1985). 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 runs to English Bay Lakes have been significantly depressed. This has reduced both local commercial and subsistence salmon harvests. Partially in response to this at the November 2001 BOF meeting, waters of the Port Chatham and Windy Bay subdistricts were added to regulation as areas available for salmon harvest to subsistence permit holders. Historically, separate permits have been issued to residents of Port Graham (population 168) and Nanwalek (population 287). Permission to fish in Koyuktolik, Port Chatham, Port Graham, and Windy Bay is specified on both of these permits. Historically, there has been no requirement on these permits for the subsistence user to report from which harvest areas some or all of the harvest was caught. There is no bag or annual possession limit for subsistence salmon in the Port Graham, Port Chatham, Windy Bay, or Koyuktulik (Dogfish Bay) subdistricts.

In 2013, 50 permits were sent to the Nanwalek Traditional Council and 40 permits were sent to the Port Graham Village Council. In addition, 10 permits were sent to the Anchorage ADF&G office, and 10 permits were kept at the Homer ADF&G office for distribution. All permits were serially numbered and printed on Rite-in-the-Rain paper. Representatives from the village councils were asked to disperse these permits to residents of these villages who intended to harvest salmon for subsistence use. An additional 38 permits were mailed to the Nanwalek Traditional Council on June 4 at their request. In previous years, a village resident was paid to disperse and collect permits from both of these communities and provide ADF&G with a final harvest estimate. Permits were not actively distributed from ADF&G offices prior to 2012.

In 2013, 12,910 sockeye salmon were counted as they passed the English Bay River weir. Of those fish, 1,753 were harvested by CIAA for use as broodstock (to enhance returns both to this system as well as to other release sites in LCI). An additional 253 fish were sampled for their otoliths to determine the percentage of hatchery produced fish in the run. The remaining 10,904 sockeye salmon were allowed to remain in the lake and spawn naturally. This was within the SEG range of 6,000–13,500 fish for English Bay Lakes. Subsistence fisheries were not restricted in 2013 as they had been in many previous years when escapement has been consistently below the SEG range (Appendix A4, A6, and E2).

In 2013, only 4 subsistence permits were returned in Nanwalek (English Bay). These permits reported a total harvest of 2 Chinook, 3,854 sockeye, 2,619 coho, 383 pink, and 811 chum salmon (Appendix E2). This compares to the previous 10-year average of 28 permits reporting 45 Chinook, 2,477 sockeye, 947 coho, 1,458 pink, and 177 chum salmon. Nanwalek residents have reported that this harvest is shared among the community. A total of 10 Port Graham permits were returned with a total harvest of 15 Chinook, 1,034 sockeye, 66 coho, 27 pink, and 86 chum salmon reported (Appendix E1). This was below the previous 10-year average of 23

permits reporting 135 Chinook, 733 sockeye, 137 coho, 160 pink, and 72 chum salmon. In addition, 1 permit was issued to a resident of Anchorage and was not returned.

The combined total harvest from both the English Bay and Port Graham Sections was 8,897 salmon and was above the previous 10-year average of 6,342 salmon. This was also above the customary and traditional use BOF finding of 4,800–7,200 salmon (5 AAC 01.566) for the Port Graham, Koyuktolik, Port Chatham, and Windy Bay subdistricts.

## SELDOVIA SUBSISTENCE FISHERY

There are 2 subsistence fishing seasons specified in regulation that take place each year in the waters of the Seldovia Bay Subdistrict. The first season consists of two 48-hour periods each week beginning at 6:00 AM on Monday and Thursday from April 1 through May 30. The second season consists of two 36-hour periods on the first 2 weekends in August. Legal gear is set gillnets up to 35 fathoms in length, 6 inches in mesh size, and 45 meshes in depth. This fishery was created in 1995 by the BOF. The intent of the BOF was for this fishery to avoid harvesting hatchery Chinook salmon that have been released annually into the Seldovia Harbor since 1987 (Appendix F15). These releases are funded under the federal Dingell–Johnson Sport Fish Restoration Fund. Allowing a subsistence harvest on these Chinook salmon would violate the intent of this federal program. Furthermore, there have been no significant historic runs of Chinook salmon to the Seldovia area (or other locations in LCI). The customary and traditional use worksheet submitted to the BOF in 2005 identified Chinook salmon as being the least important of the 5 species to residents of Seldovia as far as traditional subsistence use was concerned. In addition to structuring the timing of the fishery to avoid this hatchery run, the BOF also imposed an annual possession limit of 20 Chinook salmon per household for this species. There is no bag or annual possession limit for other salmon species in the Seldovia subsistence fishery. A permit issued by ADF&G is required prior to setting gear, and catches are recorded on the permit. Catches are also reported to the Homer area office inseason so that cumulative harvest totals can be monitored and coho salmon deducted from the fall personal use coho salmon fishery guideline harvest level specified in 5 AAC 77.549(a).

In 2013, 40 permits for the spring fishery were sent to the Seldovia harbormaster's office, in addition to 10 permits retained at the Homer ADF&G office and 10 that were sent to the Anchorage ADF&G office. An additional 20 permits for the fall fishery were sent to the harbormaster's office, and a total of 15 permits were kept at both the Anchorage and Homer ADF&G offices. All permits were serially numbered and printed on Rite-in-the-Rain paper. The Seldovia harbormaster was instructed to have Alaska residents complete the name and address portion of the permits while under witness of a harbormaster employee and then have that employee fax a copy of the completed permit back to the Homer ADF&G office.

In 2013, out of 7 permits dispersed to Alaska residents for the early season, 5 permits were returned. Only 4 of the returned permits reported having fished. These 4 permits reported harvesting 1 Chinook and 93 sockeye salmon. This compares to a previous 10-year average of 12 permits issued, 9 permits returned, and 5 reporting not fishing with a harvest of 26 Chinook, 45 sockeye, and 7 chum salmon by the remaining 4 permits. August weekend seasons issued 5 permits with only 3 permits returned. These permit holders reported 1 Chinook, 5 sockeye, 1 coho, 45 pink, and 10 chum salmon harvested. This compares to a previous 10-year average of 4 permits issued, 3 permits returned, and 1 reporting not fishing with a harvest of 25 sockeye, 11 coho, 41 pink, and 9 chum salmon (Appendix E3). Total harvest for both the early and late

season was 155 salmon versus a previous 10-year harvest average of 165 salmon. Currently, there is no customary and traditional allocation for this subsistence fishery as there are for other LCI subsistence fisheries (5 AAC 01.566(d)).

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

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

The China Poot dip net fishery dates back to 1980 when returns from the 1976 releases of sockeye salmon began (Appendices F17 and F23). 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 and possession limit for this fishery is 6 sockeye salmon.

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. A court action in late 1994 reestablished the boundaries of the Anchorage Nonsubsistence Area (5 AAC 99.015(a)(3)) that put the location of this fishery within the nonsubsistence area, thereby invalidating the subsistence regulations that governed this fishery at that time (Figure 14). As a result, early in 1995 the BOF readopted personal use regulations governing this fishery into permanent regulation and rescinded subsistence regulatory language pertaining to this fishery. Regulations pertaining to this fishery are found in 5 AAC 77.549 *Personal Use Coho Salmon Fishery Management Plan*. These specify a guideline harvest range of 1,000–2,000 coho salmon. Additionally, coho salmon caught in the Seldovia subsistence fishery described in 5 AAC 01.560(b)(8)(B) are deducted from this annual harvest goal. Coho salmon targeted in this fishery have shifted from exclusively wild stock fish to include hatchery coho salmon, which have periodically been stocked in several locations in Kachemak Bay since the mid-1970s (Appendix F19). Since the late 1980s, annual releases of 100,000–325,000 coho salmon smolt into the Nick Dudiak Fishing Lagoon, located on the Homer Spit, have periodically contributed significantly to the personal use harvest (Figure 15). Samples taken in 1999 and 2000 of coho salmon caught in this fishery from sites on the Homer Spit adjacent to the Nick Dudiak Fishing Lagoon documented a hatchery component of 81% and 90% for these 2 years (Szarzi et al. 2010). However, as a result of decreased releases of late-season coho salmon in the Nick Dudiak Fishing Lagoon, harvest effort has shifted away from the Homer Spit to waters between Fritz Creek and Swift Creek (Appendix E6; Figure 14). 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 guideline harvest level specified in 5 AAC 77.549 is not exceeded, while providing opportunity for harvest to reach the lower end of the goal. Harvest during the 2013

season was 1,732 coho, 122 sockeye, 9 Chinook, 135 pink, and 3 chum salmon, with 123 permits issued, 118 permits returned and 89 actively fished (Appendix E4). As in recent years, the bulk of the coho salmon harvest was taken near the head of Kachemak Bay with 1,252 coho salmon harvested by 56 permit holders on the north shore between Fritz and Swift creeks, and on the south shore 219 fish were harvested by 21 permit holders between Bear Cove and Neptune Bay. Given their distance from the Nick Dudiak Fishing Lagoon, it is unlikely that a significant component of hatchery returns is included in this harvest. However, 11 permit holders harvested 38 coho salmon on the east side of the Homer Spit adjacent to the Fishing Lagoon. Some portion of this harvest may have been of hatchery origin (Appendix E6). Of the 123 permits issued, 83% were held by Homer area residents, 7% by Anchorage area residents, and the remaining 10% by residents of Anchor Point 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 BOF amended 5 AAC 39.130(c)(10) requiring that the number of fish of any species retained by commercial fishermen 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 2013, there were 6 permit holders that reported retaining 16 Chinook, 155 sockeye, 150 coho, 157 pink, and 13 chum salmon for their own personal use (Appendix E7). All of these homepacks were from set gillnet harvests reported from the Southern District. Of those, 2 permit holders were Homer residents, 2 were residents of Seldovia, and the other 2 were not residents of Alaska (Appendix E8).

## COOK INLET SALMON ENHANCEMENT

Fisheries enhancement and rehabilitation in Alaska began in earnest in the early 1970s with the creation by the Alaska State Legislature in 1971 of the Fisheries Rehabilitation, Enhancement and Development Division to help build and stabilize fisheries production. Prior to and during this time, there were sporadic releases of coho and Chinook salmon to systems in Resurrection Bay and at Kasitsna Bay near Homer. These fish were produced at ADF&G hatcheries in Anchorage on Ship Creek as well as at the Big Lake and Fire Lake hatcheries (Appendices F12–F14).

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

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

Shortly thereafter, CIAA was created in 1976. Tutka Bay Lagoon Hatchery (TBLH) was built by the state of Alaska in 1976 and began rearing sockeye and pink salmon that year (Appendix F7). In 1983, the 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 nonprofit corporations in the State of Alaska that maintain private hatcheries with 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 being potentially the fifth largest producer of this species in terms of egg capacity.

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

| Hatchery nonprofit corporation | Chinook salmon | sockeye salmon | coho salmon | pink salmon | chum salmon | total |
|---|---|---|---|---|---|---|
| PWS Aquaculture Corp. (PWSAC) | 4.00 | 49.15 | 4.00 | 497.00 | 165.00 | 719.15 |
| Kodiak Region Aquaculture Assn. (KRAA) | 0.45 | 20.85 | 2.80 | 215.00 | 28.00 | 267.10 |
| 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 | 16.50 | | 178.00 | 200.70 |
| Northern SE Region Aquaculture Assn. (NSRAA) | 9.00 | 2.00 | 15.33 | 0.30 | 182.80 | 209.43 |
| 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) | | | | 125.00 | | 125.00 |
| All others | 0.90 | 5.00 | 6.13 | 23.00 | 77.00 | 112.03 |
| Statewide egg capacity totals (millions) | 25.40 | 161.86 | 59.57 | 1,350.30 | 785.80 | 2,382.93 |

In 2013, CIAA contributed 60.0% (92,289) of the total LCI sockeye salmon harvest of 171,020 fish, and 3.3% (68,330) of the total LCI pink salmon harvest of 2.1 million fish (Table 1; Appendices F1 and F6). In addition to sockeye and pink salmon releases, CIAA also has released an average of 710,000 coho salmon over the last 10 years (Appendices F8 and F20), and the Ship Creek Hatchery Complex (operated by ADF&G) has released an average of 586,000 Chinook salmon into LCI where both of these species are primarily harvested by sport users (Appendices F15).

## TUTKA BAY LAGOON HATCHERY

TBLH is located in Tutka Bay, approximately 23 kilometers (14 miles) south of Homer (Figure 17). TBLH, constructed in 1976, is owned by ADF&G and has been operated by CIAA under contract since 1992. 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 Lagoon Creek. Permitted water capacity is 76 l/s, with a current usage of 68 l/s. The TBLH had an initial capacity of 10 million pink salmon eggs, but major renovation work in 1993–1994 increased the physical capacity to 150 million eggs. In addition, TBLH has a sockeye salmon egg physical capacity of 1.8 million, as well as raceways to accommodate the resulting fry. However, problems with infectious hematopoietic necrosis virus outbreaks have plagued this facility and made for erratic sockeye salmon releases from 1977 to 1999 when this species was incubated (Appendix F7). Sockeye salmon produced at TBLH were released into Leisure Lake (1977), Tustumena Lake (1978), English Bay (1990), and Tutka Bay (1996, 1997, and 1999). Fish released into Tutka Bay in 1996, 1997, and 1999 were of Packers Lake stock. Beginning in 2005, sockeye salmon were incubated and reared at the Trail Lakes Hatchery using Hidden Lake broodstock and were transferred to Tutka Bay for imprinting and

release, which resulted in better survival rates. 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) and an average release of 42.4 million fish. All pink salmon broodstock was derived locally from the adjacent Tutka Lagoon Creek. Pink salmon were not only released from the hatchery site directly but also remote released from Halibut Cove Lagoon (1975, 1977, 1986–1992), the Paint River (1980–1983), the Homer Spit (1987–1992), and Ingram Creek (1987–1990) in Turnagain Arm (Appendices F7 and F21). Pink salmon production was halted in 2004 because of low prices for this species, which resulted in an inability to generate adequate cost recovery revenue to fund the pink salmon program. Chum salmon were reared and released on site from 1979 to 1990 in numbers ranging from 7,992 (1981) to 3.2 million in 1988, with an average release of 841,000 fish. The original broodstock for the chum salmon return was taken from Port Dick Creek (Appendices F7 and F22).

In 2013, CIAA resumed production of pink salmon, releasing 4.4 million fry into Tutka Bay Lagoon, and 14.3 million in Port Graham adjacent to the Port Graham Hatchery. The intent of the Port Graham release is for those fish to be used as broodstock at the Port Graham Hatchery. CIAA is in the process of acquiring this facility from the Port Graham Native Association. In the event that this acquisition does not take place, these fish will be harvested by CIAA as cost recovery harvest in 2014. This past year, CIAA harvested 143,884 fish for broodstock from Tutka Bay Lagoon, harvesting 80.0 million eggs. An additional 11,289 fish were harvested for broodstock from Port Graham and held at Tutka Bay Lagoon to ripen. Sunny conditions combined with low tides resulted in anoxic conditions in the lagoon, causing the death of 10,661 of these fish during low tide cycles from September 7 to 9. Conditions at that time were worsened by the presence of large numbers of spawned pink salmon carcasses that washed out of Tutka Bay Lagoon Creek and remained in the lagoon. A total of 373,000 eggs were removed from the remaining 325 pink salmon. Poor egg quality resulted in only 225,000 eggs surviving to the eyed stage. These will be released in the Port Graham SHA in 2014.

In 2013, CIAA remote released 511,000 sockeye salmon smolt (brood year [BY] 2011) adjacent to this facility. These fish were hatched and reared to smolt at the TLH before being transferred to net pens at TBLH for imprinting. Of those released, all were of English Bay Lakes stock. The sockeye salmon return to this facility in 2013 was of mixed Hidden Lake (BY08–278,000, BY09–197,100) and English Bay origin (BY09–58,200). A total of 2,556 were harvested for broodstock from fish returning to this hatchery in early July. Examination of otoliths by the pathology lab in Juneau confirmed that 98% of the brood stock fish sampled were of English Bay origin with the remaining 2% of the sampled otoliths either missing or unreadable. Sockeye salmon eggs harvested in 2013 were transported to the TLH for incubation and will be discussed in the Trail Lakes Hatchery section under *Cook Inlet Salmon Enhancement*.

Currently, TBLH has a permitted capacity of 125 million pink and 660,000 sockeye salmon eggs. Prior to this year, thermal marks were not applied to any fish cultured at this location. However, following facility upgrades in 2012, thermal marks were applied to the 4.4 million BY2012 pink salmon that were released from Tutka Bay Lagoon in 2013 as well as the 14.3 million fish of the same brood year released in the Port Graham SHA this year.

In 2013, the total estimated run of adult sockeye salmon returning from the remote release in Tutka Bay Lagoon was 14,544 fish. Of these, 9,707 were reported on fish tickets as being harvested for cost recovery from the Tutka SHA, and 4,837 for broodstock and hatchery excess (Appendices F1 and F2). Commercial set gillnet permit users in the Tutka Bay and Barabara

Creek Subdistricts probably also harvested a portion of this return. This assumption is supported by the increase in reported July harvests. Without a harvest sampling program in place to examine thermal marks on landed fish, a complete and accurate estimate of the hatchery component and the hatchery age composition of set gillnet and purse seine commercial harvests cannot be made.

## TRAIL LAKES HATCHERY

The TLH is located on the Seward Highway, approximately 47 kilometers (29 miles) north of Seward (Figure 10). ADF&G built this hatchery in 1982, and CIAA operated it under contract since 1989. Initially, this facility 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 10.9 million fish per year from 2003 to 2012. In addition to release sites in upper Cook Inlet, TLH-produced hatchery sockeye salmon have been released into LCI systems such as Bear Lake and Grouse Lake, as well as lakes (Leisure, Hazel, and Kirschner) that were stocked by the Tutka, Crooked Creek, and Eklutna hatcheries prior to 1998. See the section LCI Remote Release under *Cook Inlet Salmon Enhancement* for further information regarding specific remote release sites. Coho salmon have also been produced at TLH in consistent numbers since 1983 with releases ranging in size from 75,000 (1996) up to 1.7 million (1987), with a previous 10 year average release of 710,000 fish from 2003 to 2012. The majority of the coho salmon reared in recent years have been released into Bear Lake. Chinook salmon were produced from 1984 to 1988, and chum salmon were raised for 1 year with a release of 455,809 in 1985 into Resurrection Bay systems. This hatchery has been consistently applying thermal marks to releases since 1991.

In 2013, the total run of adult sockeye salmon to remote release sites from this hatchery in Cook Inlet was 156,730 fish. The overall run was less than the CIAA forecast run of 191,500 sockeye salmon (Appendix F1). A total of 71,913 sockeye salmon were harvested for hatchery cost recovery worth $967,000 (Table 3). A total of 9,364 sockeye salmon were collected for broodstock, and of those, no spawned or unusable carcasses were reported sold (Appendix F2). The common property commercial fleet harvested approximately 46,744 of the total TLH sockeye salmon run (Appendix F4). This includes remote releases at Hidden Lake and sites in Kachemak Bay. Currently, TLH has a permitted capacity of 6 million coho, 4 million Chinook, and 30 million sockeye salmon eggs.

In 2013, a total of 11.9 million sockeye salmon eggs composed of 3 stocks were harvested from 4 sites in Cook Inlet. These sites are as follows:

| Collection site | Stock | Green eggs harvested |
|---|---|---|
| Bear Lake | Big River/Upper Russian Lake/Bear Lake indigenous | 5,325,000 |
| Tutka Bay Hatchery | English Bay Lakes | 2,664,000 |
| Hidden Lake | Hidden Lake | 1,765,000 |
| English Bay Lakes | English Bay Lakes | 2,120,000 |
| Total green egg harvest | | 11,874,000 |

Sockeye salmon were released at 7 locations in LCI as well as into Hidden Lake in 2013. Bear Lake stock was released into Resurrection Bay and stocked back into Bear Lake. English Bay

smolt (BY2011) were planted in Tutka Bay Lagoon and Port Graham Bay. English Bay fry (BY2012) were backstocked into Second Lake in the English Bay Lakes system. Hazel and Leisure Lake were stocked with Hidden Lake fry (Tutka returns). Hidden Lake was backstocked with Hidden Lake fry. Kirschner Lake received no fish in 2013. Historic and current stocking levels for these systems are listed in Appendix F17. See the LCI Remote Release section under *Cook Inlet Salmon Enhancement* for further information regarding specific sites.

In 2013, a total of 3,147 adult coho salmon returned to the Bear Creek weir. CIAA collected 336 coho salmon for broodstock for a total of 635,000 green eggs, which is fewer than the 4.0 million eggs that CIAA is permitted for this species (Appendices F1 and F5). In addition, CIAA donated 2,044 excess coho salmon from the weir to members of the public. An additional 803 carcasses from broodstock fish (viable, unviable, unspawned, and holding mortalities) were also donated to members of the public. The majority of these fish originated from the BY10 release (437,000). The commercial fleet harvested 5,571 coho salmon from the Southern and Outer districts, of which few to none were probably of hatchery origin.

## EKLUTNA HATCHERY

The Eklutna Hatchery is located 13 kilometers (8 miles) southeast of Palmer on the Old Glenn Highway. Built by CIAA in 1981 to produce chum and coho salmon for stocking in upper and lower Cook Inlet systems, this facility also produced sockeye salmon from 1993 to 1998 (Appendix F9). This hatchery is owned by Cook Inlet Aquaculture and was operated by them from 1982 until 1998, when salmon production was transferred to the TLH. This facility continues to be maintained and provides additional fish rearing resources for CIAA when water supplies are limited at the TLH. Currently the Eklutna Hatchery 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

CCH is located 1.6 kilometers (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 LCI lakes and Resurrection Bay. In November 1996, CIAA terminated operations at CCH and transferred sockeye salmon stocking programs for all 5 LCI 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 were incubated and thermally marked at the Fort Richardson Hatchery (FRH). In addition, eggs were 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 (Figures 1 and 18) and originally was located in a converted Whitney-Fidalgo salmon cannery. The hatchery was

permitted in September 1992 and owned and actively operated by the Port Graham Hatchery Corporation until 2007. Water for operations in the main hatchery building was supplied by the untreated Port Graham municipal water supply at a rate of 13-28 l/s. Freshwater for the adult holding and egg-take complex comes from nearby Cannery Creek via an 8-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 2006 with releases ranging from 85,000 (1991) to 918,000 (1999) with an average release of 316,000 fish between 1991 and 2006 (Appendices F11 and F27). This facility provided sockeye salmon fry and smolt for the Nanwalek Salmon Enhancement Project (NSEP) 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) and an average release of 11.6 million fish. In addition, coho salmon eggs were collected from the Port Graham River in 1996, and in October 1997 a total of 29,963 coho salmon smolt were released from this facility. The coho salmon project was discontinued after this release. In January 1998 a fire completely destroyed the original 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 fry in the English Bay Lakes (246,000; October 30, 2008) and as smolt in Port Graham (112,000; June 15, 2009).

For the first time since 2007, pink salmon fry were released from this facility in 2013. A total of 14,250,000 fry were released with 428,000 adults anticipated to return in 2014 (Appendix F21). Assuming that the transfer of ownership of the PGH from the Port Graham Native Association to CIAA occurs, then 120,000 of these returning adults will be used as broodstock to collect the 80 million eggs that this facility is capable of incubating with the current limited water source. Currently, the PGH has a permitted egg capacity of 125 million. A Permit Alteration Request was submitted to ADF&G in 2013, and it approved an increase in pink salmon egg capacity from 110 million to 125 million and reduced the sockeye salmon egg capacity from 1.35 million to 0. In 2013, a total of 11,289 pink salmon were harvested from August 20 to 25 during a common property fishery in the Port Graham Subdistrict and sold alive to CIAA for use as broodstock. These were then transferred to a net pen in Tutka Bay Lagoon to allow their eggs to ripen. See the Tutka Bay Lagoon Hatchery section under *Cook Inlet Salmon Enhancement* for further information regarding the Port Graham pink salmon harvested in 2013.

A total of 102,000 BY2011 sockeye salmon smolt that were incubated at the Trail Lakes Hatchery were remote released in the Port Graham Hatchery SHA in 2013. Previously, the last sockeye salmon release in the SHA occurred in 2009.

## SHIP CREEK HATCHERY COMPLEX: FORT RICHARDSON, ELMENDORF, AND WILLIAM JACK HERNANDEZ STATE FISH HATCHERIES

The Fort Richardson and Elmendorf state fish hatchery facilities are located on military bases near Anchorage. The Elmendorf facility ceased operation in 2011, and the Fort Richardson Hatchery is slated to transfer all operation to the William Jack Hernandez State Fish Hatchery by 2016. Historically, these facilities have 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 noncommercial users (Appendices F12).

## BIG LAKE STATE FISH HATCHERY

The Big Lake state fish hatchery operated from 1976 to 1993 and was located 20 miles west of Wasilla. This facility produced Chinook, sockeye, and coho salmon. Sockeye salmon from this facility were released into English Bay Lakes in LCI from 1991 to 1993. Coho and Chinook salmon were released into systems in upper Cook Inlet (Appendix F13).

## FIRE LAKE STATE FISH HATCHERY

The Fire Lake state fish hatchery operated from 1964 to 1979 and was located 15 miles north of Anchorage near Eagle River. In addition to producing trout, grayling, and char, this facility also produced Chinook, sockeye, coho, and pink salmon. Coho salmon from the Fire Lake Hatchery were released into Bear Lake in LCI, Caribou Lake, Halibut Cove Lagoon, and Kasitsna Bay. Chinook salmon were also released into Kasitsna Bay. Sockeye and pink salmon were released at Crooked Creek in upper Cook Inlet (Appendix F14).

## LCI REMOTE RELEASES

### Nanwalek Salmon Enhancement Project (NSEP)

The English Bay Lakes system is located approximately 1.6 kilometers (1 mile) southeast of the village of Nanwalek (formerly English Bay; Figures 1, 2, 5, and 18). 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, Enhancement, and Development 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 historical average, "the amount of nutrients from carcasses has been reduced from what it once was, and has further decreased fertility of the lakes in the English Bay watershed." 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. The 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 during that time, with an average of 207,000 fry per release over the last 4 years. In October 2013, CIAA released 211,000 "fall fry" (BY2012) into Second Lake in the English Bay Lake system (Appendices F17 and F28).

A total of 253 sockeye salmon were sampled for otoliths throughout the summer at the English Bay weir. Of the 247 that could be read, 61 (24.7%) were found to have hatchery thermal marks. Age groups of the adult fish sampled at the weir were 9.0% age 1.2, 57.6% age 1.3, 13.9% age 2.2, and 19.5% age 2.3. In addition, a smolt weir was installed and maintained earlier in the season with 575 otoliths collected from juvenile sockeye salmon. Of those, 557 were readable with 230 (41.3%) having a hatchery thermal mark. Overall, 74.3% of the outmigrating smolt were age 1, with the remaining being age 2. In addition, 10,877 coho salmon smolt, 69,000 pink salmon fry, 1,143 Dolly Varden, and 94 rainbow trout migrated from English Bay Lakes (CIAA 2013b)

## Leisure and Hazel Lakes

Leisure (also known as China Poot) Lake is located approximately 18 kilometers (11 miles) southeast of Homer (Figures 1, 2, and 16). 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 salmon. This lake has been stocked regularly with an average of 1.6 million sockeye salmon fry per year since 1976 (Appendix F17). 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 was first enhanced by ADF&G in 1976 and later by CIAA (Appendix F18). From 2004 through 2011, Hidden Lake was the source of broodstock for Leisure Lake and Hazel Lake stocking. In 2012, fry from English Bay Lakes were planted into Hazel Lake, with Hidden Lake stock sockeye salmon planted into Leisure Lake. In 2013, Hidden Lake fry were planted into both Leisure and Hazel Lake. Hazel Lake is located approximately 4 kilometers (2.5 miles) southwest of Leisure Lake (Figure 1). Hazel Lake has a surface area of approximately 90 hectares (0.35 square miles) and drains into the Wosnesenski River, which is approximately 14 kilometers (9 miles) long. Hazel Lake has been stocked for 23 of the last 26 years with an average of 1.1 million sockeye salmon juveniles (Appendix F17).

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 F23. 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, when 54,000 were harvested (Appendix A3). Although some hatchery salmon are probably harvested by set gillnet permit holders, it is possible that gillnet web selects for larger wild fish that are typically 5 to 6 years of age when they return as opposed to hatchery reared fish, of which the majority (~70%) are 4 years of age. Supporting this idea, 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 by half to 30,015 fish per year on average. However, the average seine harvest increased more than 50 times over the previous amount to 89,359 fish per year.

Overall return to this site from 2009 (BY08) and 2010 (BY09) sockeye salmon releases (3.2 and 2.7 million respectively) was estimated at 29,735 fish. Both years' releases were derived from Hidden Lake stock (Appendices F1, F17, and F23; Figures 19 and 20).

## Kirschner Lake

Kirschner Lake is the third lake in LCI that has historically been used for remote sockeye salmon releases. Kirschner Lake is located on the west side of Cook Inlet and is 24 kilometers (15 miles) due west of Burr Point, which is the northernmost point of Augustine Island (Figure 12). Kirschner Lake is approximately 140 hectares (0.54 square miles) in size and has a barrier falls at the outlet that prevents freshwater migration of returning anadromous salmon. Kirschner Lake has been stocked for 23 of the last 27 years with an average of 291,000 fry. In 2011, CIAA submitted a Permit Alteration Request seeking to use Bear Lake sockeye salmon as the brood source for Kirschner, 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 Trail Lakes 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 distant LCI spawning systems. Consequently, English Bay stock sockeye salmon were released into Kirschner Lake in 2011 and again in 2012. Sockeye were not stocked into Kirschner Lake in 2013 due to reduced broodstock harvests at English Bay in 2012. Cost recovery from Kirschner Lake was moderately successful in 2013 with 8,288 sockeye salmon harvested versus an anticipated return of 21,675 fish. Returns for 2013 would have been exclusively from the 2010 (BY09) release of 255,000 Hidden Lake stock fry because there was no release to Kirschner Lake in 2009 (Appendices F1, F17, and F25).

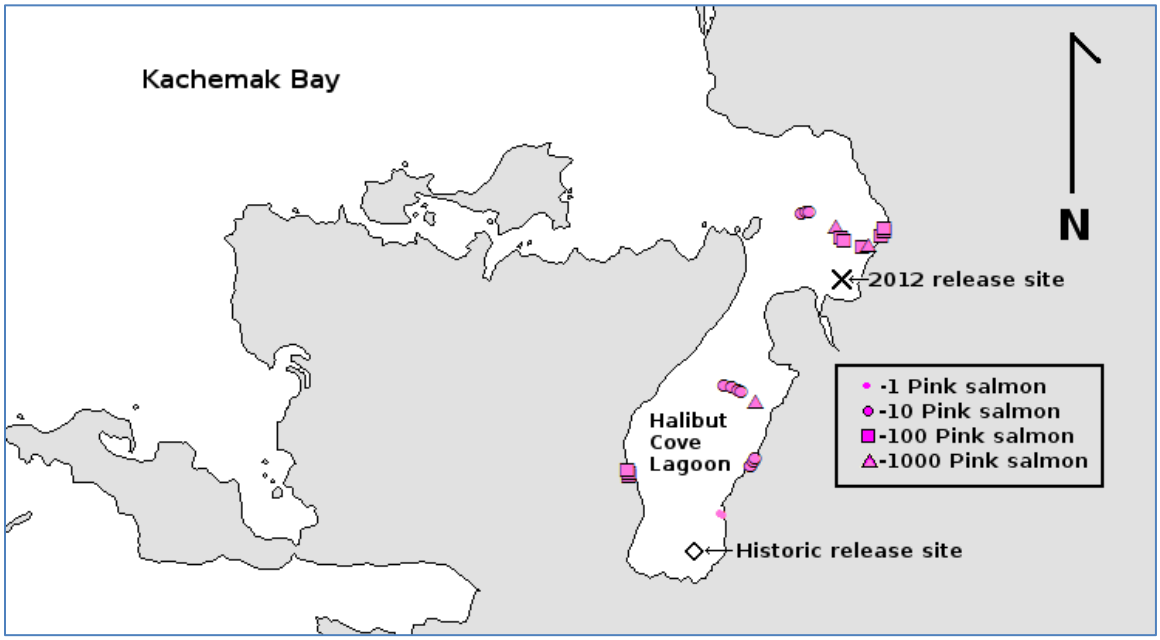
## Halibut Cove Lagoon

Halibut Cove Lagoon (HCL) is located approximately 18 kilometers (11 miles) southeast of Homer on the south side of Kachemak Bay (Figures 1, 2, and 16). HCL has a surface area of approximately 220 hectares (0.85 square miles, 544 acres) and a maximum depth of approximately 70 meters (230 feet). The outlet to HCL is a narrow and shallow channel. Consequently, this lagoon experiences slow flushing and only minimal turnover. Additionally, access in and out of the lagoon with fishing vessels is tide dependent and can be problematic for commercial vessels. 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 in the following table:

| Species | Release years (# of years) | Maximum release | Average release |
|---|---|---|---|
| Chinook | 1975–2013 (37) | 225,000 | 95,273 |
| Sockeye | 1976 (1) | 7,777 | 7,777 |
| Coho | 1974–1979 (5) | 308,000 | 106,000 |
| Pink | 1975, 1977, 1986–1992 (9) | 6.2 mil | 3.8 mil |
| Chum | 1974, 1975 (2) | 7,782 | 4,189 |

In 2011, a Permit Alteration Request 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 areas in

the Outer District. These fish would be sold to processors and purchased alive by CIAA for use as brood. Returns from the HCL release would be harvested for cost recovery purposes during the interim while the pink salmon return to the Tutka Bay Lagoon Hatchery was developed. Lower-than-anticipated returns to the Outer District in 2011 resulted in only 5,940 pink salmon being harvested for broodstock from Windy Bay. These yielded a total of 3.6 million eggs, of which 3.1 million survived to the fry stage. Assuming 3% survival, a return of 93,000 pink salmon was expected in HCL in 2013 based on the number of available fry. From 1986 to 1992, annual remote releases to HCL ranged from 4 to 6.2 million fry, with an average of 4.9 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 during this period ranged from 38,000 to 162,444 fish (average = 77,000). In February 2012, Alaska State Parks denied the permit request to release these fish at the historical site within the lagoon and directed that CIAA release the Windy Bay stock fry outside of Halibut Cove Lagoon near the outflow of an ephemeral stream. A total of 3.1 million fry were released at this location on June 26, 2012. In 2013 no fish were harvested from this site either in the cost recovery or common property fishery. An aerial survey conducted on August 25 documented 4,000 pink salmon with 1,372 inside of the lagoon and the remaining fish outside of Halibut Cove Lagoon (see following illustration).




The 2012 release site was located on moderately exposed coastline near an ephemeral stream. The historical release site was located in the more isolated lagoon where hatchery fish, once they were returned, would be less likely to stray before being harvested.

## Tutka Bay Lagoon

In addition to releases from the TBLH, the lagoon has also been a remote release site for sockeye salmon hatched at TLH since 2005. This is due to pathogen-related issues at the TBLH facility that are specific to sockeye salmon, which 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, beginning in

2011, all releases have been of English Bay Lake stock. The intent of this is to develop an independent English Bay stock brood source and not rely on annual returns to English Bay Lakes for brood. Sockeye salmon releases from this location are documented in Appendix F17.

The sockeye salmon adult run to this site in 2013 originated from 278,000 Hidden Lake smolt released in 2010 (BY08) and 282,000 English Bay smolt in 2011 (BY09). The overall run was estimated at 14,544 fish (Appendices F1, F26).

## 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) and has been monitored since 1960, when a picket weir was established where Bear Creek intersects the Salmon River. Initial enhancement activities in the early 1960s focused on coho salmon and the control of predators such as threespine stickleback (*Gasterosteus aculeatus*) and Dolly Varden char, as well as alleged competing species such as sockeye salmon. To accomplish this, the pesticide Rotenone was methodically applied to the lake on August 26, 1963, by ADF&G biologists. In addition, "a barrier 5 feet high was then constructed to hold the treated water until detoxification, and to prevent the ingress of nonsalmonid species" (Bandirola 1965, page 148).

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

> "The barrier at the outlet of rehabilitated Bear Lake was destroyed as a result of the Good Friday earthquake and reinfestation of the lake by Dolly varden and threespine sticklebacks occurred. A concrete weir to assess upstream and downstream salmon migrations and to serve as a permanent barrier was completed in Bear Creek on August 25, 1964." (Bandirola 1966, page 129)

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

Bear Lake was again treated with Rotenone by ADF&G biologists in 1971 on July 21 and 22. The stated goal of this treatment was the eradication of threespine stickleback from Bear Lake with no mention of removing other species such as sockeye salmon, Dolly Varden char, Pacific lamprey, freshwater sculpin, etc. According to McHenry (1972), "the lake could no longer rear substantial numbers of juvenile coho salmon due to extreme competition for survival from threespine sticklebacks." In 1988, the BOF revised the *Bear Lake Management Plan* (5 AAC

21.375) to allow for the enhancement of sockeye salmon in this lake. Bear Lake has been stocked since 1963 with an average of 539,370 coho salmon smolt annually (Appendix F19). Broodstock for many of the coho salmon releases in the early 1960s came from the Swanson River (Kenai Peninsula), Pasagshak River (Kodiak Island), Ketchikan Creek (Southeast Alaska), and Dairy Creek (Seward Lagoon), as well as Big Creek in Oregon. Sockeye salmon have been stocked into this lake annually since 1990 with 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 that had also been reared at the Trail Lakes Hatchery were released. Since that time, all other releases have been derived from broodstock harvested at Bear Lake.

In addition to Bear Lake, coho and 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 noncommercial users as specified in the *Resurrection Bay Salmon Management Plan* (5 AAC 21.376). Both pink and chum salmon have been released irregularly into a variety of locations in Resurrection Bay (Appendices F21 and F22). In 2008, CIAA began releasing an average of 1.6 million sockeye salmon smolt annually from net pens anchored in Resurrection Bay.

Overall sockeye salmon runs to this site in 2013 came from the 2.5 million BY08 Bear Lake fry released in 2009 and the 2.2 million BY09 Bear Lake fry released in 2010. In addition, 1.7 million BY08 smolt were released in 2010 from net pens anchored in Resurrection Bay. No BY09 smolt were released from the Resurrection Bay net pens in 2011. The total return from the Bear Lake and Resurrection Bay releases combined is estimated at 57,182 fish (Appendices F1 and F17).

In 2013, a total of 3,147 adult coho salmon returned to the Bear Creek weir. These originated from the 2010 release of 435,000 BY2009 fry, the 2011 release of 437,000 BY2010 fry, and the 2012 release of 93,000 BY10 smolt. CIAA collected 336 coho salmon for broodstock for a total of 635,000 green eggs, which is fewer than the 4.0 million eggs that CIAA was permitted for this species. In addition, CIAA donated 2,044 excess coho salmon from the weir to members of the public. An additional 803 carcasses from broodstock fish (viable, unviable, unspawned, and holding mortalities) were also donated to members of the public (Appendices F1 and F5). Sampling of the sport fishery from 2003 to 2005 determined that 29.8% of the fish harvested were thermally marked hatchery coho salmon (Bosch 2011). Additional information regarding 2013 returns to Bear Lake may be found in the Eastern District section of this report.

# 2013 COMMERCIAL HERRING FISHERY

Similar to the salmon fishery, commercial fishing for Pacific herring *Clupea pallasii* in LCI has historically occurred in all but the Barren Islands District (Figure 1). LCI herring fishing first began in the Southern District in 1914 with the development of a gillnet fishery within Kachemak Bay. During the peak of the fishery, 8 salteries, including 6 near Halibut Cove, were in operation. A purse seine fishery in Kachemak Bay began in 1923. But after 3 successive years of average annual harvests approaching 8,000 short tons (st; 1 short ton = 2,000 pounds), herring populations, and hence the fishery, collapsed (Rounsfell 1930).

The next LCI herring fishery began in 1939 and was centered in the Resurrection Bay and Day Harbor areas of the Eastern District (Figure 10). 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 overexploitation.

# LOWER COOK INLET COMMERCIAL HERRING FISHERY

## HARVEST STRATEGY AND STOCK ASSESSMENT

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

Commercial fishing for Pacific herring in LCI has historically occurred in 4 of the 5 management districts, with Barren Islands District the sole area where commercial herring fishing has not occurred (Figure 2). Historic fisheries have included food/bait, meal/oil reduction, and sac roe harvest 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* (5 AAC 27.465) describes the management strategies used to set and implement the guideline harvest levels for the Kamishak Bay sac roe fishery and is the only plan currently in place that could allow a commercial herring fishery in LCI. This plan was most recently adjusted in 2001 to include a reduction in the maximum exploitation rate allowed in the fishery, from a former level of 20% of the forecasted herring biomass, to a new level of 15%, and a reduction in the biomass threshold (the minimum necessary in order to allow a fishery) from 8,000 st 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 the Kodiak management area. Lawful gear in the Kamishak Bay sac roe fishery is restricted to purse seine. The limited entry permit system for sac roe herring seining in Cook Inlet was implemented in 1977, and 75 permanent permits are currently issued for the management area. 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 began in 1973 when 8 permit holders harvested 243 short tons. Participation in the fishery and harvest increased rapidly, peaking at 4,824 st harvested in 1976 before a stock decline prompted closure of the fishery after only 415 st were harvested in 1979. The stock recovered quickly, and the fishery reopened in 1985 with a harvest of 1,132 st. The fishery remained open from 1985–1998 with an average annual harvest of 2,878 st before being closed again 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 mid-April through early June, to

determine the 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. When funding is available, ADF&G staff monitor Southern District herring to document general trends in these nearby waters. Aerial surveys of Kamishak Bay have been moderately 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. Beginning in 2012, hard copy index maps were replaced by tablet computers running a customized version of ArcPad that allowed surveyors to enter their observations directly onto digital charts. Three standard conversion factors 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 tool is important 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, ADF&G utilizes a chartered commercial seine vessel to aid in herring assessment in Kamishak Bay District and opportunistically in the Southern District. In years when no commercial fishery occurs, ADF&G is unable to utilize the fleet to collect samples for age, sex, and size composition analysis. By chartering a commercial purse seine vessel, age, sex, and size and disease samples and other related information can be collected and used to further aid in understanding the dynamics of the herring stock. 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 of herring schools and water temperature/depth parameters are concurrently documented 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 corroborate the relative magnitude of herring biomass observed by aerial surveyors.

Unfortunately, funding for vessel charters was cut in 2011. As a result, no age, sex, and size data were collected in 2011 or 2012 for use by the ASA model. Temporary funding was approved in 2013 to resume this sampling program for 1 year.

## SEASON SUMMARY

In 2013, ADF&G completed 2 vessel charters from April 30 to May 6 and from May 15 to 23 to collect representative age composition and disease samples. These charters collected over 3,300 herring throughout Kamishak Bay District between Cape Douglas and Iniskin Bay. This allowed ADF&G staff to generate an age composition estimate of the observed spawning biomass. Additional hydroacoustic observations from the charters corroborated the relative abundance of herring observed by aerial surveyors. Appendix G summarizes the ASA model's estimated age composition of the 2013 spawning biomass and the 2014 forecasted biomass. The ASA model's hindcast estimate of the 2013 biomass (6,746 st) was approximately 1,000 st lower than the aerial survey index in 2013 (7,800 st). ADF&G uses standardized methods to quantify the surface area of observed herring schools and convert them into biomass estimates to scale the ASA model. However, repeat sightings of schools residing in the same areas on consecutive surveys make it difficult to estimate total season biomass. It is possible that last year's aerial survey index was slightly inflated by the inadvertent inclusion of herring schools that were observed on more than 1 survey.

The forecasted herring biomass generated by the ASA model for 2014 in Kamishak Bay District was 6,318 st, slightly above the *Kamishak Bay District Herring Management Plan* regulatory threshold of 6,000 st necessary to consider allowing a commercial harvest (Appendix G1). However, the second research charter in 2013, collecting age composition samples during the latter portion of the return (mid- to late May), documented another relatively weak recruitment component (herring age-3 and -4) within the current spawning biomass. Despite this lack of a strong recruitment event, the population is showing signs of recovery, perhaps due to reduced disease-related mortality as evidenced by consistently low *Ichthyophonus* infection rates and the reappearance of older cohorts (> age-7) in the population. *Icthyophonus* incidence has been demonstrated to increase with cohort age in Pacific herring (Herschberger et al. 2002).

ADF&G aerial survey staff observed a total of 7,800 short tons (st; 1 short ton = 2,000 pounds) of herring in Kamishak Bay District in 2013, the third highest index in the last 23 years. Surveyors also documented 10 miles of spawn from 22 spawning events, the highest totals for these indices since 1996 and 1994, respectively. Management regulations governing commercial harvests in Kamishak Bay seek to target older, repeat spawners to protect recruit-class herring representing future productivity. Recent years' observations confirm that recruitment of younger fish into the Kamishak spawning population over the past 20 years has been relatively poor. Although there is no definitive explanation for this lack of strong recruitment, the prevailing hypothesis suggests that poor fitness of the fish, characterized by low average weights-at-age, has contributed to higher-than-normal overwinter mortality. The presence of *Ichthyophonus*, a protozoan pathogen linked to population declines of Atlantic herring, probably also contributed to the decline and suppressed productivity of the Kamishak herring population (McQuinn 1977). Relatively high *Ichthyophonus* infection rates (20–52%) were observed in the mid-2000s but have diminished to background levels (1–3%) the past 5 years. Diminished infection rates now appear to be contributing to stock recovery, as evidenced by the increased abundance of post-recruit aged herring (> age-5) observed in 2013.

However, the mean weight at age of herring spawning in Kamishak Bay in 2013 was near the lowest observed over the past 30 years.

## 2014 HERRING SEASON OUTLOOK

The forecasted herring biomass generated by the ASA model for 2014 in Kamishak Bay District is 6,318 short tons. This is above the minimum regulatory threshold of 6,000 tons specified in the *Kamishak Bay District Herring Management Plan* (5 AAC 27.465). At this level, ADF&G may open a fishery targeting between 0% and 10% of the forecasted biomass. However, given the lack of recent strong recruitment events, combined with the previous 15-year history of low abundance, ADF&G intends to proceed with caution and not prosecute a commercial fishery in 2014.

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# FIGURES AND TABLES

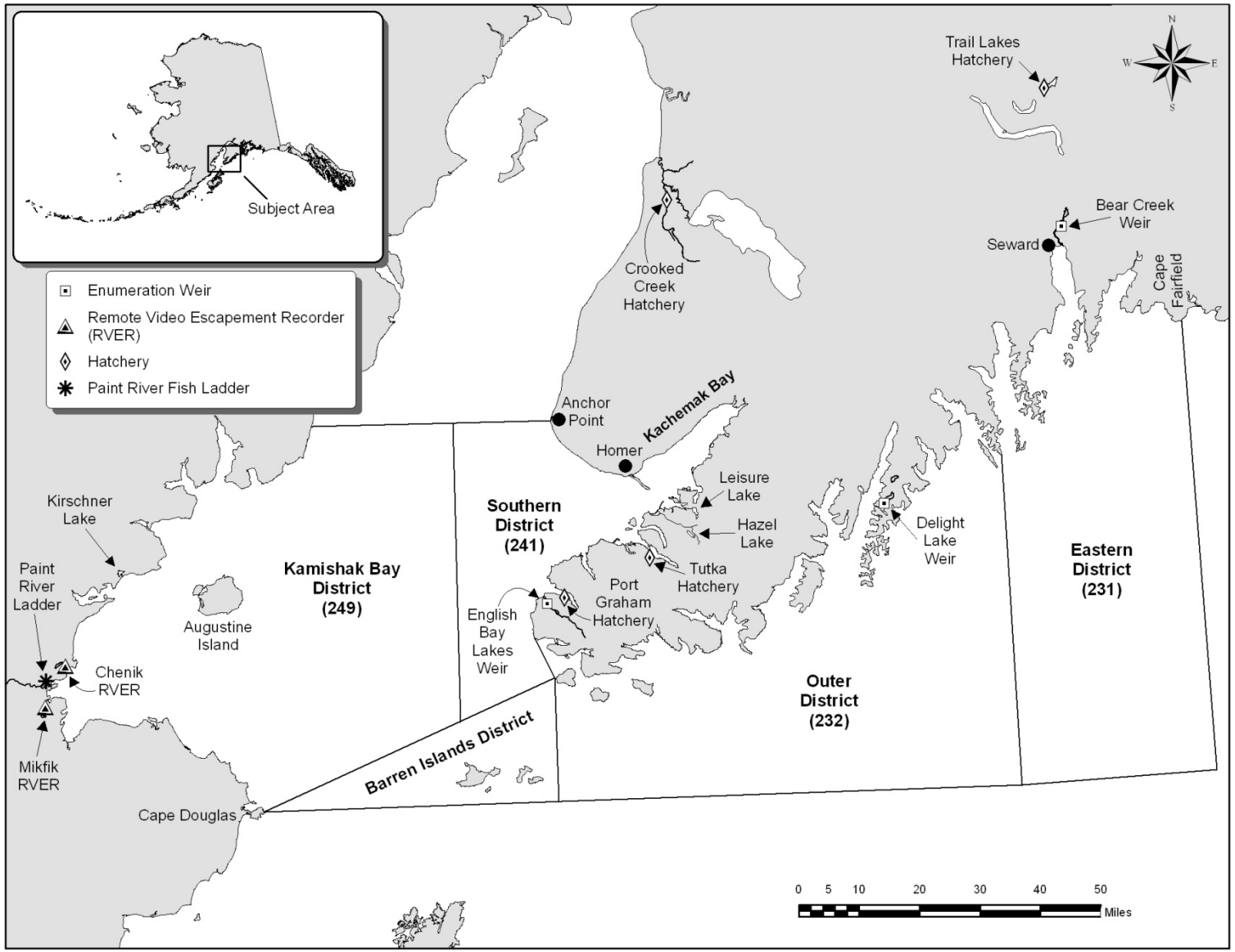



Figure 1.–Lower Cook Inlet management area showing commercial fishing districts, salmon hatcheries, and weir and fish ladder locations, as well as remote salmon video monitoring sites.

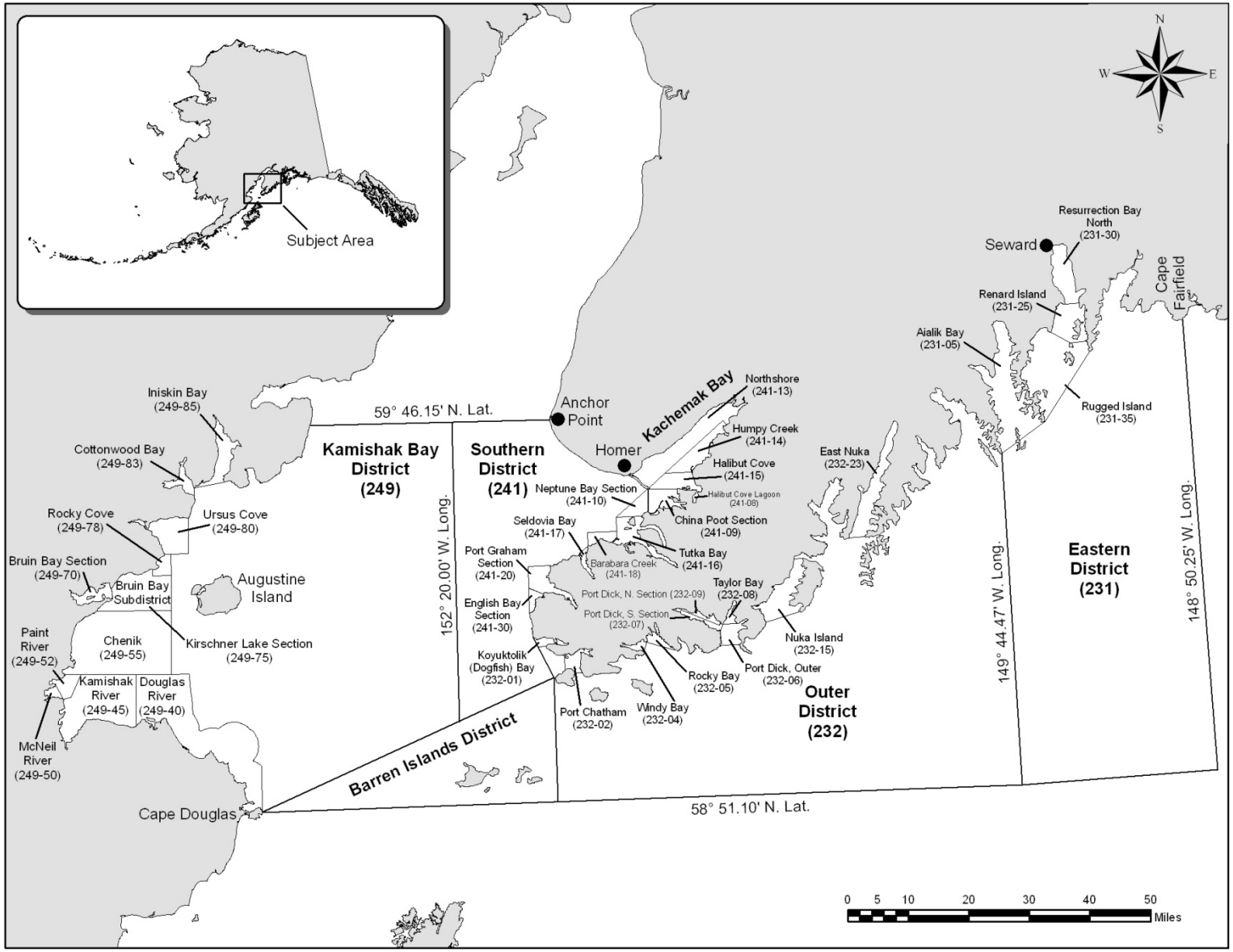



Figure 2.–Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts.

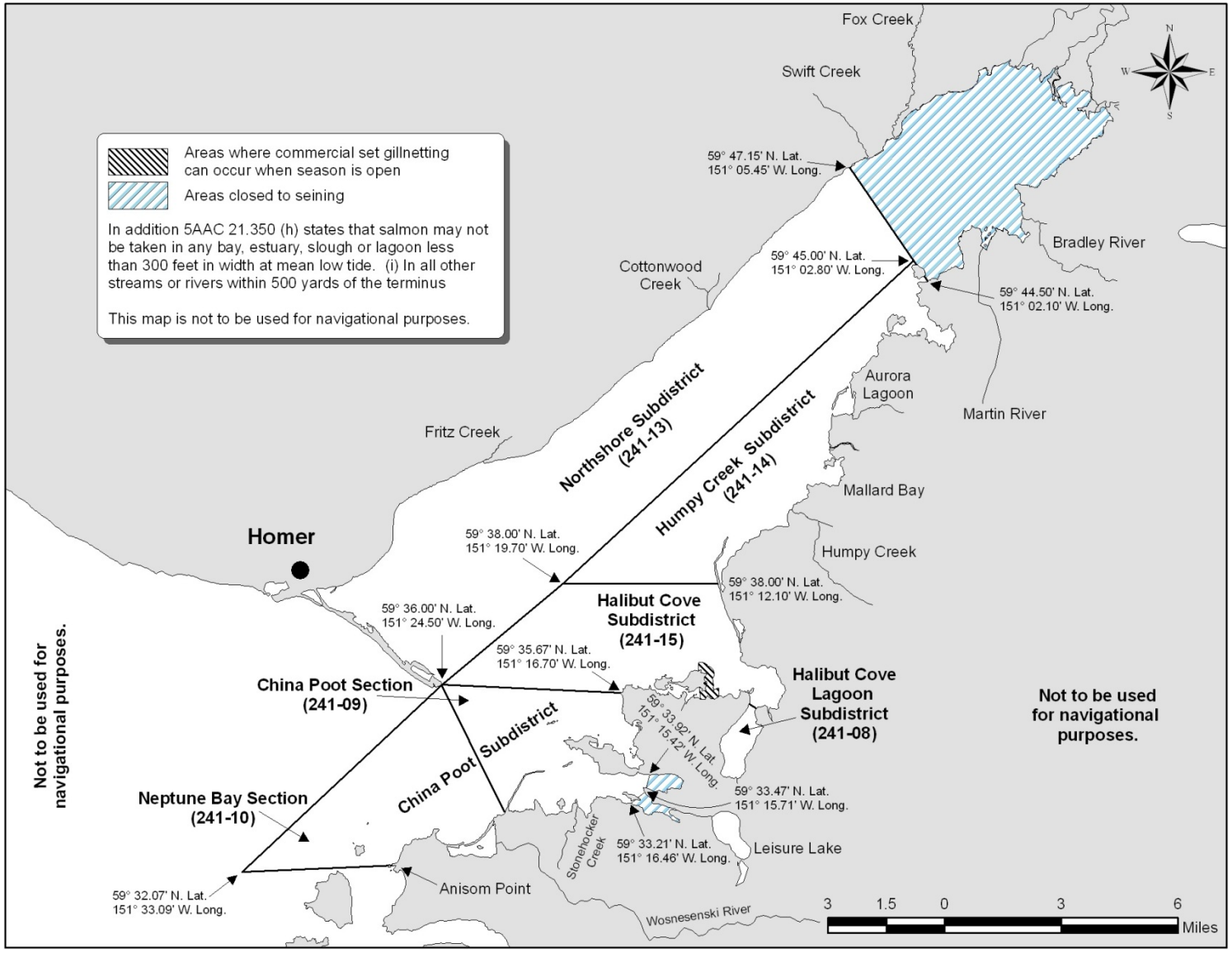



Figure 3.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chugachik Island to Anisom Point.

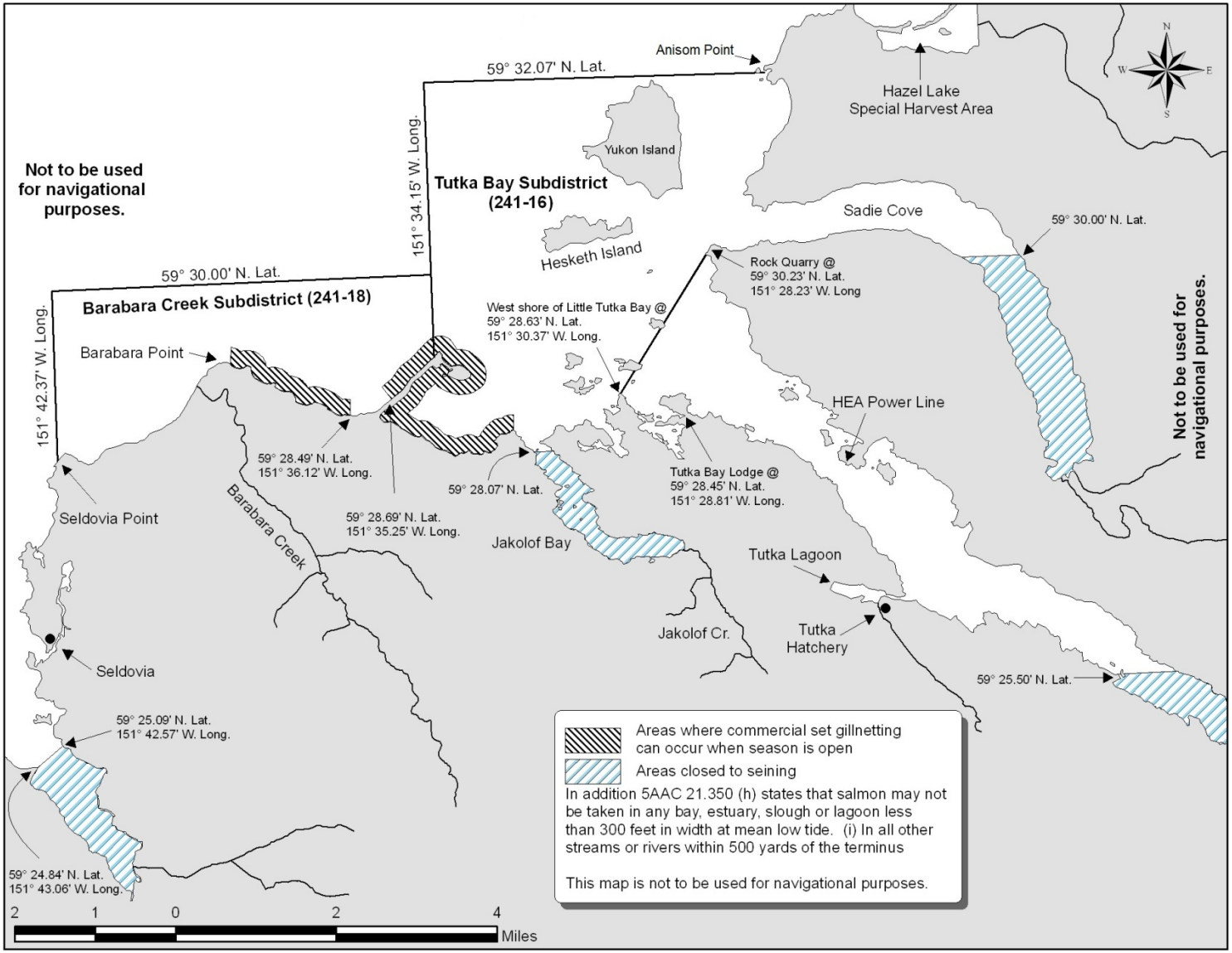



Figure 4.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Anisom Point to Seldovia Point.

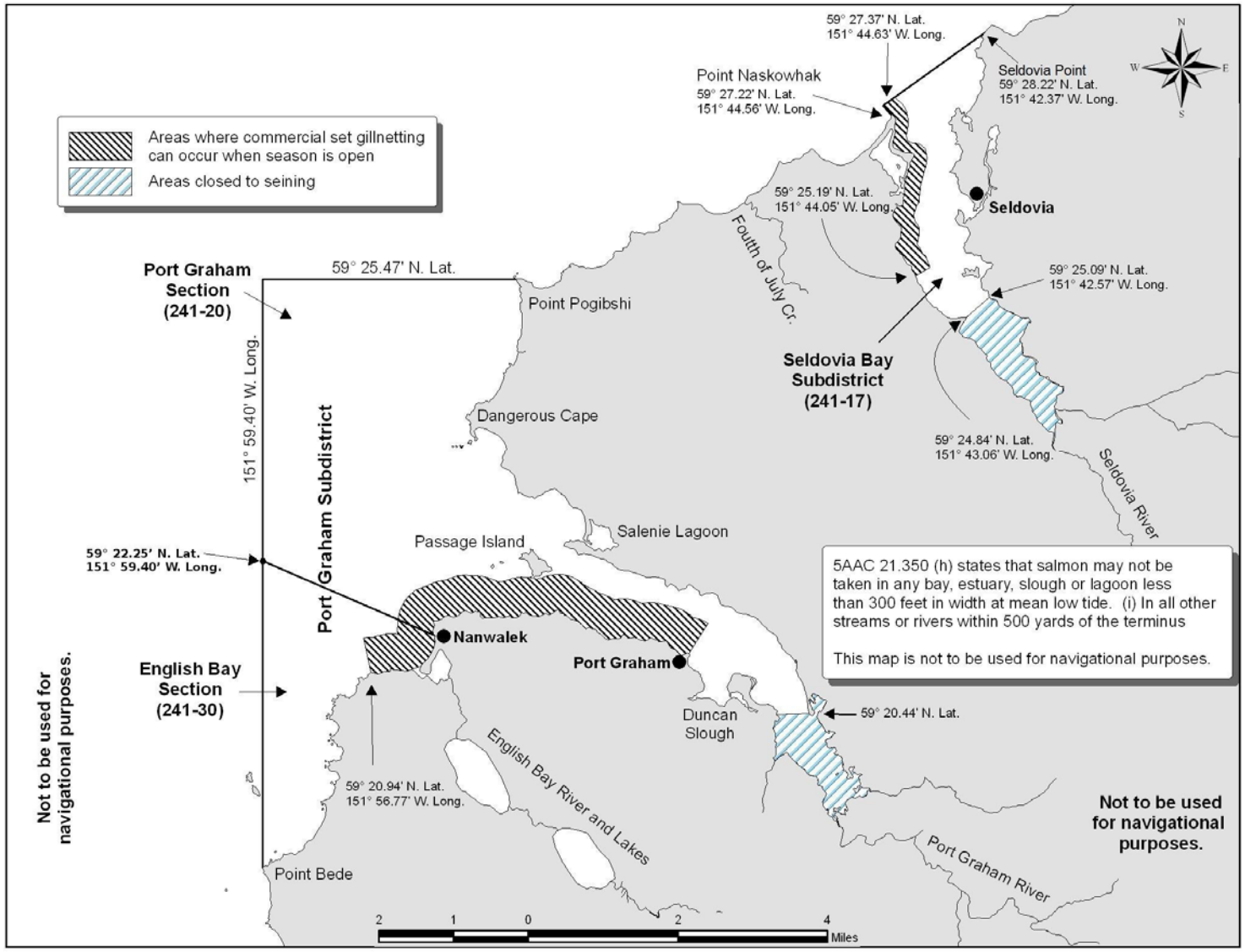



Figure 5.–Southern District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Seldovia Point to Point Bede.

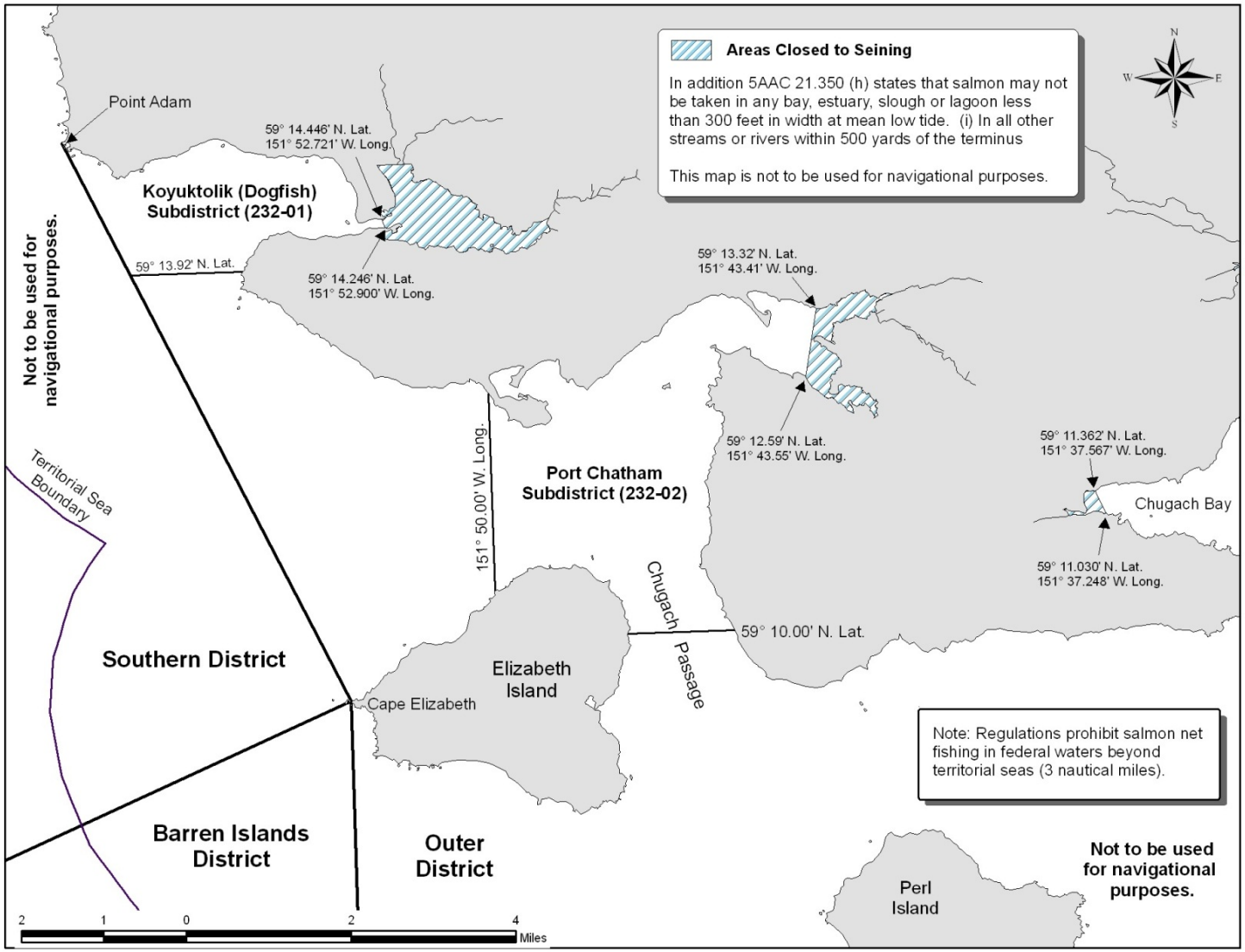



Figure 6.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Point Adam to Chugach Bay.

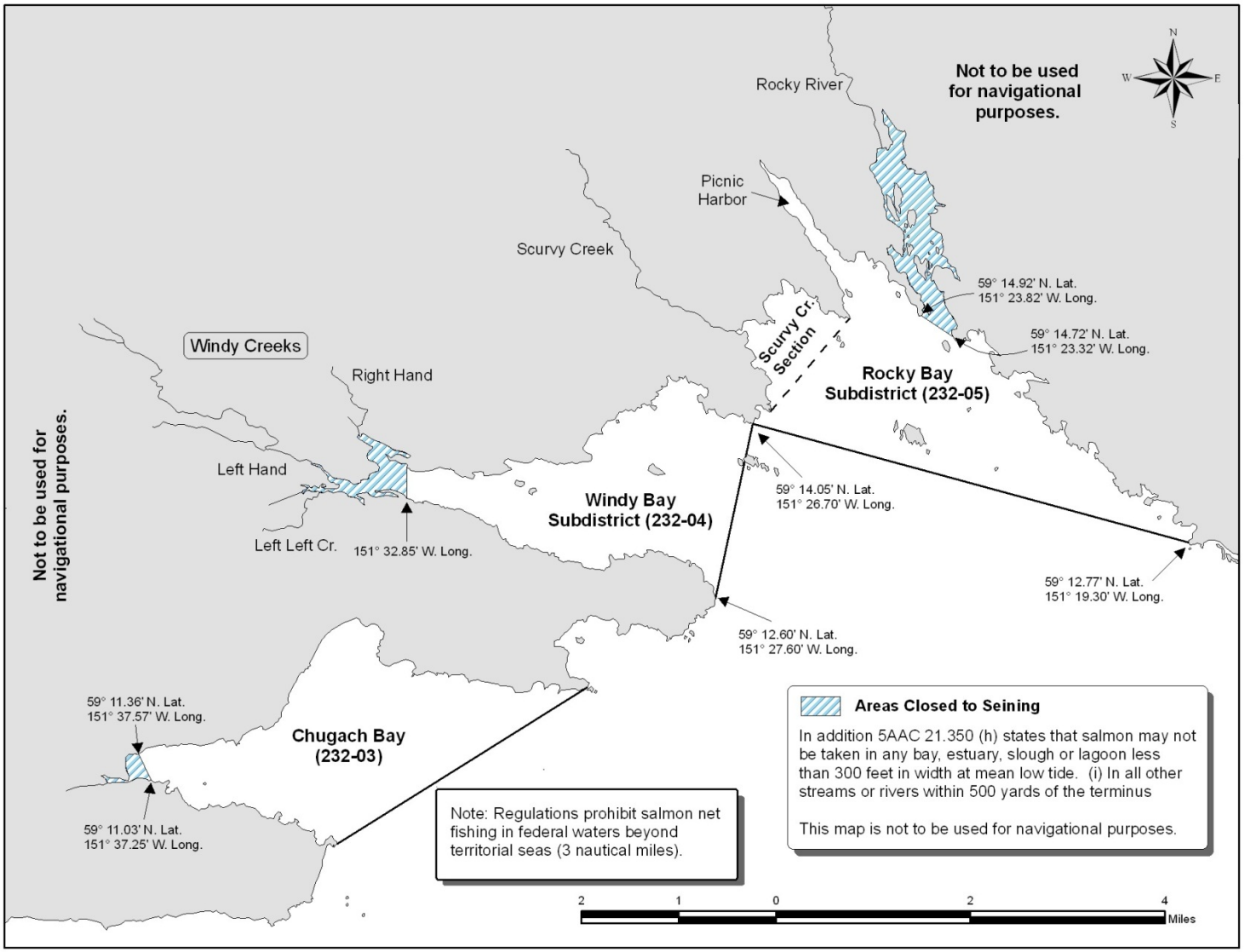



Figure 7.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chugach Bay to Rocky Bay.

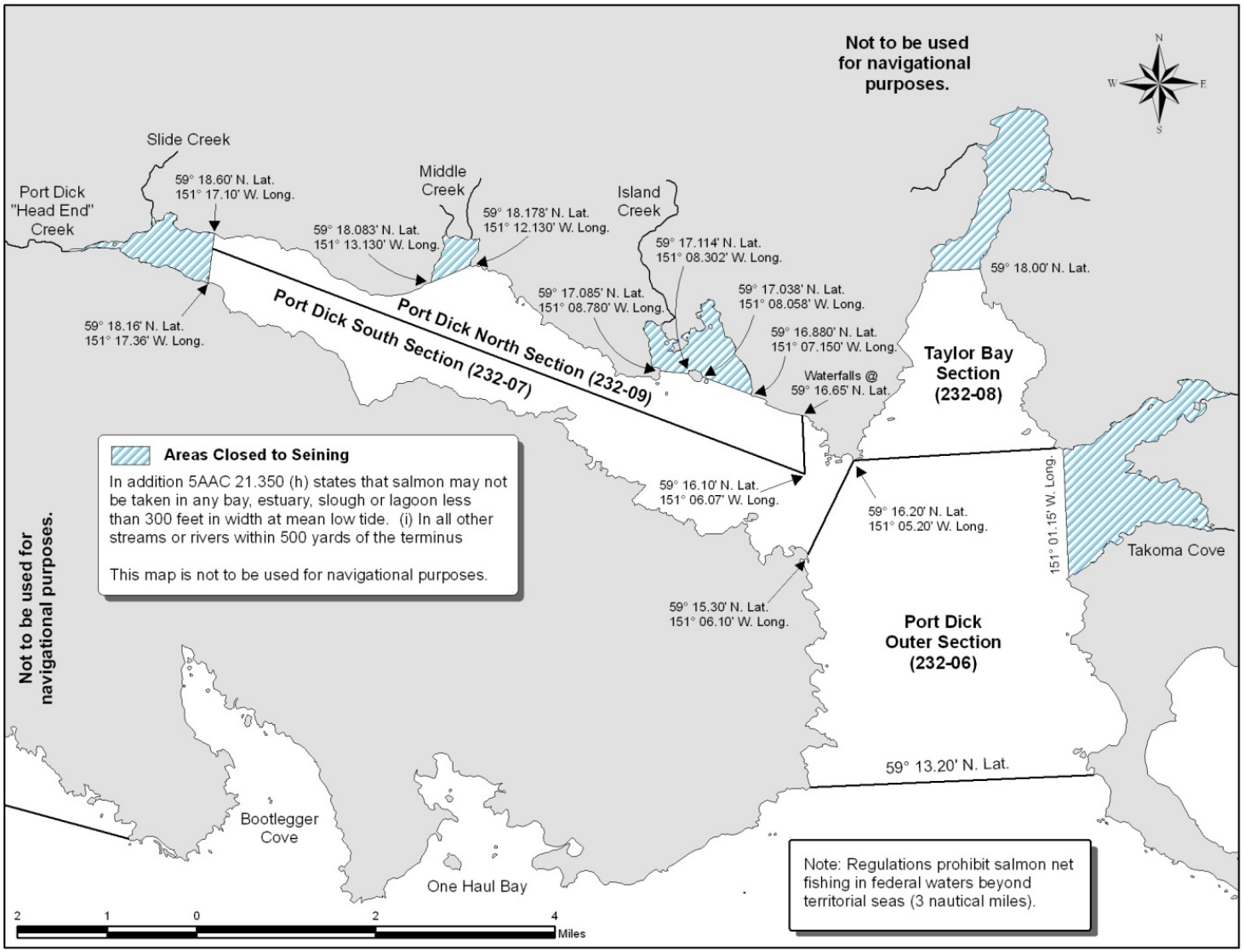



Figure 8.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Port Dick area.

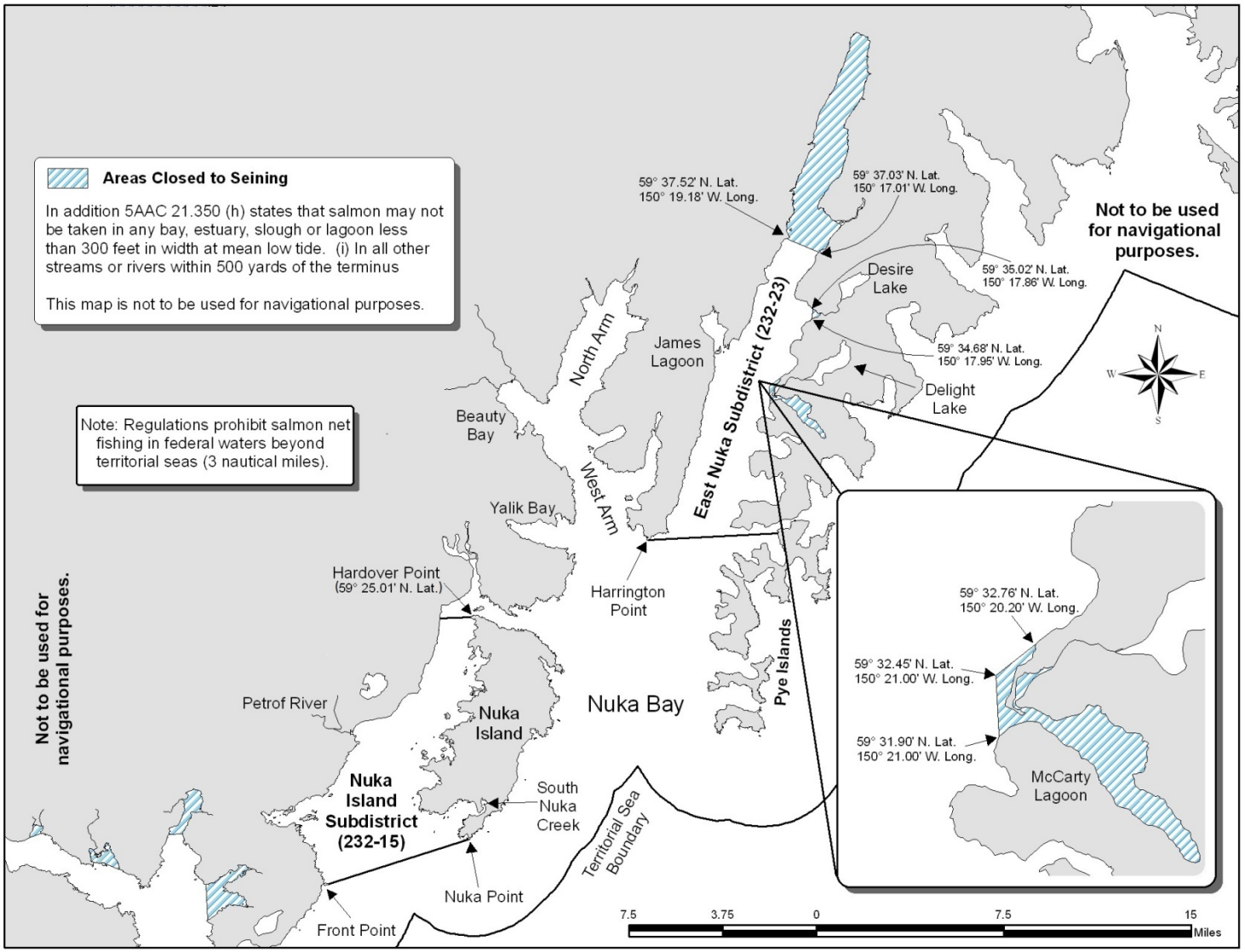



Figure 9.–Outer District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Nuka Bay area.

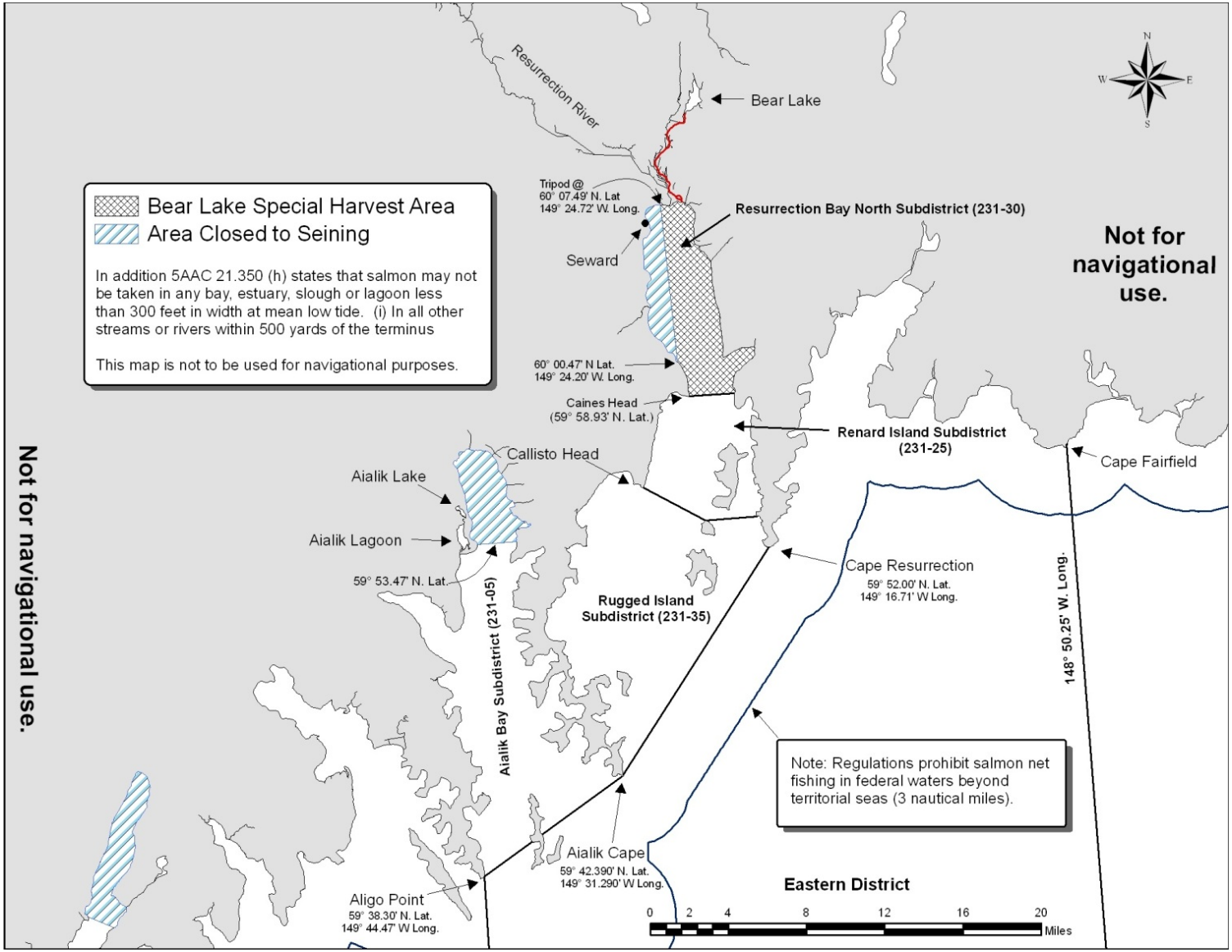



Figure 10.–Eastern District of Lower Cook Inlet management area showing commercial fishing districts, reporting subdistricts, and hatchery special harvest area (SHA), Aligo Point to Cape Fairfield.

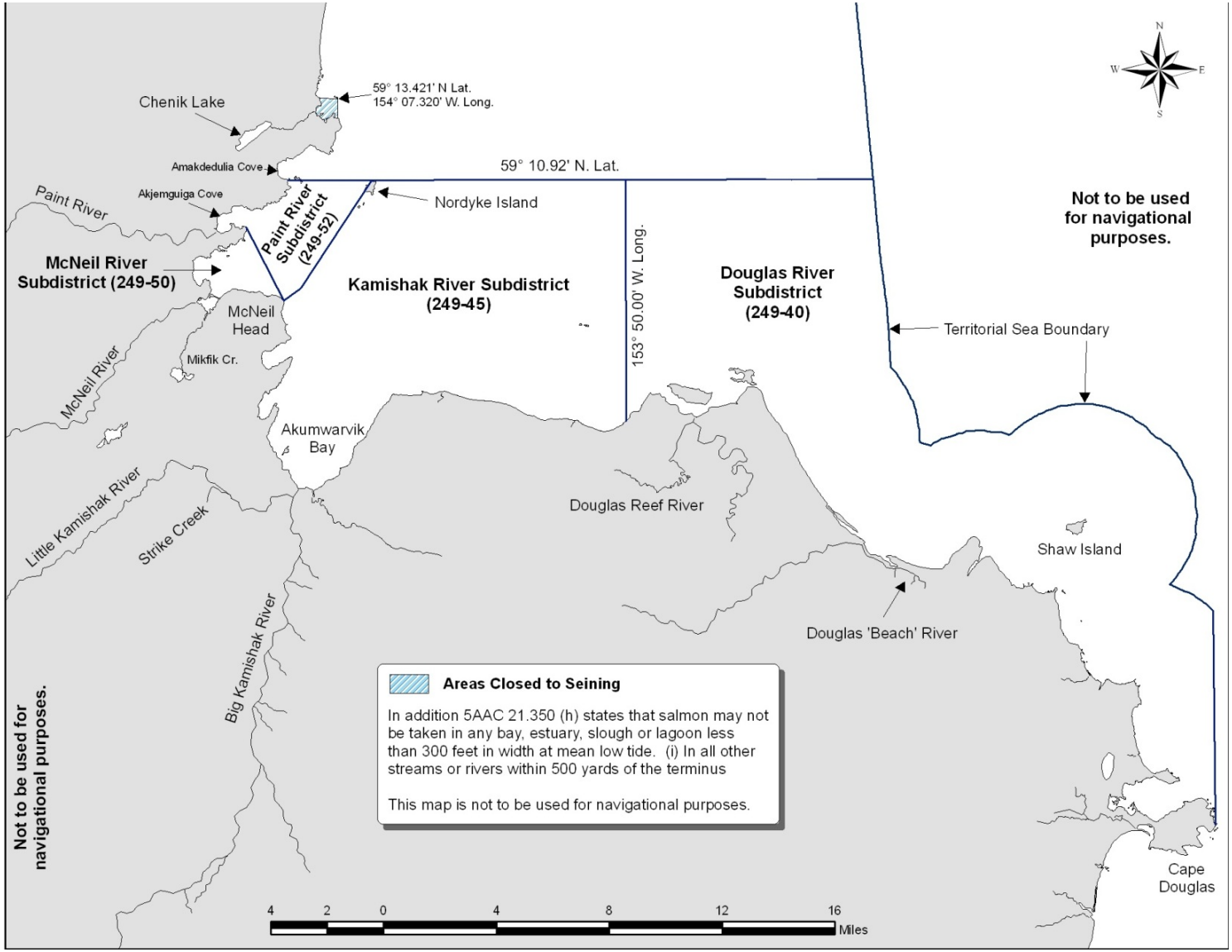



Figure 11.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts and reporting subdistricts, Chenik Lake to Cape Douglas.

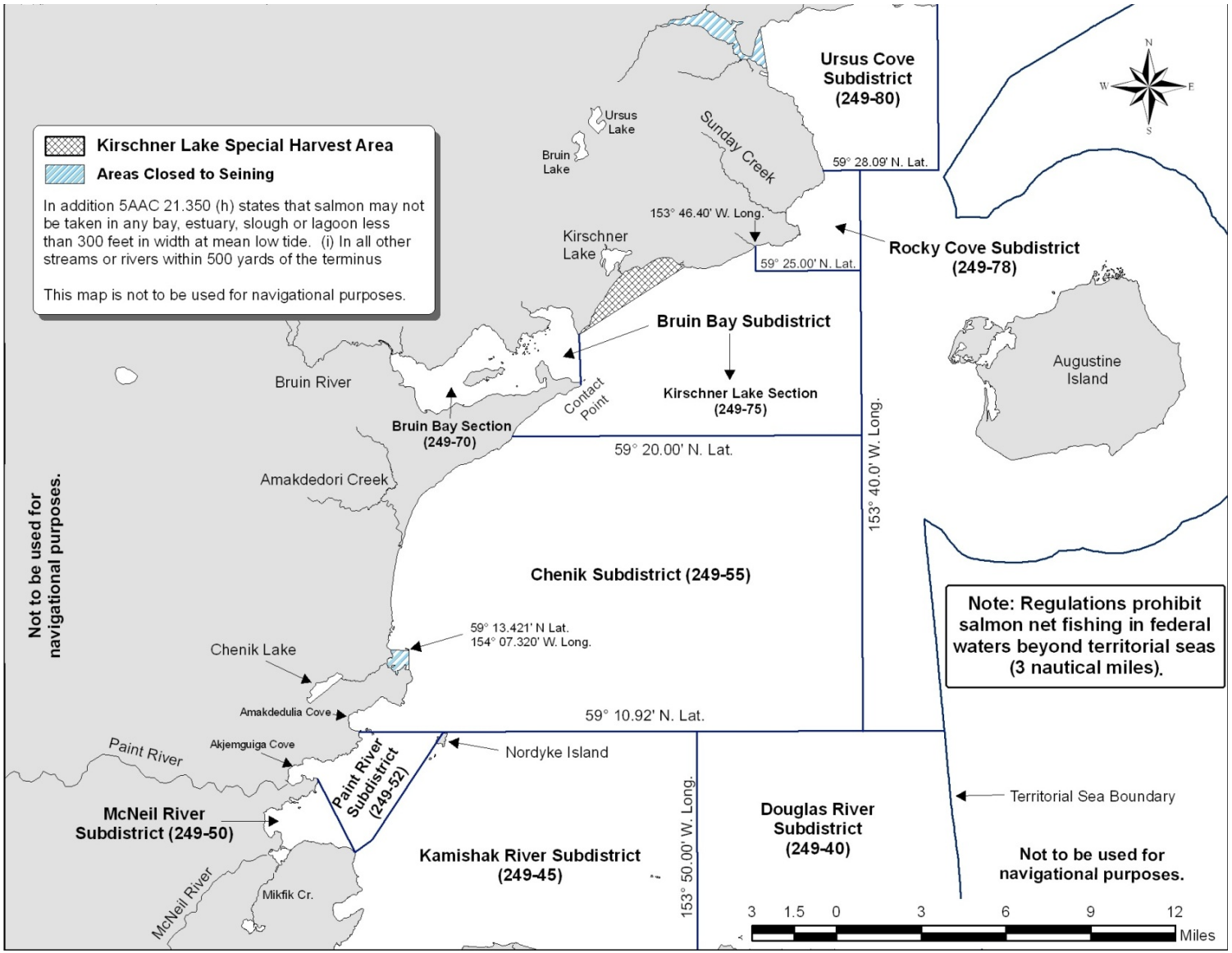



Figure 12.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts, reporting subdistricts, and hatchery special harvest area, McNeil River to Ursus Cove.

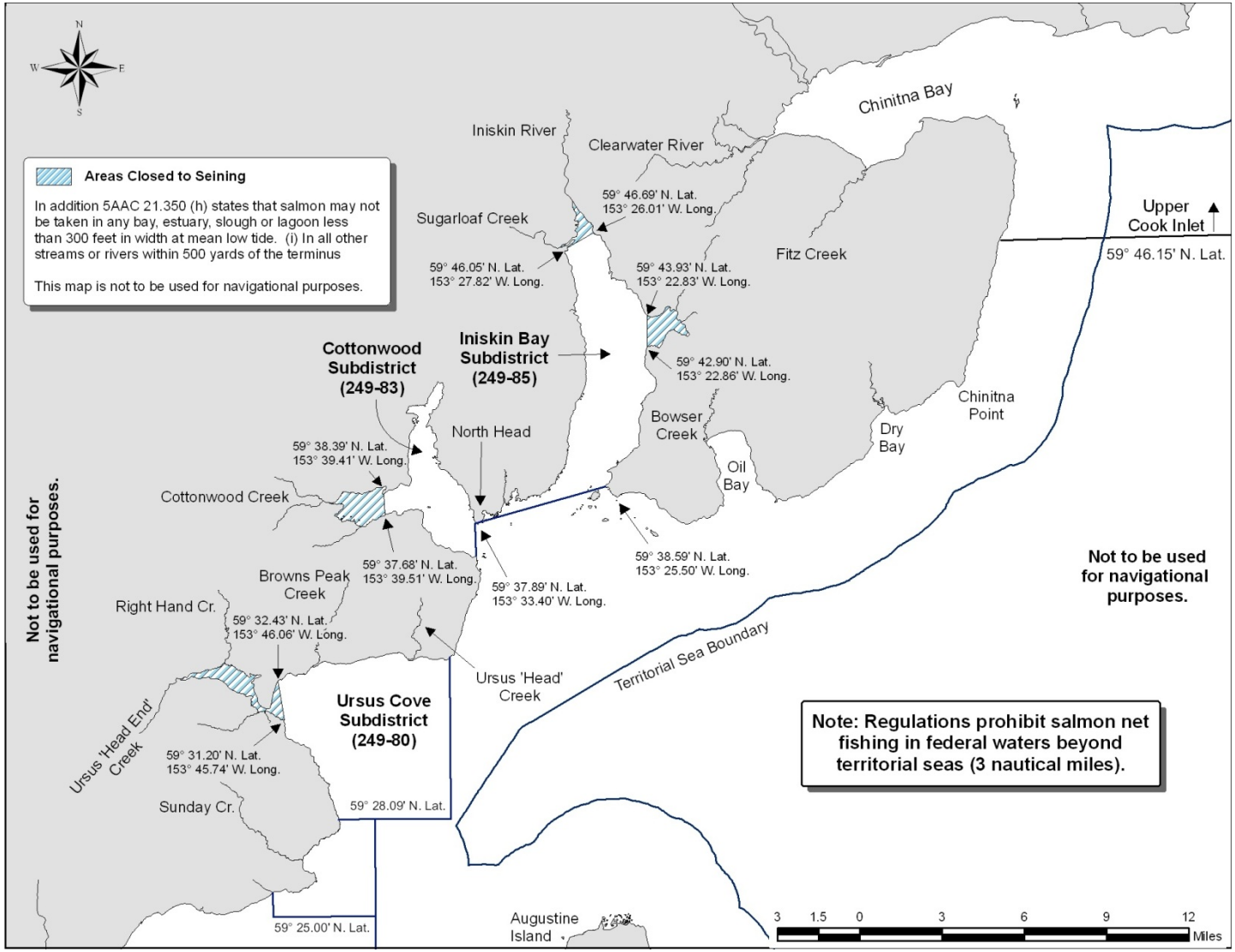



Figure 13.–Kamishak Bay District of Lower Cook Inlet management area showing commercial fishing districts, Ursus Cove to Chinitna Point.

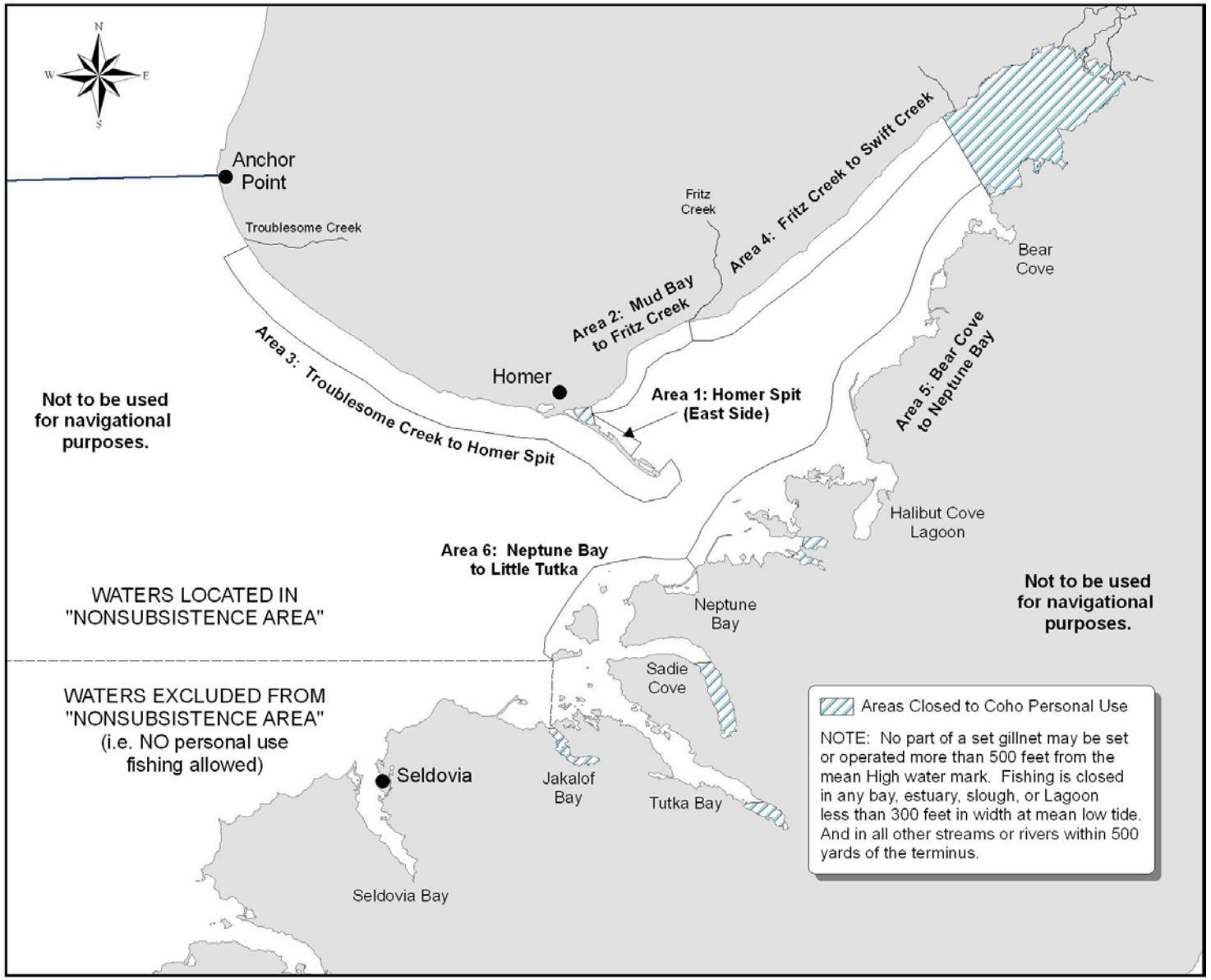



Figure 14.–Kachemak Bay personal use coho salmon fishery registration areas.

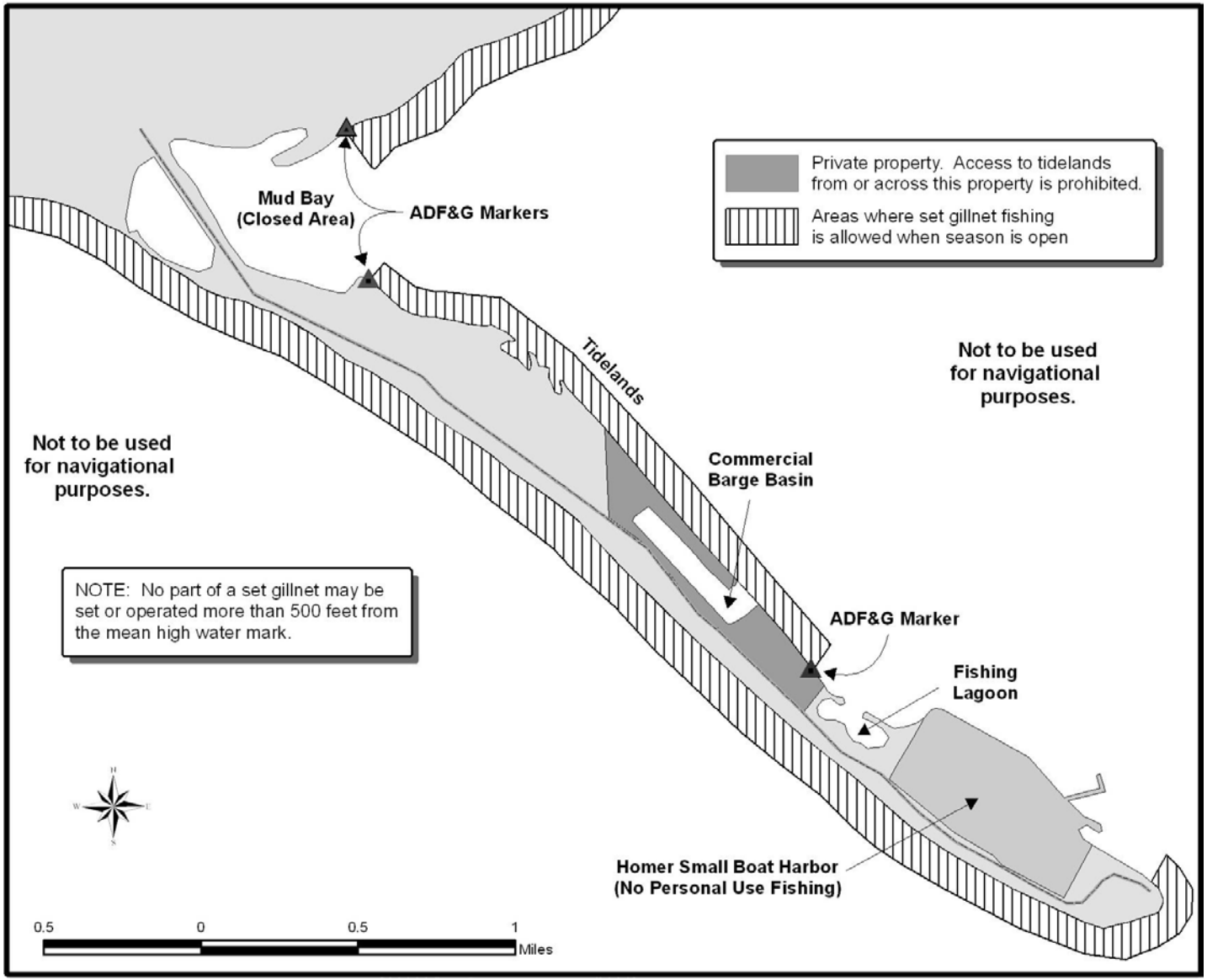



Figure 15.–Southern District personal use coho salmon fishery: Homer Spit area.

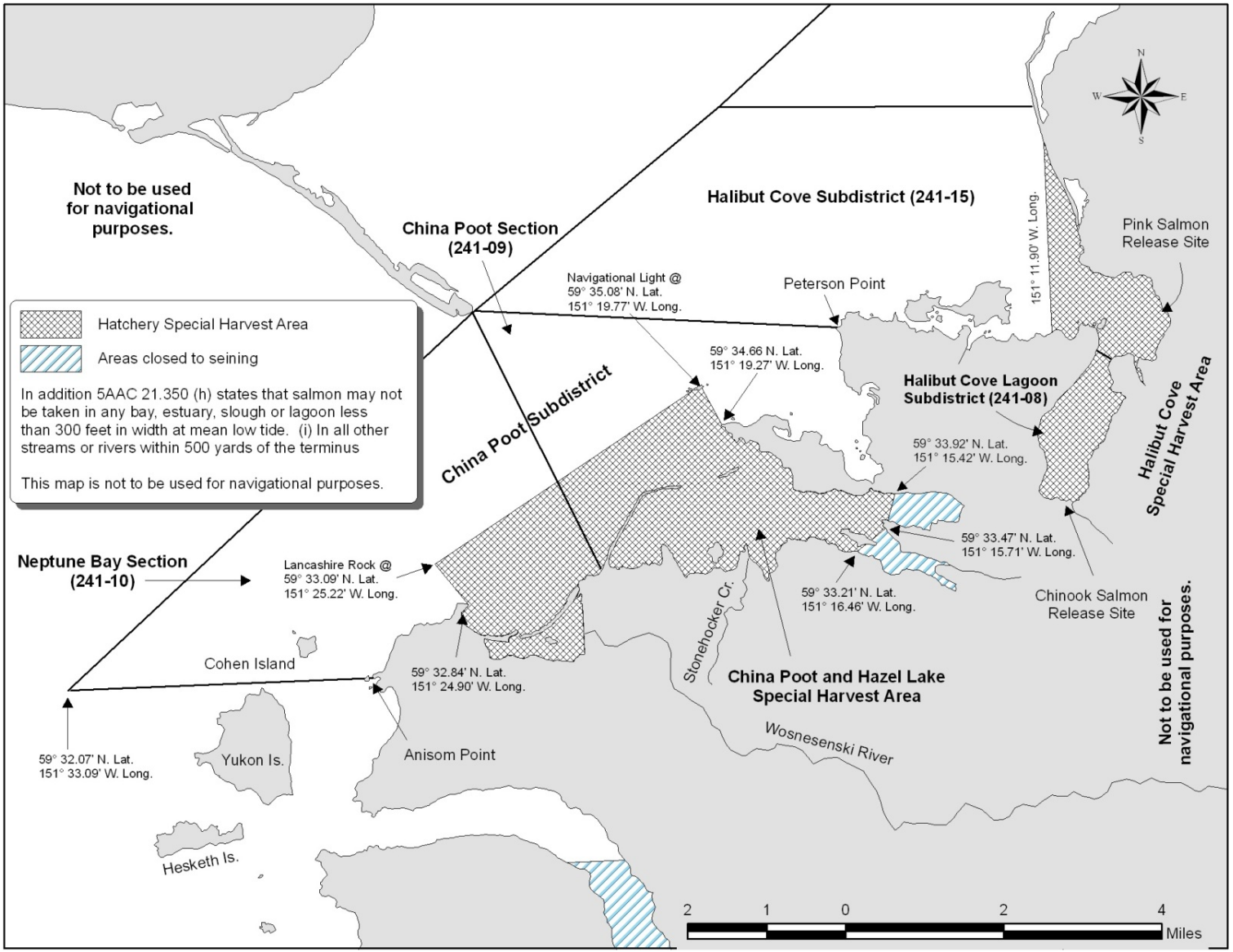



Figure 16.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Halibut Cove to Anisom Point.

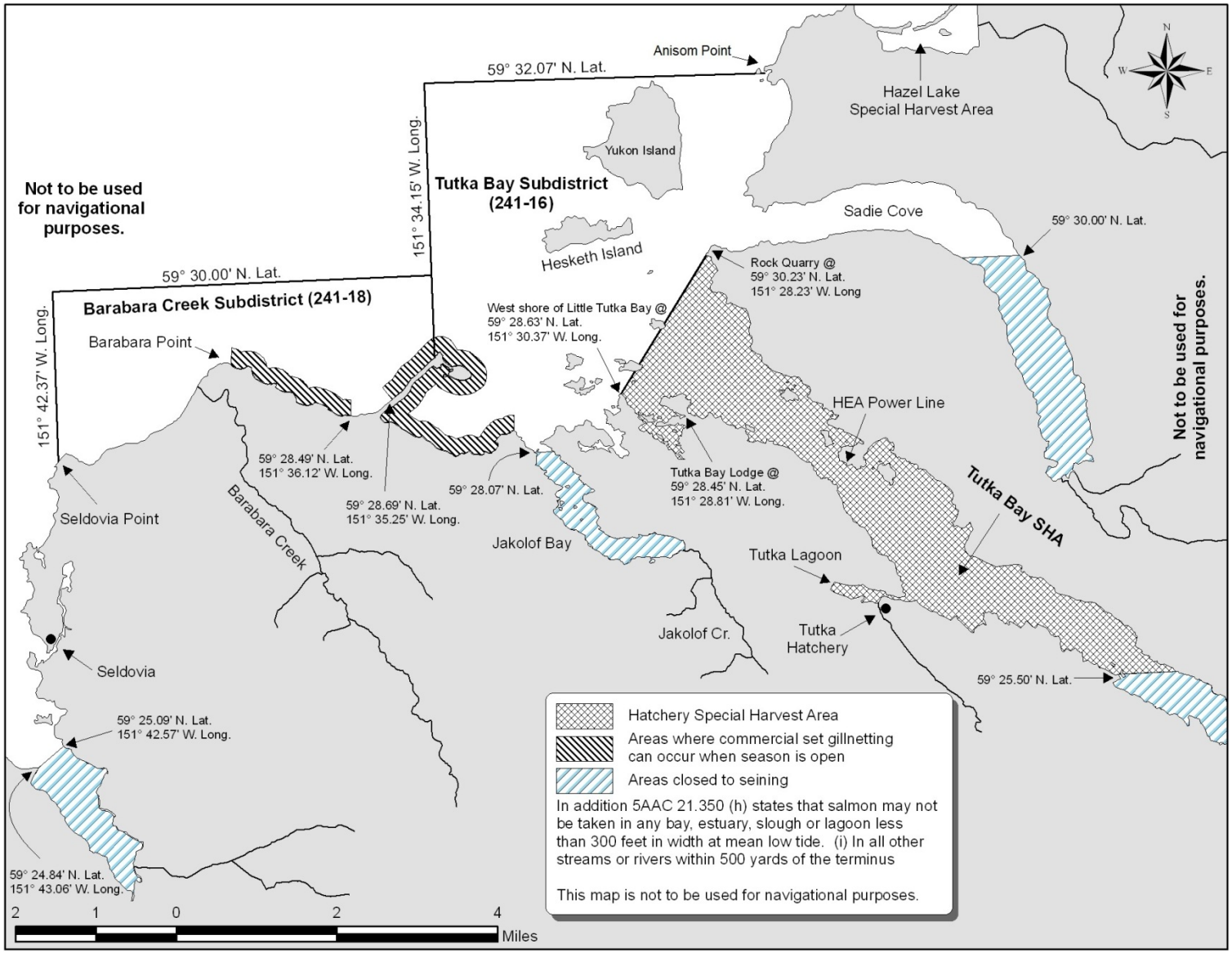



Figure 17.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Anisom Point to Seldovia Point.

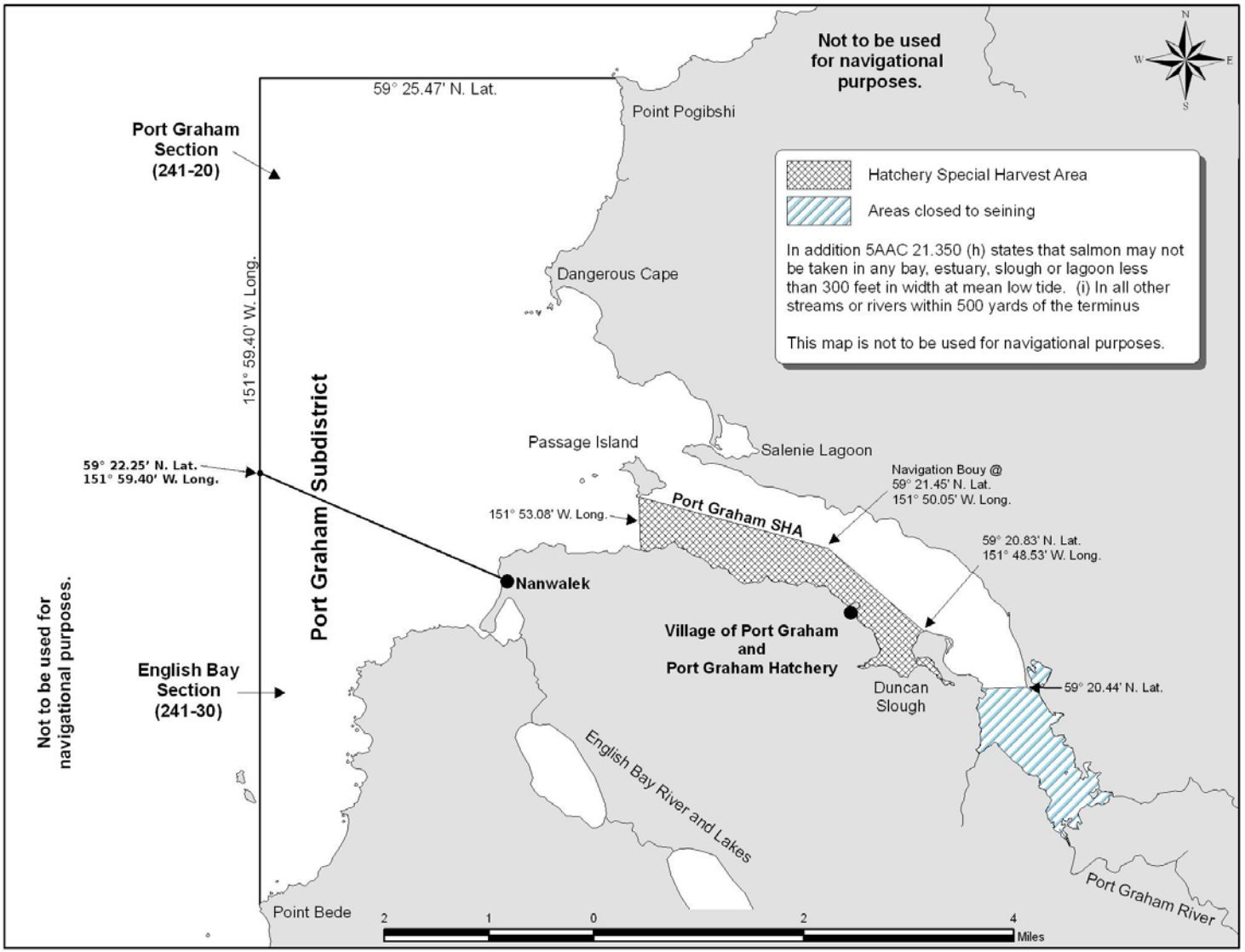



Figure 18.–Lower Cook Inlet management area, Southern District hatchery special harvest areas, Port Graham Area.

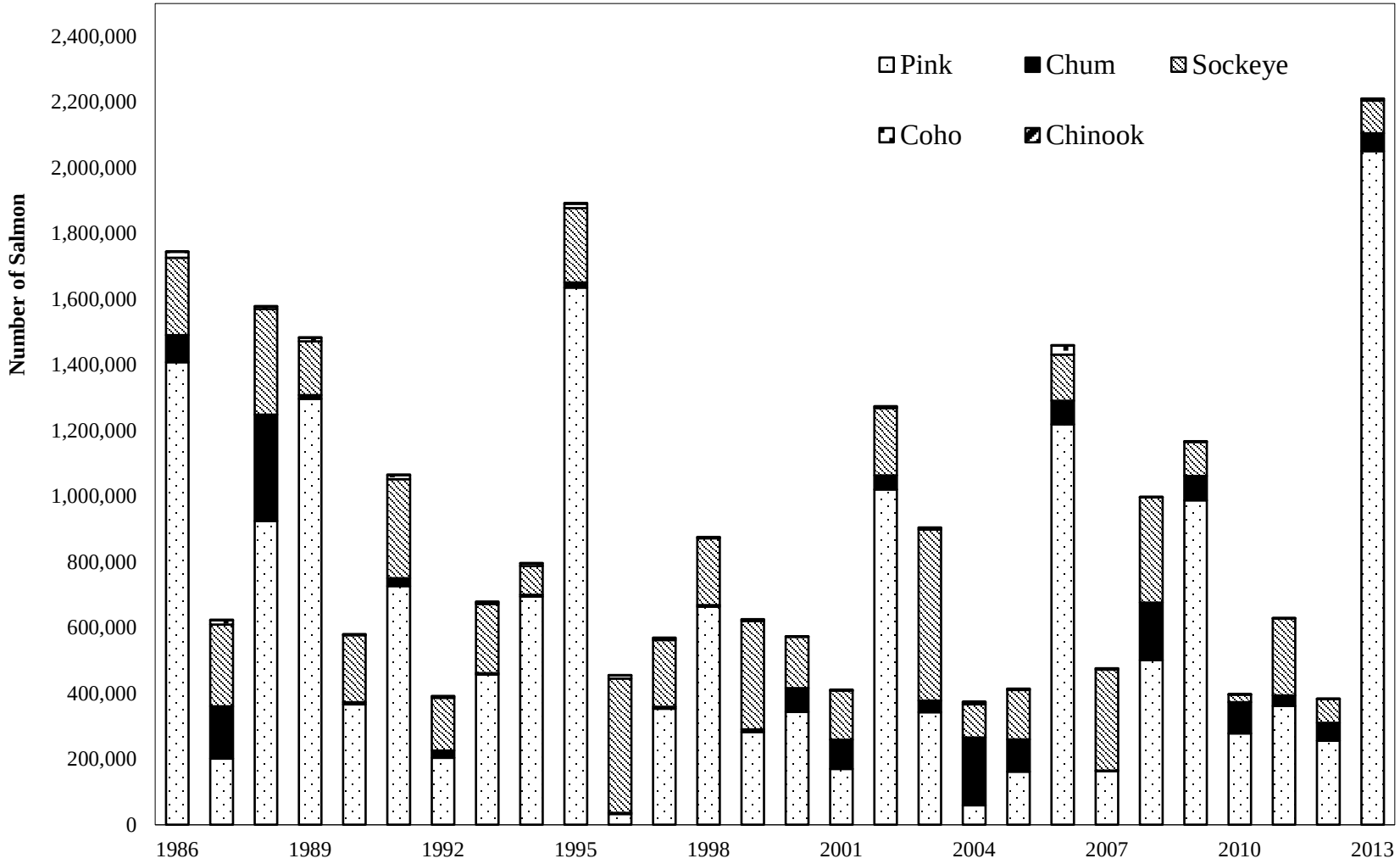



Figure 19.–Commercial common property salmon harvests in Lower Cook Inlet, 1986–2013.

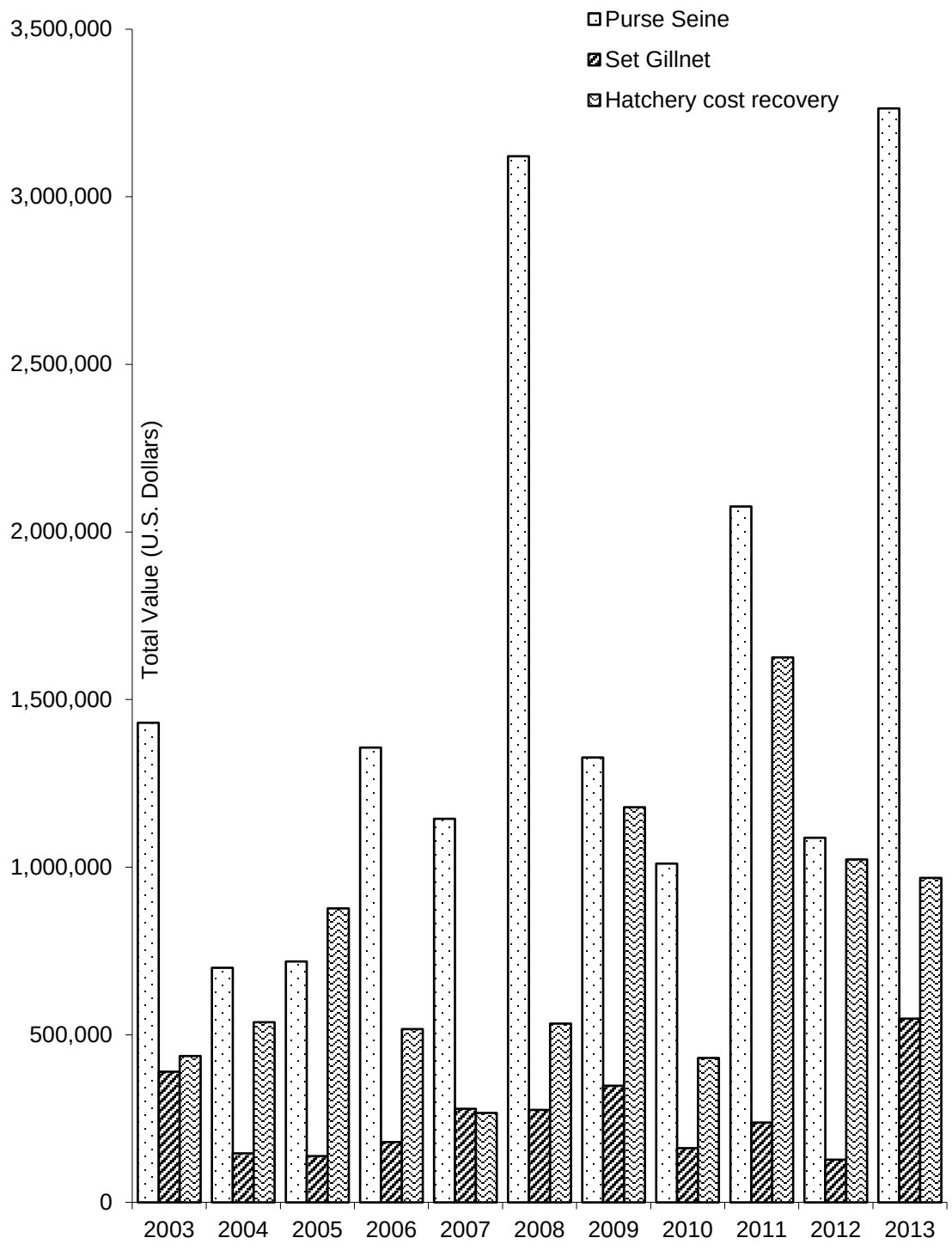
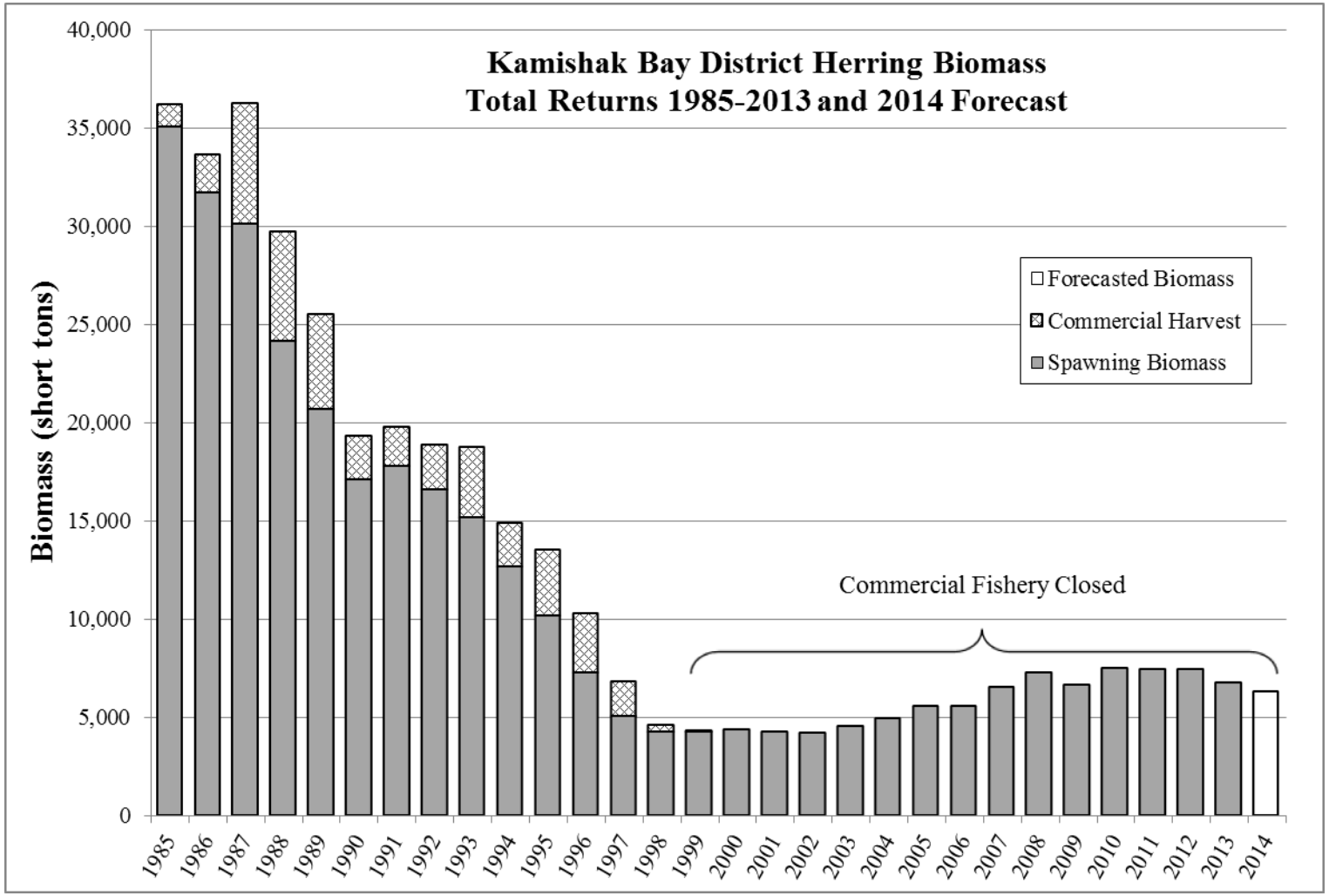



Figure 20.–Exvessel value of Lower Cook Inlet commercial salmon harvest, 2003–2013.




*Note:* No age-structured-assessment (ASA) biomass estimate possible for 2011 and 2012 due to lack of age-composition samples. All spawning biomass estimates derived from 2013 ASA calculations.

Figure 21.–Age-structured-assessment (ASA) biomass estimates and commercial harvests of Pacific herring in the sac roe seine fishery, Kamishak Bay District, Lower Cook Inlet, 1985–2013 and 2014 projection.

Table 1.–Lower Cook Inlet Management Area commercial salmon harvest by gear and district, 2013.

| District | Permits [a] | Chinook [a] | Sockeye [a] | Coho [a, b] | Pink [a] | Chum [a] | Total |
|---|---|---|---|---|---|---|---|
| Southern | 12 | 140 | 28,032 | 1,902 | 33,288 | 265 | 63,627 |
| Kamishak Bay | 5 | | 33,154 | | 314 | 2,357 | 35,825 |
| Outer | 11 | 1 | 119 | 53 | 2,015,105 | 49,062 | 2,064,340 |
| Eastern | | | | | | | |
| Purse seine total | 12 | 141 | 61,305 | 1,955 | 2,048,707 | 51,684 | 2,163,792 |
| Southern District | 19 | 234 | 38,238 | 3,466 | 1,804 | 2,685 | 46,427 |
| Set gillnet total | 19 | 234 | 38,238 | 3,466 | 1,804 | 2,685 | 46,427 |
| Port Graham Hatchery | | | | | | | |
| Tutka Bay Hatchery | | | | | 48,017 | 2 | 48,019 |
| Trail Lakes Hatchery | | | 70,193 | | | 18 | 70,211 |
| Hatchery total [c] | | | 70,193 | | 48,017 | 20 | 118,230 |
| Home Pack | 8 | 16 | 155 | 150 | 157 | 13 | 491 |
| Hatchery donated fish[d] | 1 | | 1,129 | 2,044 | | 1 | 3,174 |
| Misc. Total | | 16 | 1,284 | 2,194 | 157 | 14 | 3,665 |
| Lower Cook Inlet total | | 391 | 171,020 | 7,615 | 2,098,685 | 54,403 | 2,332,114 |

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

[b] 1,380 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 rod and reel (troll gear). This harvest is not included in the commercial harvest total catch.

[c] Hatchery sales for hatchery operating costs.

[d] Primarily jack sockeye and coho salmon caught at the Bear Creek weir.

Table 2.–Total commercial salmon harvest by species from all gear types, Lower Cook Inlet area, including cost recovery for all Cook Inlet Area hatcheries, 1985–2013.

| Year | Gear | n-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 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 1,009 | 278,397 | 9,493 | 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 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 796 | 234,861 | 18,085 | 1,408,293 | 82,688 |
| 1987 | Purse Seine | 67 | 526 | 220,648 | 10,970 | 192,207 | 156,965 |
| 1987 | Set Gillnet | 29 | 653 | 28,209 | 2,025 | 9,224 | 2,419 |
| 1987 | Hatchery | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 1,179 | 248,857 | 12,995 | 201,431 | 159,384 |
| 1988 | Purse Seine | 72 | 549 | 306,309 | 4,742 | 895,420 | 319,768 |
| 1988 | Set Gillnet | 27 | 1,145 | 14,758 | 2,819 | 29,268 | 4,423 |
| 1988 | Hatchery | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 1,694 | 321,067 | 7,561 | 924,688 | 324,191 |
| 1989 | Purse Seine | 65 | 612 | 149,301 | 5,864 | 1,280,716 | 9,428 |
| 1989 | Set Gillnet | 23 | 1,281 | 13,970 | 4,792 | 16,210 | 1,877 |
| 1989 | Hatchery | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 1,893 | 163,271 | 10,656 | 1,296,926 | 11,305 |
| 1990 | Purse Seine | 71 | 199 | 188,032 | 733 | 353,781 | 5,013 |
| 1990 | Set Gillnet | 20 | 1,361 | 15,863 | 1,046 | 12,646 | 1,938 |
| 1990 | Hatchery | 0 | 0 | 0 | 5,876 | 17,243 | 0 |
| | Total | | 1,560 | 203,895 | 7,655 | 383,670 | 6,951 |
| 1991 | Purse Seine | 68 | 576 | 281,250 | 7,068 | 722,535 | 22,623 |
| 1991 | Set Gillnet | 20 | 842 | 20,525 | 5,011 | 3,954 | 1,577 |
| 1991 | Hatchery | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 1,418 | 301,775 | 12,079 | 726,489 | 24,200 |
| 1992 | Purse Seine | 61 | 603 | 143,537 | 3,049 | 187,853 | 20,511 |
| 1992 | Set Gillnet | 20 | 1,288 | 17,002 | 848 | 15,958 | 1,687 |
| 1992 | Hatchery | 0 | 0 | 16,105 | 1,528 | 275,957 | 5 |
| | Total | | 1,891 | 176,644 | 5,425 | 479,768 | 22,203 |
| 1993 | Purse Seine | 51 | 1,079 | 195,896 | 1,710 | 445,283 | 1,776 |
| 1993 | Set Gillnet | 17 | 1,089 | 14,791 | 3,088 | 12,008 | 2,591 |
| 1993 | Hatchery | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | 2,168 | 210,687 | 4,798 | 457,291 | 4,367 |
| 1994 | Purse Seine | 30 | 127 | 73,543 | 7,024 | 670,944 | 3,049 |
| 1994 | Set Gillnet | 16 | 1,103 | 14,004 | 1,073 | 23,621 | 2,419 |
| 1994 | Hatchery | 0 | 1 | 27,871 | 4,968 | 953,364 | 1 |
| | Total | | 1,231 | 115,418 | 13,065 | 1,647,929 | 5,469 |
| 1995 | Purse Seine | 46 | 225 | 207,237 | 9,867 | 1,593,453 | 11,676 |
| 1995 | Set Gillnet | 23 | 2,078 | 19,406 | 3,564 | 41,654 | 3,958 |
| 1995 | Hatchery | 0 | 0 | 38,780 | 1,318 | 1,213,357 | 2 |
| | Total | | 2,303 | 265,423 | 14,749 | 2,848,464 | 15,636 |

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Table 2.–Page 2 of 3.

| Year | Gear | n-permits [a] | 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 | 0 | 1 | 41,492 | 1,334 | 420,431 | 26 |
| | Total | | 1,181 | 450,456 | 11,005 | 452,790 | 3,764 |
| 1997 | Purse Seine | 23 | 126 | 144,091 | 1,185 | 288,969 | 1,736 |
| 1997 | Set Gillnet | 25 | 1,135 | 59,401 | 4,475 | 64,162 | 4,166 |
| 1997 | Hatchery | 0 | 0 | 36,681 | 3,177 | 2,461,300 | 6 |
| | Total | | 1,261 | 240,173 | 8,837 | 2,814,431 | 5,908 |
| 1998 | Purse Seine | 39 | 119 | 177,250 | 2,325 | 639,505 | 883 |
| 1998 | Set Gillnet | 24 | 952 | 26,131 | 1,057 | 24,403 | 3,754 |
| 1998 | Hatchery | 0 | 0 | 80,648 | 10,717 | 793,911 | 10 |
| | Total | | 1,071 | 284,029 | 14,099 | 1,457,819 | 4,647 |
| 1999 | Purse Seine | 43 | 273 | 302,070 | 2,873 | 276,742 | 3,606 |
| 1999 | Set Gillnet | 20 | 1,491 | 27,646 | 1,374 | 5,348 | 4,335 |
| 1999 | Hatchery | 0 | 0 | 147,063 | 2,502 | 858,398 | 0 |
| | Total | | 1,764 | 476,779 | 6,749 | 1,140,488 | 7,941 |
| 2000 | Purse Seine | 36 | 168 | 129,133 | 506 | 321,342 | 67,769 |
| 2000 | Set Gillnet | 24 | 1,019 | 26,503 | 621 | 21,845 | 5,214 |
| 2000 | Hatchery | 0 | 1 | 66,693 | 169 | 1,044,119 | 271 |
| | Total | | 1,188 | 222,329 | 1,296 | 1,387,306 | 73,254 |
| 2001 | Purse Seine | 25 | 123 | 119,806 | 909 | 156,657 | 85,473 |
| 2001 | Set Gillnet | 18 | 865 | 28,503 | 1,811 | 13,393 | 3,487 |
| 2001 | Hatchery | 0 | 0 | 60,619 | 34 | 422,881 | 9 |
| | Total | | 988 | 208,928 | 2,754 | 592,931 | 88,969 |
| 2002 | Purse Seine | 25 | 40 | 158,284 | 1,502 | 1,013,649 | 38,541 |
| 2002 | Set Gillnet | 24 | 1,513 | 46,812 | 2,393 | 6,741 | 4,681 |
| 2002 | Hatchery | 0 | 0 | 84,194 | 311 | 949,671 | 37 |
| | Total | | 1,553 | 289,290 | 4,206 | 1,970,061 | 43,259 |
| 2003 | Purse Seine | 27 | 302 | 438,236 | 3,121 | 335,147 | 30,625 |
| 2003 | Set Gillnet | 24 | 878 | 81,722 | 2,291 | 7,325 | 4,998 |
| 2003 | Hatchery | 0 | 0 | 122,024 | 253 | 513,649 | 63 |
| | Total | | 1,180 | 641,982 | 5,665 | 856,121 | 35,686 |
| 2004 | Purse Seine | 24 | 258 | 84,633 | 5,647 | 57,878 | 205,445 |
| 2004 | Set Gillnet | 19 | 1,400 | 16,087 | 1,164 | 834 | 1,234 |
| 2004 | Hatchery | 0 | 0 | 29,363 | 0 | 2,458,843 | 0 |
| | Total | | 1,658 | 130,083 | 6,811 | 2,517,555 | 206,679 |
| 2005 | Purse Seine | 29 | 85 | 134,649 | 914 | 161,255 | 97,274 |
| 2005 | Set Gillnet | 17 | 525 | 15,669 | 1,905 | 341 | 1,326 |
| 2005 | Hatchery | 0 | 0 | 81,058 | 1 | 2,144,818 | 2 |
| | Total | | 610 | 231,376 | 2,820 | 2,306,414 | 98,602 |
| 2006 | Purse Seine | 24 | 50 | 125,878 | 26,019 | 1,206,631 | 69,810 |
| 2006 | Set Gillnet | 22 | 580 | 14,219 | 2,426 | 12,288 | 2,019 |
| 2006 | Hatchery | 0 | 0 | 83,464 | 0 | 252,658 | 125 |
| | Total | | 630 | 223,561 | 28,445 | 1,471,577 | 71,954 |

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Table 2.–Page 3 of 3.

| Year | Gear | n-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 | 0 | 0 | 58,514 | 26 | 124,649 | 74 |
| | Total | | 467 | 365,954 | 3,469 | 287,411 | 1,777 |
| 2008 | Purse Seine | 25 | 42 | 293,363 | 740 | 498,930 | 174,128 |
| 2008 | Set Gillnet | 18 | 148 | 26,819 | 599 | 1,884 | 1,394 |
| 2008 | Hatchery | 0 | 0 | 87,208 | 2 | 4,886 | 208 |
| | Total | | 190 | 407,390 | 1,341 | 505,700 | 175,730 |
| 2009 | Purse Seine | 13 | 1 | 65,771 | 9 | 985,451 | 71,700 |
| 2009 | Set Gillnet | 19 | 83 | 38,220 | 968 | 2,136 | 2,274 |
| 2009 | Hatchery | 0 | 0 | 175,539 | 1 | 1,760 | 0 |
| | Total | | 84 | 279,530 | 978 | 989,347 | 73,974 |
| 2010 | Purse Seine | 14 | 10 | 8,615 | 589 | 274,859 | 93,245 |
| 2010 | Set Gillnet | 21 | 29 | 14,765 | 171 | 3,106 | 1,503 |
| 2010 | Hatchery | 0 | 0 | 69,219 | 31 | 246 | 7 |
| | Total | | 39 | 92,599 | 791 | 278,211 | 94,755 |
| 2011 | Purse Seine | 23 | 36 | 211,700 | 49 | 359,058 | 29,741 |
| 2011 | Set Gillnet | 21 | 100 | 22,782 | 103 | 2,643 | 1,946 |
| 2011 | Hatchery | 0 | 0 | 158,272 | 0 | 205 | 4 |
| | Total | | 136 | 392,754 | 152 | 361,906 | 31,691 |
| 2012 | Purse Seine | 16 | 47 | 61,728 | 142 | 245,190 | 54,177 |
| 2012 | Set Gillnet | 15 | 86 | 10,260 | 33 | 10,305 | 927 |
| 2012 | Hatchery | 0 | 0 | 114,592 | 7 | 772 | 330 |
| | Total | | 133 | 186,580 | 182 | 256,267 | 55,434 |
| Previous 10-year average | Purse Seine | 21 | 86 | 170,314 | 3,906 | 428,716 | 82,641 |
| | Set Gillnet | 19 | 427 | 26,941 | 1,128 | 4,086 | 1,906 |
| | Hatchery | 0 | 0 | 97,925 | 32 | 550,249 | 81 |
| | Total | 41 | 513 | 295,181 | 5,065 | 983,051 | 84,628 |
| 2013 | Purse Seine | 11 | 141 | 61,305 | 1,955 | 2,048,707 | 51,684 |
| 2013 | Set Gillnet | 19 | 250 | 38,238 | 3,616 | 1,961 | 2,685 |
| 2013 | Hatchery | 0 | 0 | 71,447 | 2,044 | 48,017 | 24 |
| | Total | | 391 | 171,020 | 7,615 | 2,098,685 | 54,403 |

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

Table 3.–Mean price and estimated exvessel value of the total commercial salmon harvest by gear type, Lower Cook Inlet, 2013.

| Purse Seine | | | | | |
|---|---|---|---|---|---|
| Species | Number [a] | Pounds [a] | Average Weight | Price [a] | Value |
| Chinook | 141 | 673 | 4.77 | $1.02 | $689 |
| Sockeye | 61,305 | 322,383 | 5.26 | $2.00 | $644,508 |
| Coho | 1,955 | 11,348 | 5.80 | $0.83 | $9,366 |
| Pink | 2,048,707 | 6,312,340 | 3.08 | $0.38 | $2,403,739 |
| Chum | 51,684 | 385,008 | 7.45 | $0.53 | $205,517 |
| Subtotal | 2,163,792 | 7,031,752 | | | $3,263,819 |
| Set Gillnet | | | | | |
| Species | Number [a] | Pounds [a] | Average Weight | Price [a] | Value |
| Chinook | 250 | 2,946 | 11.78 | $5.14 | $15,135 |
| Sockeye | 38,238 | 227,403 | 5.95 | $2.21 | $502,583 |
| Coho | 3,616 | 20,772 | 5.74 | $1.01 | $20,959 |
| Pink | 1,961 | 6,721 | 3.43 | $0.33 | $2,217 |
| Chum | 2,698 | 19,409 | 7.19 | $0.35 | $6,842 |
| Subtotal | 46,763 | 277,251 | | | $547,736 |
| Hatchery Sales | | | | | |
| Species | Number [a] | Pounds [a] | Average Weight | Price [a] | Value |
| Chinook | 0 | 0 | 0 | $0.00 | $0 |
| Sockeye | 70,193 | 374,095 | 5.33 | $2.43 | $910,285 |
| Coho | 0 | 0 | 0 | $0.00 | $0 |
| Pink | 48,017 | 144,055 | 3.00 | $0.40 | $57,622 |
| Chum | 20 | 165 | 8.25 | $0.50 | $83 |
| Subtotal | 118,230 | 518,315 | | | $967,990 |
| Total Harvest | | | | | |
| Species | Number [a] | Pounds [a] | Average Weight | Price [a] | Value |
| Chinook | 391 | 3,619 | 9.26 | $4.37 | 15,823 |
| Sockeye | 169,736 | 923,881 | 5.44 | $2.23 | 2,057,377 |
| Coho | 5,571 | 32,120 | 5.77 | $0.94 | 30,324 |
| Pink | 2,098,685 | 6,463,116 | 3.08 | $0.38 | 2,463,578 |
| Chum | 54,402 | 404,582 | 7.44 | $0.53 | 212,441 |
| Total | 2,328,785 | 7,827,318 | | | $4,779,545 |

| Gear Type | Value of Catch | No. of Permits [a] | Average Earnings |
|---|---|---|---|
| Purse Seine | $3,263,819 | 11 | $296,711 |
| Set Gillnet | $547,736 | 19 | $28,828 |
| Subtotal-Value of CPF Catch | $3,811,555 | | |
| Hatchery | $967,990 | | |
| Grand Total | $4,779,545 | | |

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

Table 4.–Average price paid to permit holders for salmon, Lower Cook Inlet, 1985–2013.

| | Chinook salmon | | | Sockeye salmon | | | Coho salmon | | | Pink salmon | | | Chum salmon | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Seine | Set Gillnet | Combined | Seine | Set Gillnet | Combined | Seine | Set Gillnet | Combined | Seine | Set Gillnet | Combined | Seine | Set Gillnet | Combined |
| 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 [b] | NA | $1.82 | $1.82 | NA | NA | $1.00 [b] | NA | NA | $0.42 [b] | NA | NA | $0.84 [b] |
| 1988 | NA | NA | $1.25 [b] | NA | NA | $2.35 [b] | NA | NA | $1.80 [b] | NA | NA | $0.70 [b] | NA | NA | $0.46 [b] |
| 1989 | NA | $1.70 | $1.70 | NA | $1.96 | $1.96 | NA | NA | $0.70 [b] | NA | $0.30 | $0.30 | NA | $0.58 | $0.58 |
| 1990 | NA | NA | $1.35 [b] | $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 [b] | NA | $0.25 | $0.25 | NA | $0.41 | $0.41 |
| 1992 | $0.97 | $1.41 | $1.29 | $1.45 | $1.46 | $1.45 | $0.43 | $0.50 | $0.44 | $0.15 | $0.15 | $0.15 | $0.26 | $0.33 | $0.27 |
| 1993 | $0.89 | $1.10 | $1.02 | $0.78 | $1.00 | $0.80 | $0.42 | $0.58 | $0.52 | $0.14 | $0.13 | $0.14 | $0.30 | $0.26 | $0.28 |
| 1994 | $0.90 | $0.96 | $0.95 | $1.12 | $1.23 | $1.14 | $0.66 | $0.71 | $0.66 | $0.16 | $0.15 | $0.16 | $0.15 | $0.35 | $0.25 |
| 1995 | $0.85 | $1.19 | $1.17 | $1.11 | $1.20 | $1.11 | $0.47 | $0.53 | $0.49 | $0.15 | $0.16 | $0.15 | $0.23 | $0.26 | $0.24 |
| 1996 | $0.76 | $1.37 | $1.32 | $0.90 | $1.00 | $0.92 | $0.29 | $0.40 | $0.36 | $0.05 | $0.06 | $0.05 | $0.15 | $0.19 | $0.18 |
| 1997 | $0.69 | $1.32 | $1.29 | $0.81 | $0.84 | $0.82 | $0.29 | $0.49 | $0.46 | $0.11 | $0.10 | $0.11 | $0.19 | $0.25 | $0.23 |
| 1998 | $0.68 | $1.58 | $1.58 | $0.98 | $1.01 | $0.99 | $0.55 | $0.66 | $0.60 | $0.13 | $0.14 | $0.13 | $0.19 | $0.29 | $0.28 |
| 1999 | $0.97 | $2.07 | $2.04 | $1.32 | $1.67 | $1.41 | $0.45 | $0.70 | $0.62 | $0.13 | $0.16 | $0.14 | $0.10 | $0.43 | $0.35 |
| 2000 | $0.75 | $1.94 | $1.86 | $0.98 | $1.01 | $0.98 | $0.45 | $0.54 | $0.49 | $0.09 | $0.15 | $0.09 | $0.29 | $0.18 | $0.28 |
| 2001 | $0.75 | $1.87 | $1.76 | $0.64 | $0.73 | $0.66 | $0.30 | $0.43 | $0.39 | $0.09 | $0.05 | $0.09 | $0.36 | $0.20 | $0.35 |
| 2002 | $0.30 | $1.12 | $1.10 | $0.56 | $0.68 | $0.58 | $0.17 | $0.25 | $0.22 | $0.06 | $0.03 | $0.06 | $0.16 | $0.19 | $0.16 |
| 2003 | $0.25 | $1.14 | $1.02 | $0.61 | $0.74 | $0.64 | $0.20 | $0.11 | $0.16 | $0.05 | $0.02 | $0.05 | $0.15 | $0.20 | $0.15 |
| 2004 | $0.33 | $1.68 | $1.56 | $0.80 | $1.16 | $0.86 | $0.44 | $0.52 | $0.45 | $0.05 | $0.07 | $0.05 | $0.20 | $0.21 | $0.20 |
| 2005 | $0.83 | $1.65 | $1.54 | $0.87 | $1.30 | $0.93 | $0.29 | $0.53 | $0.45 | $0.08 | $0.10 | $0.08 | $0.22 | $0.24 | $0.22 |
| 2006 | $0.50 | $2.41 | $2.26 | $1.10 | $1.74 | $1.18 | $0.50 | $0.82 | $0.53 | $0.11 | $0.11 | $0.11 | $0.31 | $0.26 | $0.31 |
| 2007 | $0.70 | $2.73 | $2.70 | $0.88 | $1.45 | $0.95 | $0.50 | $0.46 | $0.48 | $0.11 | $0.11 | $0.11 | $0.25 | $0.25 | $0.25 |
| 2008 | $0.65 | $3.67 | $3.57 | $1.39 | $1.64 | $1.42 | $0.50 | $0.84 | $0.66 | $0.23 | $0.23 | $0.23 | $0.55 | $0.25 | $0.55 |
| 2009 | $1.00 | $3.50 | $3.45 | $1.20 | $1.49 | $1.33 | $0.52 | $0.80 | $0.80 | $0.22 | $0.18 | $0.22 | $0.54 | $0.25 | $0.53 |
| 2010 | $0.50 | $3.76 | $3.57 | $1.46 | $1.88 | $1.74 | $1.08 | $1.27 | $1.12 | $0.33 | $0.25 | $0.33 | $0.79 | $0.47 | $0.79 |
| 2011 | $1.93 | $4.19 | $3.85 | $1.56 | $1.56 | $1.56 | $0.52 | $0.79 | $0.70 | $0.41 | $0.30 | $0.37 | $0.83 | $0.61 | $0.81 |
| 2012 | $2.08 | $4.53 | $4.09 | $1.59 | $1.80 | $1.63 | $0.75 | $1.06 | $0.80 | $0.39 | $0.25 | $0.38 | $0.70 | $0.37 | $0.70 |
| 10-year Average | $0.88 | $2.93 | $2.76 | $1.15 | $1.48 | $1.22 | $0.53 | $0.72 | $0.62 | $0.20 | $0.16 | $0.19 | $0.45 | $0.31 | $0.45 |
| 2013 | $1.02 | $5.14 | $4.53 | $2.00 | $2.21 | $2.11 | $0.83 | $1.01 | $0.95 | $0.38 | $0.33 | $0.38 | $0.53 | $0.35 | $0.52 |

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

Table 5.–Estimated exvessel value of commercial salmon harvest by gear type with previous 10-year average, Lower Cook Inlet, 2003–2013.

| Purse seine | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | Previous 10-year Average | 2013 |
| Chinook | 475 | 628 | 889 | 344 | 305 | 228 | 34 | 15 | 648 | 483 | 405 | 689 |
| Sockeye | 1,337,270 | 334,326 | 488,641 | 605,442 | 1,080,994 | 1,924,898 | 347,202 | 58,349 | 1,485,538 | 461,300 | 812,396 | 644,508 |
| Coho | 4,009 | 17,659 | 1,842 | 96,927 | 5,112 | 2,183 | 41 | 4,131 | 157 | 706 | 13,277 | 9,366 |
| Pink | 55,511 | 10,360 | 43,183 | 473,506 | 57,072 | 408,666 | 665,639 | 328,849 | 423,068 | 300,992 | 276,685 | 2,403,739 |
| Chum | 33,533 | 336,883 | 183,716 | 180,231 | 443 | 784,343 | 314,421 | 619,305 | 166,691 | 323,923 | 294,349 | 205,517 |
| | $1,430,797 | $699,857 | $718,271 | $1,356,450 | $1,143,925 | $3,120,319 | $1,327,338 | $1,010,648 | $2,076,101 | $1,087,404 | $1,397,111 | $3,263,819 |
| Set gillnet | | | | | | | | | | | | |
| Species | | | | | | | | | | | | |
| Chinook | 14,758 | 31,371 | 12,921 | 19,100 | 19,991 | 14,408 | 5,412 | 1,792 | 8,032 | 4,847 | 13,263 | 15,135 |
| Sockeye | 365,974 | 108,035 | 115,746 | 134,339 | 251,705 | 253,544 | 332,005 | 151,183 | 218,700 | 109,526 | 204,076 | 502,583 |
| Coho | 1,711 | 4,391 | 6,864 | 16,475 | 4,724 | 3,406 | 4,953 | 1,458 | 488 | 200 | 4,467 | 20,959 |
| Pink | 498 | 192 | 133 | 5,337 | 0 | 1,650 | 1,073 | 2,728 | 2,606 | 10,074 | 2,429 | 2,217 |
| Chum | 6,776 | 1,898 | 2,287 | 4,350 | 2,508 | 2,678 | 4,216 | 4,972 | 7,975 | 2,528 | 4,019 | 6,842 |
| | $389,717 | $145,888 | $137,950 | $179,600 | $278,928 | $275,685 | $347,659 | $162,132 | $237,801 | $127,176 | $228,254 | $547,736 |
| Hatchery sales | | | | | | | | | | | | |
| Species | | | | | | | | | | | | |
| Chinook | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sockeye | 354,602 | 110,464 | 291,395 | 419,805 | 222,175 | 528,507 | 1,177,187 | 430,230 | 1,625,199 | 1,021,125 | 618,069 | 910,285 |
| Coho | 334 | 0 | 2 | 0 | 96 | 4 | 2 | 222 | 0 | 44 | 70 | 0 |
| Pink | 81,767 | 427,339 | 585,235 | 97,059 | 44,580 | 3,867 | 1,249 | 280 | 487 | 1,074 | 124,294 | 57,622 |
| Chum | 74 | 0 | 3 | 282 | 142 | 1,009 | 0 | 33 | 16 | 1,034 | 259 | 83 |
| | $436,777 | $537,803 | $876,635 | $517,146 | $266,993 | $533,387 | $1,178,437 | $430,765 | $1,625,702 | $1,023,277 | $742,692 | $967,990 |
| Average earnings | | | | | | | | | | | | |
| Purse Seine | $52,992 | $29,161 | $24,768 | $56,519 | $60,207 | $124,813 | $102,103 | $72,189 | $90,265 | $67,963 | $68,098 | $296,711 |
| Set Gillnet | $16,238 | $7,678 | $8,115 | $8,164 | $17,433 | $15,316 | $18,298 | $7,721 | $11,324 | $8,478 | $11,876 | $28,828 |
| Number of permits fished | | | | | | | | | | | | |
| Purse Seine | 27 | 24 | 29 | 24 | 19 | 25 | 13 | 14 | 23 | 16 | 21 | 11 |
| Set Gillnet | 24 | 19 | 17 | 22 | 16 | 18 | 19 | 21 | 21 | 15 | 19 | 19 |

Table 6.–Preseason harvest or total run projections for the 2013 commercial common property salmon fishery by district and species, Lower Cook Inlet Area.

| District/facility | Forecast type | Chinook [a] | Sockeye [a] | Coho [a] | Pink [b] | Chum [a] |
|---|---|---|---|---|---|---|
| Southern District | commercial harvest | 112 | 1,100 | 700 | 40,000 | 1,760 |
| Outer District | commercial harvest | 4 | 10,200 | 30 | 63,000 | 47,100 |
| Eastern District | commercial harvest | 0 | 0 | 0 | 0 | 70 |
| Kamishak Bay District | commercial harvest | 2 | 77,000 | 100 | 0 | 37,400 |
| Total Wild Stock | | 118 | 88,300 | 830 | 103,000 | 86,330 |
| Tutka Lagoon Hatchery | total return | 0 | 17,821 | 0 | 244,653 | 0 |
| Port Graham Hatchery | total return | 0 | 2,000 | 0 | 0 | 0 |
| Kirschner Lake | total return | 0 | 21,675 | 0 | 0 | 0 |
| Leisure Lake | total return | 0 | 43,352 | 0 | 0 | 0 |
| Hazel Lake | total return | 0 | | 0 | 0 | 0 |
| Resurrection Bay | total return | 0 | 70,666 | 0 | 0 | 0 |
| Halibut Cove | total return | 0 | 0 | 0 | 94,380 | 0 |
| English Bay Lakes | total return | 0 | NA | 0 | 0 | 0 |
| Total Hatchery [c] | | | 155,514 | 0 | 339,033 | 0 |
| Total Hatchery and Wild | | 118 | 243,814 | 830 | 442,033 | 86,330 |

[a] Chinook, coho, chum, and natural sockeye salmon harvests are 2008–2012 average commercial harvests.

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

[c] Hatchery operators provide total return forecasts.

Table 7.–Emergency orders issued for the commercial, personal use, and subsistence salmon fisheries in Lower Cook Inlet, 2013.

| E.O. number/ Issue date | Description |
|---|---|
| 2-F-H-01-13/ Wednesday, May 1 | **LCI closed waters.** Assigned latitude and longitude coordinates to closed waters areas as defined by physical markers and department-generated maps. In addition, there are additional areas referenced that either lack GPS coordinates, have incorrect coordinates printed in the regulation book, or have misspelled locations. Amendments are to 5AAC 21.350 CLOSED WATERS. |
| 2-F-H-02-13/ Friday, May 3 | **Establishes hatchery SHAs.** Defines the Bear Lake Special Harvest Area (SHA), China Poot and Hazel Lakes SHA, Halibut Cove Lagoon SHA, Tutka Bay Lagoon SHA, and Kirschner Lake SHA and opens this area to contractees of Cook Inlet Aquaculture Association for the cost recovery harvest of returning hatchery produced sockeye salmon for fishing periods established by emergency order. |
| 2-F-H-03-13/ Wednesday, May 8 | **Bear Lake SHA.** Opens the Bear Lake Special Harvest Area to hatchery cost recovery harvest and establishes a fishing schedule of 7 days per week in waters of that area beginning Monday, May 20. |
| 2-F-H-04-13/ Friday, May 24 | **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 A.M. on Mondays and Thursdays, effective Saturday, June 1. |
| 2-F-H-05-13/ Wednesday, June 5 | **Identification of some salmon streams in Lower Cook Inlet pursuant to 5AAC 39.290(a)(2).** |
| 2-F-H-06-13/ Friday, June 14 | **Chenik and Bruin Bay subdistricts, purse seine.** Closes the Chenik and Bruin Bay subdistricts to commercial salmon harvest until further notice effective 6:00 AM, Monday, June 17. |
| 2-F-H-07-13/ Friday, June 14 | **Kirschner, Tutka, and China Poot SHAs.** Opens the Kirschner, Tutka and China Poot Special Harvest Areas to hatchery cost recovery harvest and establishes a fishing schedule of 7 days per week in waters of that area beginning Monday, June 17. |
| 2-F-H-08-13/ Friday, June 28 | **Southern District, purse seine.** Establishes 2 weekly 16-hour purse seine fishing periods in portions of the China Poot, Tutka Bay, and Halibut Cove subdistricts beginning at 6:00 A.M. on Mondays and Thursdays effective 6:00 AM, Monday, July 1. |
| 2-F-H-09-13/ Wednesday, July 3 | **Chenik Subdistrict, purse seine.** Opens waters of the Chenik and Bruin Bay Subdistricts including Chenik Lagoon to purse seine harvest at 6:00 AM on Saturday, July 6. |
| 2-F-H-10-13/ Thursday, July 11 | **Halibut Cove Subdistrict, hatchery harvest.** Opens a portion of the Halibut Cove Subdistrict outside of Halibut Cove Lagoon to the harvest of hatchery-produced pink salmon from the 2012 remote release site at this location. |
| 2-F-H-11-13/ Thursday, July 11 | **Halibut Cove Subdistrict, hatchery harvest.** Longitude correction to earlier announcement. |
| 2-F-H-12-13/ Friday, July 12 | **Southern District, purse seine.** Establishes 3 weekly 16-hour purse seine fishing periods in portions of the China Poot, Tutka Bay, and Halibut Cove subdistricts beginning at 6:00 A.M. on Mondays, Wednesdays, and Fridays effective 6:00 AM, Monday, July 15. |

-continued-

Table 7.–Page 2 of 2.

| E.O. number/ Issue date | Description |
|---|---|
| 2-F-H-13-13/ Friday, July 19 | **Southern District, purse seine.** Establishes 3 weekly 16-hour purse seine fishing periods in portions of the Seldovia and Port Graham subdistricts beginning at 6:00 A.M. on Mondays, Wednesdays, and Fridays effective 6:00 AM, Monday, July 22. |
| 2-F-H-14-13/ Tuesday, July 23 | **Outer Subdistrict, purse seine.** Rescinds some CLOSED WATERS in the Outer District. |
| 2-F-H-15-13/ Friday, July 26 | **Southern and Outer districts, purse seine.** Opens portions of the Outer District to commercial harvest on Mondays, Wednesdays, and Fridays. Increases commercial fishing opportunity in the Port Graham section of that subdistrict to 7 days per week. |
| 2-F-H-16-13/ Thursday, August 1 | **Outer District, purse seine.** Opens portions of Dogfish Bay and Port Chatham to purse seine. Adjusts open areas in the Port Dick area. |
| 2-F-H-17-13/ Thursday, August 1 | **Southern District, personal use fishery.** Corrects typographical errors in 5AAC 77.549(3) that describe open areas for that fishery. |
| 2-F-H-18-13/ Thursday, August 1 | **Southern District, personal use fishery.** Delays the opening of this fishery from midnight to 6:00AM on Friday, August 16. |
| 2-F-H-19-13/ Friday, August 9 | **Outer and Kamishak Bay districts, purse seine.** Opens the Kirschner SHA to common property harvest effective Monday, August 12. Reinstates CLOSED WATERS in Dogfish Bay Subdistrict. |
| 2-F-H-20-13/ Wednesday, August 14 | **Outer and Southern districts, purse seine.** Establishes daily 16-hour fishing periods in portions of the Outer District effective on Thursday, August 15. Opens the Halibut Cove and China Poot SHAs on Monday, Wednesday, and Friday beginning at 6:00 AM for 16 hours on those days beginning on Friday, August 16. |
| 2-F-H-21-13/ Monday, August 19. | **Southern Districts, purse seine.** Expands commercial purse seine harvest opportunity to 7 days per week in the Southern District. |
| 2-F-H-22-13/ Thursday, August 22 | **Southern District, personal use fishery.** Closes the personal use fishery on Saturday, August 24. |

Table 8.–Escapements relative to escapement goals and methods used to monitor escapements in 2013 for Chinook, chum, pink and sockeye salmon stocks in Cook Inlet, Alaska.

| | | Escapement Goal | | | | Monitoring Method | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | Type | Range | | | | | | | |
| Stock | Escapement | (BEG, SEG) | Lower | Midpoint | Upper | Aerial | Ground | Video | Weir | Sonar |
| Chinook Salmon | | | | | | | | | | |
| Anchor River | 4,388 | SEG | ≥ 5,000 | | | | | | X | X |
| Deep Creek | 475 | SEG | 350 | 575 | 800 | X | | | | |
| Ninilchik River | 571 | SEG | 550 | 925 | 1,300 | | | | X | |
| Chum Salmon | | | | | | | | | | |
| Port Graham River | 1,944 | SEG | 1,450 | 3,125 | 4,800 | | X | | | |
| Dogfish Lagoon | 9,300 | SEG | 3,350 | 6,250 | 9,150 | | X | | | |
| Rocky River | 8,148 | SEG | 1,200 | 3,300 | 5,400 | X | X | | | |
| Port Dick Creek | 4,133 | SEG | 1,900 | 3,175 | 4,450 | X | X | | | |
| Island Creek | 8,772 | SEG | 6,400 | 11,000 | 15,600 | X | X | | | |
| Big Kamishak River | 3,280 | SEG | 9,350 | 16,675 | 24,000 | X | | | | |
| Little Kamishak River | 6,744 | SEG | 6,550 | 15,175 | 23,800 | X | | | | |
| McNeil River | 9,498 | SEG | 24,000 | 36,000 | 48,000 | X | | | | |
| Bruin River | 8,942 | SEG | 6,000 | 8,125 | 10,250 | X | | | | |
| Ursus Cove | 10,339 | SEG | 6,050 | 7,950 | 9,850 | X | | | | |
| Cottonwood Creek | 5,206 | SEG | 5,750 | 8,875 | 12,000 | X | | | | |
| Iniskin Bay | 5,928 | SEG | 7,850 | 10,775 | 13,700 | X | | | | |
| Pink Salmon | | | | | | | | | | |
| Humpy Creek | 6,749 | SEG | 21,650 | 53,600 | 85,550 | | X | | | |
| China Poot Creek | 7,119 | SEG | 2,900 | 5,550 | 8,200 | | X | | | |
| Tutka Creek | 9,541 | SEG | 6,500 | 11,750 | 17,000 | | X | | | |
| Barabara Creek | 17,377 | SEG | 1,900 | 5,425 | 8,950 | | X | | | |
| Seldovia Creek | 36,824 | SEG | 19,050 | 29,000 | 38,950 | | X | | | |
| Port Graham River | 11,893 | SEG | 7,700 | 13,775 | 19,850 | | X | | | |
| Port Chatham | 57,447 | SEG | 7,800 | 14,400 | 21,000 | | X | | | |
| Windy Creek Right | 11,704 | SEG | 3,350 | 7,150 | 10,950 | | X | | | |
| Windy Creek Left | 47,849 | SEG | 3,650 | 16,800 | 29,950 | | X | | | |
| Rocky River | 75,791 | SEG | 9,350 | 31,800 | 54,250 | | X | | | |
| Port Dick Creek | 55,828 | SEG | 18,550 | 38,425 | 58,300 | X | X | | | |
| Island Creek | 26,004 | SEG | 7,200 | 17,750 | 28,300 | X | X | | | |
| S. Nuka Island Creek | 8,442 | SEG | 2,700 | 8,475 | 14,250 | X | X | | | |
| Desire Lake | 56,921 | SEG | 1,900 | 11,050 | 20,200 | X | | | | |
| Bruin River | 15,020 | SEG | 18,650 | 87,200 | 155,750 | X | | | | |
| Sunday Creek | 6,132 | SEG | 4,850 | 16,850 | 28,850 | X | | | | |
| Brown's Peak Creek | 4,061 | SEG | 2,450 | 10,625 | 18,800 | X | | | | |
| Sockeye Salmon | | | | | | | | | | |
| English Bay | 10,904 | SEG | 6,000 | 9,750 | 13,500 | X | | | X | |
| Delight Lake | 5,961 | SEG | 7,500 | 12,575 | 17,650 | X | | X | X | |
| Desire Lake | 8,400 | SEG | 8,800 | 12,000 | 15,200 | X | | - | | |
| Bear Lake | 8,999 | SEG | 700 | 4,500 | 8,300 | | | | X | |
| Aialik Lake | 3,530 | SEG | 3,700 | 5,850 | 8,000 | X | | | | |
| Mikfik Lake | 4,042 | SEG | 6,300 | 9,225 | 12,150 | X | | X | | |
| Chenik Lake | 11,333 | SEG | 3,500 | 8,750 | 14,000 | X | | X | | |
| Amakdedori Creek | 1,540 | SEG | 1,250 | 1,925 | 2,600 | X | | | | |

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

# APPENDIX A: SOUTHERN DISTRICT

Appendix A1.–Southern District commercial set gillnet salmon harvest by period, 2013.

| | | | Permits | | Chinook | | Sockeye | | Coho | | Pink | | Chum | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period [a] | Date | Hours | Fished | Landings | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds |
| 1 [a] | 6/03-6/05 | 48 | 7 | 7 | 20 | 233 | 1,777 | 9,585 | | | | | 29 | 219 |
| 2 [a] | 6/06-6/08 | 48 | 9 | 10 | 36 | 485 | 3,485 | 19,243 | | | | | 49 | 377 |
| 3 [a] | 6/10-6/12 | 48 | 11 | 15 | 34 | 482 | 3,449 | 19,286 | | | | | 78 | 589 |
| 4 [a] | 6/13-6/15 | 48 | 10 | 11 | 29 | 355 | 2,309 | 13,581 | | | | | 99 | 771 |
| 5 [a] | 6/17-6/19 | 48 | 8 | 9 | 18 | 210 | 1,544 | 9,345 | | | | | 59 | 440 |
| 6 [a] | 6/20-6/22 | 48 | 8 | 10 | 14 | 189 | 2,358 | 14,715 | 10 | 55 | 3 | 9 | 63 | 513 |
| 7 [a] | 6/24-6/26 | 48 | 7 | 12 | 17 | 224 | 1,835 | 10,655 | | | 1 | 7 | 85 | 647 |
| 8 [a] | 6/27-6/29 | 48 | 10 | 13 | 25 | 310 | 3,246 | 18,546 | 9 | 59 | 2 | 7 | 165 | 1,240 |
| 9 [a] | 7/01-7/03 | 48 | 9 | 15 | 12 | 126 | 2,012 | 11,816 | 23 | 150 | 153 | 537 | 102 | 757 |
| 10 [a] | 7/04-7/06 | 48 | 11 | 17 | 15 | 149 | 3,082 | 18,599 | 55 | 320 | 4 | 15 | 228 | 1,667 |
| 11 [a] | 7/08-7/10 | 48 | 9 | 12 | 6 | 62 | 4,036 | 26,395 | 537 | 3,066 | 12 | 38 | 236 | 1,754 |
| 12 [a] | 7/11-7/13 | 48 | 12 | 18 | 1 | 29 | 3,134 | 19,088 | 515 | 3,152 | 3 | 10 | 304 | 2,258 |
| 13 [a,b] | 7/15-7/17 | 48 | 12 | 17 | 3 | 52 | 3,109 | 19,217 | 1,042 | 6,183 | 355 | 1,332 | 470 | 3,282 |
| 14 [a,b] | 7/18-7/20 | 48 | 10 | 16 | 3 | 27 | 2,335 | 14,008 | 1,127 | 6,895 | 290 | 1,129 | 412 | 2,842 |
| 15 [a,b] | 7/22-7/24 | 48 | 6 | 8 | 1 | 14 | 286 | 1,699 | 20 | 132 | 752 | 2,764 | 297 | 1,998 |
| 16 [a,b,c] | 7/25-7/27 | 48 | [c] | [c] | | | [c] | | [c] | | [c] | | [c] | |
| 17 [a,b,c] | 7/29-7/31 | 48 | [c] | [c] | | | [c] | | [c] | | [c] | | [c] | |
| 18 [a,b,c] | 8/01-8/03 | 48 | [c] | [c] | | | [c] | | [c] | | [c] | | | |
| 19 [a,b,c] | 8/05-8/07 | 48 | [c] | [c] | | | [c] | | [c] | | [c] | | | |
| 20 [a,b,c] | 8/08-8/10 | 48 | [c] | [c] | | | [c] | | [c] | | [c] | | | |
| 21 [a,b,d] | 8/12-8/14 | 48 | | | | | | | | | | | | |
| 22 [a,b,d] | 8/15-8/17 | 48 | | | | | | | | | | | | |
| 34 [a,b,d] | 9/26-9/28 | 48 | | | | | | | | | | | | |
| 35 [a,b,d] | 9/30-9/30 | 18 | | | | | | | | | | | | |
| Total | | | 19 | 200 | 234 | 2,946 | 38,238 | 227,195 | 3,466 | 20,764 | 1,804 | 6,711 | 2,685 | 19,409 |
| Average weight | | | | | | 12.68 | | 5.94 | | 5.99 | | 3.72 | | 7.23 |

[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] Confidential data. Fewer than 3 permits reporting.

[d] No deliveries during 48-hour periods 21–35 that occurred from August 12 through September 30.

Appendix A2.–Southern District commercial purse seine salmon harvest by period, 2013.

| | | | Permits | | Chinook | | Sockeye | | Coho | | Pink | | Chum | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period [a,b] | Date | Hours | Fished | Landings | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds |
| 1 [a,b,c] | 7/1/2013 | 16 | 6 | 6 | 55 | 270 | 1,221 | 7,371 | 32 | 164 | 54 | 138 | 60 | 678 |
| 2 [a,b,c] | 7/4/2013 | 16 | 4 | 4 | 16 | 58 | 3,217 | 18,229 | 96 | 562 | 121 | 350 | 59 | 414 |
| 3 [a,b,c] | 7/8/2013 | 16 | 4 | 4 | 3 | 31 | 7,134 | 48,235 | 229 | 1,374 | 300 | 678 | 26 | 251 |
| 4 [a,b,c] | 7/11/2013 | 16 | 11 | 11 | 37 | 153 | 3,710 | 21,115 | 257 | 1,379 | 388 | 1,159 | 40 | 294 |
| 5 [a,b,d] | 7/15/2013 | 16 | 9 | 9 | 13 | 46 | 3,030 | 15,616 | 381 | 2,183 | 309 | 762 | 36 | 243 |
| 6 [a,b,d] | 7/17/2013 | 16 | 8 | 9 | 7 | 83 | 2,762 | 16,134 | 362 | 2,103 | 570 | 1,725 | 14 | 97 |
| 7 [a,b,d] | 7/19/2013 | 16 | 6 | 6 | 8 | 26 | 1,632 | 8,704 | 513 | 3,020 | 443 | 1,535 | 22 | 139 |
| 8 [a,b,d,e,f] | 7/22/2013 | 16 | 5 | 8 | 1 | 2 | 2,805 | 14,609 | 19 | 107 | 317 | 917 | 3 | 20 |
| 9 [a,b,d,e,f] | 7/24/2013 | 16 | 3 | 3 | | | 1,938 | 11,335 | 6 | 33 | 129 | 378 | 2 | 11 |
| 10 [a,b,d,e,f] | 7/26/2013 | 16 | 3 | 3 | | | 568 | 2,627 | 6 | 25 | 232 | 805 | 2 | 9 |
| 22 [a,b,e,f,g,h] | 8/7/2013 | 16 | [h] | [h] | | | [h] | | [h] | | [h] | | | |
| 27 [a,b,e,f,g,h] | 8/12/2013 | 16 | [h] | [h] | | | [h] | | | | [h] | | | |
| 29 [a,b,e,f,g,h] | 8/14/2013 | 16 | [h] | [h] | | | [h] | | | | [h] | | [h] | |
| 31 [a,b,e,f,g,h] | 8/16/2013 | 16 | [h] | [h] | | | [h] | | | | [h] | | | |
| 34 [a,b,e,f,g,h] | 8/19/2013 | 16 | [h] | [h] | | | | | | | [h] | | | |
| 36 [a,b,e,f,g,h] | 8/21/2013 | 16 | [h] | [h] | | | | | | | [h] | | | |
| 40 [a,b,e,f,g,h] | 8/25/2013 | 16 | [h] | [h] | | | | | | | [h] | | | |
| Total | | | 11 | 64 | 140 | 669 | 28,032 | 164,055 | 1,902 | 10,958 | 33,288 | 85,940 | 265 | 2,164 |
| Average weight | | | | | | 4.83 | | 5.50 | | 5.80 | | 2.83 | | 8.34 |

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

[a] Waters of China Poot Subdistrict, excluding waters of China Poot SHA, open to commercial salmon seine harvest for regular 16-hour periods.

[b] Waters of Halibut Cove Subdistrict, excluding waters of Halibut Cove Lagoon, open to commercial salmon seine harvest for regular 16-hour periods.

[c] Waters of Tutka Bay Subdistrict, excluding Tutka Hatchery SHA open to commercial salmon seine harvest for regular 16-hour periods.

[d] Waters of Halibut Cove Subdistrict, excluding Halibut Cove SHA open to commercial salmon seine harvest for regular 16-hour periods.

[e] Waters of the Port Graham Subdistrict, excluding the English Bay Section open to commercial salmon seine harvest for 16-hour periods.

[f] Waters of Seldovia Bay Subdistrict open to commercial salmon seine harvest for 16-hour periods.

[g] No deliveries reported from previous day's open fishing periods.

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

Appendix A3.–Total commercial common property salmon harvest (excluding homepacks) in the Southern District, 1959–2013.

| 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 |

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Appendix A3.–Page 2 of 4.

| Year | Permits | Chinook | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|---|
| | | | Set gillnet | | | |
| 2009 | 19 | 83 | 38,220 | 968 | 2,136 | 2,274 |
| 2010 | 21 | 29 | 14,765 | 171 | 3,106 | 1,503 |
| 2011 | 21 | 100 | 22,782 | 103 | 2,643 | 1,946 |
| 2012 | 15 | 86 | 10,260 | 33 | 10,305 | 928 |
| Previous 10-yr avg. | 19 | 427 | 26,941 | 1,128 | 4,086 | 1,906 |
| 2013 | 18 | 234 | 38,238 | 3,466 | 1,804 | 2,685 |
| | | | 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 |

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Appendix A3.–Page 3 of 4.

| Year | Permits | Chinook | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|---|
| | | | Purse Seine | | | |
| 2002 | 19 | 40 | 121,054 | 1,376 | 5,342 | 122 |
| 2003 | 21 | 301 | 391,768 | 3,117 | 47,913 | 732 |
| 2004 | 19 | 256 | 21,621 | 267 | 2,273 | 138 |
| 2005 | 23 | 85 | 65,333 | 816 | 32,201 | 422 |
| 2006 | 16 | 47 | 52,020 | 610 | 3,446 | 163 |
| 2007 | 13 | 27 | 61,193 | 1,710 | 10,394 | 127 |
| 2008 | 13 | 40 | 62,675 | 720 | 4,941 | 66 |
| 2009[a] | 0 | 0 | 0 | 0 | 0 | 0 |
| 2010[a] | 0 | 0 | 0 | 0 | 0 | 0 |
| 2011 | 5 | 26 | 9,945 | 24 | 512 | 16 |
| 2012 | 11 | 39 | 6,396 | 44 | 175,770 | 439 |
| Previous 10-yr avg. | 12 | 82 | 67,095 | 731 | 27,745 | 210 |
| 2013 | 11 | 140 | 28,032 | 1,902 | 33,288 | 265 |
| | | | 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 |

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| Year | Permits | Chinook | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|---|
| | | | Purse seine and set gillnet combined | | | |
| 1995 | | 2,289 | 152,298 | 5,157 | 1,261,970 | 4,530 |
| 1996 | | 1,180 | 338,891 | 9,574 | 25,106 | 3,511 |
| 1997 | | 1,261 | 180,585 | 5,597 | 224,757 | 4,258 |
| 1998 | | 1,070 | 169,481 | 2,243 | 522,493 | 3,955 |
| 1999 | | 1,760 | 226,508 | 2,762 | 247,351 | 4,624 |
| 2000 | | 1,184 | 104,575 | 768 | 26,360 | 5,339 |
| 2001 | | 986 | 128,369 | 2,706 | 121,360 | 3,780 |
| 2002 | | 1,553 | 167,866 | 3,769 | 12,083 | 4,803 |
| 2003 | | 1,179 | 473,490 | 5,408 | 55,238 | 5,730 |
| 2004 | | 1,656 | 37,708 | 1,431 | 3,107 | 1,372 |
| 2005 | | 610 | 81,002 | 2,721 | 32,542 | 1,748 |
| 2006 | | 627 | 66,239 | 3,036 | 15,734 | 2,182 |
| 2007 | | 466 | 90,063 | 3,326 | 10,394 | 1,564 |
| 2008 | | 188 | 89,494 | 1,319 | 6,825 | 1,460 |
| 2009 [a] | | 83 | 38,220 | 968 | 2,136 | 2,274 |
| 2010 [a] | | 29 | 14,765 | 171 | 3,106 | 1,503 |
| 2011 | | 126 | 32,727 | 127 | 3,155 | 1,962 |
| 2012 | | 125 | 16,656 | 77 | 186,075 | 1,367 |
| Previous 10-yr avg. | | 509 | 94,036 | 1,858 | 31,831 | 2,116 |
| 2013 | | 374 | 66,270 | 5,368 | 35,092 | 2,950 |

*Source*: ADF&G fish ticket database.

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

Appendix A4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the English Bay weir, 2013.

| | Actual | | Anticipated | Apportioned SEG | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Projected minimum | | Projected maximum | | |
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 01 Jun | 0 | 47 | 0.0% | 1 | 1 | 3 | 3 | Weir installed on May 27. |
| 02 Jun | 0 | 47 | 0.1% | 3 | 5 | 8 | 11 | |
| 03 Jun | 1 | 48 | 0.1% | 1 | 6 | 2 | 13 | |
| 04 Jun | 0 | 48 | 0.7% | 34 | 40 | 77 | 90 | |
| 05 Jun | 0 | 48 | 1.1% | 23 | 63 | 52 | 142 | |
| 06 Jun | 0 | 48 | 2.1% | 63 | 126 | 142 | 285 | |
| 07 Jun | 0 | 48 | 3.9% | 107 | 234 | 241 | 526 | |
| 08 Jun | 0 | 48 | 7.0% | 186 | 420 | 419 | 945 | |
| 09 Jun | 0 | 48 | 7.7% | 42 | 462 | 95 | 1,041 | |
| 10 Jun | 9 | 57 | 11.8% | 247 | 710 | 556 | 1,596 | |
| 11 Jun | 77 | 134 | 15.8% | 239 | 949 | 538 | 2,134 | |
| 12 Jun | 218 | 352 | 17.1% | 78 | 1,027 | 176 | 2,311 | |
| 13 Jun | 302 | 654 | 18.0% | 50 | 1,077 | 112 | 2,423 | |
| 14 Jun | 71 | 725 | 19.0% | 64 | 1,141 | 144 | 2,567 | |
| 15 Jun | 247 | 972 | 20.1% | 66 | 1,207 | 148 | 2,715 | |
| 16 Jun | 347 | 1,319 | 21.1% | 56 | 1,262 | 125 | 2,840 | |
| 17 Jun | 201 | 1,520 | 21.8% | 46 | 1,309 | 104 | 2,945 | |
| 18 Jun | 210 | 1,730 | 22.9% | 67 | 1,375 | 150 | 3,094 | |
| 19 Jun | 210 | 1,940 | 24.3% | 83 | 1,458 | 186 | 3,280 | |
| 20 Jun | 66 | 2,006 | 27.6% | 199 | 1,657 | 448 | 3,728 | |
| 21 Jun | 16 | 2,022 | 29.7% | 126 | 1,783 | 284 | 4,011 | |
| 22 Jun | 33 | 2,055 | 32.3% | 156 | 1,939 | 350 | 4,362 | |
| 23 Jun | 51 | 2,106 | 35.9% | 216 | 2,155 | 487 | 4,849 | |
| 24 Jun | 0 | 2,106 | 39.9% | 239 | 2,394 | 538 | 5,386 | |
| 25 Jun | 37 | 2,143 | 43.5% | 212 | 2,606 | 478 | 5,864 | |
| 26 Jun | 770 | 2,913 | 46.0% | 150 | 2,757 | 338 | 6,202 | |
| 27 Jun | 1,236 | 4,149 | 49.2% | 196 | 2,952 | 440 | 6,643 | |
| 28 Jun | 1,548 | 5,697 | 55.3% | 362 | 3,315 | 815 | 7,458 | |
| 29 Jun | 829 | 6,526 | 60.7% | 324 | 3,639 | 730 | 8,187 | |
| 30 Jun | 777 | 7,303 | 64.4% | 225 | 3,864 | 507 | 8,695 | |
| 01 Jul | 644 | 7,947 | 68.1% | 220 | 4,084 | 494 | 9,189 | |
| 02 Jul | 945 | 8,892 | 71.4% | 199 | 4,283 | 447 | 9,636 | |
| 03 Jul | 227 | 9,119 | 74.5% | 185 | 4,467 | 415 | 10,051 | |
| 04 Jul | 220 | 9,339 | 76.5% | 119 | 4,587 | 269 | 10,320 | |
| 05 Jul | 208 | 9,547 | 79.4% | 175 | 4,762 | 394 | 10,714 | |
| 06 Jul | 218 | 9,765 | 81.4% | 122 | 4,884 | 274 | 10,988 | |
| 07 Jul | 208 | 9,973 | 84.3% | 175 | 5,058 | 394 | 11,382 | |
| 08 Jul | 207 | 10,180 | 86.3% | 121 | 5,179 | 271 | 11,653 | |
| 09 Jul | 106 | 10,286 | 87.8% | 90 | 5,269 | 202 | 11,855 | |
| 10 Jul | 122 | 10,408 | 89.2% | 84 | 5,353 | 189 | 12,044 | |
| 11 Jul | 263 | 10,671 | 91.7% | 151 | 5,503 | 339 | 12,383 | |
| 12 Jul | 485 | 11,156 | 93.5% | 103 | 5,607 | 232 | 12,615 | |
| 13 Jul | 214 | 11,370 | 94.3% | 51 | 5,658 | 115 | 12,730 | |

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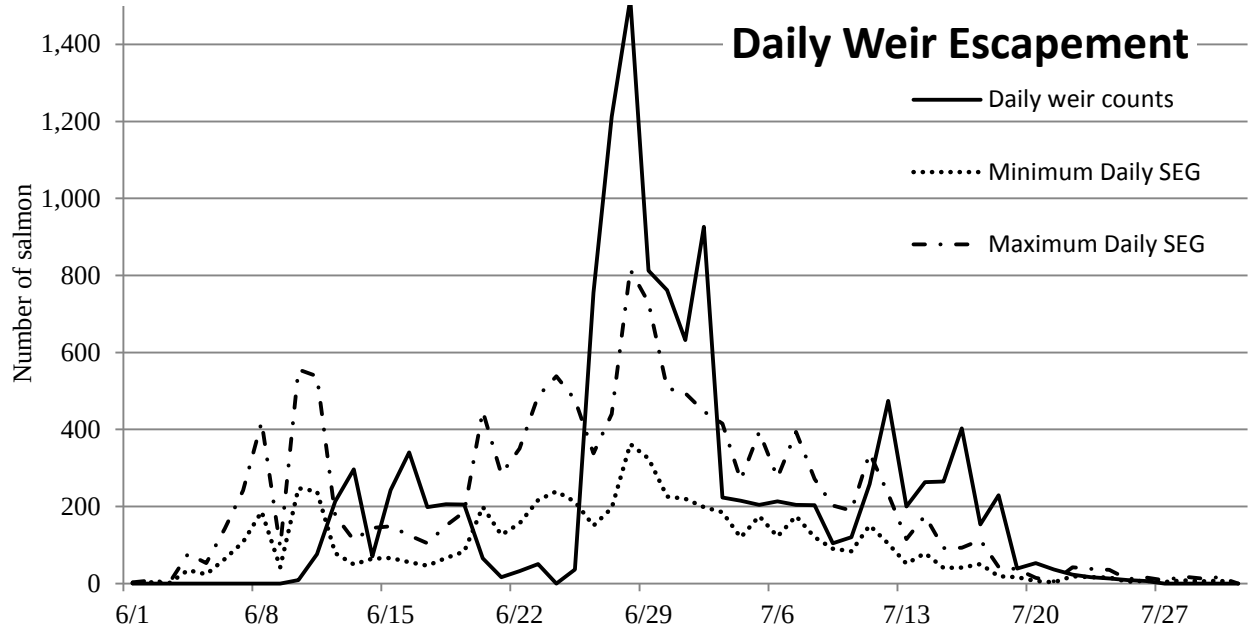
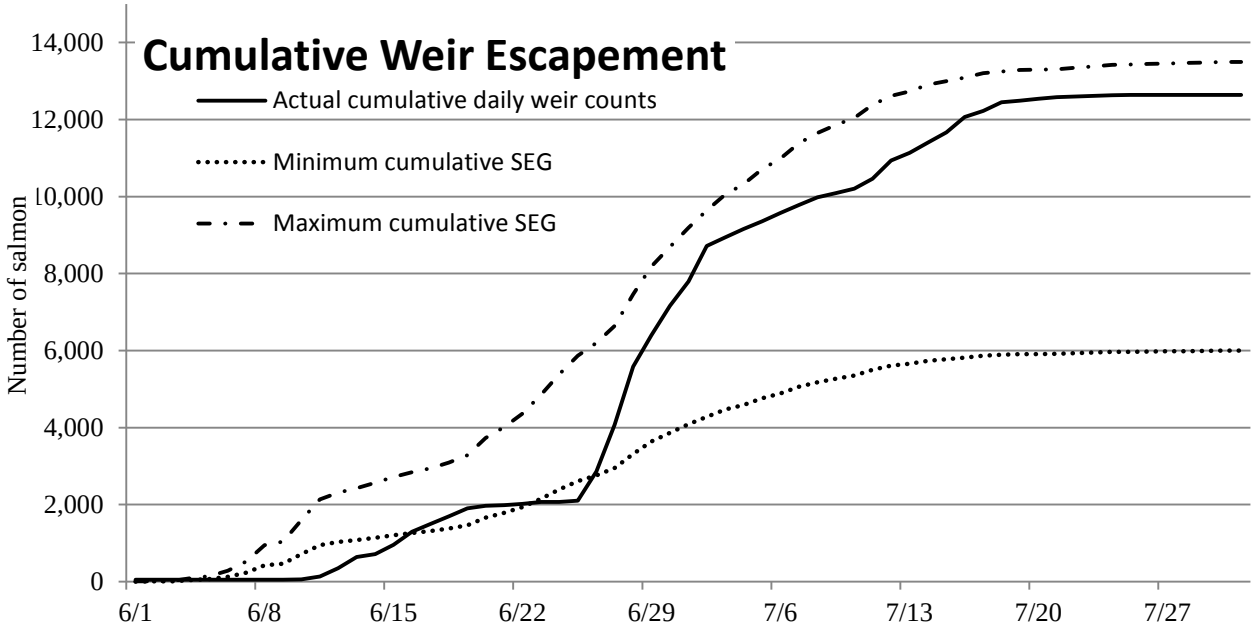
Appendix A4.–Page 2 of 2.

| | Actual | | Anticipated | Apportioned SEG | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Projected minimum | | Projected maximum | | |
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 14 Jul | 268 | 11,638 | 95.6% | 78 | 5,736 | 176 | 12,906 | |
| 15 Jul | 269 | 11,907 | 96.3% | 41 | 5,777 | 92 | 12,998 | |
| 16 Jul | 411 | 12,318 | 97.0% | 41 | 5,818 | 93 | 13,090 | |
| 17 Jul | 156 | 12,474 | 97.8% | 50 | 5,868 | 113 | 13,203 | |
| 18 Jul | 233 | 12,707 | 98.1% | 19 | 5,887 | 43 | 13,246 | |
| 19 Jul | 39 | 12,746 | 98.4% | 16 | 5,903 | 37 | 13,283 | |
| 20 Jul | 59 | 12,805 | 98.5% | 7 | 5,910 | 15 | 13,297 | |
| 21 Jul | 36 | 12,841 | 98.6% | 3 | 5,913 | 6 | 13,303 | |
| 22 Jul | 24 | 12,865 | 98.9% | 19 | 5,931 | 42 | 13,345 | |
| 23 Jul | 16 | 12,881 | 99.1% | 17 | 5,948 | 37 | 13,382 | |
| 24 Jul | 13 | 12,894 | 99.4% | 16 | 5,963 | 35 | 13,417 | |
| 25 Jul | 9 | 12,903 | 99.5% | 5 | 5,968 | 11 | 13,429 | |
| 26 Jul | 7 | 12,910 | 99.6% | 7 | 5,975 | 15 | 13,444 | |
| 27 Jul | 0 | 12,910 | 99.7% | 3 | 5,978 | 8 | 13,451 | |
| 28 Jul | 0 | 12,910 | 99.8% | 8 | 5,986 | 18 | 13,469 | |
| 29 Jul | 0 | 12,910 | 99.9% | 6 | 5,992 | 13 | 13,482 | |
| 30 Jul | 0 | 12,910 | 100.0% | 7 | 5,999 | 16 | 13,498 | |
| 31 Jul | 0 | 12,910 | 100.0% | 0 | 5,999 | 0 | 13,498 | Last report from weir crew. |

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




Appendix A5.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement through the English Bay weir, 2013.

Appendix A6.–Sockeye salmon escapement past the English Bay weir, 1927–1941 and 1993–2013.

| Year | Sustainable Escapement Goal | Total weir passage | Broodstock harvested | Harvested for otoliths | Spawning escapement |
|---|---|---|---|---|---|
| 1927 | | 19,197 | 0 | | 19,197 |
| 1928 | | 24,025 | 0 | | 24,025 |
| 1929 | | 15,407 | 0 | | 15,407 |
| 1930 | | 18,858 | 0 | | 18,858 |
| 1931 | | 18,878 | 0 | | 18,878 |
| 1932 | | 22,933 | 0 | | 22,933 |
| 1933 | | NS | 0 | | NS |
| 1934 | | NS | 0 | | NS |
| 1935 | | 15,851 | 0 | | 15,851 |
| 1936 | | 15,767 | 0 | | 15,767 |
| 1937 | | 14,857 | 0 | | 14,857 |
| 1938 | | 16,779 | 0 | | 16,779 |
| 1939 | | 48,777 | 0 | | 48,777 |
| 1940 | | 30,357 | 0 | | 30,357 |
| 1941 | | 26,905 | 0 | | 26,905 |
| | | (No weir from 1942 - 1992.) | | | |
| 1993 | 10,000-20,000 | 8,939 | 0 | | 8,939 |
| 1994 | 10,000-20,000 | 13,800 | 0 | | 13,800 |
| 1995 | 10,000-20,000 | 22,467 | 1,767 | | 20,700 |
| 1996 | 10,000-20,000 | 12,335 | 1,230 | | 11,105 |
| 1997 | 10,000-20,000 | 15,430 | 1,065 | | 14,365 |
| 1998 | 10,000-20,000 | 15,432 | 1,296 | | 14,136 |
| 1999 | 10,000-20,000 | 15,844 | 1,234 | | 14,610 |
| 2000 | 10,000-20,000 | 12,613 | 1,376 | | 11,237 |
| 2001 | 10,000-20,000 | 10,508 | 0 | | 10,508 |
| 2002 | 6,000-13,500 | 16,550 | 1,573 | | 14,977 |
| 2003 | 6,000-13,500 | 19,978 | 219 | | 19,759 |
| 2004 | 6,000-13,500 | 16,435 | 1,390 | | 15,045 |
| 2005 | 6,000-13,500 | 7,574 | 0 | | 7,574 |
| 2006 | 6,000-13,500 | 16,533 | 0 | | 16,533 |
| 2007 | 6,000-13,500 | 16,487 | 0 | | 16,487 |
| 2008 | 6,000-13,500 | 11,993 | 0 | | 11,993 |
| 2009 | 6,000-13,500 | 18,439 | 256 | | 18,183 |
| 2010 | 6,000-13,500 | 12,253 | 0 | | 12,253 |
| 2011 | 6,000-13,500 | 12,036 | 2,116 | | 9,920 |
| 2012 | 6,000-13,500 | 3,855 | 411 | | 3,444 |
| Previous 10-yr average | | 13,558 | 439 | | 13,119 |
| 2013 | 6,000-13,500 | 12,910 | 1,753 | 253 | 10,904 |

Appendix A7.–Pink and chum salmon escapements, as measured by ground survey, using area under the curve estimation in the Southern District, 2013.

| 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[b], ($A_b$) | Accum. fish days | Escape. Index[c] | Accum. Escape. Index[d] | Accum. Percent Escapement | Carcass Count | Live plus Carcass |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barabara | pink | $t_{start}$ | 6/30 | | | | | | | | | | | | |
| Creek | | 1 | 7/18 | 6/30 | 17.5 | 3,694 | 0 | 3,694 | 32,323 | 32,323 | 1,847 | 1,847 | 11% | 1 | 3,695 |
| *(Index system)* | | 2 | 7/31 | 7/18 | 13 | 7,606 | 3,694 | 11,300 | 73,450 | 105,773 | 4,197 | 6,044 | 35% | 756 | 8,362 |
| | | 3 | 9/5 | 7/31 | 36 | 2,296 | 7,606 | 9,902 | 178,236 | 284,009 | 10,185 | 16,229 | 93% | 1,773 | 4,069 |
| | | $t_{end}$ | 9/22 | | 17.5 | | | | 20,090 | 304,099 | 1,148 | 17,377 | 100% | | |
| China | pink | $t_{start}$ | 8/1 | | | | | | | | | | | | |
| Poot Creek | | 1 | 8/1 | 8/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| *(Index system)* | | 2 | 8/19 | 8/1 | 18 | 7,019 | 0 | 7,019 | 63,171 | 63,171 | 3,610 | 3,610 | 51% | 20 | 7,039 |
| | | | 9/5 | | 17.5 | | | | 61,416 | 124,587 | 3,510 | 7,119 | 100% | | |
| Humpy | pink | $t_{start}$ | 7/12 | | | | | | | | | | | | |
| Creek | | 1 | 7/12 | 7/12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| *(Index system)* | | 2 | 7/23 | 7/12 | 11 | 89 | 0 | 89 | 490 | 490 | 28 | 28 | 0% | 0 | 89 |
| | | 3 | 8/7 | 7/23 | 15 | 2,779 | 89 | 2,868 | 21,510 | 22,000 | 1,229 | 1,257 | 19% | 3 | 2,782 |
| | | 4 | 9/4 | 8/7 | 28 | 2,514 | 2,779 | 5,293 | 74,102 | 96,102 | 4,234 | 5,492 | 81% | 731 | 3,245 |
| | | $t_{end}$ | 9/21 | | 17.5 | | | | 21,998 | 118,099 | 1,257 | 6,749 | 100% | | |
| Humpy | chum | $t_{start}$ | 6/24 | | | | | | | | | | | | |
| Creek | | 1 | 7/12 | 6/24 | 17.5 | 6 | 0 | 6 | 53 | 53 | 3 | 3 | 0% | 1 | 7 |
| *(Not an index* | | 2 | 7/23 | 7/12 | 11 | 2,142 | 6 | 2,148 | 11,814 | 11,867 | 675 | 678 | 21% | 0 | 2,142 |
| *system)* | | 3 | 8/7 | 7/23 | 15 | 1,273 | 2,142 | 3,415 | 25,613 | 37,479 | 1,464 | 2,142 | 68% | 155 | 1,428 |
| | | 4 | 9/4 | 8/7 | 28 | 0 | 1,273 | 1,273 | 17,822 | 55,301 | 1,018 | 3,160 | 100% | 24 | 24 |
| | | $t_{end}$ | 9/4 | | 0 | | | | 0 | 55,301 | 0 | 3,160 | 100% | | |
| Port Graham | pink | $t_{start}$ | 6/23 | | | | | | | | | | | | |
| River | | 1 | 7/11 | 6/23 | 17.5 | 3 | 0 | 3 | 26 | 26 | 2 | 2 | 0% | 0 | 3 |
| *(Index system)* | | 2 | 7/25 | 7/11 | 14 | 11,892 | 3 | 11,895 | 83,265 | 83,291 | 4,758 | 4,760 | 44% | 1 | 11,893 |
| | | $t_{end}$ | 8/11 | | 17.5 | | | | 104,055 | 187,346 | 5,946 | 10,706 | 100% | | |

-continued-

Appendix A7.–Page 2 of 2.

| 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[b], ($A_b$) | Accum. fish days | Escape. Index[c] | Accum. Escape. Index[d] | Accum. Percent Escapement | Carcass Count | Live plus Carcass |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Port Graham | chum | $t_{start}$ | 6/23 | | | | | | | | | | | | |
| River | | 1 | 7/11 | 6/23 | 17.5 | 375 | 0 | 375 | 3,281 | 3,281 | 188 | 188 | 10% | 0 | 375 |
| *(Index system)* | | 2 | 7/25 | 7/11 | 14 | 1,785 | 375 | 2,160 | 15,120 | 18,401 | 864 | 1,052 | 54% | 33 | 1,818 |
| | | $t_{end}$ | 8/11 | | 17.5 | | | | 15,619 | 34,020 | 893 | 1,944 | 100% | | |
| Seldovia | pink | $t_{start}$ | 6/27 | | | | | | | | | | | | |
| River | | 1 | 7/15 | 6/27 | 17.5 | 406 | 0 | 406 | 3,553 | 3,553 | 203 | 203 | 1% | 0 | 406 |
| *(Index system)* | | 2 | 7/29 | 7/15 | 14 | 15,565 | 406 | 15,971 | 111,797 | 115,350 | 6,388 | 6,591 | 18% | 38 | 15,603 |
| | | 3 | 8/16 | 7/29 | 18 | 21,915 | 15,565 | 37,480 | 337,320 | 452,670 | 19,275 | 25,867 | 70% | 3,644 | 25,559 |
| | | $t_{end}$ | 9/2 | | 17.5 | | | | 191,756 | 644,426 | 10,958 | 36,824 | 100% | | |
| Seldovia | chum | $t_{start}$ | 6/27 | | | | | | | | | | | | |
| River | | 1 | 7/15 | 6/27 | 17.5 | 1,193 | 0 | 1,193 | 10,439 | 10,439 | 597 | 597 | 27% | 0 | 1,193 |
| *(Not an index* | | 2 | 7/29 | 7/15 | 14 | 997 | 1,193 | 2,190 | 15,330 | 25,769 | 876 | 1,473 | 67% | 130 | 1,127 |
| *System)* | | 3 | 8/16 | 7/29 | 18 | 200 | 997 | 1,197 | 10,773 | 36,542 | 616 | 2,088 | 95% | 194 | 394 |
| | | $t_{end}$ | 9/2 | | 17.5 | | | | 1,750 | 38,292 | 100 | 2,188 | 100% | | |
| Tutka Bay | chum | $t_{start}$ | 7/16 | | | | | | | | | | | | |
| Lagoon Creek | | 1 | 7/16 | 7/16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| *(Not an index* | | 2 | 7/26 | 7/16 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| *System)* | | 3 | 8/5 | 7/26 | 10 | 2 | 0 | 2 | 10 | 10 | 1 | 1 | 36% | 0 | 2 |
| | | $t_{end}$ | 8/22 | | 17.5 | | | | 18 | 28 | 1 | 2 | 100% | | |
| Tutka Bay | pink | $t_{start}$ | 6/28 | | | | | | | | | | | | |
| Lagoon Creek | | 1 | 7/16 | 6/28 | 17.5 | 89 | 0 | 89 | 779 | 779 | 45 | 45 | 0% | 0 | 89 |
| *(Index system)* | | 2 | 7/26 | 7/16 | 10 | 4,970 | 89 | 5,059 | 25,295 | 26,074 | 1,445 | 1,490 | 16% | 1 | 4,971 |
| | | 3 | 8/5 | 7/26 | 10 | 8,440 | 4,970 | 13,410 | 67,050 | 93,124 | 3,831 | 5,321 | 56% | 72 | 8,512 |
| | | $t_{end}$ | 8/22 | | 17.5 | | | | 73,850 | 166,974 | 4,220 | 9,541 | 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 stream-life estimate.

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

Appendix A8.–Escapement indices and harvests by subdistricts in the Southern District, Lower Cook Inlet, 2013.

| | Harvest [a] | | | | Escapement index [b] | | | | Combined harvest and escapement index counts | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum |
| North Shore Subdistrict (241-13) | 24 | 1,427 | 59 | 3 | | | | | 24 | 1,427 | 59 | 3 |
| Humpy Creek Subdistrict (241-14) | 0 | 0 | 0 | 0 | | | 6,749 | 3,160 | 0 | 0 | 6,749 | 3,160 |
| Halibut Cove Subdistrict (241-15, -08) | 19,872 | 1,121 | 28,530 | 365 | | | | | 19,872 | 1,121 | 28,530 | 365 |
| China Poot Bay Subdistrict (241-09) | 11,107 | 1,022 | 1,131 | 71 | | | 7,119 | | 11,107 | 1,022 | 8,250 | 71 |
| Neptune Bay Subdistrict (241-10) | 13,202 | 272 | 617 | 9 | | | | | 13,202 | 272 | 617 | 9 |
| Tutka Bay Subdistrict (241-16) | 28,585 | 2,681 | 190,926 | 1,059 | | | 9,541 | | 28,585 | 2,681 | 200,467 | 1,059 |
| Barabara Creek Subdistrict (241-18) | 4,893 | 385 | 0 | 367 | | | 4,069 | | 4,893 | 385 | 4,069 | 367 |
| Seldovia Bay Subdistrict (241-17) | 9,419 | 177 | 0 | 926 | | | 36,824 | 2,188 | 9,419 | 177 | 36,824 | 3,114 |
| Port Graham Subdistrict (241-20/-30) | 2,215 | 0 | 24,477 | 341 | 3,444 [c] | | 11,893 | 1,944 | 5,659 | 0 | 36,370 | 2,285 |
| Southern District total [d] | 89,317 | 7,085 | 245,740 | 3,141 | 3,444 | | 76,195 | 7,292 | 92,761 | 7,085 | 321,935 | 10,433 |

[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.

[d] Additional non-index streams where salmon were observed are also included. Therefore, cumulative escapement values in this table are greater than escapement indices that historically contribute to sustainable escapement goal ranges as shown for index streams only.

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, 1970–2013.

| | Pink salmon | | | | | | | Chum salmon |
|---|---|---|---|---|---|---|---|---|
| | Humpy Creek | China Poot Creek | Tutka Lagoon Creek | Barabara Creek | Seldovia River | Port Graham River | Total pink salmon escapement | Port Graham River |
| 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 |
| 2011 | 1.7 | 3.5 | 22.0 | 8.2 | 46.2 | 20.9 | 102.4 | 1.8 |
| 2012 | 67.9 | 8.4 | 10.4 | 1.4 | 44.7 | 34.5 | 165.9 | 0.7 |
| Previous 10-yr average | 55.2 | 5.3 | 26.6 | 9.5 | 51.5 | 29.5 | 177.7 | 1.6 |
| 2013 | 6.7 | 7.1 | 9.5 | 4.1 | 36.8 | 11.9 | 76.2 | 1.9 |

*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, 2013.

| Period | 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,b] | 7/22 | 16 | 6 | 10 | | | 31 | 176 | | | 58,715 | 157,305 | 17,338 | 127,313 |
| 2 [a,b] | 7/24 | 16 | 7 | 14 | | | 50 | 306 | | | 100,931 | 317,654 | 8,499 | 59,180 |
| 3 [a,b] | 7/26 | 16 | 9 | 17 | 1 | 4 | 8 | 54 | | | 112,436 | 389,721 | 3,130 | 22,745 |
| 4 [a,b,c] | 7/29 | 16 | 9 | 13 | | | 3 | 16 | | | 85,948 | 275,093 | 1,838 | 14,641 |
| 5 [a,b] | 7/31 | 16 | 9 | 16 | | | 6 | 31 | | | 99,197 | 326,330 | 195 | 1,357 |
| 6 [a,b,c] | 8/2 | 16 | 9 | 11 | | | 8 | 40 | | | 64,648 | 179,931 | 5,481 | 43,649 |
| 7 [a,b,c] | 8/5 | 16 | 9 | 15 | | | 4 | 16 | | | 148,200 | 432,768 | 1,984 | 15,583 |
| 8 [a,b,c] | 8/7 | 16 | 8 | 13 | | | | | | | 121,895 | 355,357 | 2,383 | 19,085 |
| 9 [a,b,c] | 8/9 | 16 | 4 | 6 | | | | | | | 81,345 | 259,153 | 387 | 2,948 |
| 10 [a,b,c] | 8/12 | 16 | 9 | 11 | | | | | | | 156,309 | 464,292 | 919 | 6,437 |
| 11 [a,c] | 8/14 | 16 | 9 | 11 | | | | | | | 179,076 | 556,986 | 6 | 38 |
| 12 [a,c] | 8/15 | 16 | 4 | 5 | | | | | | | 77,332 | 248,614 | 469 | 3,441 |
| 13 [a,c] | 8/16 | 16 | 7 | 12 | | | 8 | 56 | 10 | 70 | 110,025 | 356,262 | 685 | 5,237 |
| 14 [a,c] | 8/17 | 16 | 7 | 8 | | | | | | | 137,832 | 433,813 | 4 | 28 |
| 15 [a,c] | 8/18 | 16 | 3 | 3 | | | | | | | 42,744 | 131,499 | 10 | 97 |
| 16 [a,c,d] | 8/19 | 16 | [d] | [d] | | | | | | | [d] | | [d] | |
| 17 [a,c] | 8/20 | 16 | 8 | 15 | | | | | | | 139,516 | 430,178 | 722 | 5,100 |
| 18 [a,c,d] | 8/21 | 16 | [d] | [d] | | | | | | | [d] | | [d] | |
| 19 [a,c] | 8/22 | 16 | 4 | 4 | | | | | | | 43,771 | 131,310 | 3,261 | 24,726 |
| 20 [a,c] | 8/23 | 16 | 3 | 4 | | | | | | | 30,939 | 93,821 | 592 | 3,554 |
| 21 [a,c,d] | 8/24 | 16 | [d] | [d] | | | | | | | [d] | | [d] | |
| 22 [a,c] | 8/25 | 16 | 5 | 10 | | | | | | | 45,766 | 137,303 | | |
| 23 [a,c] | 8/26 | 16 | 4 | 4 | | | | | | | 23,578 | 69,116 | | |
| 24 [a,c] | 8/27 | 16 | 3 | 5 | | | | | | | 26,707 | 87,824 | | |
| 25 [a,c] | 8/28 | 16 | 5 | 5 | | | | | 19 | 146 | 21,565 | 64,705 | | |
| 26 [a,c] | 8/29 | 16 | 5 | 6 | | | 1 | 8 | 4 | 28 | 29,788 | 97,201 | 4 | 23 |
| 27 [a,c,e] | 8/31 | 16 | 4 | 4 | | | | | 20 | 146 | 14,412 | 43,244 | | |
| Total | | | 11 | 229 | 1 | 4 | 119 | 703 | 53 | 390 | 2,015,105 | 6,225,622 | 49,062 | 362,797 |
| Average weight | | | | | | 4.00 | | 5.96 | | 7.36 | | 3.11 | | 7.39 |

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

[a] Portions of Port Dick, Windy Bay, and Rocky Bay Subdistricts open to commercial seine harvest for regular 16-hour periods.

[b] Portions of Nuka Bay Subdistricts open to commercial seine harvest for regular 16-hour periods.

[c] Portions of Dogfish Bay Subdistrict open to commercial seine harvest.

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

[e] No deliveries reported from previous day's open fishing period or any remaining fishing periods during this fishing season.

Appendix B2.–Total commercial common property salmon harvest (excluding homepacks) in Outer District 1959–2013.

| Year | Fished | 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 |

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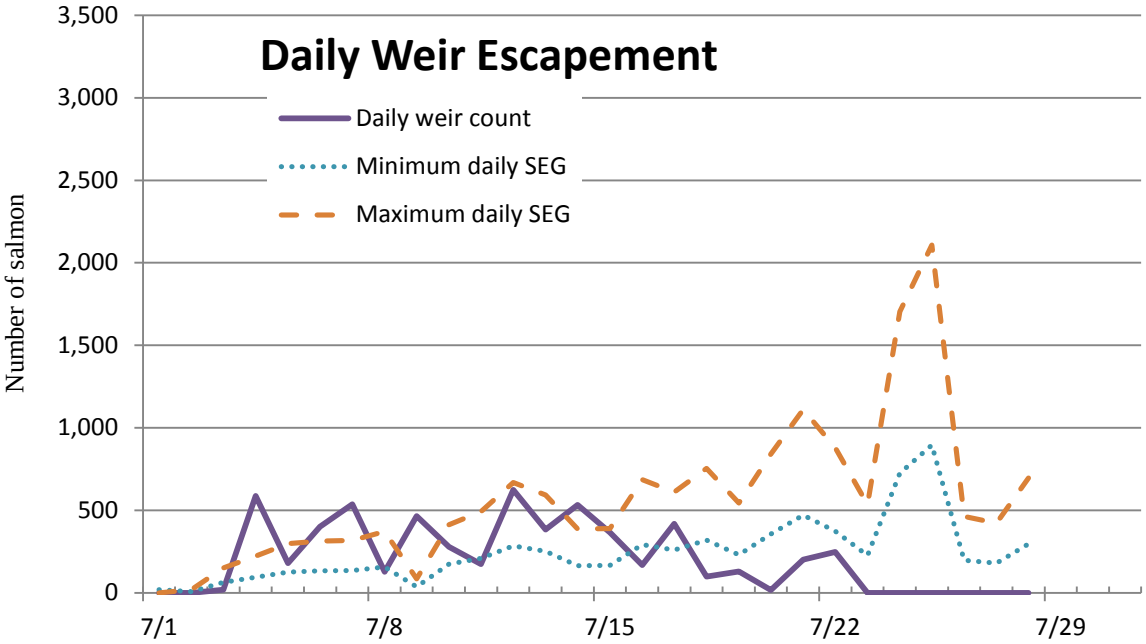
Appendix B2.–Page 2 of 2.

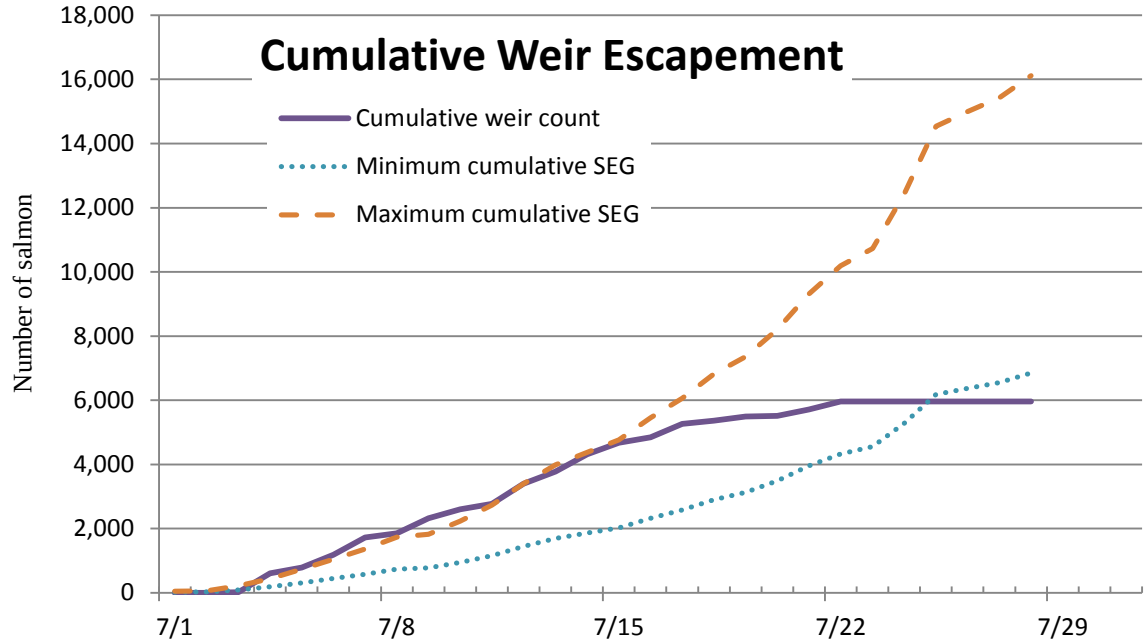
| Year | Fished | Landings | Chinook | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|---|---|
| 2003 | 6 | 21 | 1 | 26,615 | 4 | 281,663 | 137 |
| 2004 | 9 | 25 | 2 | 11,082 | 13 | 42,636 | 27,911 |
| 2005 | 5 | 20 | 0 | 1 | 3 | 110,195 | 12,524 |
| 2006 | 11 | 162 | 3 | 3,198 | 1,139 | 1,121,892 | 12,883 |
| 2007 | 5 | 31 | 1 | 32,461 | 113 | 147,409 | 49 |
| 2008 | 16 | 146 | 0 | 1,704 | 0 | 467,592 | 100,819 |
| 2009 | 11 | 150 | 1 | 8 | 9 | 853,037 | 35,126 |
| 2010 | 10 | 101 | 0 | 3,003 | 16 | 272,427 | 22,463 |
| 2011 | 13 | 106 | 10 | 46,356 | 25 | 357,472 | 25,763 |
| 2012 | 15 | 70 | 8 | 77 | 98 | 69,359 | 51,313 |
| Previous 10-yr avg. | 10 | 83 | 3 | 12,451 | 142 | 372,368 | 28,899 |
| 2013 | 11 | 229 | 1 | 119 | 53 | 2,015,105 | 49,062 |

*Source*: ADF&G fish ticket database.

Appendix B3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the Delight Lake weir, 2013.

| | | | | Apportioned SEG (7,500 17,650) | | | | |
|---|---|---|---|---|---|---|---|---|
| | Actual passage | | Antic. | Projected minimum | | Projected maximum | | |
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 03 Jul | 19 | 19 | 1.2% | 64 | 91 | 151 | 214 | Weir fish tight |
| 04 Jul | 587 | 606 | 2.5% | 95 | 186 | 223 | 437 | |
| 05 Jul | 181 | 787 | 4.2% | 127 | 312 | 298 | 735 | |
| 06 Jul | 401 | 1,188 | 5.9% | 133 | 446 | 313 | 1,048 | |
| 07 Jul | 537 | 1,725 | 7.7% | 135 | 580 | 317 | 1,366 | |
| 08 Jul | 128 | 1,853 | 9.8% | 158 | 738 | 371 | 1,737 | |
| 09 Jul | 465 | 2,318 | 10.3% | 36 | 774 | 85 | 1,822 | |
| 10 Jul | 279 | 2,597 | 12.7% | 175 | 949 | 412 | 2,234 | |
| 11 Jul | 175 [c] | 2,772 | 15.4% | 209 | 1,158 | 492 | 2,726 | |
| 12 Jul | 624 [c] | 3,396 | 19.2% | 284 | 1,443 | 669 | 3,395 | |
| 13 Jul | 384 [c] | 3,780 | 22.6% | 252 | 1,695 | 594 | 3,989 | |
| 14 Jul | 533 [c] | 4,313 | 24.8% | 165 | 1,860 | 388 | 4,376 | |
| 15 Jul | 366 | 4,679 | 27.0% | 166 | 2,025 | 390 | 4,767 | |
| 16 Jul | 169 | 4,848 | 30.9% | 292 | 2,317 | 687 | 5,453 | |
| 17 Jul | 419 | 5,267 | 34.4% | 259 | 2,576 | 610 | 6,063 | |
| 18 Jul | 99 | 5,366 | 38.6% | 321 | 2,897 | 754 | 6,818 | |
| 19 Jul | 129 | 5,495 | 41.7% | 231 | 3,128 | 544 | 7,362 | |
| 20 Jul | 18 | 5,513 | 46.5% | 357 | 3,485 | 841 | 8,203 | |
| 21 Jul | 201 | 5,714 | 52.8% | 472 | 3,957 | 1,110 | 9,312 | |
| 22 Jul | 247 | 5,961 | 57.7% | 374 | 4,331 | 879 | 10,192 | |
| 23 Jul | 0 | 5,961 | 60.8% | 227 | 4,558 | 534 | 10,726 | |
| 24 Jul | 0 | 5,961 | 70.4% | 724 | 5,282 | 1,704 | 12,430 | |
| 25 Jul | 0 | 5,961 | 82.4% | 896 | 6,177 | 2,107 | 14,537 | |
| 26 Jul | 0 | 5,961 | 85.0% | 197 | 6,374 | 463 | 15,001 | |
| 27 Jul | 0 | 5,961 | 87.4% | 179 | 6,553 | 422 | 15,422 | Weir removed for the season. |




Appendix B4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the Delight Lake weir, 2013.

Appendix B5.–Sockeye salmon escapement past the Delight and Desire Lake weirs, 1997–2013.

| Year | Desire Lake Sockeye salmon | Delight Lake Sockeye salmon |
|---|---|---|
| 1997 [a] | 14,665 | 27,820 |
| 1998 [b] | 7,880 | 9,154 |
| 1999 [c] | | 13,431 |
| 2000 [d] | | NA |
| 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 |
| 2011 [e,f] | | 16,280 |
| 2012 [e,g] | | 10,887 |
| Previous 10-yr average | | 15,277 |
| 2013 | | 5,961 |

[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 were 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.

[g] Escapement includes 430 fish that were observed in the lake during an aerial survey prior to weir installation but does not include 147 that were observed below the weir site after the weir was removed for the season.

Appendix B6.–Pink and chum salmon escapements measured by aerial survey using area under the curve estimation in Outer District, 2013.

| 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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beauty Bay | chum | $t_{start}$ | 7/27 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 7/27 | 17.5 | 1,200 | 0 | 1,200 | 10,500 | 10,500 | 600 | 600 | 14% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 4,200 | 1,200 | 5,400 | 29,700 | 40,200 | 1,697 | 2,297 | 52% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 36,750 | 76,950 | 2,100 | 4,397 | 100% | 4,200 |
| Beauty Bay | pink | $t_{start}$ | 7/27 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 7/27 | 17.5 | 1,620 | 0 | 1,620 | 14,175 | 14,175 | 810 | 810 | 2% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 38,910 | 1,620 | 40,530 | 222,915 | 237,090 | 12,738 | 13,548 | 41% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 340,463 | 577,553 | 19,455 | 33,003 | 100% | 38,910 |
| Delight Lake | pink | $t_{start}$ | 6/29 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 7/31 | 14 | 400 | 0 | 400 | 2,800 | 2,800 | 160 | 160 | 4% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 4,500 | 400 | 4,900 | 26,950 | 29,750 | 1,540 | 1,700 | 43% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 39,375 | 69,125 | 2,250 | 3,950 | 100% | 4,500 |
| Desire Lake | pink | $t_{start}$ | 7/10 | | | | | | | | | | | |
| | | 1 | 7/10 | 7/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index system)* | | 2 | 7/16 | 7/10 | 6 | 90 | 0 | 90 | 270 | 270 | 15 | 15 | 0% | |
| | | 3 | 7/23 | 7/16 | 7 | 0 | 90 | 90 | 315 | 585 | 18 | 33 | 0% | |
| | | 4 | 8/14 | 7/23 | 22 | 17,900 | 0 | 17,900 | 196,900 | 197,485 | 11,251 | 11,285 | 20% | |
| | | 5 | 8/25 | 8/14 | 11 | 49,000 | 17,900 | 66,900 | 367,950 | 565,435 | 21,026 | 32,311 | 57% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 428,750 | 994,185 | 24,500 | 56,811 | 100% | 49,000 |
| Dogfish Lagoon | chum | $t_{start}$ | 7/3 | | | | | | | | | | | |
| Creeks | | 1 | 7/21 | 7/3 | 17.5 | 2,430 | 0 | 2,430 | 21,263 | 21,263 | 1,215 | 1,215 | 19% | |
| *(Index system-* | | 2 | 7/23 | 7/21 | 2 | 4,880 | 2,430 | 7,310 | 7,310 | 28,573 | 418 | 1,633 | 26% | |
| *Used ground* | | 3 | 8/25 | 7/23 | 33 | 0 | 4,880 | 4,880 | 80,520 | 109,093 | 4,601 | 6,234 | 100% | |
| *Surveys in* | | | | | | | | | | | | | | |
| *2013)* | | $^t$end | 8/25 | | 0 | | | | 0 | 109,093 | 0 | 6,234 | 100% | 4,880 |
| Dogfish Lagoon | pink | $t_{start}$ | 7/21 | | | | | | | | | | | |
| Creeks | | 1 | 7/21 | 7/21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(not an index* | | 2 | 7/23 | 7/21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system*) | | 3 | 8/25 | 7/23 | 33 | 10,600 | 0 | 10,600 | 174,900 | 174,900 | 9,994 | 9,994 | 65% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 92,750 | 267,650 | 5,300 | 15,294 | 100% | 10,600 |

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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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Herring Pete | pink | $t_{start}$ | 7/5 | | | | | | | | | | | |
| Bay | | 1 | 7/23 | 7/5 | 17.5 | 400 | 0 | 400 | 3,500 | 3,500 | 200 | 200 | 4% | |
| *(not an index* | | 2 | 8/14 | 7/23 | 22 | 3,400 | 400 | 3,800 | 41,800 | 45,300 | 2,389 | 2,589 | 55% | |
| *system*) | | 3 | 8/25 | 8/14 | 11 | 1,300 | 3,400 | 4,700 | 25,850 | 71,150 | 1,477 | 4,066 | 86% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 11,375 | 82,525 | 650 | 4,716 | 100% | 3,400 |
| Home Cove | pink | $t_{start}$ | 8/14 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 8/14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 2,000 | 0 | 2,000 | 11,000 | 11,000 | 629 | 629 | 39% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 17,500 | 28,500 | 1,000 | 1,629 | 100% | 2,000 |
| James Lagoon | chum | $t_{start}$ | 7/13 | | | | | | | | | | | |
| Creeks | | 1 | 7/31 | 7/13 | 17.5 | 350 | 0 | 350 | 3,063 | 3,063 | 175 | 175 | 13% | |
| *(not an index* | | 2 | 8/14 | 7/31 | 14 | 10 | 350 | 360 | 2,520 | 5,583 | 144 | 319 | 25% | |
| *system*) | | 3 | 8/25 | 8/14 | 11 | 1,200 | 10 | 1,210 | 6,655 | 12,238 | 380 | 699 | 54% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 10,500 | 22,738 | 600 | 1,299 | 100% | 1,200 |
| James Lagoon | pink | $t_{start}$ | 7/13 | | | | | | | | | | | |
| Creeks | | 1 | 7/31 | 7/13 | 17.5 | 10 | 0 | 10 | 88 | 88 | 5 | 5 | 0% | |
| *(not an index* | | 2 | 8/14 | 7/31 | 14 | 14,240 | 10 | 14,250 | 99,750 | 99,838 | 5,700 | 5,705 | 23% | |
| *system*) | | 3 | 8/25 | 8/14 | 11 | 17,520 | 14,240 | 31,760 | 174,680 | 274,518 | 9,982 | 15,687 | 64% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 153,300 | 427,818 | 8,760 | 24,447 | 100% | 17,520 |
| Mike's Bay | chum | $t_{start}$ | 8/14 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 8/14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 20 | 0 | 20 | 110 | 110 | 6 | 6 | 39% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 175 | 285 | 10 | 16 | 100% | 20 |
| Mike's Bay | pink | $t_{start}$ | 7/27 | | | | | | | | | | | |
| *(not an index* | | 1 | 8/14 | 7/27 | 17.5 | 400 | 0 | 400 | 3,500 | 3,500 | 200 | 200 | 14% | |
| *system*) | | 2 | 8/25 | 8/14 | 11 | 1,410 | 400 | 1,810 | 9,955 | 13,455 | 569 | 769 | 52% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 12,338 | 25,793 | 705 | 1,474 | 100% | 1,410 |

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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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Petrof River | chum | $t_{start}$ | 6/22 | | | | | | | | | | | |
| | | 1 | 7/10 | 6/22 | 17.5 | 40 | 0 | 40 | 350 | 350 | 20 | 20 | 4% | |
| *(not an index* | | 2 | 7/16 | 7/10 | 6 | 20 | 40 | 60 | 180 | 530 | 10 | 30 | 6% | |
| *system*) | | 3 | 7/23 | 7/16 | 7 | 240 | 20 | 260 | 910 | 1,440 | 52 | 82 | 16% | |
| | | 4 | 8/14 | 7/23 | 22 | 0 | 240 | 240 | 2,640 | 4,080 | 151 | 233 | 46% | |
| | | 5 | 8/25 | 8/14 | 11 | 330 | 0 | 330 | 1,815 | 5,895 | 104 | 337 | 67% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 2,888 | 8,783 | 165 | 502 | 100% | 330 |
| Petrof River | pinks | $t_{start}$ | 7/10 | | | | | | | | | | | |
| | | 1 | 7/10 | 7/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(not an index* | | 2 | 7/16 | 7/10 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system*) | | 3 | 7/23 | 7/16 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 4 | 8/14 | 7/23 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 5 | 8/25 | 8/14 | 11 | 11,100 | 0 | 11,100 | 61,050 | 61,050 | 3,489 | 3,489 | 39% | |
| | | $t_{end}$ | 9/11 | | 17.5 | | | | 97,125 | 158,175 | 5,550 | 9,039 | 100% | 11,100 |
| Port Dick- | chum | $t_{start}$ | 6/20 | | | | | | | | | | | |
| head end creek | | 1 | 7/8 | 6/20 | 17.5 | 80 | 0 | 80 | 700 | 700 | 40 | 40 | 2% | |
| | | 2 | 7/10 | 7/8 | 2 | 400 | 80 | 480 | 480 | 1,180 | 27 | 67 | 3% | |
| *(Index system-* | | 3 | 7/15 | 7/10 | 5 | 2,430 | 400 | 2,830 | 7,075 | 8,255 | 404 | 472 | 18% | |
| *Used ground* | | 4 | 7/16 | 7/15 | 1 | 800 | 2,430 | 3,230 | 1,615 | 9,870 | 92 | 564 | 22% | |
| *Surveys in 2013)* | | 5 | 7/23 | 7/16 | 7 | 1,000 | 800 | 1,800 | 6,300 | 16,170 | 360 | 924 | 36% | |
| | | 6 | 7/30 | 7/23 | 7 | 2,290 | 1,000 | 3,290 | 11,515 | 27,685 | 658 | 1,582 | 62% | |
| | | 7 | 8/14 | 7/30 | 15 | 0 | 2,290 | 2,290 | 17,175 | 44,860 | 981 | 2,563 | 100% | |
| | | $t_{end}$ | 8/14 | | 0 | | | | 0 | 44,860 | 0 | 2,563 | 100% | 2,430 |

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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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Port Dick- | pink | $t_{start}$ | 7/8 | | | | | | | | | | | |
| head end creek | | 1 | 7/8 | 7/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/10 | 7/8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index system-* | | 3 | 7/15 | 7/10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *Used ground* | | 4 | 7/16 | 7/15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *Surveys in 2013)* | | 5 | 7/23 | 7/16 | 7 | 5,000 | 0 | 5,000 | 17,500 | 17,500 | 1,000 | 1,000 | 2% | |
| | | 6 | 7/30 | 7/23 | 7 | 1,710 | 5,000 | 6,710 | 23,485 | 40,985 | 1,342 | 2,342 | 6% | |
| | | 7 | 8/14 | 7/30 | 15 | 42,510 | 1,710 | 44,220 | 331,650 | 372,635 | 18,951 | 21,293 | 50% | |
| | | $^t$end | 8/31 | | 17.5 | | | | 371,963 | 744,598 | 21,255 | 42,548 | 100% | 42,510 |
| Port Dick- | chum | $t_{start}$ | | | | | | | | | | | | |
| island creek | | 1 | 7/8 | 7/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/10 | 7/8 | 2 | 80 | 0 | 80 | 80 | 80 | 5 | 5 | 0% | |
| *(Index system-* | | 3 | 7/15 | 7/10 | 5 | 950 | 80 | 1,030 | 2,575 | 2,655 | 147 | 152 | 4% | |
| *Used ground* | | 4 | 7/16 | 7/15 | 1 | 600 | 950 | 1,550 | 775 | 3,430 | 44 | 196 | 6% | |
| *Surveys in 2013)* | | 5 | 7/23 | 7/16 | 7 | 3,400 | 600 | 4,000 | 14,000 | 17,430 | 800 | 996 | 28% | |
| | | 6 | 7/30 | 7/23 | 7 | 2,900 | 3,400 | 6,300 | 22,050 | 39,480 | 1,260 | 2,256 | 64% | |
| | | 7 | 8/14 | 7/30 | 15 | 0 | 2,900 | 2,900 | 21,750 | 61,230 | 1,243 | 3,499 | 100% | |
| | | $^t$end | 8/14 | | 0 | | | | 0 | 61,230 | 0 | 3,499 | 100% | 3,400 |
| Port Dick- | pink | $t_{start}$ | 7/8 | | | | | | | | | | | |
| island creek | | 1 | 7/8 | 7/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/10 | 7/8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index system-* | | 3 | 7/15 | 7/10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *Used ground* | | 4 | 7/16 | 7/15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *Surveys in 2013)* | | 5 | 7/23 | 7/16 | 7 | 400 | 0 | 400 | 1,400 | 1,400 | 80 | 80 | 1% | |
| | | 6 | 7/30 | 7/23 | 7 | 200 | 400 | 600 | 2,100 | 3,500 | 120 | 200 | 4% | |
| | | 7 | 8/14 | 7/30 | 15 | 5,700 | 200 | 5,900 | 44,250 | 47,750 | 2,529 | 2,729 | 49% | |
| | | $^t$end | 8/31 | | 17.5 | | | | 49,875 | 97,625 | 2,850 | 5,579 | 100% | 5,700 |

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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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Port Dick- | chum | $t_{start}$ | 6/22 | | | | | | | | | | | |
| Middle Creek | | 1 | 7/10 | 7/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/15 | 7/10 | 5 | 320 | 0 | 320 | 800 | 800 | 46 | 46 | 7% | |
| *(not an index)* | | 3 | 7/16 | 7/15 | 1 | 30 | 320 | 350 | 175 | 975 | 10 | 56 | 9% | |
| *system*) | | 4 | 7/23 | 7/16 | 7 | 0 | 30 | 30 | 105 | 1,080 | 6 | 62 | 10% | |
| | | 5 | 7/30 | 7/23 | 7 | 450 | 0 | 450 | 1,575 | 2,655 | 90 | 152 | 24% | |
| | | 6 | 8/14 | 7/30 | 15 | 300 | 450 | 750 | 5,625 | 8,280 | 321 | 473 | 76% | |
| | | [t]end | 8/31 | | 17.5 | | | | 2,625 | 10,905 | 150 | 623 | 100% | 450 |
| Port Dick- | pink | $t_{start}$ | 6/22 | | | | | | | | | | | |
| Middle Creek | | 1 | 7/10 | 6/22 | 17.5 | 400 | 0 | 400 | 3,500 | 3,500 | 200 | 200 | 8% | |
| | | 2 | 7/15 | 7/10 | 5 | 10 | 400 | 410 | 1,025 | 4,525 | 59 | 259 | 10% | |
| *(not an index* | | 3 | 7/16 | 7/15 | 1 | 0 | 10 | 10 | 5 | 4,530 | 0 | 259 | 10% | |
| *system*) | | 4 | 7/23 | 7/16 | 7 | 0 | 0 | 0 | 0 | 4,530 | 0 | 259 | 10% | |
| | | 5 | 7/30 | 7/23 | 7 | 200 | 0 | 200 | 700 | 5,230 | 40 | 299 | 11% | |
| | | 6 | 8/14 | 7/30 | 15 | 2,400 | 200 | 2,600 | 19,500 | 24,730 | 1,114 | 1,413 | 54% | |
| | | [t]end | 8/31 | | 17.5 | | | | 21,000 | 45,730 | 1,200 | 2,613 | 100% | 2,400 |
| Port Dick- | chum | $t_{start}$ | 6/22 | | | | | | | | | | | |
| Slide Creek | | 1 | 7/10 | 6/22 | 17.5 | 140 | 0 | 140 | 1,225 | 1,225 | 70 | 70 | 6% | |
| | | 2 | 7/15 | 7/10 | 5 | 420 | 140 | 560 | 1,400 | 2,625 | 80 | 150 | 13% | |
| *(not an index* | | 3 | 7/23 | 7/15 | 8 | 610 | 420 | 1,030 | 4,120 | 6,745 | 235 | 385 | 34% | |
| *system*) | | 4 | 7/30 | 7/23 | 7 | 910 | 610 | 1,520 | 5,320 | 12,065 | 304 | 689 | 60% | |
| | | [t]end | 8/16 | | 17.5 | | | | 7,963 | 20,028 | 455 | 1,144 | 100% | 910 |
| Port Dick- | pink | $t_{start}$ | 7/23 | | | | | | | | | | | |
| Slide Creek | | 1 | 7/23 | 7/23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/31 | 7/23 | 8 | 510 | 0 | 510 | 2,040 | 2,040 | 117 | 117 | 1% | |
| *(not an index* | | 3 | 8/14 | 7/31 | 14 | 3,300 | 510 | 3,810 | 26,670 | 28,710 | 1,524 | 1,641 | 20% | |
| *system*) | | 4 | 8/25 | 8/14 | 11 | 6,710 | 3,300 | 10,010 | 55,055 | 83,765 | 3,146 | 4,787 | 59% | |
| | | [t]end | 9/11 | | 17.5 | | | | 58,713 | 142,478 | 3,355 | 8,142 | 100% | 6,710 |

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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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rocky River | chum | $t_{start}$ | 7/8 | | | | | | | | | | | |
| | | 1 | 7/8 | 7/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index system)* | | 2 | 7/23 | 7/8 | 15 | 3,090 | 0 | 3,090 | 23,175 | 23,175 | 1,324 | 1,324 | 16% | |
| | | 3 | 7/31 | 7/23 | 8 | 5,200 | 3,090 | 8,290 | 33,160 | 56,335 | 1,895 | 3,219 | 40% | |
| | | 4 | 8/25 | 7/31 | 25 | 1,000 | 5,200 | 6,200 | 77,500 | 133,835 | 4,429 | 7,648 | 94% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 8,750 | 142,585 | 500 | 8,148 | 100% | 5,200 |
| Rocky River | pink | $t_{start}$ | 7/8 | | | | | | | | | | | |
| | | 1 | 7/8 | 7/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index system-* | | 2 | 7/23 | 7/8 | 15 | 10,130 | 0 | 10,130 | 75,975 | 75,975 | 4,341 | 4,341 | 6% | |
| *used ground* | | 3 | 7/31 | 7/23 | 8 | 22,120 | 10,130 | 32,250 | 129,000 | 204,975 | 7,371 | 11,713 | 16% | |
| *Surveys in* | | | | | | | | | | | | | | |
| *2013)* | | 4 | 8/25 | 7/31 | 25 | 39,100 | 22,120 | 61,220 | 765,250 | 970,225 | 43,729 | 55,441 | 74% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 342,125 | 1,312,350 | 19,550 | 74,991 | 100% | 39,100 |
| South Nuka | pink | $t_{start}$ | 7/23 | | | | | | | | | | | |
| Island Creek | | 1 | 7/23 | 7/23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/31 | 7/23 | 8 | 510 | 0 | 510 | 2,040 | 2,040 | 117 | 117 | 1% | |
| *(Index system)* | | 3 | 8/14 | 7/31 | 14 | 3,300 | 510 | 3,810 | 26,670 | 28,710 | 1,524 | 1,641 | 20% | |
| | | 4 | 8/25 | 8/14 | 11 | 6,710 | 3,300 | 10,010 | 55,055 | 83,765 | 3,146 | 4,787 | 59% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 58,713 | 142,478 | 3,355 | 8,142 | 100% | 6,710 |
| Taylor Bay | pink | $t_{start}$ | 7/23 | | | | | | | | | | | |
| Creek | | 1 | 7/23 | 7/23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(not an index* | | 2 | 7/30 | 7/23 | 7 | 300 | 0 | 300 | 1,050 | 1,050 | 60 | 60 | 0% | |
| *system*) | | 3 | 8/25 | 7/30 | 26 | 26,100 | 300 | 26,400 | 343,200 | 344,250 | 19,611 | 19,671 | 60% | |
| | | $^t$end | 9/11 | | 17.5 | | | | 228,375 | 572,625 | 13,050 | 32,721 | 100% | 26,100 |
| Windy Bay- | chum | $t_{start}$ | 7/15 | | | | | | | | | | | |
| Left Creek | | 1 | 7/15 | 7/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(not an index* | | 2 | 7/23 | 7/15 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system*) | | 3 | 7/31 | 7/23 | 8 | 100 | 0 | 100 | 400 | 400 | 23 | 23 | 24% | |
| | | 4 | 8/25 | 7/31 | 25 | 0 | 100 | 100 | 1,250 | 1,650 | 71 | 94 | 100% | |
| | | $^t$end | 8/25 | | 0 | | | | 0 | 1,650 | 0 | 94 | 100% | **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 Escapement | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Windy Bay- | pink | $t_{start}$ | 6/27 | | | | | | | | | | | |
| Left Creek | | 1 | 7/15 | 6/27 | 17.5 | 300 | 0 | 300 | 2,625 | 2,625 | 150 | 150 | 0% | |
| | | 2 | 7/23 | 7/15 | 8 | 3,100 | 300 | 3,400 | 13,600 | 16,225 | 777 | 927 | 2% | |
| *(Index system)* | | 3 | 7/31 | 7/23 | 8 | 3,400 | 3,100 | 6,500 | 26,000 | 42,225 | 1,486 | 2,413 | 5% | |
| | | 4 | 8/25 | 7/31 | 25 | 32,700 | 3,400 | 36,100 | 451,250 | 493,475 | 25,786 | 28,199 | 63% | |
| | | [t]end | 9/11 | | 17.5 | | | | 286,125 | 779,600 | 16,350 | 44,549 | 100% | 32,700 |

*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 stream-life estimate.

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

Appendix B7.–Pink and chum salmon escapements measured by ground survey using area under the curve estimation in Outer District, 2013.

| Location | Species | Survey number | Survey date ($t_i$) | Previous survey date ($t_i$-1) | Days between surveys ($t_i$-$t_{i-1}$) | Current live count, ($c_i$) | Previous live count ($c_{i-1}$) | Previous + current live count ($c_i$+$c_{i-1}$) | Fish days[a], ($A_b$) | Accum. fish days, ($A_b$) | Escape. index[b] | Accum. Escape. Index[c] | Accum. Percent Escape. | Carcass Count | Live plus Carcass |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dogfish | chum | $t_{start}$ | 7/12 | | | | | | | | | | | | |
| Lagoon Creeks | | 1 | 7/30 | 7/12 | 17.5 | 4,136 | 0 | 4,136 | 36,190 | 36,190 | 2,068 | 2,068 | 22% | 353 | 4,489 |
| *(Index* | | 2 | 8/22 | 7/30 | 23 | 3,901 | 4,136 | 8,037 | 92,426 | 128,616 | 5,281 | 7,349 | 79% | 2,215 | 6,116 |
| *system)* | | $^t$end | 9/8 | | 17.5 | | | | 34,134 | 162,749 | 1,951 | 9,300 | 100% | | |
| Dogfish | pink | $t_{start}$ | 7/12 | | | | | | | | | | | | |
| Lagoon Creeks | | 1 | 7/30 | 7/12 | 17.5 | 1,494 | 0 | 1,494 | 13,073 | 13,073 | 747 | 747 | 3% | 21 | 1,515 |
| *(Not an index* | | 2 | 8/22 | 7/30 | 23 | 21,362 | 1,494 | 22,856 | 262,844 | 275,917 | 15,020 | 15,767 | 60% | 3,271 | 24,633 |
| *system)* | | $^t$end | 9/8 | | 17.5 | | | | 186,918 | 462,834 | 10,681 | 26,448 | 100% | | |
| Port | | | | | | | | | | | | | | | |
| Chatham | chum | $t_{start}$ | 7/26 | | | | | | | | | | | | |
| Creeks | | 1 | 8/13 | 7/26 | 17.5 | 41 | 0 | 41 | 359 | 359 | 21 | 21 | 55% | 6 | 47 |
| *(Not an index* | | 2 | 8/21 | 8/13 | 8 | 10 | 41 | 51 | 204 | 204 | 12 | 32 | 87% | 16 | 26 |
| *system)* | | $^t$end | 9/7 | | 17.5 | | | | 88 | 650 | 5 | 37 | 100% | | |
| Port | | | | | | | | | | | | | | | |
| Chatham | pink | $t_{start}$ | 7/26 | | | | | | | | | | | | |
| Creeks | | 1 | 8/13 | 7/26 | 17.5 | 6,003 | 0 | 6,003 | 52,526 | 52,526 | 3,002 | 3,002 | 9% | 235 | 6,238 |
| *(Index* | | 2 | 8/21 | 8/13 | 8 | 41,156 | 6,003 | 47,159 | 188,636 | 241,162 | 10,779 | 13,781 | 40% | 16,291 | 57,447 |
| *system)* | | $^t$end | 9/7 | | 17.5 | | | | 360,115 | 601,277 | 20,578 | 34,359 | 100% | | |
| Port Dick- | chum | $t_{start}$ | 6/22 | | | | | | | | | | | | |
| Headend | | 1 | 7/10 | 6/22 | 17.5 | 1,066 | 0 | 1,066 | 9,328 | 9,328 | 533 | 533 | 13% | 0 | 1,066 |
| Creek | | 2 | 7/24 | 7/10 | 14 | 3,055 | 1,066 | 4,121 | 28,847 | 38,175 | 1,648 | 2,181 | 53% | 35 | 3,090 |
| *(Index* | | 3 | 8/14 | 7/24 | 21 | 108 | 3,055 | 3,163 | 33,212 | 71,386 | 1,898 | 4,079 | 99% | 705 | 813 |
| *system)* | | $^t$end | 8/31 | | 17.5 | | | | 945 | 72,331 | 54 | 4,133 | 100% | | |
| Port Dick- | pink | $t_{start}$ | 6/22 | | | | | | | | | | | | |
| Headend | | 1 | 7/10 | 6/22 | 17.5 | 289 | 0 | 289 | 2,529 | 2,529 | 145 | 145 | 0% | 0 | 289 |
| Creek | | 2 | 7/24 | 7/10 | 14 | 5,520 | 289 | 5,809 | 40,663 | 43,192 | 2,324 | 2,468 | 4% | 0 | 5,520 |
| *(Index* | | 3 | 8/14 | 7/24 | 21 | 45,498 | 5,520 | 51,018 | 535,689 | 578,881 | 30,611 | 33,079 | 59% | 491 | 45,989 |
| *system)* | | $^t$end | 8/31 | | 17.5 | | | | 398,108 | 976,988 | 22,749 | 55,828 | 100% | | |
| Port Dick- | chum | $t_{start}$ | 7/4 | | | | | | | | | | | | |
| Island Creek | | 1 | 7/22 | 7/4 | 17.5 | 5,090 | 0 | 5,090 | 44,538 | 44,538 | 2,545 | 2,545 | 29% | 2 | 5,092 |
| *(Index* | | 2 | 8/15 | 7/22 | 24 | 2,308 | 5,090 | 7,398 | 88,776 | 133,314 | 5,073 | 7,618 | 87% | 665 | 2,973 |
| *system)* | | $^t$end | 9/1 | | 17.5 | | | | 20,195 | 153,509 | 1,154 | 8,772 | 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 | $t_{start}$ | 7/4 | | | | | | | | | | | | |
| Island Creek | | 1 | 7/22 | 7/4 | 17.5 | 39 | 0 | 39 | 341 | 341 | 20 | 20 | 0% | 0 | 39 |
| *(Index* | | 2 | 8/15 | 7/22 | 24 | 21,892 | 39 | 21,931 | 263,172 | 263,513 | 15,038 | 15,058 | 58% | 75 | 21,967 |
| *system)* | | $^t$end | 9/1 | | 17.5 | | | | 191,555 | 455,068 | 10,946 | 26,004 | 100% | | |
| Port Dick- | chum | $t_{start}$ | 6/22 | | | | | | | | | | | | |
| Slide Creek | | 1 | 7/10 | 6/22 | 17.5 | 293 | 0 | 293 | 2,564 | 2,564 | 147 | 147 | 5% | 0 | 293 |
| *(Not an index* | | 2 | 7/24 | 7/10 | 14 | 1,969 | 293 | 2,262 | 15,834 | 18,398 | 905 | 1,051 | 36% | 5 | 1,974 |
| *system)* | | 3 | 8/14 | 7/24 | 21 | 595 | 1,969 | 2,564 | 26,922 | 45,320 | 1,538 | 2,590 | 90% | 864 | 1,459 |
| | | $^t$end | 8/31 | | 17.5 | | | | 5,206 | 50,526 | 298 | 2,887 | 100% | | |
| Port Dick- | pink | $t_{start}$ | 6/22 | | | | | | | | | | | | |
| Slide Creek | | 1 | 7/10 | 7/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| *(Not an index* | | 2 | 7/24 | 7/10 | 14 | 11 | 0 | 11 | 77 | 77 | 4 | 4 | 0% | 0 | 11 |
| *system)* | | 3 | 8/14 | 7/24 | 21 | 3,129 | 11 | 3,140 | 32,970 | 33,047 | 1,884 | 1,888 | 55% | 68 | 3,197 |
| | | $^t$end | 8/31 | | 17.5 | | | | 27,379 | 60,426 | 1,565 | 3,453 | 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 stream-life estimate.

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

Appendix B8.–Sockeye salmon aerial survey counts from the Outer District, 2013.

| Location | Survey number | Survey date | Live count | Peak count |
|---|---|---|---|---|
| Delusion Lake | 1 | 06/29/13 | 30 | |
| | 2 | 07/08/13 | 50 | |
| | 3 | 07/10/13 | 1 | |
| | 4 | 07/16/13 | 360 | |
| | 5 | 07/23/13 | 1,680 | |
| | 6 | 08/25/13 | 500 | 1,680 |
| Desire Lake | 1 | 06/29/13 | 1,455 | |
| | 2 | 07/08/13 | 2,030 | |
| | 3 | 07/10/13 | 3,620 | |
| | 4 | 07/16/13 | 3,190 | |
| | 5 | 07/23/13 | 4,510 | |
| | 6 | 08/14/13 | 8,400 | |
| | 7 | 08/25/13 | 4,900 | 8,400 |
| Delight Lake | 1 | 06/29/13 | 695 | |
| | 2 | 07/08/13 | 2,991 | |
| | 3 | 07/10/13 | 2,730 | |
| | 4 | 07/16/13 | 1,570 | |
| | 5 | 07/23/13 | 3,430 | |
| | 6 | 07/31/13 | 1,351 | |
| | 7 | 08/14/13 | 3,430 | |
| | 8 | 08/25/13 | 2,530 | 3,430 |

Appendix B9.–Escapement indices and harvests by subdistricts in the Outer District, Lower Cook Inlet, 2013.

| | Harvest [a] | | | | Escapement index [b] | | | | Combined harvest and escapement index counts | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum |
| Dogfish Bay Subdistrict (232-01) | | | 89,033 | 14,924 | | | 26,448 | 9,300 | | | 115,481 | 24,224 |
| Port Chatham Subdist. (232-02) | 4 | | 251,955 | 1,129 | | | 57,447 | 47 | 4 | | 309,402 | 1,176 |
| Chugach Bay Subdistrict (232-03) | | | | | | | | | | | | |
| Windy Bay Subdistrict (232-04) | 1 | | 259,294 | 1,328 | | | 59,553 | 600 | 1 | | 318,847 | 1,928 |
| Rocky Bay Subdistrict (232-05) | | | 3,766 | 2,042 | | | 75,791 | 8,148 | | | 79,557 | 10,190 |
| Outer Port Dick Subdist. (232-06) | | | 15,188 | | | | | | | | 15,188 | |
| Port Dick South Subdist. (232-07) | 30 | | 536,118 | 10,693 | | | 55,828 | 4,133 | 30 | | 591,946 | 14,826 |
| Port Dick North Subdist. (232-09) | 36 | 53 | 832,993 | 17,695 | | | 32,070 | 12,282 | 36 | 53 | 865,063 | 29,977 |
| Taylor Bay Subdistrict (232-08) | | | | | | | | | | | | |
| Port Dick area subtotal | 66 | 53 | 1,388,065 | 30,430 | | | 87,898 | 16,415 | 66 | 53 | 1,475,963 | 46,845 |
| E. Side Gore Pt. Subdist. (232-10) | | | | | | | | | | | | |
| Nuka Island Subdistrict (232-15) | 48 | | 20,060 | 1,251 | | | 64,526 | 522 | 48 | | 84,586 | 1,773 |
| East Nuka Subdistrict (232-23) | | | | | 16,041 | 1,490 | 91,678 | 1,299 | 16,041 | 1,490 | 91,678 | 1,299 |
| Outer District total[c] | 119 | 53 | 2,008,407 | 49,062 | 16,041 | | | 36,331 | 16,160 | 1,543 | 2,471,748 | 85,393 |

[a] Unexpanded aerial or ground survey index count, or weir count. Also includes non-index streams.

[b] Additional non-index streams where salmon were observed are also included. Therefore cumulative escapement values in this table are greater than escapement indices that historically contribute to SEG ranges as shown for index streams only.

[c] Harvests include all commercial and subsistence harvests.

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, 1970–2013.

| | 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 | 19.5 | | 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 | 18.5 | | 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 | 41.4 | | 2.0 | 6.5 | 8.5 |
| 1976 | | | 0.2 | 0.2 | 2.7 | 12.7 | | | 0.6 | | 16.4 | 3 | 12 | 1.5 | 1 | 17.5 | | 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 | 41.4 | | 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 | 42.1 | | 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 | 45.6 | | 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 | 21.7 | | 25.0 | 18.0 | 43.0 |
| 1983 | 1.0 | 3.5 | 4.3 | 11.9 | 16.6 | 64.1 | 15.3 | | 8.5 | 5.1 | 124.2 | 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 | 40.4 | | 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 | 17.5 | | 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 | 14.8 | | 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 | 21.5 | | 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 | 25.7 | | 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 | 15 | | 7.7 | 9.0 | 16.7 |
| 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 | 12 | | 5.2 | 9.5 | 14.7 |
| 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 | 12 | | 4.1 | 8.2 | 12.3 |
| 1992 | | 4.3 | 3.9 | 8.2 | 25.4 | 6.9 | 12.5 | 6.1 | 0.4 | 0.4 | 67.7 | 0.8 | 1.7 | 5.4 | 6.7 | 2.4 | | 5.9 | 11.9 | 17.8 |
| 1993 | 0.3 | 22.2 | 13.6 | 25.9 | 70.0 | 37.0 | 12.1 | 34.3 | 19.3 | 3.3 | 234.4 | 5.4 | 0.1 | 2.5 | 3.6 | 34 | | 5.6 | 11.0 | 16.6 |
| 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 | 16.5 | | 5.6 | 10.5 | 16.1 |
| 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 | 21.9 | | 15.8 | 15.8 | 31.6 |
| 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 | 24.5 | | 7.7 | 9.4 | 17.1 |

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| | 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 |
| 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 | 47.2 | | 27.8[b] | 14.7 | 42.5 |
| 1998 | 6.7 | 22.2 | 19.5 | 12.9 | 165.0 | 59.1 | 83.6 | 14.0 | 6.2 | | 382.5 | 9.8 | 0.7 | 1.8 | 3.4 | 31.2 | | 9.2[b] | 7.9 | 17.1 |
| 1999 | 12.4 | 10.7 | 5.2 | 24.0 | 17.2 | 8.5 | 8.6 | 2.4 | 6.8 | | 83.4 | 19 | 5.4 | 2.9 | 16 | 28.1 | | 17.0[d] | 14.6 | 31.6 |
| 2000 | 11.1 | 16.7 | 23.0 | 20.1 | 131.6 | 124.4 | 70.8 | 13.6 | 21.1 | 3.9 | 421.3 | 20 | 4.2 | 3.4 | 12 | 13 | | 12.3 | 4.0 | 16.3 |
| 2001 | 2.0 | 17.9 | 10.3 | 61.8 | 73.0 | 44.7 | 81.8 | 20.7 | 67.5 | 2.3 | 377.7 | 6.1 | 3 | 1.8 | 6.3 | 17.2 | 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 | 43.4 | 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 | 40.7 | 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 | 44.5 | 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 | 34.3 | 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 | 12.4 | 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 | 34.7 | 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 | 21.8 | 1.3 | 12.7[c] | 16.0 | 30.0 |
| 2010 | 6.3 | 3.0 | 6.4 | 24.2 | 27.0 | 41.1 | 69.5 | | 3.0 | | 174.3 | 12.7 | 1.3 | 2.4 | 3.4 | 19.8 | 0.6 | 23.8[c] | 6.3 | 30.7 |
| 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 | 36.3 | 1.8 | 20.2[c] | 9.6 | 31.6 |
| 2012 | 11.4 | 5.4 | 5.8 | 11.7 | 15.7 | 18.1 | 20.1 | 0.5 | 2.2 | 0.0 | 79.4 | 8.8 | 3.1 | 8.4 | 14.9 | 35.2 | | 10.9[c] | 8.8 | 19.7 |
| 10yr avg. | 8.2 | 21.0 | 13.4 | 45.0 | 112.8 | 49.1 | 56.8 | 12.9 | 28.1 | 0.2 | 339.1 | 7.5 | 5.7 | 6.0 | 11.3 | 30.5 | 1.4 | 17.6 | 10.4 | 29.4 |
| 2013 | 26.4 | 57.4 | 11.7 | 47.8 | 75.8 | 55.8 | 26.0 | 8.4 | 56.9 | 24.4 | 340.0 | 9.3 | 8.1 | 4.1 | 8.8 | 30.4 | 1.7 | 6.0[c] | 8.4 | 16.0 |

[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, 2013.

| | | Permits | | | Chinook | | Sockeye | | Coho | | Pink | | Chum | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period | Date | Hours | Fished | Landings | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds |
| 1 | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | |
| Total | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average weight | | | | | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |

No commercial common property fishery in 2013.

Appendix C2.–Historic commercial common property and derby commercial sales harvest (excluding homepacks) by species in the Eastern District, 1959–2013.

| | | 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 |

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Appendix C2.–Page 2 of 2.

| | | Commercial Common property harvest | | | | | Derby sales |
|---|---|---|---|---|---|---|---|
| Year | Permits | Chinook | Sockeye | Coho | Pink | Chum | Coho |
| 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 |
| 2011 | 16 | 0 | 56,111 | 0 | 24 | 112 | 1,207 |
| 2012 | 0 | 0 | 0 | 0 | 0 | 0 | 1,400 |
| 10 year average | | | | | | | 2,463 |
| 2013 | 0 | 0 | 0 | 0 | 0 | 0 | 1,380 |

*Source:* ADF&G fish ticket database.

Appendix C3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement through the Bear Creek weir, 2013.

| | Actual Escapement to Bear Lake | | | Anticipated SEG plus CIAA brood goal [a] | | | | Actual weir donations[b] | | Actual weir cost recovery | | Actual Total sockeye at Bear Creek weir | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Antic. | Minimum | | Maximum | | | | | | | |
| Date | Daily | Total | percent | Daily | Total | Daily | | Daily | Total | Daily | Total | Daily | Total |
| 6/1 | 0 | 0 | 0.4% | 10 | 28 | 21 | 61 | | | | | 0 | 0 |
| 6/2 | 0 | 0 | 0.8% | 21 | 49 | 45 | 107 | | | | | 0 | 0 |
| 6/3 | 0 | 0 | 0.8% | 3 | 52 | 7 | 113 | | | | | 0 | 0 |
| 6/4 | 0 | 0 | 1.1% | 18 | 70 | 40 | 154 | | | | | 0 | 1 |
| 6/5 | 0 | 0 | 1.4% | 19 | 89 | 41 | 195 | | | | | 1 | 1 |
| 6/6 | 21 | 21 | 1.7% | 21 | 110 | 46 | 241 | | | | | 21 | 22 |
| 6/7 | 144 | 165 | 2.2% | 30 | 140 | 66 | 307 | | | | | 144 | 166 |
| 6/8 | 109 | 274 | 2.6% | 23 | 162 | 50 | 356 | | | | | 109 | 275 |
| 6/9 | 79 | 353 | 3.3% | 46 | 209 | 101 | 457 | | | | | 79 | 354 |
| 6/10 | 294 | 647 | 3.9% | 41 | 249 | 89 | 547 | | | | | 294 | 648 |
| 6/11 | 233 | 880 | 4.7% | 51 | 301 | 112 | 659 | | | | | 233 | 881 |
| 6/12 | 193 | 1,073 | 5.5% | 50 | 350 | 109 | 768 | | | | | 193 | 1,074 |
| 6/13 | 195 | 1,268 | 6.4% | 56 | 406 | 123 | 891 | | | | | 195 | 1,269 |
| 6/14 | 410 | 1,678 | 7.6% | 76 | 482 | 167 | 1,058 | | | | | 410 | 1,679 |
| 6/15 | 352 | 2,030 | 9.2% | 102 | 584 | 223 | 1,281 | | | | | 352 | 2,031 |
| 6/16 | 520 | 2,550 | 10.9% | 109 | 693 | 240 | 1,520 | 13 | 13 | | | 533 | 2,564 |
| 6/17 | 745 | 3,295 | 13.3% | 154 | 847 | 338 | 1,858 | 16 | 29 | | | 761 | 3,325 |
| 6/18 | 554 | 3,849 | 15.4% | 132 | 979 | 290 | 2,148 | 30 | 59 | | | 584 | 3,909 |
| 6/19 | 492 | 4,341 | 17.4% | 132 | 1,111 | 289 | 2,437 | 0 | 59 | | | 492 | 4,401 |
| 6/20 | 335 | 4,676 | 20.4% | 188 | 1,299 | 413 | 2,849 | 29 | 88 | | | 364 | 4,765 |
| 6/21 | 517 | 5,193 | 22.9% | 158 | 1,457 | 347 | 3,196 | 29 | 117 | | | 546 | 5,311 |
| 6/22 | 511 | 5,704 | 25.6% | 175 | 1,632 | 384 | 3,580 | 18 | 135 | | | 529 | 5,840 |
| 6/23 | 649 | 6,353 | 28.5% | 186 | 1,819 | 408 | 3,988 | 44 | 179 | | | 693 | 6,533 |
| 6/24 | 1,064 | 7,417 | 31.4% | 181 | 2,000 | 398 | 4,386 | 0 | 179 | | | 1,064 | 7,597 |
| 6/25 | 1,202 | 8,619 | 34.1% | 174 | 2,174 | 382 | 4,768 | 53 | 232 | | | 1,255 | 8,852 |
| 6/26 | 869 | 9,488 | 36.2% | 131 | 2,305 | 287 | 5,054 | 0 | 232 | | | 869 | 9,721 |
| 6/27 | 635 | 10,123 | 39.1% | 186 | 2,490 | 407 | 5,461 | 168 | 400 | | | 803 | 10,524 |
| 6/28 | 473 | 10,596 | 41.9% | 178 | 2,668 | 390 | 5,851 | 0 | 400 | 362 | 362 | 835 | 11,359 |
| 6/29 | 416 | 11,012 | 45.2% | 213 | 2,881 | 467 | 6,318 | 67 | 467 | | 362 | 483 | 11,842 |
| 6/30 | 284 | 11,296 | 49.1% | 245 | 3,126 | 537 | 6,855 | 20 | 487 | 266 | 628 | 570 | 12,412 |
| 7/1 | 494 | 11,790 | 53.2% | 261 | 3,387 | 572 | 7,428 | 50 | 537 | 199 | 827 | 743 | 13,155 |
| 7/2 | 183 | 11,973 | 57.6% | 281 | 3,668 | 616 | 8,044 | 0 | 537 | | 827 | 183 | 13,338 |
| 7/3 | 141 | 12,114 | 61.8% | 267 | 3,935 | 585 | 8,629 | 46 | 583 | | 827 | 187 | 13,525 |
| 7/4 | 70 | 12,184 | 65.3% | 226 | 4,160 | 495 | 9,124 | 0 | 583 | | 827 | 70 | 13,595 |
| 7/5 | 105 | 12,289 | 68.6% | 212 | 4,372 | 465 | 9,589 | 41 | 624 | 243 | 1,070 | 389 | 13,984 |
| 7/6 | 131 | 12,420 | 71.0% | 148 | 4,520 | 325 | 9,914 | 43 | 667 | | 1,070 | 174 | 14,158 |
| 7/7 | 112 | 12,532 | 74.0% | 192 | 4,712 | 421 | 10,335 | 45 | 712 | | 1,070 | 157 | 14,315 |
| 7/8 | 78 | 12,610 | 77.2% | 207 | 4,919 | 453 | 10,788 | 30 | 742 | 128 | 1,198 | 236 | 14,551 |
| 7/9 | 0 | 12,610 | 80.1% | 184 | 5,103 | 404 | 11,192 | 30 | 772 | | 1,198 | 30 | 14,581 |
| 7/10 | 0 | 12,610 | 83.3% | 201 | 5,304 | 441 | 11,633 | 0 | 772 | | 1,198 | 0 | 14,581 |
| 7/11 | 0 | 12,610 | 85.5% | 139 | 5,443 | 304 | 11,937 | 0 | 772 | 362 | 1,560 | 362 | 14,943 |
| 7/12 | 0 | 12,610 | 86.8% | 83 | 5,527 | 183 | 12,120 | 0 | 772 | 226 | 1,786 | 226 | 15,169 |
| 7/13 | 0 | 12,610 | 88.2% | 93 | 5,619 | 204 | 12,324 | 21 | 793 | | 1,786 | 21 | 15,190 |
| 7/14 | 0 | 12,610 | 89.3% | 69 | 5,688 | 152 | 12,475 | 16 | 809 | | 1,786 | 16 | 15,206 |
| 7/15 | 0 | 12,610 | 89.9% | 39 | 5,727 | 85 | 12,560 | 40 | 849 | 247 | 2,033 | 287 | 15,493 |
| 7/16 | 0 | 12,610 | 90.7% | 50 | 5,777 | 110 | 12,670 | 21 | 870 | | 2,033 | 21 | 15,514 |
| 7/17 | 0 | 12,610 | 91.3% | 41 | 5,818 | 89 | 12,759 | 15 | 885 | | 2,033 | 15 | 15,529 |

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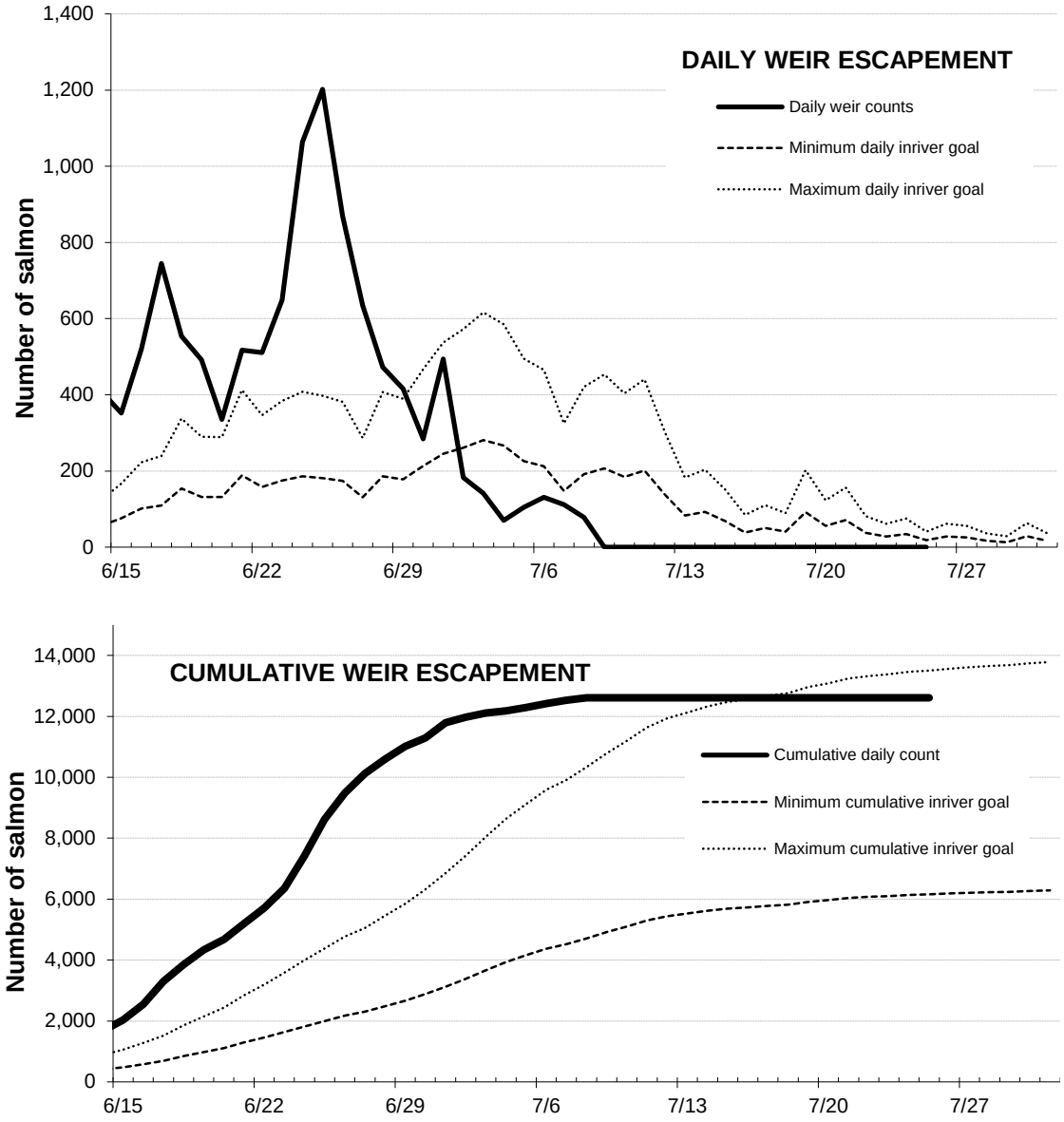
Appendix C3.–Page 2 of 2.

| | Actual Escapement to Bear Lake | | | Anticipated SEG plus CIAA brood goal [a] | | | | Actual weir donations[b] | | Actual weir cost recovery | | Actual Total sockeye at Bear Creek weir | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Antic. | Minimum | | Maximum | | | | | | | |
| Date | Daily | Total | percent | Daily | Total | Daily | Total | Daily | Total | Daily | Total | Daily | Total |
| 7/18 | 0 | 12,610 | 92.8% | 92 | 5,910 | 202 | 12,961 | 103 | 988 | | 2,033 | 103 | 15,632 |
| 7/19 | 0 | 12,610 | 93.7% | 56 | 5,966 | 123 | 13,084 | 22 | 1,010 | | 2,033 | 22 | 15,654 |
| 7/20 | 0 | 12,610 | 94.8% | 71 | 6,037 | 156 | 13,240 | 24 | 1,034 | | 2,033 | 24 | 15,678 |
| 7/21 | 0 | 12,610 | 95.4% | 37 | 6,074 | 82 | 13,322 | 28 | 1,062 | | 2,033 | 28 | 15,706 |
| 7/22 | 0 | 12,610 | 95.8% | 28 | 6,103 | 61 | 13,383 | 28 | 1,090 | | 2,033 | 28 | 15,734 |
| 7/23 | 0 | 12,610 | 96.3% | 34 | 6,137 | 75 | 13,458 | 39 | 1,129 | | 2,033 | 39 | 15,773 |

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

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

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



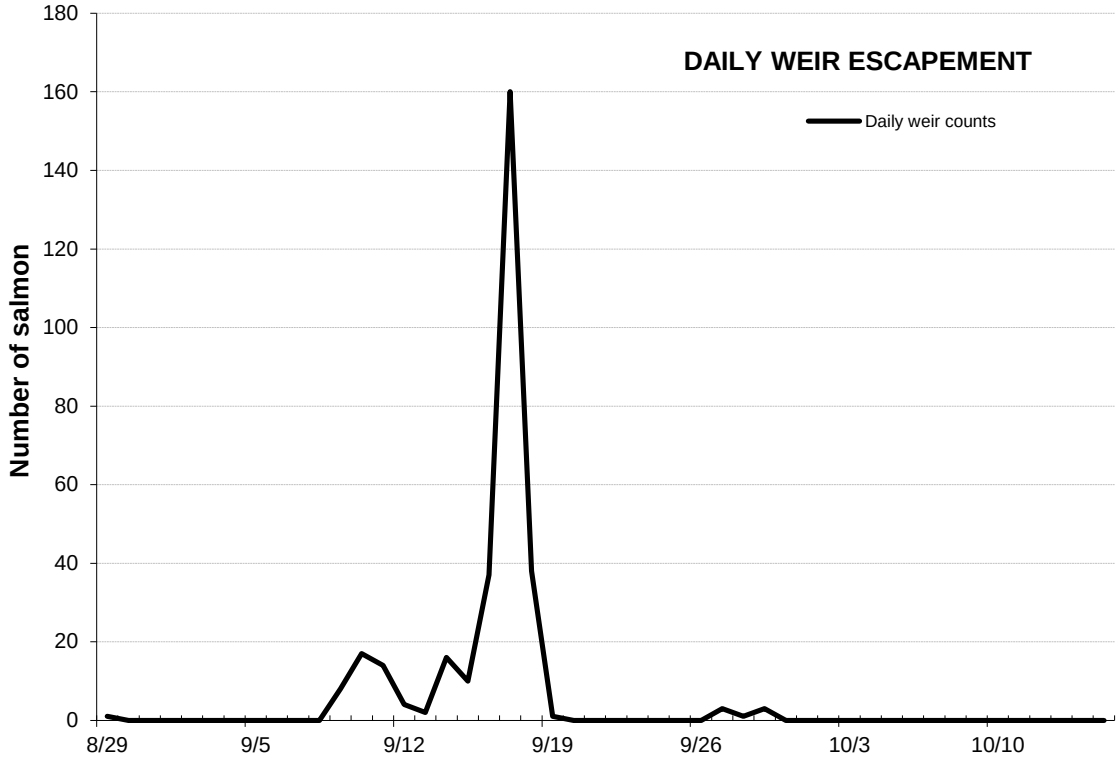

*Note:* A total of 15,773 sockeye salmon returned to the Bear Creek weir in 2013. Of those, 12,610 were passed through the weir into Bear Lake. An additional 3,162 were harvested at the weir for cost recovery or donated (jacks) to the public. A total of 3,606 were harvested from Bear Lake for use as hatchery broodstock. Total estimated natural spawning escapement is estimated at 9,004 fish. "Inriver goal" is the sustainable escapement goal range (700–8,300) added to the CIAA hatchery broodstock goal (4,258) for this species.

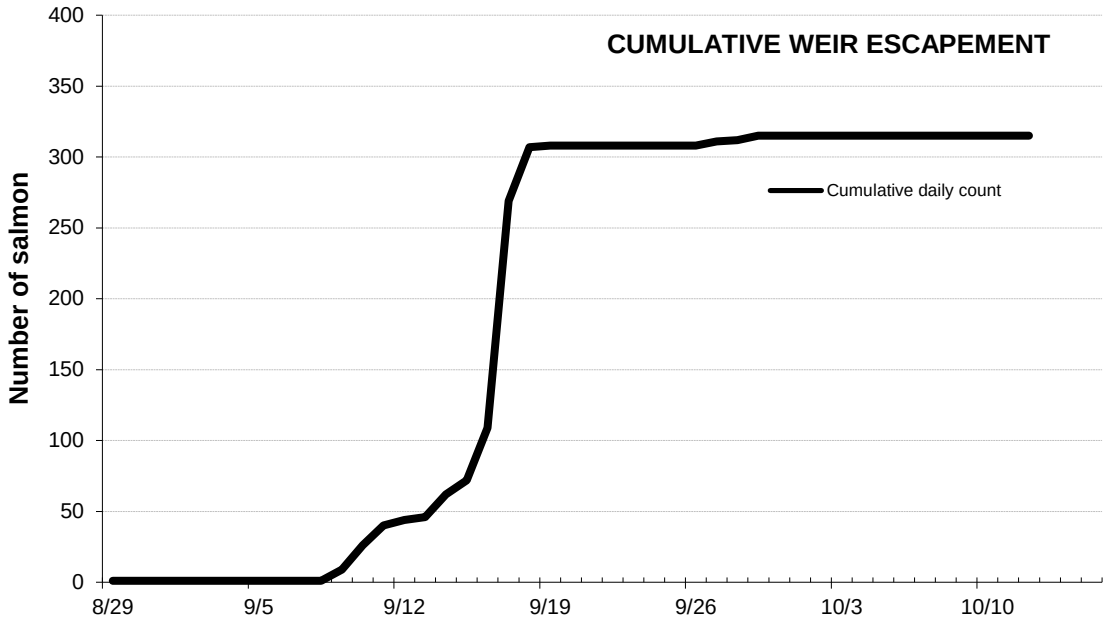
Appendix C4.–Sockeye salmon passage past Bear Creek weir versus minimum and maximum inriver goals, 2013.

Appendix C5.–Coho salmon escapement through the Bear Creek weir, 2013.

| | Escapement to Bear Lake | | Antic. | Weir Harvest[a] | | Cumulative coho at Bear Creek weir | | |
|---|---|---|---|---|---|---|---|---|
| Date | Daily | Total | percent | Daily | Total | Daily | Total | Comments |
| 30 Aug | 10 | 10 | 0.3% | | | 10 | 10 | |
| 31 Aug | 12 | 22 | 0.3% | | | 12 | 22 | |
| 01 Sep | 26 | 48 | 0.4% | | | 26 | 48 | |
| 02 Sep | 6 | 54 | 0.5% | | | 6 | 54 | |
| 03 Sep | 15 | 69 | 0.6% | | | 15 | 69 | |
| 04 Sep | 30 | 99 | 0.7% | | | 30 | 99 | |
| 05 Sep | 52 | 151 | 0.7% | 47 | 47 | 99 | 198 | |
| 06 Sep | 62 | 213 | 1.1% | | 47 | 62 | 260 | |
| 07 Sep | 73 | 286 | 1.4% | | 47 | 73 | 333 | |
| 08 Sep | 14 | 300 | 2.0% | | 47 | 14 | 347 | |
| 09 Sep | | 300 | 2.5% | | 47 | | 347 | |
| 10 Sep | | 300 | 2.8% | | 47 | | 347 | |
| 11 Sep | | 300 | 3.8% | 78 | 125 | 78 | 425 | |
| 12 Sep | | 300 | 4.1% | | 125 | | 425 | |
| 13 Sep | | 300 | 5.0% | 220 | 345 | 220 | 645 | |
| 14 Sep | | 300 | 6.6% | 207 | 552 | 207 | 852 | |
| 15 Sep | | 300 | 7.4% | 211 | 763 | 211 | 1,063 | |
| 16 Sep | | 300 | 9.1% | 252 | 1,015 | 252 | 1,315 | |
| 17 Sep | | 300 | 12.1% | 252 | 1,267 | 252 | 1,567 | |
| 18 Sep | | 300 | 14.3% | 211 | 1,478 | 211 | 1,778 | |
| 19 Sep | | 300 | 16.4% | 220 | 1,698 | 220 | 1,998 | |
| 20 Sep | | 300 | 18.3% | 103 | 1,801 | 103 | 2,101 | |
| 21 Sep | | 300 | 19.4% | 12 | 1,813 | 12 | 2,113 | |
| 22 Sep | | 300 | 20.8% | 54 | 1,867 | 54 | 2,167 | |
| 23 Sep | | 300 | 22.1% | 8 | 1,875 | 8 | 2,175 | |
| 24 Sep | | 300 | 25.2% | | 1,875 | | 2,175 | |
| 25 Sep | | 300 | 27.9% | | 1,875 | | 2,175 | |
| 26 Sep | | 300 | 30.3% | 98 | 1,973 | 98 | 2,273 | |
| 27 Sep | | 300 | 33.4% | 2 | 1,975 | 2 | 2,275 | |
| 28 Sep | | 300 | 35.8% | 198 | 2,173 | 198 | 2,473 | |
| 29 Sep | | 300 | 40.1% | 10 | 2,183 | 10 | 2,483 | |
| 30 Sep | | 300 | 43.1% | | 2,183 | | 2,483 | |
| 01 Oct | | 300 | 47.2% | | 2,183 | | 2,483 | |
| 02 Oct | | 300 | 52.8% | | 2,183 | | 2,483 | |
| 03 Oct | | 300 | 57.3% | | 2,183 | | 2,483 | |
| 04 Oct | | 300 | 62.6% | 156 | 2,339 | 156 | 2,639 | |
| 05 Oct | | 300 | 66.7% | 47 | 2,386 | 47 | 2,686 | |
| 06 Oct | | 300 | 72.3% | | 2,386 | | 2,686 | |
| 07 Oct | | 300 | 75.0% | | 2,386 | | 2,686 | |
| 08 Oct | | 300 | 76.9% | | 2,386 | | 2,686 | |
| 09 Oct | | 300 | 80.6% | | 2,386 | | 2,686 | |
| 10 Oct | | 300 | 83.7% | 210 | 2,596 | 210 | 2,896 | |
| 11 Oct | | 300 | 86.4% | 251 | 2,847 | 251 | 3,147 | |
| 12 Oct | | 300 | 90.2% | | 2,847 | | 3,147 | |
| 13 Oct | | 300 | 91.0% | | 2,847 | | 3,147 | |
| 14 Oct | | 300 | 91.9% | | 2,847 | | 3,147 | |
| 15 Oct | | 300 | 93.3% | | 2,847 | | 3,147 | Weir closed for the season |

[a] A total of 498 fish were harvested for broodstock, 118 were sampled for otoliths, 234 were used by ADF&G as broodstock for educational programs, and 1,997 were donated to the public.




Appendix C6.–Coho salmon passage past the Bear Creek weir, 2013.

Appendix C7.–Adult sockeye and coho salmon escapement, and Dolly Varden char and smolt outmigrations past Bear Creek weir, 1992–2013.

| | Upstream migration to Bear Lake | | | | | | | | Downstream migration to Resurrection Bay | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sockeye | | | | Coho | | | | | | | |
| Year | Weir harvest, (sold or donated) | Brood stock harvest | Spawning escapement | Return at weir | Weir harvest, (sold or donated) | Brood stock harvest | Spawning escapement | Return at weir | Sockeye (smolt) | Coho (smolt) | Dolly Varden (adult) | Comments |
| 1992 | 0 | 0 | 1,925 | 1,925 | 1,234 | 689 | 1,132 | 3,055 | 133,787 | 112,852 | 2,186 | Est. 800 coho below weir after closure. |
| 1993 | 1,663 | 218 | 4,827 | 6,708 | 7,199 | 678 | 794 | 8,671 | 345,767 | 53,495 | 378 | 5,000 pink salmon below weir. |
| 1994 | 8,047 | 1,370 | 7,335 | 16,752 | 4,927 | 1,038 | 475 | 6,440 | 253,886 | 54,422 | 627 | Est. 300 coho below weir after closure. |
| 1995 | 20,869 | 1,808 | 6,526 | 29,203 | 1,125 | 1,726 | 444 | 3,295 | 73,500 | 89,200 | 278 | |
| 1996 | 7,945 | 1,813 | 6,199 | 15,957 | 723 | 608 | 380 | 1,711 | 156,000 | 154,900 | 406 | Est. 3,600 coho below weir after closure. |
| 1997 | 10,051 | 720 | 7,225 | 17,996 | | 598 | 276 | 874 | 276,000 | 114,100 | 630 | Est. 750 coho below weir after closure. |
| 1998 | 21,020 | 2,272 | 6,155 | 29,447 | 9,862 | 780 | 350 | 11,023 | 107,800 | 92,200 | 1,203 | Coho reported below weir after closure. |
| 1999 | 9,146 | 1,982 | 5,833 | 17,439 | 2,499 | 939 | 368 | 3,812 | 75,800 | 106,800 | 2,212 | 23 coho below weir after closure. |
| 2000 | 1,670 | 3,984 | 7,844 | 13,716 | 5,390 | 719 | 597 | 6,765 | 175,000 | 70,900 | 2,195 | Est. 200 coho below weir after closure. |
| 2001 | 3,558 | 4,195 | 8,606 | 16,364 | 1,754 | 644 | 495 | 2,893 | 387,500 | 101,400 | 1,168 | Est. 20 coho below weir after closure. |
| 2002 | 2,722 | 4,226 | 8,278 | 15,227 | 1,745 | 864 | 875 | 3,484 | 107,200 | 94,200 | 1,168 | |
| 2003 | 2,776 | 3,735 | 9,498 | 16,010 | 2,065 | 1,021 | 395 | 3,506 | 1,326,476 | 208,120 | 231 | |
| 2004 | 0 | 3,725 | 8,198 | 11,923 | 1,224 | 876 | 572 | 2,672 | 123,213 | 73,397 | 158 | |
| 2005 | 31,905 | 3,122 | 10,285 | 45,312 | 1,536 | 808 | 546 | 2,947 | 1,420,428 | 65,448 | 51 | |
| 2006 | 30,651 | 4,060 | 8,338 | 43,049 | 681 | 892 | 516 | 2,089 | 1,962,415 | 49,980 | 95 | |
| 2007 | 7,250 | 4,265 | 8,575 | 20,090 | 0 | 727 | 386 | 1,113 | 1,347,874 | 78,891 | 64 | |
| 2008 | 3,706 | 4,172 | 9,264 | 17,142 | 403 | 697 | 368 | 1,467 | 308,459 | 63,943 | 60 | |
| 2009 | 32,515 | 2,954 | 10,364 | 45,833 | 0 | 529 | 535 | | 241,106 | 54,829 | 44 | 181 coho below weir after closure. |
| 2010 | 2,943 | 4,004 | 8,880 | 15,827 | 248 | 490 | 492 | 1,230 | 598,911 | 48,867 | 349 | |

-continued-

Appendix C7.–Page 2 of 2.

| | Upstream migration to Bear Lake | | | | | | | | Downstream migration to Resurrection Bay | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sockeye | | | | Coho | | | | | | | |
| Year | Weir harvest, (sold or donated) | Brood stock harvest | Spawning escapement | Return at weir | Weir harvest, (sold or donated) | Brood stock harvest | Spawning escapement | Return at weir | Sockeye (smolt) | Coho (smolt) | Dolly varden (adult) | Comments |
| 2011 | 4,894 | 3,612 | 9,608 | 18,114 | 0 | 491 | 359 | 850 | 477,844 | 40,433 | 2,681 | |
| 2012 | 1,802 | 4,428 | 8,031 | 14,381 | 31 | 578 | 315 | 924 | 466,990 | 45,936 | 1,425 | 4,000 pink salmon below weir. |
| Prev 10yr average | 11,844 | 3,808 | 9,104 | 24,768 | 619 | 711 | 448 | 1,866 | 827,372 | 72,984 | 516 | |
| 2013 | 3,162 | 3,606 | 9,004 | 15,772 | 2,044 | 1,103 | 300 | 3,447 | 791,705 | 36,219 | 759 | |

*Source*: Data from CIAA (1992–2013).

Appendix C8.–Sockeye salmon aerial survey counts from the Eastern District, 2013.

| Location | Survey number | Survey date | Live count | Peak count |
|---|---|---|---|---|
| Aialik Lake and creek | 1 | 7/23/13 | 1,940 | |
| | 2 | 7/31/13 | 3,530 | |
| | 3 | 8/25/13 | 252 | 3,530 |

Appendix C9.–Pink and chum salmon escapements using area under the curve estimation in the Eastern District, 2013.

| Location | Species | Survey no. | Survey date ($t_i$) | Previous survey date ($t_i$-1) | Days between surveys | Current live count, ($c_i$) | Previous live count ($c_{i-}$ | Previous + current live count | Fish days[a], ($A_b$) | Accum. fish days, | Escape. index[b] | Accum. Escape. Index[c] | Accum. Percent Escape. | Carcass Count | Live plus Carcass |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bear Creek | pink | $t_{start}$ | 8/11 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/29 | 8/11 | 17.5 | 5,700 | 0 | 5,700 | 49,875 | 49,875 | 2,850 | 2,850 | 50% | 2,425 | 8,125 |
| *system)* | | | 9/15 | | 17.5 | | | | 49,875 | 99,750 | 2,850 | 5,700 | 100% | | |
| Bear Creek | coho | $t_{start}$ | 8/11 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/29 | 8/11 | 17.5 | 2 | 0 | 2 | 18 | 18 | 1 | 1 | 50% | 0 | 2 |
| *system)* | | | 9/15 | | 17.5 | | | | 18 | 35 | 1 | 2 | 100% | | |
| Day Harbor | chum | $t_{start}$ | 6/23 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 7/10 | 6/23 | 17.5 | 255 | 0 | 255 | 2,231 | 2,231 | 128 | 128 | 50% | 0 | 255 |
| *system)* | | | 9/15 | | 17.5 | | | | 2,231 | 4,463 | 128 | 255 | 100% | | |
| Humpy Cove | pink | $t_{start}$ | 8/11 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/28 | 8/10 | 17.5 | 1,450 | 0 | 1,450 | 12,688 | 12,688 | 725 | 725 | 50% | 333 | 1,783 |
| *system)* | | | 9/15 | | 17.5 | | | | 12,688 | 25,375 | 725 | 1,450 | 100% | | |
| Mayor Creek | pink | $t_{start}$ | 8/9 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/9 | 17.5 | 1,209 | 0 | 1,209 | 10,579 | 10,579 | 605 | 605 | 50% | 222 | 1,431 |
| *system)* | | | 9/13 | | 17.5 | | | | 10,579 | 21,158 | 605 | 1,209 | 100% | | |
| Mayor Creek | chum | $t_{start}$ | 8/27 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100% | 1 | 1 |
| *system)* | | | 8/27 | | 0 | | | | 0 | 0 | 0 | 0 | 100% | | |
| Sawmill Creek | chum | $t_{start}$ | 8/9 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/9 | 17.5 | 79 | 0 | 79 | 691 | 691 | 40 | 40 | 50% | 17 | 96 |
| *system)* | | | 9/13 | | 17.5 | | | | 691 | 1,383 | 40 | 79 | 100% | | |
| Sawmill Creek | pink | $t_{start}$ | 8/9 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/9 | 17.5 | 353 | 0 | 353 | 3,089 | 3,089 | 177 | 177 | 50% | 76 | 429 |
| *system)* | | | 9/13 | | 17.5 | | | | 3,089 | 6,178 | 177 | 353 | 100% | | |
| Spring Creek | chum | $t_{start}$ | 8/9 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/9 | 17.5 | 20 | 0 | 20 | 175 | 175 | 10 | 10 | 50% | 12 | 32 |
| *system)* | | | 9/13 | | 17.5 | | | | 175 | 350 | 10 | 20 | 100% | | |
| Spring Creek | pink | $t_{start}$ | 8/9 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/27 | 8/9 | 17.5 | 1,452 | 0 | 1,452 | 12,705 | 12,705 | 726 | 726 | 50% | 50 | 1,502 |
| *system)* | | | 9/13 | | 17.5 | | | | 12,705 | 25,410 | 726 | 1,452 | 100% | | |

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Appendix C9.–Page 2 of 2.

| Location | Species | Survey no. | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thumb Cove | chum | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/28 | 8/10 | 17.5 | 7 | 0 | 7 | 61 | 61 | 4 | 4 | 50% | 2 | 9 |
| *system)* | | | 9/14 | | 17.5 | | | | 61 | 123 | 4 | 7 | 100% | | |
| Thumb Cove | pink | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/28 | 8/10 | 17.5 | 546 | 0 | 546 | 4,778 | 4,778 | 273 | 273 | 50% | 91 | 637 |
| *system)* | | | 9/14 | | 17.5 | | | | 4,778 | 9,555 | 273 | 546 | 100% | | |
| Tonsina Ck. | chum | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/28 | 8/10 | 17.5 | 1,020 | 0 | 1,020 | 8,925 | 8,925 | 510 | 510 | 50% | 397 | 1,417 |
| *system)* | | | 9/14 | | 17.5 | | | | 8,925 | 17,850 | 510 | 1,020 | 100% | | |
| Tonsina Ck. | pink | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/28 | 8/10 | 17.5 | 4,992 | 0 | 4,992 | 43,680 | 43,680 | 2,496 | 2,496 | 50% | 263 | 5,255 |
| *system)* | | | 9/14 | | 17.5 | | | | 43,680 | 87,360 | 2,496 | 4,992 | 100% | | |
| Tonsina | chum | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| Left Creek | | 1 | 8/28 | 8/28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100% | 1 | 1 |
| *(Not an index system)* | | | 8/28 | | 0 | | | | 0 | 0 | 0 | 0 | 100% | | |
| Tonsina | pink | $t_{start}$ | 8/10 | | | | | | | | | | | | |
| Left Creek | | 1 | 8/28 | 8/10 | 17.5 | 394 | 0 | 394 | 3,448 | 3,448 | 197 | 197 | 50% | 66 | 460 |
| *(Not an index system)* | | | 9/14 | | 17.5 | | | | 3,448 | 6,895 | 197 | 394 | 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 stream-life estimate.

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

Appendix C10.–Escapement indices and harvests by subdistrict in the Eastern District of Lower Cook Inlet, 2013.

| | Harvest[b] | | | | Escapement index[c] | | | | Combined harvest and escapement index counts | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum |
| Aialik Bay Subdistrict (231-05) | | | | | 3,530 | | | | 3,530 | | | |
| Harding Entrance Subdistrict (231-10) | | | | | | | | | | | | |
| Outer Resurrection Bay Subdist. (231-25) | | | | | | | | | | | | |
| Resurrection Bay Subdistrict (231-30) | 47,018 | 6,521 | | 18 | 11,139 | 300 | 19,162 [d] | 1,555 | 58,157 | 6,821 | | 1,573 |
| Humpy Cove Subdistrict (231-40) | | | | | | | | | | | | |
| Day Harbor Subdistrict (231-60) | | | | | | | | 255 | | | | 255 |
| Eastern District total[a] | 47,018 | 6,521 | 0 | 18 | 14,669 | 300 | 19,162 | 1,810 | 61,687 | 6,821 | 0 | 1,828 |

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

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

[c] Pink salmon ground survey count of Bear Creek from weir to Seward Highway.

[d] Additional non-index streams where salmon were observed are also included. Therefore, cumulative escapement values in this table are greater than escapement indices that historically contribute to sustainable escapement goal ranges as shown for index streams only.

Appendix C11.–Estimated sockeye and pink salmon escapements in thousands of fish for the major spawning systems in the Eastern District of the Lower Cook Inlet Area, 1970–2013.

| | Pink salmon | | | | | | | Sockeye salmon | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Aialik Lagoon | Bear Creek | Salmon Creek | Tonsina Creek | Thumb Cove | Humpy Cove | Total | Aialik Lake | Bear Lake [a,b] | Total |
| 1970 | | | | | | | | | 5.8 | 5.8 |
| 1971 | | | | | | | | 3.0 | 0.4 | 3.4 |
| 1972 | | 0.5 | | | | | 0.5 | 0.6 | 0.7 | 1.3 |
| 1973 | | | | | | | | 1.5 | 0.2 | 1.7 |
| 1974 | 0.1 | 4.9 | | 1.4 | 1.1 | 0.6 | 8.1 | 2.2 | 0.1 | 2.3 |
| 1975 | | | | | | | | 8.0 | 0 | 8.0 |
| 1976 | 0.4 | 10.0 | 16.9 | 5.7 | 2.0 | 1.4 | 36.4 | 8.0 | 0.6 | 8.6 |
| 1977 | | | | | | | 0.0 | 5.0 | 0 | 5.0 |
| 1978 | | 7.8 | 11.0 | 1.5 | 2.0 | 0.9 | 23.2 | 3.0 | 0 | 3.0 |
| 1979 | | | | | | | | 5.0 | 0 | 5.0 |
| 1980 | | 13.3 | 15.5 | 0.7 | 1.2 | 5.7 | 36.4 | 6.6 | 1.5 | 8.1 |
| 1981 | | 0.4 | 0.1 | 0.2 | 1.0 | 0.4 | 2.1 | 1.8 | 0.7 | 2.5 |
| 1982 | 5.0 | 7.9 | 21.0 | 7.5 | 7.9 | 4.0 | 53.3 | 22.4 | 0.5 | 22.9 |
| 1983 | 3.0 | 0.8 | 0.5 | 5.4 | 4.9 | 2.0 | 16.6 | 20.0 | 0.7 | 20.7 |
| 1984 | 4.0 | 7.7 | 10.2 | 6.0 | 4.2 | 2.5 | 34.6 | 22.0 | 0.5 | 22.5 |
| 1985 | 9.4 | 4.1 | 2.1 | 48.2 | 14.5 | 5.0 | 83.3 | 8.0 | 1.1 | 9.1 |
| 1986 | 6.0 | 14.0 | 8.3 | 11.2 | 4.0 | 0.9 | 44.4 | 7.6 | 0.8 | 8.4 |
| 1987 | 1.5 | 3.5 | 1.7 | 3.4 | 2.7 | 0.3 | 13.1 | 9.2 | 0.3 | 9.5 |
| 1988 | 0.7 | 0.2 | 0.1 | 0.1 | 0.3 | 0.4 | 1.8 | 13.0 | 0.1 | 13.1 |
| 1989 | 0.8 | 1.7 | 1.6 | 0.5 | 4.2 | 1.0 | 9.8 | 6.5 | 0.1 | 6.6 |
| 1990 | | 4.4 | | 1.2 | | 3.8 | 9.4 | 5.7 | 1.1 | 6.8 |
| 1991 | | 15.4 | | 0.3 | 3.4 | | 19.1 | 3.7 | 0.7 | 4.4 |
| 1992 | | 2.3 | | c | 0.4 | | 2.7 | 2.5 | 1.9 | 4.4 |
| 1993 | | 6.6 | | 3.2 | 5.5 | 0.9 | 16.2 | 3.0 | 4.8 | 7.8 |
| 1994 | | 34.8 | | 7.0 | 10.8 | 2.2 | 54.8 | 7.3 | 7.3 | 14.6 |
| 1995 | 1.1 | 38.6 | | 0.5 | 9.3 | 1.8 | 51.3 | 2.6 | 6.5 | 9.1 |
| 1996 | | 8.0 | | 0.4 | 9.5 | 3.4 | 21.3 | 3.5 | 6.2 | 9.7 |
| 1997 | | 6.3 | | 0.4 | 4.7 | 2.2 | 13.6 | 11.4 | 7.2 | 18.6 |
| 1998 | 0.4 | 13.2 | | 2.3 | 21.0 | 1.2 | 38.1 | 4.9 | 6.2 | 11.1 |
| 1999 | 0.9 | 7.8 | | 0.5 | 9.2 | 4.0 | 22.4 | 3.8 | 5.8 | 9.6 |
| 2000 | | 35.6 | | 6.6 | 8.5 | 1.7 | 52.4 | 4.3 | 7.8 | 12.1 |
| 2001 | | 3.0 | | 2.8 | 3.1 | 0.3 | 9.2 | 5.1 | 8.6 | 13.7 |
| 2002 | | 2.7 | | 6.9 | 3.7 | 1.8 | 15.1 | 6.1 | 8.3 | 14.4 |
| 2003 | | 4.4 | | 5.2 | 5.1 | 2.6 | 17.3 | 5.4 | 9.5 | 14.9 |
| 2004 | | 1.2 | | 3.5 | 4.3 | 1.0 | 10.0 | 10.1 | 8.2 | 18.3 |
| 2005 | 0.8 | 34.5 | | 9.9 | 8.7 | 14.6 | 68.5 | 5.3 | 10.3 | 15.6 |
| 2006 | | 9.0 | | 6.5 | 5.2 | 1.9 | 22.6 | 4.8 | 8.3 | 13.1 |
| 2007 | | | | | | | | 5.4 | 8.6 | 13.9 |
| 2008 | | | | | | | | 4.2 | 9.3 | 13.5 |
| 2009 | | | | | | | | 3.1 | 10.4 | 13.5 |
| 2010 | | | | | | | | 5.3 | 8.9 | 14.2 |
| 2011 | | | | | | | | 3.5 | 9.6 | 13.1 |
| 2012 | 0.0 | 4.1 | | | | | | 2.1 | 8.0 | 10.1 |
| 10-yr avg. | 0.4 | 10.6 | | 6.3 | 5.8 | 5.0 | 29.6 | 4.9 | 9.1 | 14.0 |
| 2013 | | 8.1 | | 5.3 | 0.6 | 1.8 | 15.8 | 3.5 | 9.0 | 12.5 |

[a] Weir counts.

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

# APPENDIX D: KAMISHAK BAY DISTRICT

Appendix D1.–Kamishak Bay District commercial salmon harvest by period, 2013.

| | | | Permits | | Chinook | | Sockeye | | Coho | | Pink | | Chum | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period [a] | Date | Hours | Fished | Landings | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds | Number | Pounds |
| 1 [a] | 6/01–6/02 | 48 | | | | | | | | | | | | |
| 2 [a] | 6/03–6/09 | 160 | | | | | | | | | | | | |
| 3 [a] | 6/10–6/16 | 160 | | | | | | | | | | | | |
| 4 [a,b] | 6/17–6/23 | 160 | | | | | | | | | | | | |
| 5 [a,b] | 6/24–6/30 | 160 | | | | | | | | | | | | |
| 6 [a,b] | 7/01–7/07 | 160 | 5 | 7 | | | 23,046 | 111,633 | | | 61 | 184 | | |
| 7 [a,c] | 7/08–7/14 | 160 | 5 | 4 | | | 7,170 | 32,768 | | | 27 | 63 | 684 | 6,156 |
| 8 [a,c,d] | 7/15–7/21 | 160 | [d] | [d] | | | [d] | | | | [d] | | [d] | |
| 9 [a,c,d] | 7/22–7/28 | 160 | [d] | [d] | | | | | | | [d] | | [d] | |
| 10 [a,c] | 7/29–8/04 | 160 | | | | | | | | | | | | |
| 11 [a,c] | 8/05–8/11 | 160 | | | | | | | | | | | | |
| 12 [a] | 8/12–8/18 | 160 | | | | | | | | | | | | |
| 13 [a] | 8/19–8/25 | 160 | | | | | | | | | | | | |
| 14 [a] | 8/26–9/01 | 160 | | | | | | | | | | | | |
| 15 [a] | 9/02–9/08 | 160 | | | | | | | | | | | | |
| 16 [a] | 9/09–9/15 | 160 | | | | | | | | | | | | |
| Total | | | 5 | 15 | 0 | 0 | 33,154 | 157,625 | 0 | 0 | 314 | 778 | 2,357 | 20,047 |
| Average weight | | | | | | | | 4.68 | | | | 2.57 | | 8.36 |

*Note:* Unless otherwise noted, all Kamishak Bay Subdistricts were open to commercial harvest from June 1, 2013, to September 15, 2013, with regular closed waters in effect.

[a] Waters of Kamishak Bay District excluding McNeil River and Paint River Subdistricts open to commercial purse seine harvest.

[b] Waters of Chenik and Bruin BaySubdistricts closed to commercial harvest June 17–July 6.

[c] Waters of Kirschner Lake special harvest area closed to commercial harvest July 7–August 11.

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

Appendix D2.–Total commercial common property harvest (excluding homepacks) by species in the Kamishak Bay District 1959–2013.

| 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] | [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] | [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 |

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Appendix D2.–Page 2 of 2.

| Year | Permits | Landings | Chinook | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|---|---|
| 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 |
| 2011 | 5 | 38 | 0 | 99,288 | 0 | 1,050 | 3,850 |
| 2012 | 6 | 34 | 0 | 55,255 | 0 | 61 | 2,425 |
| Prior 10-yr avg. | 7 | 41 | 1 | 70,343 | 3,033 | 26,947 | 53,445 |
| 2013 | 5 | 15 | 0 | 33,154 | 0 | 314 | 2,357 |

*Source*: ADF&G fish ticket database.

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

Appendix D3.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring site at Chenik Lake, 2013.

| | Actual | | Antic. | Apportioned sustainable escapement goals Projected minimum | | Projected maximum | | |
|---|---|---|---|---|---|---|---|---|
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 6/19 | 1 | 1 | 0.2% | 209 | 836 | 835 | 3,343 | Camera installed on 6/19. |
| 6/20 | 0 | 1 | 0.2% | 123 | 959 | 492 | 3,835 | |
| 6/21 | 6 | 7 | 0.2% | 265 | 1,223 | 1,059 | 4,894 | |
| 6/22 | 3 | 10 | 0.2% | 216 | 1,440 | 865 | 5,758 | |
| 6/23 | 23 | 33 | 0.2% | 150 | 1,589 | 598 | 6,357 | |
| 6/24 | 124 | 157 | 0.3% | 83 | 1,672 | 331 | 6,688 | |
| 6/25 | 2,124 | 2,281 | 0.4% | 16 | 1,688 | 63 | 6,751 | |
| 6/26 | 2,358 | 4,639 | 0.5% | 42 | 1,729 | 166 | 6,917 | |
| 6/27 | 2,992 | 7,631 | 0.7% | 109 | 1,838 | 435 | 7,353 | |
| 6/28 | 33 | 7,664 | 0.8% | 201 | 2,039 | 804 | 8,157 | |
| 6/29 | 0 | 7,664 | 1.8% | 193 | 2,232 | 772 | 8,929 | |
| 6/30 | 0 | 7,664 | 3.8% | 141 | 2,373 | 564 | 9,494 | |
| 7/1 | 0 | 7,664 | 6.9% | 194 | 2,567 | 774 | 10,268 | |
| 7/2 | 0 | 7,664 | 15.8% | 88 | 2,655 | 350 | 10,618 | |
| 7/3 | 6 | 7,670 | 17.9% | 16 | 2,671 | 65 | 10,683 | |
| 7/4 | 0 | 7,670 | 23.9% | 61 | 2,732 | 244 | 10,927 | |
| 7/5 | 0 | 7,670 | 27.4% | 109 | 2,841 | 435 | 11,362 | |
| 7/6 | 242 | 7,912 | 35.0% | 54 | 2,895 | 216 | 11,578 | |
| 7/7 | 1,270 | 9,182 | 41.1% | 40 | 2,935 | 161 | 11,739 | |
| 7/8 | 135 | 9,317 | 45.4% | 26 | 2,960 | 103 | 11,841 | |
| 7/9 | 2 | 9,319 | 47.8% | 27 | 2,987 | 106 | 11,947 | |
| 7/10 | 0 | 9,319 | 48.2% | 119 | 3,105 | 474 | 12,422 | |
| 7/11 | 1 | 9,320 | 49.4% | 35 | 3,140 | 138 | 12,560 | |
| 7/12 | 0 | 9,320 | 52.5% | 57 | 3,197 | 229 | 12,789 | |
| 7/13 | 0 | 9,320 | 58.3% | 31 | 3,229 | 125 | 12,914 | |
| 7/14 | 299 | 9,619 | 63.8% | 30 | 3,258 | 118 | 13,032 | |
| 7/15 | 0 | 9,619 | 67.8% | 5 | 3,263 | 20 | 13,052 | |
| 7/16 | 4 | 9,623 | 73.3% | 39 | 3,302 | 155 | 13,207 | |
| 7/17 | 3 | 9,626 | 75.8% | 10 | 3,311 | 39 | 13,245 | |
| 7/18 | 0 | 9,626 | 76.3% | 17 | 3,328 | 69 | 13,314 | |
| 7/19 | 4 | 9,630 | 78.1% | 22 | 3,350 | 87 | 13,401 | |
| 7/20 | 502 | 10,132 | 81.2% | 12 | 3,362 | 48 | 13,449 | |
| 7/21 | 0 | 10,132 | 82.7% | 8 | 3,370 | 32 | 13,480 | |
| 7/22 | 374 | 10,506 | 83.8% | 16 | 3,387 | 66 | 13,546 | |
| 7/23 | 6 | 10,512 | 84.6% | 20 | 3,407 | 80 | 13,627 | |
| 7/24 | 0 | 10,512 | 85.3% | 14 | 3,421 | 57 | 13,684 | |
| 7/25 | 0 | 10,512 | 88.7% | 12 | 3,433 | 49 | 13,733 | |
| 7/26 | 0 | 10,512 | 89.7% | 17 | 3,451 | 69 | 13,803 | |
| 7/27 | 0 | 10,512 | 91.4% | 20 | 3,471 | 81 | 13,884 | |
| 7/28 | 401 | 10,913 | 92.2% | 5 | 3,476 | 21 | 13,905 | |
| 7/29 | 0 | 10,913 | 93.1% | 10 | 3,486 | 39 | 13,944 | |
| 7/30 | 156 | 11,069 | 93.2% | 6 | 3,492 | 26 | 13,970 | |
| 7/31 | 4 | 11,073 | 94.3% | 6 | 3,498 | 22 | 13,992 | |
| 8/1 | 121 | 11,194 | 94.6% | 1 | 3,499 | 3 | 13,994 | |
| 8/2 | 79 | 11,273 | 95.1% | 0 | 3,499 | 1 | 13,996 | |
| 8/3 | 0 | 11,273 | 95.7% | 1 | 3,500 | 3 | 13,998 | |

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Appendix D3.–Page 2 of 2.

| | Actual | | Antic. | Apportioned sustainable escapement goals Projected minimum | | Projected maximum | | |
|---|---|---|---|---|---|---|---|---|
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 8/4 | 1 | 11,274 | 96.1% | 0 | 3,500 | 0 | 13,998 | |
| 8/5 | 51 | 11,325 | 96.3% | 0 | 3,500 | 0 | 13,998 | |
| 8/6 | 5 | 11,330 | 96.8% | 0 | 3,500 | 0 | 13,998 | |
| 8/7 | 0 | 11,330 | 97.3% | 0 | 3,500 | 0 | 13,998 | |
| 8/8 | 0 | 11,330 | 97.7% | 0 | 3,500 | 0 | 13,998 | |
| 8/9 | 3 | 11,333 | 98.1% | 0 | 3,500 | 0 | 13,998 | Camera pulled for season, 8/9. |

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

Appendix D4.–Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the video monitoring site at Mikfik Lake, 2013.

| | Actual | | Antic. | Apportioned sustainable escapement goal | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Projected minimum | | Projected maximum | | |
| Date | Daily | Cumulative | Percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 6/19 | 1,168 | 1,168 | 32.2% | 1 | 2,032 | 1 | 3,918 | Camera installed, 6/19. |
| 6/20 | 891 | 2,059 | 38.2% | 376 | 2,408 | 726 | 4,644 | Late ice out precluded earlier install. |
| 6/21 | 522 | 2,581 | 55.5% | 1,086 | 3,494 | 2,095 | 6,739 | |
| 6/22 | 241 | 2,822 | 67.1% | 735 | 4,229 | 1,417 | 8,157 | |
| 6/23 | 69 | 2,891 | 71.5% | 277 | 4,506 | 534 | 8,690 | |
| 6/24 | 935 | 3,826 | 75.0% | 217 | 4,723 | 418 | 9,109 | |
| 6/25 | 146 | 3,972 | 78.4% | 214 | 4,937 | 414 | 9,522 | |
| 6/26 | | 3,972 | 79.4% | 66 | 5,003 | 126 | 9,649 | Video down |
| 6/27 | | 3,972 | 83.1% | 234 | 5,237 | 452 | 10,100 | Video down |
| 6/28 | | 3,972 | 84.4% | 79 | 5,316 | 153 | 10,253 | Video down |
| 6/29 | | 3,972 | 85.1% | 45 | 5,361 | 87 | 10,340 | Video down |
| 6/30 | | 3,972 | 85.1% | 0 | 5,361 | 0 | 10,340 | Video down |
| 7/1 | | 3,972 | 85.1% | 1 | 5,362 | 2 | 10,342 | Video down |
| 7/2 | | 3,972 | 85.2% | 2 | 5,365 | 5 | 10,346 | Video down |
| 7/3 | | 3,972 | 85.2% | 2 | 5,367 | 4 | 10,350 | Video down |
| 7/4 | | 3,972 | 85.2% | 2 | 5,369 | 4 | 10,354 | Video down |
| 7/5 | | 3,972 | 85.4% | 11 | 5,379 | 21 | 10,375 | Video down |
| 7/6 | | 3,972 | 89.3% | 246 | 5,625 | 474 | 10,849 | Video down |
| 7/7 | | 3,972 | 91.0% | 109 | 5,735 | 211 | 11,060 | Video down |
| 7/8 | 0 | 3,972 | 93.4% | 147 | 5,882 | 284 | 11,343 | Video running |
| 7/9 | 41 | 4,013 | 93.4% | 5 | 5,886 | 9 | 11,352 | Video running |
| 7/10 | 10 | 4,023 | 93.5% | 2 | 5,889 | 5 | 11,357 | Video running |
| 7/11 | | 4,023 | 93.5% | 0 | 5,889 | 0 | 11,357 | Video down |
| 7/12 | | 4,023 | 93.6% | 9 | 5,897 | 17 | 11,374 | Video down |
| 7/13 | | 4,023 | 94.4% | 53 | 5,950 | 102 | 11,476 | Video down |
| 7/14 | | 4,023 | 94.8% | 22 | 5,972 | 42 | 11,517 | Video down |
| 7/15 | | 4,023 | 94.8% | 2 | 5,974 | 4 | 11,521 | Video down |
| 7/16 | | 4,023 | 94.8% | 0 | 5,974 | 0 | 11,522 | Video down |
| 7/17 | 0 | 4,023 | 97.9% | 193 | 6,167 | 372 | 11,893 | Video running |
| 7/18 | 0 | 4,023 | 99.3% | 92 | 6,259 | 177 | 12,071 | Video running |
| 7/19 | 0 | 4,023 | 99.4% | 2 | 6,261 | 3 | 12,074 | Video running |

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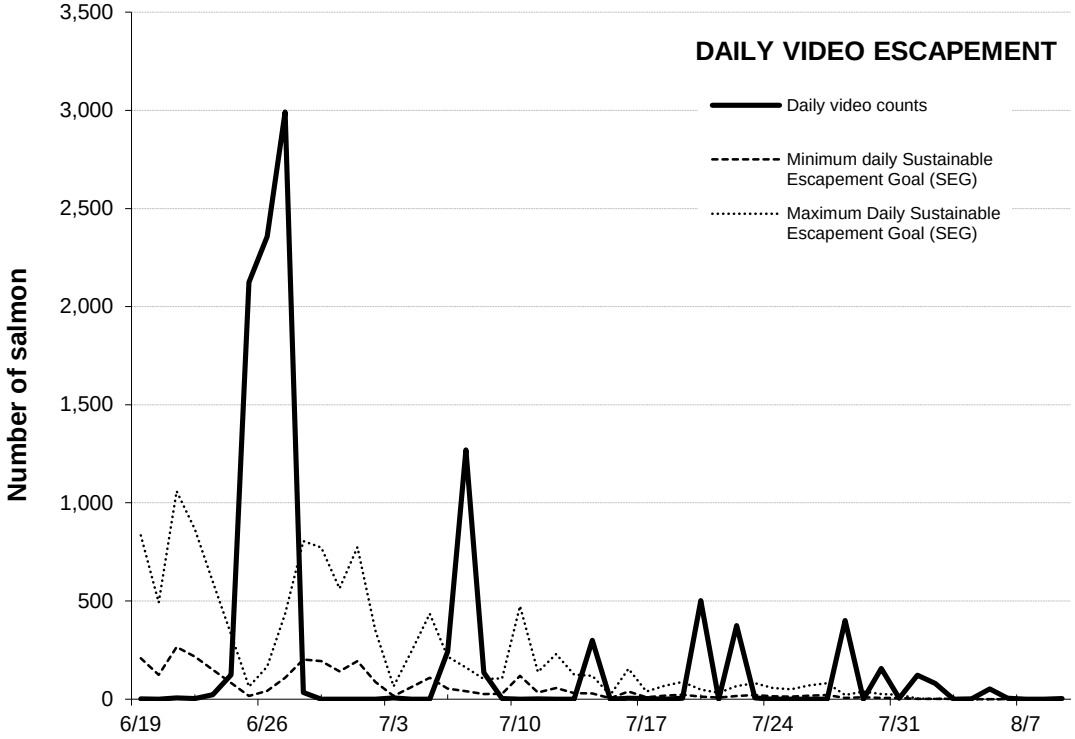
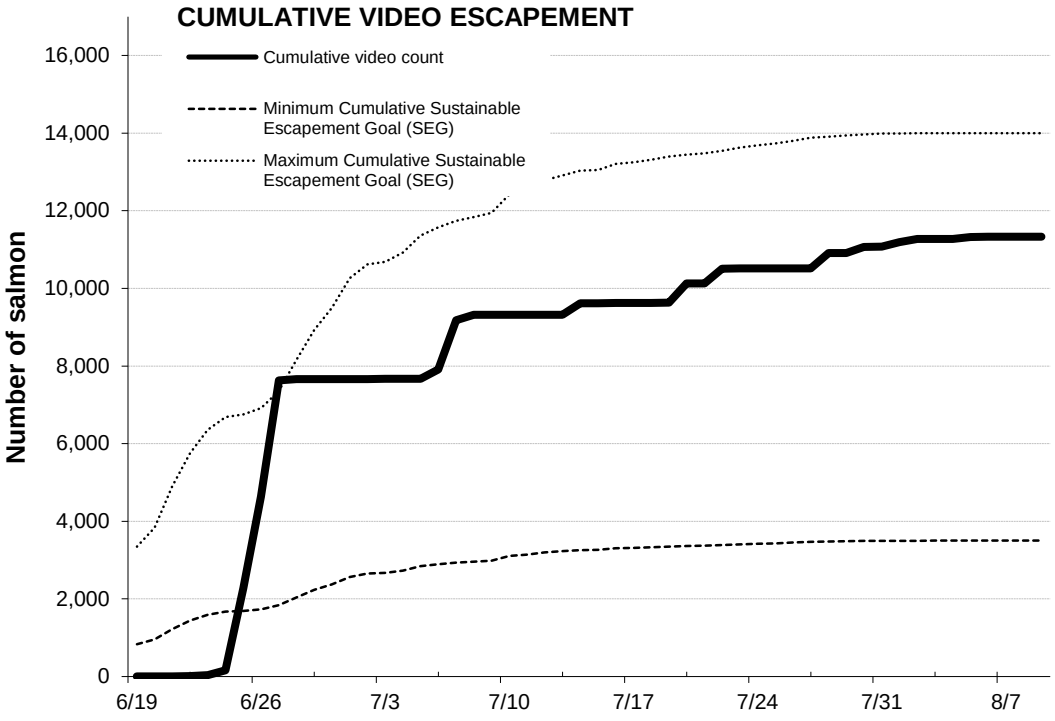
Appendix D4.–Page 2 of 2.

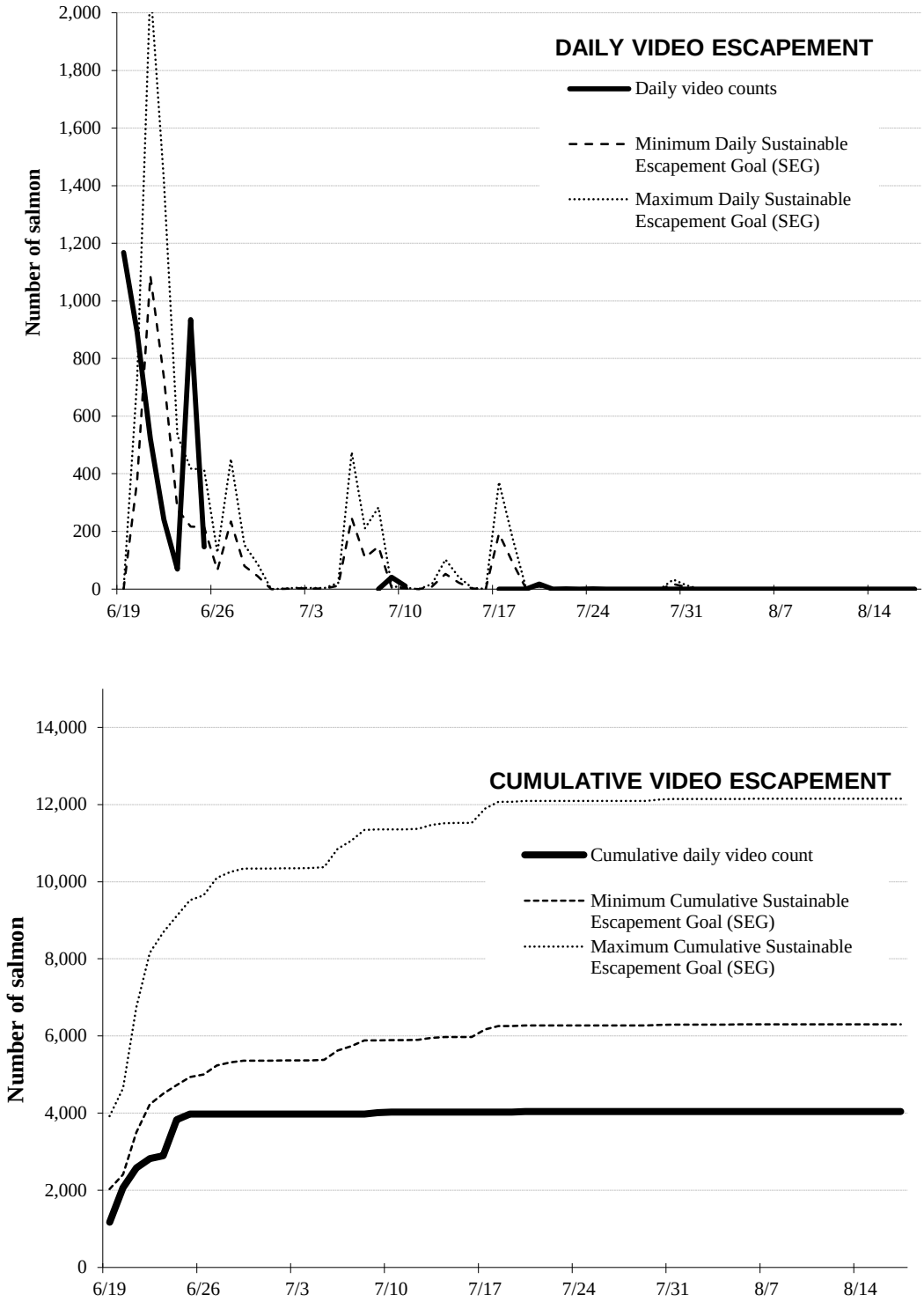
| | Actual | | Antic. | Apportioned sustainable escapement goal | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Projected minimum | | Projected maximum | | |
| Date | Daily | Cumulative | percent | Daily | Cumulative | Daily | Cumulative | Comments |
| 7/20 | 17 | 4,040 | 99.5% | 8 | 6,269 | 16 | 12,090 | Video running |
| 7/21 | 0 | 4,040 | 99.5% | 0 | 6,269 | 1 | 12,091 | Video running |
| 7/22 | 1 | 4,041 | 99.5% | 0 | 6,270 | 1 | 12,092 | Video running |
| 7/23 | 0 | 4,041 | 99.5% | 0 | 6,270 | 0 | 12,092 | Video running |
| 7/24 | 1 | 4,042 | 99.5% | 0 | 6,270 | 0 | 12,092 | Video running |
| 7/25 | 0 | 4,042 | 99.5% | 0 | 6,270 | 0 | 12,092 | Video running |
| 7/26 | 0 | 4,042 | 99.5% | 0 | 6,270 | 0 | 12,093 | Video running |
| 7/27 | 0 | 4,042 | 99.5% | 0 | 6,270 | 0 | 12,093 | Video running |
| 7/28 | 0 | 4,042 | 99.6% | 1 | 6,272 | 3 | 12,095 | Video running |
| 7/29 | 0 | 4,042 | 99.6% | 0 | 6,272 | 0 | 12,095 | Video running |
| 7/30 | 0 | 4,042 | 99.8% | 17 | 6,289 | 33 | 12,128 | Video running |
| 7/31 | 0 | 4,042 | 99.9% | 6 | 6,295 | 13 | 12,141 | Video running |
| 8/1 | 0 | 4,042 | 99.9% | 0 | 6,295 | 0 | 12,141 | Video running |
| 8/2 | 0 | 4,042 | 99.9% | 0 | 6,296 | 0 | 12,141 | Video running |
| 8/3 | 0 | 4,042 | 99.9% | 1 | 6,296 | 1 | 12,143 | Video running |
| 8/4 | 0 | 4,042 | 99.9% | 0 | 6,297 | 1 | 12,144 | Video running |
| 8/5 | 0 | 4,042 | 100.0% | 1 | 6,298 | 3 | 12,147 | Video running |
| 8/6 | 0 | 4,042 | 100.0% | 1 | 6,299 | 2 | 12,148 | Video running |
| 8/7 | 0 | 4,042 | 100.0% | 0 | 6,300 | 1 | 12,149 | Video running |
| 8/8 | 0 | 4,042 | 100.0% | 0 | 6,300 | 1 | 12,150 | Video running |
| 8/9 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/10 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/11 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/12 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/13 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/14 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/15 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/16 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Video running |
| 8/17 | 0 | 4,042 | 100.0% | 0 | 6,300 | 0 | 12,150 | Camera pulled for season, 8/17 |

*Note:* Anticipated escapement derived from run timing and Mikfik Lake sockeye salmon sustainable escapement goal of 6,300 – 12,150 fish.




Appendix D5.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement past the video monitoring station at Chenik Lake, 2013.




Appendix D6.–Minimum and maximum anticipated cumulative and daily escapement of sockeye salmon versus actual escapement past the Mikfik Lake video monitoring station, 2013.

Appendix D7.–Sockeye salmon escapement into Chenik Lake and Mikfik Lake, 1927–2013.

| Year | Chenik | Mikfik |
|---|---|---|
| 1927 | 7,069 [a] | |
| 1928 | 31,007 [a] | |
| 1929 | 30,440 [a] | |
| 1930 | 23,638 [a] | |
| 1931 | 33,514 [a] | |
| 1932 | 53,012 [a] | |
| 1933 | 39,222 [a] | |
| 1934 | 35,778 [a] | |
| 1935 | 16,041 [a] | |
| 1936 | 19,349 [a] | |
| 1937 | 8,256 [a] | |
| 1938 | 3,804 [a] | |
| 1939 | 4,076 [a] | |
| … | (No weir from 1940- 1991) | |
| 1992 | 9,269 [a] | 7,800 [b] |
| 1993 | 4,000 [a] | 6,400 [b] |
| 1994 | 808 [a] | 9,500 [b] |
| 1995 | 1,086 [a] | 10,100 [b] |
| 1996 | 2,990 [a] | 10,500 [b] |
| 1997 | 2,338 [a] | 8,500 [b] |
| 1998 | 1,880 [b] | 12,600 [b] |
| 1999 | 2,850 [b] | 15,700 [b] |
| 2000 | 4,800 [b] | 10,386 [d] |
| 2001 | 250 [b] | 5,400 [b] |
| 2002 | 4,650 [b] | 16,700 [b] |
| 2003 | 13,825 [b] | 8,009 [d] |
| 2004 | 17,000 [b] | 14,829 [d] |
| 2005 | 14,507 [c] | 6,499 [d] |
| 2006 | 13,868 [c] | 14,983 [d] |
| 2007 | 18,288 [c] | 10,975 [d] |
| 2008 | 11,284 [c] | 9,104 [d] |
| 2009 | 15,264 [d] | 20,965 [d] |
| 2010 | 17,312 [d] | 5,221 [c] |
| 2011 | 10,330 [d] | 345 [b] |
| 2012 | 16,505 [d] | 3,131 [d] |
| Previous 10-yr average | 14,818 | 9,406 |
| 2013 | 11,333 [d] | 4,042 [d] |

[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, 2013.

| Location | Species | Survey no. | Survey date ($\mathbf{t_i}$) | Previous survey date ($t_i$-1) | Days between surveys ($t_i$-$t_{i-1}$) | Current live count, ($\mathbf{c_i}$) | Previous live count ($c_{i-1}$) | Previous + current live count ($c_i$+$c_{i-1}$) | Fish days[a], ($A_\mathbf{b}$) | Accum. fish days, ($A_b$) | Escape. Index[b] | Accum. Escape. Index[c] | Accum. Percent Escape. | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amakdedori | pink | [t]start | 7/9 | | | | | | | | | | | |
| Creek | | 1 | 7/9 | 7/9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| | | 2 | 7/17 | 7/9 | 8 | 1,200 | 0 | 1,200 | 4,800 | 4,800 | 274 | 274 | 3% | |
| *(Not an index* | | 3 | 7/26 | 7/17 | 9 | 0 | 1,200 | 1,200 | 5,400 | 10,200 | 309 | 583 | 7% | |
| *system)* | | 4 | 8/15 | 7/26 | 20 | 5,000 | 0 | 5,000 | 50,000 | 60,200 | 2,857 | 3,440 | 43% | |
| | | 5 | 8/24 | 8/15 | 9 | 3,800 | 5,000 | 8,800 | 39,600 | 99,800 | 2,263 | 5,703 | 71% | |
| | | 6 | 8/26 | 8/24 | 2 | 3,722 | 3,800 | 7,522 | 7,522 | 107,322 | 430 | 6,133 | 77% | |
| | | [t]end | 9/12 | | 17.5 | | | | 32,568 | 139,890 | 1,861 | 7,994 | 100% | 5,000 |
| Big Kamishak | chum | [t]start | 8/6 | | | | | | | | | | | |
| River | | 1 | 8/24 | 8/6 | 17.5 | 3,280 | 0 | 3,280 | 28,700 | 28,700 | 1,640 | 1,640 | 50% | |
| *(Index system)* | | [t]end | 9/10 | | 17.5 | | | | 28,700 | 57,400 | 1,640 | 3,280 | 100% | 3,280 |
| Brown's | chum | [t]start | 7/26 | | | | | | | | | | | |
| Peak Creek | | 1 | 7/26 | 7/26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Not an index* | | | 8/15 | 7/26 | 20 | 30 | 0 | 30 | 300 | 300 | 17 | 17 | 6% | |
| *system)* | | 2 | 8/26 | 8/15 | 11 | 320 | 30 | 350 | 1,925 | 2,225 | 110 | 127 | 44% | |
| | | [t]end | 9/12 | | 17.5 | | | | 2,800 | 5,025 | 160 | 287 | 100% | 320 |
| Brown's | pink | [t]start | 7/8 | | | | | | | | | | | |
| Peak Creek | | 1 | 7/26 | 7/8 | 17.5 | 840 | 0 | 840 | 7,350 | 7,350 | 420 | 420 | 10% | |
| *(Index* | | 2 | 8/15 | 7/26 | 20 | 2,870 | 840 | 3,710 | 37,100 | 44,450 | 2,120 | 2,540 | 63% | |
| *system)* | | 3 | 8/26 | 8/15 | 11 | 760 | 2,870 | 3,630 | 19,965 | 64,415 | 1,141 | 3,681 | 91% | |
| | | [t]end | 9/12 | | 17.5 | | | | 6,650 | 71,065 | 380 | 4,061 | 100% | 2,870 |
| Bruin River | chum | [t]start | 6/21 | | | | | | | | | | | |
| | | 1 | 7/9 | 6/21 | 17.5 | 3 | 0 | 3 | 26 | 26 | 2 | 2 | 0% | |
| *(Index* | | 2 | 7/17 | 7/9 | 8 | 2,140 | 3 | 2,143 | 8,572 | 8,598 | 490 | 491 | 6% | |
| *system)* | | 3 | 7/26 | 7/17 | 9 | 5,000 | 2,140 | 7,140 | 32,130 | 40,728 | 1,836 | 2,327 | 26% | |
| | | 4 | 8/15 | 7/26 | 20 | 3,060 | 5,000 | 8,060 | 80,600 | 121,328 | 4,606 | 6,933 | 79% | |
| | | 5 | 8/24 | 8/15 | 9 | 2,230 | 3,060 | 5,290 | 23,805 | 145,133 | 1,360 | 8,293 | 94% | |
| | | 6 | 8/26 | 8/24 | 2 | 721 | 2,230 | 2,951 | 2,951 | 148,084 | 169 | 8,462 | 96% | |
| | | [t]end | 9/12 | | 17.5 | | | | 6,309 | 154,393 | 361 | 8,822 | 100% | 5,000 |

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| Location | Species | Survey no. | Survey date ($\mathbf{t_i}$) | 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], ($\mathbf{A_b}$) | Accum. fish days, ($A_b$) | Escape. Index[b] | Accum. Escape. Index[c] | Accum. Percent Escape. | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bruin River | pink | tstart | 7/9 | | | | | | | | | | | |
| | | 1 | 7/9 | 7/9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index* | | 2 | 7/17 | 7/9 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system)* | | 3 | 7/26 | 7/17 | 9 | 3,130 | 0 | 3,130 | 14,085 | 14,085 | 805 | 805 | 5% | |
| | | 4 | 8/24 | 7/26 | 29 | 12,800 | 3,130 | 15,930 | 230,985 | 245,070 | 13,199 | 14,004 | 93% | |
| | | 5 | 8/26 | 8/24 | 2 | 510 | 12,800 | 13,310 | 13,310 | 258,380 | 761 | 14,765 | 98% | |
| | | tend | 9/12 | | 17.5 | | | | 4,463 | 262,843 | 255 | 15,020 | 100% | 12,800 |
| Cottonwood | chum | tstart | 6/29 | | | | | | | | | | | |
| Creek | | 1 | 7/17 | 6/29 | 17.5 | 30 | 0 | 30 | 263 | 263 | 15 | 15 | 0% | |
| *(Index* | | 2 | 7/26 | 7/17 | 9 | 960 | 30 | 990 | 4,455 | 4,718 | 255 | 270 | 5% | |
| *system)* | | 3 | 8/15 | 7/26 | 20 | 2,940 | 960 | 3,900 | 39,000 | 43,718 | 2,229 | 2,498 | 50% | |
| | | 4 | 8/26 | 8/15 | 11 | 1,920 | 2,940 | 4,860 | 26,730 | 70,448 | 1,527 | 4,026 | 81% | |
| | | tend | 9/12 | | 17.5 | | | | 16,800 | 87,248 | 960 | 5,206 | 100% | 2,940 |
| Cottonwood | pink | tstart | 7/5 | | | | | | | | | | | |
| Creek | | 1 | 7/23 | 7/5 | 17.5 | 200 | 0 | 200 | 1,750 | 1,750 | 100 | 100 | 1% | |
| *(not an index* | | 2 | 7/30 | 7/23 | 7 | 1,800 | 200 | 2,000 | 7,000 | 8,750 | 400 | 500 | 3% | |
| *system)* | | 3 | 7/31 | 7/30 | 1 | 5,800 | 1,800 | 7,600 | 3,800 | 12,550 | 217 | 717 | 4% | |
| | | 4 | 8/25 | 7/31 | 25 | 11,610 | 5,800 | 17,410 | 217,625 | 230,175 | 12,436 | 13,153 | 69% | |
| | | tend | 9/11 | | 17.5 | | | | 101,588 | 331,763 | 5,805 | 18,958 | 100% | 11,610 |
| Douglas River | chum | tstart | 7/26 | | | | | | | | | | | |
| *(not an index* | | 1 | 7/26 | 7/26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system)* | | 2 | 8/26 | 7/26 | 31 | 4,620 | 0 | 4,620 | 71,610 | 71,610 | 4,092 | 4,092 | 64% | |
| | | tend | 9/12 | | 17.5 | | | | 40,425 | 112,035 | 2,310 | 6,402 | 100% | 4,620 |
| Douglas River | pink | tstart | 7/26 | | | | | | | | | | | |
| *(not an index* | | 1 | 7/26 | 7/26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system)* | | 2 | 8/26 | 7/26 | 31 | 7,000 | 0 | 7,000 | 108,500 | 108,500 | 6,200 | 6,200 | 64% | |
| | | tend | 9/12 | | 17.5 | | | | 61,250 | 169,750 | 3,500 | 9,700 | 100% | 7,000 |
| Douglas | chum | tstart | 7/8 | | | | | | | | | | | |
| Beach River | | 1 | 7/26 | 7/8 | 17.5 | 400 | 0 | 400 | 3,500 | 3,500 | 200 | 200 | 2% | |
| *(not an index* | | 2 | 8/24 | 7/26 | 29 | 6,200 | 400 | 6,600 | 95,700 | 99,200 | 5,469 | 5,669 | 58% | |
| *system)* | | 3 | 8/26 | 8/24 | 2 | 6,590 | 6,200 | 12,790 | 12,790 | 111,990 | 731 | 6,399 | 66% | |
| | | tend | 9/12 | | 17.5 | | | | 57,663 | 169,653 | 3,295 | 9,694 | 100% | 6,590 |

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| Location | Species | Survey no. | Survey date ($\mathbf{t_i}$) | Previous survey date ($t_i$-1) | Days between surveys ($t_i$-$t_{i-1}$) | Current live count, **($\mathbf{c_i}$)** | Previous live count ($c_{i-1}$) | Previous + current live count ($c_i$+$c_{i-1}$) | Fish days[a], ($\mathbf{A_b}$) | Accum. fish days, ($A_b$) | Escape. Index[b] | Accum. Escape. Index[c] | Accum. Percent Escape. | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Douglas | chum | tstart | 7/26 | | | | | | | | | | | |
| Reef River | | 1 | 7/26 | 7/26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(not an index* | | 2 | 8/15 | 7/26 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system)* | | 3 | 8/24 | 8/15 | 9 | 1,050 | 0 | 1,050 | 4,725 | 4,725 | 270 | 270 | 34% | |
| | | tend | 9/10 | | 17.5 | | | | 9,188 | 13,913 | 525 | 795 | 100% | 1,050 |
| Iniskin River | chum | tstart | 7/28 | | | | | | | | | | | |
| *(Index* | | 1 | 8/15 | 7/28 | 17.5 | 2,750 | 0 | 2,750 | 24,063 | 24,063 | 1,375 | 1,375 | 23% | |
| *system)* | | 2 | 8/26 | 8/15 | 11 | 4,530 | 2,750 | 7,280 | 40,040 | 64,103 | 2,288 | 3,663 | 62% | |
| | | tend | 9/12 | | 17.5 | | | | 39,638 | 103,740 | 2,265 | 5,928 | 100% | 4,530 |
| Iniskin River | pink | tstart | 8/15 | | | | | | | | | | | |
| *(Not an index* | | 1 | 8/15 | 8/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *system)* | | 2 | 8/26 | 8/15 | 11 | 1,100 | 0 | 1,100 | 6,050 | 6,050 | 346 | 346 | 39% | |
| | | tend | 9/12 | | 17.5 | | | | 9,625 | 15,675 | 550 | 896 | 100% | 1,100 |
| Little | chum | tstart | 6/29 | | | | | | | | | | | |
| Kamishak | | 1 | 7/17 | 6/29 | 17.5 | 311 | 0 | 311 | 2,721 | 2,721 | 156 | 156 | 2% | |
| River | | 2 | 7/26 | 7/17 | 9 | 4,490 | 311 | 4,801 | 21,605 | 24,326 | 1,235 | 1,390 | 21% | |
| *(Index* | | 3 | 8/24 | 7/26 | 29 | 1,230 | 4,490 | 5,720 | 82,940 | 107,266 | 4,739 | 6,129 | 91% | |
| *system)* | | tend | 9/10 | | 17.5 | | | | 10,763 | 118,028 | 615 | 6,744 | 100% | 4,490 |
| Little | pink | tstart | 7/17 | | | | | | | | | | | |
| Kamishak | | 1 | 7/17 | 7/17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| River | | 2 | 7/26 | 7/17 | 9 | 500 | 0 | 500 | 2,250 | 2,250 | 129 | 129 | 24% | |
| *(Not an index* | | 3 | 8/24 | 7/26 | 29 | 0 | 500 | 500 | 7,250 | 9,500 | 414 | 543 | 100% | |
| *system)* | | tend | 8/24 | | 0 | | | | 0 | 9,500 | 0 | 543 | 100% | 500 |
| McNeil River | chum | tstart | 6/14 | | | | | | | | | | | |
| | | 1 | 7/2 | 6/14 | 17.5 | 2,142 | 0 | 2,142 | 18,743 | 18,743 | 1,071 | 1,071 | 16% | |
| *(Index system)* | | 2 | 7/9 | 7/2 | 7 | 5,214 | 2,142 | 7,356 | 25,746 | 44,489 | 1,471 | 2,542 | 39% | |
| | | 3 | 7/17 | 7/9 | 8 | 1,082 | 5,214 | 6,296 | 25,184 | 69,673 | 1,439 | 3,981 | 61% | |
| | | 4 | 7/26 | 7/17 | 9 | 1,630 | 1,082 | 2,712 | 12,204 | 81,877 | 697 | 4,679 | 72% | |
| | | 5 | 8/24 | 7/26 | 29 | 50 | 1,630 | 1,680 | 24,360 | 106,237 | 1,392 | 6,071 | 93% | |
| | | 6 | 8/26 | 8/24 | 2 | 761 | 50 | 811 | 811 | 107,048 | 46 | 6,117 | 94% | |
| | | tend | 9/12 | | 17.5 | | | | 6,659 | 113,706 | 381 | 9,498 | 100% | 5,214 |

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| Location | Species | Survey no. | Survey date ($\mathbf{t_i}$) | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Head | chum | [t]start | 7/28 | | | | | | | | | | | |
| Creek | | 1 | 8/15 | 7/28 | 17.5 | 200 | 0 | 200 | 1,750 | 1,750 | 100 | 100 | 12% | |
| *(Not an index* | | 2 | 8/26 | 8/15 | 11 | 800 | 200 | 1,000 | 5,500 | 7,250 | 314 | 414 | 51% | |
| *system)* | | [t]end | 9/12 | | 17.5 | | | | 7,000 | 14,250 | 400 | 814 | 100% | 800 |
| North Head | pink | [t]start | 8/15 | | | | | | | | | | | |
| Creek | | 1 | 8/15 | 8/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Not an index* | | 2 | 8/26 | 8/15 | 11 | 500 | 0 | 500 | 2,750 | 2,750 | 157 | 157 | 39% | |
| *system)* | | [t]end | 9/12 | | 17.5 | | | | 4,375 | 7,125 | 250 | 407 | 100% | 500 |
| Sugarloaf | chum | [t]start | 7/28 | | | | | | | | | | | |
| Creek | | 1 | 8/15 | 7/28 | 17.5 | 1,500 | 0 | 1,500 | 13,125 | 13,125 | 750 | 750 | 48% | |
| *(Not an index* | | 2 | 8/26 | 8/15 | 11 | 420 | 1,500 | 1,920 | 10,560 | 23,685 | 603 | 1,353 | 87% | |
| *system)* | | [t]end | 9/12 | | 17.5 | | | | 3,675 | 27,360 | 210 | 1,563 | 100% | 1,500 |
| Sugarloaf | pink | [t]start | 7/28 | | | | | | | | | | | |
| Creek | | 1 | 8/15 | 7/28 | 17.5 | 100 | 0 | 100 | 875 | 875 | 50 | 50 | 61% | |
| *(Not an index* | | 2 | 8/26 | 8/15 | 11 | 0 | 100 | 100 | 550 | 1,425 | 31 | 81 | 100% | |
| *system)* | | [t]end | 8/26 | | 0 | | | | 0 | 1,425 | 0 | 81 | 100% | 100 |
| Sunday | chum | [t]start | 6/29 | | | | | | | | | | | |
| Creek | | 1 | 7/17 | 6/29 | 17.5 | 200 | 0 | 200 | 1,750 | 1,750 | 100 | 100 | 2% | |
| *(Not an index* | | 2 | 7/26 | 7/17 | 9 | 0 | 200 | 200 | 900 | 2,650 | 51 | 151 | 3% | |
| *system)* | | 3 | 8/15 | 7/26 | 20 | 5,030 | 0 | 5,030 | 50,300 | 52,950 | 2,874 | 3,026 | 58% | |
| | | 4 | 8/26 | 8/15 | 11 | 700 | 5,030 | 5,730 | 31,515 | 84,465 | 1,801 | 4,827 | 93% | |
| | | [t]end | 9/12 | | 17.5 | | | | 6,125 | 90,590 | 350 | 5,177 | 100% | 5,030 |
| Sunday | pink | [t]start | 7/17 | | | | | | | | | | | |
| Creek | | 1 | 7/17 | 7/17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index* | | 2 | 7/26 | 7/17 | 9 | 50 | 0 | 50 | 225 | 225 | 13 | 13 | 0% | |
| *system)* | | 3 | 8/15 | 7/26 | 20 | 6,000 | 50 | 6,050 | 60,500 | 60,725 | 3,457 | 3,470 | 58% | |
| | | 4 | 8/26 | 8/15 | 11 | 830 | 6,000 | 6,830 | 37,565 | 98,290 | 2,147 | 5,617 | 93% | |
| | | [t]end | 9/12 | | 17.5 | | | | 7,263 | 105,553 | 415 | 6,032 | 100% | 6,000 |

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| Location | Species | Survey no. | Survey date ($\mathbf{t_i}$) | Previous survey date ($t_i$-1) | Days between surveys ($t_i$-$t_{i-1}$) | Current live count, ($\mathbf{c_i}$) | Previous live count ($c_{i-1}$) | Previous + current live count ($c_i$+$c_{i-1}$) | Fish days[b], ($A_b$) | Accum. fish days, ($A_b$) | Escape. Index[c] | Accum. Escape. Index[d] | Accum. Percent Escape. | Peak count |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ursus Lagoon | chum | [t]start | 7/17 | | | | | | | | | | | |
| Creeks | | 1 | 7/17 | 7/17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Index* | | 2 | 8/15 | 7/17 | 29 | 2,720 | 0 | 2,720 | 39,440 | 39,440 | 2,254 | 2,254 | 22% | |
| *System)* | | 3 | 8/26 | 8/15 | 11 | 8,880 | 2,720 | 11,600 | 63,800 | 103,240 | 3,646 | 5,899 | 57% | |
| | | [t]end | 9/12 | | 17.5 | | | | 77,700 | 180,940 | 4,440 | 10,339 | 100% | 8,880 |
| Ursus Lagoon | pink | [t]start | 7/17 | | | | | | | | | | | |
| Creeks | | 1 | 7/17 | 7/17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | |
| *(Not an index* | | 2 | 8/15 | 7/17 | 29 | 100 | 0 | 100 | 1,450 | 1,450 | 83 | 83 | 73% | |
| *system)* | | 3 | 8/26 | 8/15 | 11 | 0 | 100 | 100 | 550 | 2,000 | 31 | 114 | 100% | |
| | | [t]end | 8/26 | | 0 | | | | 0 | 2,000 | 0 | 114 | 100% | 100 |

*Source*: Bue et al. 1998.

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

[b] Escapement index = Ab / 17.5 day stream-life estimate (except McNeil River chum calculations use a 13.8 day stream-life estimate)

[c] The McNeil River chum salmon AUC index is not the final escapement index. After applying a run-timing expansion factor, the final escapement index was 9,783 under the curve estimate equals the cumulative escapement index.

Appendix D9.–Sockeye salmon aerial survey counts from the Kamishak Bay District, 2013.

| Location | Survey number | Survey date | Live count | Peak count |
|---|---|---|---|---|
| Amakdedori Creek | 1 | 7/09/13 | 70 | |
| | 2 | 7/17/13 | 10 | |
| | 3 | 7/26/13 | 1,540 | |
| | 4 | 8/15/13 | 170 | |
| | 5 | 8/24/13 | 450 | |
| | 6 | 8/26/13 | 731 | 1,540 |
| Bruin River | 1 | 7/09/13 | 0 | |
| | 2 | 7/17/13 | 0 | |
| | 3 | 7/26/13 | 0 | |
| | 4 | 8/15/13 | 20 | |
| | 5 | 8/24/13 | 40 | |
| | 6 | 8/26/13 | 8 | 40 |
| Chenik Lake | 1 | 6/24/13 | 30 | |
| | 2 | 7/02/13 | 3,500 | |
| | 3 | 7/09/13 | 30 | |
| | 4 | 7/17/13 | 9,850 | |
| | 5 | 7/26/13 | 0 | 9,850 |
| Douglas River | 1 | 7/26/13 | 0 | |
| | 2 | 8/26/13 | 520 | 520 |
| Little Kamishak River | 1 | 7/17/13 | 0 | |
| | 2 | 7/26/13 | 0 | |
| | 3 | 8/24/13 | 50 | 50 |
| Mikfik Lake [a] | 1 | 6/17/13 | 1,410 | |
| | 2 | 6/19/13 | 760 | |
| | 3 | 6/24/13 | 1,940 | |
| | 4 | 7/09/13 | 1,700 | |
| | 5 | 7/17/13 | 10 | |
| | 6 | 7/26/13 | 40 | |
| | 7 | 8/24/13 | 822 | |
| | 8 | 8/26/13 | 1,111 | |
| | 9 | 9/11/13 | 1,400 | 1,940 |
| North Head Creek | 1 | 8/15/13 | 230 | |
| | 2 | 8/26/13 | 100 | 230 |
| Ursus Lagoon Creek | 1 | 8/15/13 | 0 | |
| | 2 | 8/26/13 | 2 | 2 |

[a] Final video counts of 4,042 sockeye salmon was used for final escapement estimate in 2013.

Appendix D10.–Escapement indices and harvests by subdistricts in the Kamishak Bay District, Lower Cook Inlet, 2013.

| | Harvest[a] | | | | Escapement index[b] | | | | Combined harvest and escapement index counts | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum | Sockeye | Coho | Pink | Chum |
| Augustine Subdistrict (249-30) | | | | | | | | | | | | |
| Douglas River Subdistrict (249-40) | | | | 684 | 520 | 650 | 9,700 | 17,146 | 520 | 650 | 9,700 | 17,830 |
| Kamishak River Subdistrict (249-45) | | | | | 50 | 268 | 543 | 10,024 | 50 | | 543 | 10,024 |
| McNeil Cove Subdistrict (249-50) | | | | | 4,042 | | | 6,498 | 4,042 | | | 6,498 |
| Chenik/Amakdedori Subdistrict (249-55) | 33,154 | | 314 | 1,673 | 11,390 | 50 | 7,994 | | 44,544 | | 8,308 | |
| Bruin Bay Subdistrict (249-70) | | | | | 40 | | 15,020 | 8,822 | 40 | | 15,020 | 8,822 |
| Kirschner Lake Subdistrict (249-75) | 8,288 | | | | | | | | 8,288 | | | |
| Rocky Cove Subdistrict (249-78) | | | | | | | 6,032 | 5,177 | | | 6,032 | 5,177 |
| Ursus Cove Subdistrict (249-80) | | | | | 2 | | 4,175 | 10,659 | | | 4,175 | 10,659 |
| Cottonwood Bay Subdistrict (249-83) | | | | | 230 | | 500 | 814 | 230 | | 500 | 814 |
| Iniskin Bay Subdistrict (249-85) | | | | | | | 1,200 | 7,491 | | | 1,200 | 7,491 |
| Kamishak Bay District total[c] | 41,442 | 0 | 314 | 2,357 | 16,274 | 968 | 45,164 | 66,631 | 57,714 | 650 | 45,478 | 67,315 |

[a] Harvests include all commercial and hatchery harvests.

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

[c] Additional non-index streams where salmon were observed are also included. Therefore, cumulative escapement values in this table are greater than escapement indices that historically contribute to SEG ranges as shown for index streams only.

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, 1970–2013.

| | Pink salmon | | | | | | | Chum salmon | | | | | | | | Sockeye salmon | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Big Kamishak River | Little Kamishak River | Amakdedori Creek | Bruin Bay River | Sunday Creek | Brown's Peak Creek | Total | Big Kamishak River | Little Kamishak River | McNeil River | Bruin Bay | Ursus Cove[d] | 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 | | 12.4 |
| 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 |

-continued-

| Year | Pink salmon | | | | | | | Chum salmon | | | | | | | | Sockeye salmon | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Big Kamishak River | Little Kamishak River | Amakdedori Creek | Bruin Bay River | Sunday Creek | Brown's Peak Creek | Total | Big Kamishak River | Little Kamishak River | McNeil River | Bruin Bay | Ursus Cove[d] | Cottonwood Creek | Iniskin Bay | Total | Mikfik Lake | Chenik Lake | Amakdedori Creek | Kamishak Rivers | Total |
| 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 |
| 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 [a] | 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 [a] | 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 [b] | 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 [b] | 1.2 | 0.1 | 29.9 |
| 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 [b] | 3.4 | 1.6 | 15.8 |
| 2012 | 2.7 | 9.3 | 3.0 | 31.8 | 1.3 | 2.8 | 50.9 | 12.4 | 30.3 | 9.8 | 16.1 | 2.8 | 2.8 | 3.0 | 77.2 | 3.1 | 16.5 [b] | 0.8 | 1.1 | 21.5 |
| 10-yr avg. | 7.4 | 20.4 | 4.3 | 246.4 | 109.5 | 73.8 | 461.7 | 23.4 | 23.2 | 17.4 | 11.4 | 14.0 | 18.7 | 16.8 | 124.7 | 9.7 | 14.8 | 3.6 | 1.2 | 29.3 |
| 2013 | | 0.5 | 8.0 | 15.0 | 6.0 | 4.1 | 33.7 | 3.3 | 6.7 | 9.5 | 8.9 | 10.3 | 5.2 | 5.9 | 49.8 | 4.0 | 11.3 [b] | 1.5 | 0.1 | 17.0 |

*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.

# APPENDIX E: SUBSISTENCE, PERSONAL USE AND HOMEPACK HARVESTS

Appendix E1.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Port Graham, Lower Cook Inlet, 1979–2013.

| | | 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 |
| 2011 | 15 | 35 | 684 | 107 | 132 | 150 | | 1,108 |
| 2012 | 7 | 24 | 661 | 14 | 282 | 26 | 0 | 1,007 |
| Previous 10-year Average | 23 | 135 | 733 | 137 | 160 | 72 | 64 | 1,238 |
| 2013 | 10 | 15 | 1,034 | 66 | 27 | 86 | 0 | 1,228 |

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

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

[b] ADF&G Division of Subsistence estimate.

[c] Harvest reports for 2008 incomplete.

Appendix E2.–Subsistence net and rod and reel salmon harvest in numbers of fish by species for the village of Nanwalek (formerly English Bay), Lower Cook Inlet, 1978–2013.

| 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 |
| 2011 | 41 | 18 | 5,009 | 1,381 | 2,499 | 362 | - | 9,269 |
| 2012[a] | 1 | 0 | 300 | 400 | 200 | 5 | 50 | 905 |
| Previous 10-yr average | 28 | 45 | 2,477 | 947 | 1,458 | 177 | 353 | 5,104 |
| 2013 | 4 | 2 | 3,854 | 2,619 | 383 | 811 | 500 | 7,669 |

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

[a] Limited reporting from Nanwalek residents in 2012 probably resulted in a conservative estimate of harvest.

Appendix E3.–Salmon set gillnet harvest in numbers of fish by species and permit/effort information for the Seldovia area subsistence fishery, Lower Cook Inlet, 1996–2013.

| | 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 |
| 2011 | 4 | 2 | 1 | 1 | 0 | 49 | 0 | 0 | 0 | 49 |
| 2012 | 16 | 6 | 2 | 4 | 3 | 26 | 0 | 0 | 0 | 29 |
| Prev 10-yr average | 12 | 9 | 4 | 5 | 26 | 45 | 0 | 0 | 7 | 78 |
| 2013 | 7 | 5 | 4 | 1 | 1 | 93 | 0 | 0 | 0 | 93 |
| *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 |
| 2011 | 3 | 2 | 1 | 1 | 0 | 6 | 0 | 10 | 0 | 16 |
| 2012 | 4 | 1 | 1 | 0 | 0 | 3 | 0 | 20 | 0 | 23 |
| Prev 10-yr average | 4 | 3 | 2 | 1 | 0 | 25 | 11 | 41 | 9 | 87 |
| 2013 | 5 | 3 | 3 | 0 | 1 | 5 | 1 | 45 | 10 | 62 |

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

[a] Early season dates in 1996 and 1997 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 2 weekends in August.

Appendix E4.–Personal use/subsistence set gillnet salmon harvest in numbers of fish by species and effort, Southern District (excluding the Port Graham/Nanwalek subsistence fishery and the Seldovia subsistence fishery), Lower Cook Inlet, 1969–2013.

| | Permits | | | | Reported harvest | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Issued | Returned | Fished | Not fished | Chinook | Sockeye | Coho | Pink | Chum | Other[a] | 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 |
| 2011 | 119 | 112 | 81 | 31 | 15 | 223 | 806 | 145 | 5 | 3 | 1,197 |
| 2012 | 98 | 95 | 69 | 26 | 5 | 137 | 1,471 | 275 | 6 | 0 | 1,894 |
| Previous 10-year Average | 116 | 97 | 56 | 31 | 63 | 649 | 741 | 153 | 7 | 0 | 1,620 |
| 2013 | 123 | 118 | 89 | 29 | 9 | 122 | 1,732 | 135 | 3 | 0 | 2,001 |

*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, 1990–2013.

| | Homer/ Fritz Cr. | | Anchorage Area[a] | | Halibut Cove | | Anchor Pt./ Ninilchik | | Seldovia | | Pt. Graham/ Nanwalek | | Kenai/ Soldotna | | Other | | Total Permits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | Issued |
| 1990 | 441 | 76.3% | 36 | 6.2% | 5 | 0.9% | 65 | 11.2% | 12 | 2.1% | 0 | 0.0% | 6 | 1.0% | 13 | 2.2% | 578 |
| 1991 | 384 | 81.4% | 27 | 5.7% | 8 | 1.7% | 41 | 8.7% | 6 | 1.3% | 0 | 0.0% | 4 | 0.8% | 2 | 0.4% | 472 |
| 1992 | 302 | 82.7% | 21 | 5.8% | 5 | 1.4% | 32 | 8.8% | 3 | 0.8% | 0 | 0.0% | 1 | 0.3% | 1 | 0.3% | 365 |
| 1993 | 242 | 74.2% | 25 | 7.7% | 5 | 1.5% | 44 | 13.5% | 3 | 0.9% | 0 | 0.0% | 5 | 1.5% | 2 | 0.6% | 326 |
| 1994 | 235 | 82.2% | 20 | 7.0% | 4 | 1.4% | 21 | 7.3% | 1 | 0.3% | 0 | 0.0% | 1 | 0.3% | 4 | 1.4% | 286 |
| 1995 | 191 | 81.3% | 15 | 6.4% | 7 | 3.0% | 20 | 8.5% | 1 | 0.4% | 0 | 0.0% | 0 | 0.0% | 1 | 0.4% | 235 |
| 1996 | 241 | 80.6% | 16 | 5.4% | 7 | 2.3% | 26 | 8.7% | 3 | 1.0% | 1 | 0.3% | 2 | 0.7% | 3 | 1.0% | 299 |
| 1997 | 232 | 84.1% | 13 | 4.7% | 3 | 1.1% | 20 | 7.2% | 4 | 1.4% | 0 | 0.0% | 1 | 0.4% | 3 | 1.1% | 276 |
| 1998 | 175 | 77.1% | 18 | 7.9% | 2 | 0.9% | 24 | 10.6% | 5 | 2.2% | 0 | 0.0% | 2 | 0.9% | 1 | 0.4% | 227 |
| 1999 | 96 | 65.8% | 18 | 12.3% | 1 | 0.7% | 23 | 15.8% | 3 | 2.1% | 0 | 0.0% | 4 | 2.7% | 1 | 0.7% | 146 |
| 2000 | 168 | 78.9% | 15 | 7.0% | 2 | 0.9% | 21 | 9.9% | 4 | 1.9% | 0 | 0.0% | 1 | 0.5% | 2 | 0.9% | 213 |
| 2001 | 109 | 70.8% | 10 | 6.5% | 3 | 1.9% | 20 | 13.0% | 5 | 3.2% | 0 | 0.0% | 4 | 2.6% | 3 | 1.9% | 154 |
| 2002 | 85 | 70.2% | 7 | 5.8% | 3 | 2.5% | 14 | 11.6% | 6 | 5.0% | 0 | 0.0% | 5 | 4.1% | 1 | 0.8% | 121 |
| 2003 | 74 | 71.2% | 9 | 8.7% | 2 | 1.9% | 11 | 10.6% | 4 | 3.8% | 0 | 0.0% | 4 | 3.8% | 0 | 0.0% | 104 |
| 2004 | 70 | 76.9% | 9 | 9.9% | 2 | 2.2% | 7 | 7.7% | 2 | 2.2% | 0 | 0.0% | 1 | 1.1% | 0 | 0.0% | 91 |
| 2005 | 80 | 74.1% | 12 | 11.1% | 2 | 1.9% | 8 | 7.4% | 1 | 0.9% | 0 | 0.0% | 3 | 2.8% | 2 | 1.9% | 108 |
| 2006 | 74 | 84.1% | 6 | 6.8% | 1 | 1.1% | 4 | 4.5% | 0 | 0.0% | 0 | 0.0% | 2 | 2.3% | 1 | 1.1% | 88 |
| 2007 | 116 | 82.3% | 11 | 7.8% | 3 | 2.1% | 7 | 5.0% | 0 | 0.0% | 0 | 0.0% | 1 | 0.7% | 3 | 2.1% | 141 |
| 2008 | 121 | 82.9% | 3 | 2.1% | 2 | 1.4% | 13 | 8.9% | 2 | 1.4% | 0 | 0.0% | 3 | 2.1% | 2 | 1.4% | 146 |
| 2009 | 107 | 73.8% | 11 | 7.6% | 1 | 0.7% | 19 | 13.1% | 2 | 1.4% | 0 | 0.0% | 5 | 3.4% | 0 | 0.0% | 145 |
| 2010 | 103 | 80.5% | 8 | 6.3% | 1 | 0.8% | 9 | 7.0% | 2 | 1.6% | 0 | 0.0% | 5 | 3.9% | 0 | 0.0% | 128 |
| 2011 | 87 | 68.0% | 13 | 10.2% | 2 | 1.6% | 9 | 7.0% | 2 | 1.6% | 0 | 0.0% | 6 | 4.7% | 0 | 0.0% | 119 |
| 2012 | 75 | 76.5% | 7 | 7.1% | 1 | 1.0% | 10 | 10.2% | 0 | 0.0% | 0 | 0.0% | 5 | 5.1% | 0 | 0.0% | 98 |
| Previous 10-year Average | 91 | 77.0% | 9 | 7.7% | 1.7 | 1.5% | 10 | 8.1% | 2 | 1.3% | 0 | 0 | 4 | 3.0% | 1 | 0.6% | 117 |
| 2013 | 102 | 82.9% | 9 | 7.3% | 0 | 0.0% | 7 | 5.7% | 0 | 0.0% | 0 | 0.0% | 5 | 4.1% | 0 | 0.0% | 123 |

[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, 1981–2013.

| | 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 |
| 2011 | 3 | 31 | 15 | 54 | 10 | 49 | 44 | 536 | 27 | 103 | 14 | 33 |
| 2012 | 3 | 0 | 11 | 72 | 13 | 32 | 42 | 1,202 | 19 | 140 | 7 | 25 |
| Previous 10-year Average | 3 | 50 | 23 | 327 | 13 | 120 | 21 | 381 | 18 | 218 | 10 | 92 |
| 2013 | 2 | 0 | 11 | 38 | 22 | 137 | 56 | 1,252 | 21 | 219 | 11 | 86 |

Appendix E7.–Salmon retained from the commercial harvest for personal use (homepack) by species and gear type from Lower Cook Inlet districts, 1996–2013.

| | 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 | |
| 2011 | 3 | 1 | 2 | 3 | 62 | 0 | 3 | 0 | 487 | 0 | 27 | 0 |
| 2012 | 7 | | 4 | | 63 | | 61 | | 323 | | 31 | |
| Previous 10-year average | 3 | 2 | 3 | 1 | 61 | 60 | 29 | 6 | 183 | 0 | 10 | 2 |
| 2013 | 6 | 0 | 16 | 0 | 155 | 0 | 150 | 0 | 157 | 0 | 13 | 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, 2013.

Commercial Homepack [a]

| Community | Permits | Chinook | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|---|
| Homer | 2 | 1 | 52 | 91 | 48 | 6 | 198 |
| Seldovia | 2 | 14 | 42 | 55 | 105 | 7 | 223 |
| USA balance | 2 | 1 | 61 | 4 | 4 | 0 | 70 |
| Total | 6 | 16 | 155 | 150 | 157 | 13 | 491 |

Southern District Personal Use set gillnet fishery [b]

| Community | Permits issued | Permits returned | Chinook salmon | Sockeye salmon | Coho salmon | Pink salmon | Chum salmon | Total salmon |
|---|---|---|---|---|---|---|---|---|
| Anchorage area | 10 | 9 | | 14 | 102 | 16 | | 132 |
| Anchor Pt./Ninilchik/Nikolaevsk | 7 | 6 | 1 | 8 | 5 | 5 | | 19 |
| Halibut Cove | 0 | 0 | | | | | | 0 |
| Homer | 102 | 93 | 5 | 87 | 1,454 | 103 | | 1,669 |
| Kenai/Soldotna | 4 | 4 | | 23 | 43 | 20 | 1 | 117 |
| Pt.Graham/Nanwalek | 0 | 0 | | | | | | 0 |
| Seldovia | 0 | 0 | | | | | | 0 |
| Total | 123 | 112 | 6 | 132 | 1,604 | 144 | 1 | 1,887 |

Port Graham/Nanwalek subsistence fishery [c]

| Community | Permits issued | Permits returned | Chinook salmon | Sockeye salmon | Coho salmon | Pink salmon | Chum salmon | Total salmon |
|---|---|---|---|---|---|---|---|---|
| Anchorage area | 1 | 0 | | | | | | 0 |
| Cooper Landing | 0 | 0 | | | | | | 0 |
| Fairbanks area | 0 | 0 | | | | | | 0 |
| Homer | 0 | 0 | | | | | | 0 |
| Nanwalek | 4 | 4 | 2 | 3,854 | 2,619 | 383 | 811 | 7,669 |
| Port Graham | 10 | 10 | 15 | 1,034 | 66 | 27 | 86 | 1,228 |
| Total | 15 | 14 | 17 | 4,888 | 2,685 | 410 | 897 | 8,897 |

Seldovia subsistence fishery [d,e]

| Community | Permits issued | Permits returned | Chinook salmon | Sockeye salmon | Coho salmon | Pink salmon | Chum salmon | Total salmon |
|---|---|---|---|---|---|---|---|---|
| Anchor Point | 0 | 0 | | | | | | 0 |
| Homer | 0 | 0 | | | | | | 0 |
| Nanwalek | 0 | 0 | | | | | | 0 |
| Port Graham | 0 | 0 | | | | | | 0 |
| Seldovia | 12 | 8 | 2 | 98 | 1 | 45 | 10 | 156 |
| Total | 12 | 7 | 2 | 98 | 1 | 45 | 10 | 156 |

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

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

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

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

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

# APPENDIX F: HATCHERY PRODUCTION AND RETURNS

Appendix F1.–Summary of salmon runs to Lower Cook Inlet hatcheries, 2013.

Sockeye salmon

| Hatchery or release site, (hatchery [a]) | BY 2008 Release | BY 2009 Release | 2013 Forecast Run | Estimated CPF[b] Contribution | Estimated Sales Harvest[c] Contribution | Broodstock & Unharvested Contribution | Estimated Total Run | 2013 Eggs Collected |
|---|---|---|---|---|---|---|---|---|
| Bear Lake and Resurrection Bay, (TLH) | 4,193,000 | 2,200,000 | 70,666 | 0 | 44,572 | 12,610 | 57,182 | 5,325,000 |
| Hidden Lake, (TLH) | 911,000 | 880,000 | 36,000 | 25,777 | 591 | 20,613 | 46,981 | 1,765,000 |
| Leisure and Hazel lakes, (TLH) | 2,411,000 | 3,151,000 | 43,352 | 20,967 | 8,755 | 13 | 29,735 | 0 |
| Kirschner Lake, (TLH) | 0 | 255,000 | 21,675 | 0 | 8,288 | 0 | 8,288 | 0 |
| English Bay Lakes, (TLH) | 0 | 202,000 | ukwn | ukwn | 0 | 1,753 | ukwn | 2,120,000 |
| Tutka Bay Lagoon, (TLH)[d] | 278,000 | 0 | 17,821 | 0 | 9,707 | 4,837 | 14,544 | 2,664,000 |
| Port Graham Hatchery, (TLH) | 0 | 0 | 2,000 | 0 | 0 | 0 | 0 | 0 |
| Total Sockeye Salmon | 7,793,000 | 6,688,000 | 191,514 | 46,744 | 71,913 | 39,826 | 156,730 | 11,874,000 |

Coho salmon

| Hatchery or release site, (hatchery) | BY 2010 Release | 2013 Forecast Run | Estimated CPF Contribution | Estimated Sales Harvest Contribution | Broodstock & Unharvested Contribution | Estimated Total Run | Eggs Collected |
|---|---|---|---|---|---|---|---|
| Bear Lake, (TLH) | 437,000 | 2,800 | NA | 2,044 | 1,103 | NA | 635,000 |
| Total Coho Salmon | 437,000 | 2,800 | NA | 0 | 1,103 | NA | 635,000 |

Pink salmon

| Hatchery or release site, (hatchery) | BY 2011 Release | 2013 Forecast Run | Estimated CPF Contribution | Estimated Sales Harvest Contribution | Broodstock & Unharvested Contribution | Estimated Total Run | Eggs Collected |
|---|---|---|---|---|---|---|---|
| Tutka Bay Lagoon Hatchery (TBLH) | 8,100,399 | 244,653 | 866 | 39,153 | 153,425 | 0 | 80,044,000 |
| Halibut Cove Lagoon, (TBLH) | 3,146,000 | 94,380 | 19,447 | 8,864 | 4,012 | 32,323 | 0 |
| Port Graham hatchery site (TBLH) | 0 | 0 | 0 | 0 | 0 | 0 | 373,000 |
| Total Pink Salmon | 11,246,399 | 339,033 | 20,313 | 48,017 | 157,437 | 32,323 | 80,417,000 |
| Total-All Salmon | | | 67,057 | 119,930 | 198,366 | 189,053 | 92,926,000 |

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

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

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

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

Appendix F2.–Daily sockeye salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2013.

| | | | Sales harvest[a] | | Donated | | Broodstock harvest | |
|---|---|---|---|---|---|---|---|---|
| Date | gear | Location | daily | cumulative | daily | cumulative | daily | cumulative |
| 5/24 | Purse seine | Resurrection Bay | 50 | 50 | | | | |
| 5/27 | " " | " " | 1,922 | 1,972 | | | | |
| 5/29 | " " | " " | 718 | 2,690 | | | | |
| 5/30 | " " | " " | 17 | 2,707 | | | | |
| 6/2 | " " | " " | 755 | 3,462 | | | | |
| 6/3 | " " | " " | 2,756 | 6,218 | | | | |
| 6/4 | " " | " " | 1,009 | 7,227 | | | | |
| 6/5 | " " | " " | 1,828 | 9,055 | | | | |
| 6/6 | " " | " " | 4,502 | 13,557 | | | | |
| 6/7 | " " | " " | 4,629 | 18,186 | | | | |
| 6/8 | " " | " " | 3,528 | 21,714 | | | | |
| 6/9 | " " | " " | 5,541 | 27,255 | | | | |
| 6/11 | " " | " " | 3,068 | 30,323 | | | | |
| 6/12 | " " | " " | 2,344 | 32,667 | | | | |
| 6/14 | " " | " " | 2,207 | 34,874 | | | | |
| 6/16 | " " | " " | 3,495 | 38,369 | | | | |
| 6/18 | " " | " " | 2,667 | 41,036 | | | | |
| 6/21 | Purse seine | Resurrection Bay | 374 | 41,410 | | | | |
| 6/16 | Weir or beach seine | Bear Lake | | | 13 | 13 | | |
| 6/17 | " " | " " | | | 16 | 29 | | |
| 6/18 | " " | " " | | | 30 | 59 | | |
| 6/20 | " " | " " | | | 29 | 88 | | |
| 6/21 | " " | " " | | | 29 | 117 | | |
| 6/22 | " " | " " | | | 18 | 135 | | |
| 6/23 | " " | " " | | | 44 | 179 | | |
| 6/25 | " " | " " | | | 53 | 232 | | |
| 6/27 | " " | " " | | | 168 | 400 | | |
| 6/28 | " " | " " | 362 | 362 | | 400 | | |
| 6/29 | " " | " " | | 362 | 67 | 467 | | |
| 6/30 | " " | " " | 266 | 628 | 20 | 487 | | |
| 7/1 | " " | " " | 199 | 827 | 50 | 537 | | |
| 7/3 | " " | " " | | 827 | 46 | 583 | | |
| 7/5 | " " | " " | 243 | 1,070 | 41 | 624 | | |
| 7/6 | " " | " " | | 1,070 | 43 | 667 | | |
| 7/7 | " " | " " | | 1,070 | 45 | 712 | | |
| 7/8 | " " | " " | 128 | 1,198 | 30 | 742 | | |
| 7/9 | " " | " " | | 1,198 | 30 | 772 | | |
| 7/11 | " " | " " | 362 | 1,560 | | 772 | | |
| 7/12 | " " | " " | 226 | 1,786 | | 772 | | |
| 7/13 | " " | " " | | 1,786 | 21 | 793 | | |
| 7/14 | " " | " " | | 1,786 | 16 | 809 | | |
| 7/15 | " " | " " | 247 | 2,033 | 40 | 849 | | |
| 7/16 | " " | " " | | 2,033 | 21 | 870 | | |
| 7/17 | " " | " " | | 2,033 | 15 | 885 | | |
| 7/18 | " " | " " | | 2,033 | 103 | 988 | | |
| 7/19 | " " | " " | | 2,033 | 22 | 1,010 | | |
| 7/20 | " " | " " | | 2,033 | 24 | 1,034 | | |
| 7/21 | " " | " " | | 2,033 | 28 | 1,062 | | |
| 7/22 | " " | " " | | 2,033 | 28 | 1,090 | | |
| 7/23 | Weir or beach seine | Bear Lake | | 2,033 | 39 | 1,129 | | |

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| Date | gear | Location | Sales Harvest daily | Sales Harvest cumulative | Broodstock daily | Broodstock cumulative |
|---|---|---|---|---|---|---|
| 7/31 | Weir or beach seine | Bear Lake | | | 195 | 195 |
| 8/3 | " " | " " | | | 197 | 392 |
| 8/4 | " " | " " | | | 189 | 581 |
| 8/8 | " " | " " | | | 217 | 798 |
| 8/9 | " " | " " | | | 200 | 998 |
| 8/10 | " " | " " | | | 183 | 1,181 |
| 8/10 | " " | " " | | | 189 | 1,370 |
| 8/12 | " " | " " | | | 188 | 1,558 |
| 8/13 | " " | " " | | | 180 | 1,738 |
| 8/14 | " " | " " | | | 183 | 1,921 |
| 8/15 | " " | " " | | | 208 | 2,129 |
| 8/16 | " " | " " | | | 206 | 2,335 |
| 8/16 | " " | " " | | | 182 | 2,517 |
| 8/18 | " " | " " | | | 211 | 2,728 |
| 8/18 | " " | " " | | | 170 | 2,898 |
| 8/19 | " " | " " | | | 189 | 3,087 |
| 8/20 | " " | " " | | | 183 | 3,270 |
| 8/21 | " " | " " | | | 181 | 3,451 |
| 8/23 | weir or beach seine | Bear Lake | | | 155 | 3,606 |
| 7/14 | Purse seine | Neptune Bay | 6,518 | 6,518 | | |
| 7/17 | Purse seine | Neptune Bay | 2,237 | 8,755 | | |
| 7/19 | Purse seine | Tutka Bay | 2,475 | 2,475 | | |
| 7/27 | " " | " " | 2,561 | 5,036 | | |
| 7/31 | " " | " " | 2,786 | 7,822 | | |
| 8/4 | Purse seine | " " | 1,885 | 9,707 | | |
| 9/16 | Dip net from net | " " | | | 391 | 391 |
| 9/18 | " " | " " | | | 398 | 789 |
| 9/20 | " " | " " | | | 375 | 1,164 |
| 9/22 | " " | " " | | | 393 | 1,557 |
| 9/26 | " " | " " | | | 403 | 1,960 |
| 10/1 | Dip net from net | Tutka Bay | | | 520 | 2,480 |
| 7/17 | Purse seine | Kirschner Lake | 3,198 | 3,198 | | |
| 7/28 | Purse seine | Kirschner Lake | 5,090 | 8,288 | | |
| 9/5 | Beach seine | English Bay | | | 395 | 395 |
| 9/10 | " " | " " | | | 394 | 789 |
| 9/13 | " " | " " | | | 384 | 1,173 |
| 9/17 | " " | " " | | | 375 | 1,548 |
| 9/21 | Beach seine | English Bay | | | 205 | 1,753 |
| 9/24 | weir or beach seine | Hidden Lake[b] | | | 439 | 439 |
| 9/27 | " " | " " | | | 270 | 709 |
| 10/3 | " " | " " | | | 522 | 1,231 |
| 10/7 | weir or beach seine | Hidden Lake[b] | | | 294 | 1,525 |

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| Hatchery escapement summary in numbers of fish[c] | |
|---|---|
| Cost Recovery Harvest | 70,193 |
| Raceway harvest | 0 |
| Viable broodstock (spawned,eggs in incubators) | 8,684 |
| Unviable broodstock (green/over-ripe/bad) | 211 |
| Unspawned fish (e.g. excess males/females) | 138 |
| Holding mortalities (raceway, pen mortalities) | 331 |
| Estimated unharvested return | 0 |
| Estimated total return to hatchery | 79,557 |

| Sales summary | |
|---|---|
| Whole fish sales | 70,193 |
| Raceway sales | 0 |
| Carcass sales | 0 |
| Total sales | 70,193 |

[a] Source: ADF&G fish ticket database.

[b] CIAA projects conducted in Upper Cook Inlet.

[c] Data from CIAA (2013a-b) and ADF&G fish ticket database.

Appendix F3.–Daily pink salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2013.

| | | | Sales harvest[a] | | Broodstock harvest[b] | |
|---|---|---|---|---|---|---|
| Date | gear | Location | daily | cumulative | daily | cumulative |
| 7/14 | seine | Tutka Bay | 5,707 | 5,707 | | |
| 7/19 | " " " | " | 4,722 | 10,429 | | |
| 7/20 | " " " | " | 8,864 | 19,293 | | |
| 7/27 | " " " | " | 5,168 | 24,461 | | |
| 7/31 | " " " | " | 2,729 | 27,190 | | |
| 8/4 | " " " | " | 20,827 | 48,017 | | |
| 8/5 | " " " | " | | | 2,150 | 2,150 |
| 8/6 | " " " | " | | | 6,780 | 8,930 |
| 8/7 | " " " | " | | | 7,210 | 16,140 |
| 8/8 | " " " | " | | | 5,411 | 21,551 |
| 8/9 | " " " | " | | | 6,596 | 28,147 |
| 8/10 | " " " | " | | | 5,987 | 34,134 |
| 8/11 | " " " | " | | | 8,512 | 42,646 |
| 8/12 | " " " | " | | | 5,682 | 48,328 |
| 8/13 | " " " | " | | | 515 | 48,843 |
| 8/16 | " " " | " | | | 5,524 | 54,367 |
| 8/20 | " " " | " | | | 8,105 | 62,472 |
| 8/21 | " " " | " | | | 3,770 | 66,242 |
| 8/22 | " " " | " | | | 4,558 | 70,800 |
| 8/23 | " " " | " | | | 3,937 | 74,737 |
| 8/24 | " " " | " | | | 5,798 | 80,535 |
| 8/25 | " " " | " | | | 5,612 | 86,147 |
| 8/26 | " " " | " | | | 5,190 | 91,337 |
| 8/28 | " " " | " | | | 5,326 | 96,663 |
| 8/29 | " " " | " | | | 3,767 | 100,430 |
| 9/1 | " " " | " | | | 2,887 | 103,317 |
| 9/2 | " " " | " | | | 5,746 | 109,063 |
| 9/3 | " " " | " | | | 3,469 | 112,532 |
| 9/4 | " " " | " | | | 4,576 | 117,108 |
| 9/5 | " " " | " | | | 2,674 | 119,782 |
| 9/6 | " " " | " | | | 3,389 | 123,171 |
| 9/7 | " " " | " | | | 5,175 | 128,346 |
| 9/8 | " " " | " | | | 4,733 | 133,079 |
| 9/10 | " " " | " | | | 4,858 | 137,937 |
| 9/11 | " " " | " | | | 3,178 | 141,115 |
| 9/12 | seine | Tutka Bay | | | 2,769 | 143,884 |
| 9/11 | seine | Port Graham | | | 11,289 | 11,289 |

| Hatchery escapement summary in numbers of fish | |
|---|---|
| Cost Recovery Harvest | 48,017 |
| Raceway harvest | 0 |
| Viable broodstock (spawned,eggs in incubators) | 106,425 |
| Unviable broodstock (green/over-ripe/bad) | 20,700 |
| Unspawned fish (e.g. excess males/females) | 3,217 |
| Holding mortalities (raceway, pen mortalities) | 24,831 |
| Total hatchery harvest | 203,190 |

| Sales summary | |
|---|---|
| Whole fish sales | 48,017 |
| Raceway sales | 0 |
| Carcass sales | 0 |
| Total sales | 48,017 |

[a] From ADF&G fish ticket database.

[b] Data from CIAA (2013a-b).

Appendix F4.–Daily coho salmon sales and broodstock collection; sales and broodstock summary in numbers of fish for Cook Inlet Aquaculture Association, 2013.

| | | | Whole fish donated[a] | | Carcass donated[b] | |
|---|---|---|---|---|---|---|
| Date | gear | Location | daily | cumulative | daily | cumulative |
| 9/5 | weir | Bear Lake | 47 | 47 | | |
| 9/11 | " " " | " | 78 | 125 | | |
| 9/13 | " " " | " | 220 | 345 | | |
| 9/14 | " " " | " | 207 | 552 | | |
| 9/15 | " " " | " | 211 | 763 | | |
| 9/16 | " " " | " | 252 | 1,015 | | |
| 9/17 | " " " | " | 252 | 1,267 | | |
| 9/18 | " " " | " | 211 | 1,478 | | |
| 9/19 | " " " | " | 220 | 1,698 | | |
| 9/20 | " " " | " | 103 | 1,801 | | |
| 9/21 | " " " | " | 12 | 1,813 | | |
| 9/22 | " " " | " | 54 | 1,867 | | |
| 9/23 | " " " | " | 8 | 1,875 | | |
| 9/26 | " " " | " | 0 | 1,875 | 98 | 98 |
| 9/27 | " " " | " | 2 | 1,877 | | 98 |
| 9/28 | " " " | " | 98 | 1,975 | 100 | 198 |
| 9/29 | " " " | " | 10 | 1,985 | | 198 |
| 10/3 | | | 0 | 1,985 | | 198 |
| 10/4 | " " " | " | 12 | 1,997 | 144 | 342 |
| 10/5 | " " " | " | 47 | 2,044 | | 342 |
| 10/10 | " " " | " | 0 | 2,044 | 210 | 552 |
| 10/11 | weir | Bear Lake | 0 | 2,044 | 251 | 803 |

| Hatchery escapement summary in numbers of fish | |
|---|---|
| Cost Recovery Harvest | 0 |
| Raceway harvest | 0 |
| Viable broodstock (spawned,eggs in incubators) | 336 |
| Unviable broodstock (green/over-ripe/bad) | 6 |
| Unspawned fish (e.g. excess males/females) | 305 |
| Holding mortalities (raceway, pen mortalities) | 156 |
| Estimated unharvested return | 300 |
| Total hatchery harvest | 1,103 |

| Sales and donation summary | |
|---|---|
| Whole fish sales | 0 |
| Whole fish donation | 2,044 |
| Carcass donation | 803 |
| Total sales and donation | 2,847 |

[a] Donated to public at weir by CIAA. Source: ADF&G fish ticket database.

[b] ADF&G fish ticket database.

Appendix F5.–Historical harvest contributions, and total return of sockeye and coho salmon to Cook Inlet hatchery release sites, 1978–2013.

| | Sockeye salmon | | | | | Coho salmon [a] | | | |
|---|---|---|---|---|---|---|---|---|---|
| Return Year | Hatchery Contrib. to the CCPF | Hatchery Contrib. to Broodstock Esc. | Hatchery Contrib. to Cost Recov. | Hatchery Donated | Total Hatchery Return | Hatchery Contrib. to Broodstock Esc. | Hatchery Contrib. to Cost Recov. | Hatchery Donated | Total Hatchery Return |
| 1978 | 0 | 0 | 0 | | 0 | 100 | 0 | | 100 |
| 1979 | 299,858 | 3,974 | 0 | | 303,833 | 7,089 | 0 | | 7,089 |
| 1980 | 638,058 | 30,927 | 0 | | 668,985 | 6,376 | 0 | | 6,376 |
| 1981 | 358,726 | 9,700 | 0 | | 368,460 | 0 | 0 | | 0 |
| 1982 | 23,990 | 19,283 | 0 | | 45,218 | 0 | 0 | | 0 |
| 1983 | 151,400 | 16,103 | 0 | | 173,903 | | | | |
| 1984 | 231,444 | 50,800 | 0 | | 287,758 | 4,620 | 0 | | 4,620 |
| 1985 | 415,493 | 179,400 | 0 | | 608,252 | 5,335 | 0 | | 5,335 |
| 1986 | 808,503 | 12,020 | 0 | | 841,552 | 1,938 | 0 | | 1,938 |
| 1987 | 521,349 | 34,600 | 0 | | 572,648 | 300 | 0 | | 300 |
| 1988 | 676,669 | 594 | 0 | | 686,184 | 0 | 0 | | 0 |
| 1989 | 251,532 | 12,000 | 78,731 | | 356,263 | 0 | 0 | | 0 |
| 1990 | 370,195 | 2,708 | 8,513 | | 389,059 | 0 | 5,855 | | 5,855 |
| 1991 | 479,910 | 86,650 | 3,604 | | 590,136 | 0 | 6,035 | | 6,035 |
| 1992 | 378,823 | 24,103 | 9,198 | | 420,374 | 689 | 1,234 | | 1,923 |
| 1993 | 459,756 | 38,231 | 37,620 | | 551,457 | 678 | 7,199 | | 7,877 |
| 1994 | 205,837 | 17,655 | 51,140 | | 277,632 | 731 | 4,967 | | 5,698 |
| 1995 | 260,844 | 6,010 | 63,404 | | 344,048 | | | | |
| 1996 | 348,846 | 5,455 | 76,272 | | 445,157 | 608 | 723 | | 1,331 |
| 1997 | 184,409 | 1,645 | 90,464 | | 284,310 | 594 | 2,690 | | 3,284 |
| 1998 | 110,659 | 3,561 | 81,889 | | 211,166 | 780 | 9,905 | | 10,685 |
| 1999 | 968,473 | 16,317 | 182,311 | | 1,236,748 | 939 | 2,499 | | 3,438 |
| 2000 | 216,149 | 17,681 | 94,666 | 13,690 | 356,263 | 976 | 5,370 | 5,146 | 11,492 |
| 2001 | 656,309 | 17,773 | 67,786 | 7,343 | 840,524 | 644 | 1,754 | 1,758 | 4,156 |
| 2002 | 754,609 | 19,744 | 85,830 | 1,364 | 966,783 | 1,044 | 2,352 | 1,436 | 4,832 |
| 2003 | 1,080,584 | 20,311 | 124,388 | 2,275 | 1,306,299 | 1,234 | 2,228 | 1,816 | 5,278 |
| 2004 | 1,112,259 | 11,167 | 29,943 | 0 | 1,251,938 | 972 | 1,224 | 1,215 | 3,411 |
| 2005 | 924,377 | 7,379 | 74,673 | 1,302 | 1,104,598 | 953 | 1,536 | 1,518 | 4,007 |
| 2006 | 382,433 | 14,600 | 77,590 | 784 | 514,373 | 754 | 600 | 1,511 | 2,865 |
| 2007 | 345,027 | 12,754 | 57,305 | 271 | 450,136 | 608 | 0 | 0 | 608 |
| 2008 | 134,226 | 7,658 | 88,836 | 201 | 245,704 | 525 | 350 | 402 | 1,277 |

-continued-

| Return Year | Sockeye salmon | | | | | Coho salmon [a] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Hatchery Contrib. to the CCPF | Hatchery Contrib. to Broodstock Esc. | Hatchery Contrib. to Cost Recov. | Hatchery Donated | Total Hatchery Return | Hatchery Contrib. to Broodstock Esc. | Hatchery Contrib. to Cost Recov. | Hatchery Donated | Total Hatchery Return |
| 2009 | 26,798 | 10,403 | 174,980 | 782 | 235,419 | 483 | 0 | 138 | 621 |
| 2010 | 78,645 | 10,214 | 69,833 | 465 | 194,834 | 452 | 0 | 220 | 672 |
| 2011 | 94,153 | 7,572 | 159,860 | 211 | 261,585 | 454 | 0 | 385 | 839 |
| 2012 | 0 | 12,035 | 114,593 | 254 | 126,628 | 578 | 0 | 321 | 899 |
| Previous 10-yr avg. | 417,850 | 11,409 | 97,200 | 655 | 569,151 | 701 | 594 | 753 | 1,295 |
| 2013 | 10,732 | 9,364 | 71,913 | 1,129 | 93,138 | 354 | 0 | 2,044 | 2,398 |

*Note:* Harvest estimates of hatchery fish are from CIAA (2013a-b).

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

Appendix F6.–Estimated historical harvest contributions and total returns of pink salmon to greater Cook Inlet hatchery release sites, 1978–2013.

| Return Year | Brood Year | Fry Release | Hatchery Contribution to the CCPF [b] | Hatchery Contribution Cost Recovery | Hatchery Contribution Broodstock Esc. | Hatchery Donated | Total Hatchery Return | Estimated Marine Survival |
|---|---|---|---|---|---|---|---|---|
| 1978 | 1976 | 318,280 | 0 | 0 | 3,700 | | 3,700 | 1.16% |
| 1979 | 1977 | 4,820,937 | 0 | 0 | 369,000 | | 369,000 | 7.65% |
| 1980 | 1978 | 9,243,717 | 0 | 0 | 315,000 | | 315,000 | 3.41% |
| 1981 | 1979 | 6,795,244 | 963,350 | 0 | 47,279 | | 1,010,629 | 14.87% |
| 1982 | 1980 | 10,268,753 | 181,400 | 0 | 4,400 | | 185,800 | 1.81% |
| 1983 | 1981 | 15,475,435 | 577,200 | 0 | 0 | | 577,200 | 3.73% |
| 1984 | 1982 | 15,232,750 | 230,000 | 0 | 0 | | 230,000 | 1.51% |
| 1985 | 1983 | 18,142,463 | 463,600 | 0 | 0 | | 463,600 | 2.56% |
| 1986 | 1984 | 23,818,500 | 380,135 | 55 | 50 | | 380,240 | 1.60% |
| 1987 | 1985 | 26,265,176 | 84,500 | 0 | 0 | | 84,500 | 0.32% |
| 1988 | 1986 | 8,278,967 | 836,000 | 0 | 0 | | 836,000 | 10.10% |
| 1989 | 1987 | 15,589,360 | 877,600 | 0 | 0 | | 877,600 | 5.63% |
| 1990 | 1988 | 36,977,190 | 167,400 | 0 | 0 | | 167,400 | 0.45% |
| 1991 | 1989 | 36,974,370 | 204,800 | 0 | 0 | | 204,800 | 0.55% |
| 1992 | 1990 | 30,602,576 | 97,577 | 276,000 | 69,000 | | 442,577 | 1.45% |
| 1993 | 1991 | 33,760,487 | 228,376 | 409,431 | 102,000 | | 739,807 | 2.19% |
| 1994 | 1992 | 48,700,000 | 604,037 | 959,064 | 153,966 | | 1,717,067 | 3.53% |
| 1995 | 1993 | 62,395,000 | 1,210,572 | 1,213,322 | 182,348 | | 2,606,242 | 4.18% |
| 1996 | 1994 | 63,358,000 | 19,510 | 423,306 | 140,152 | | 582,968 | 0.92% |
| 1997 | 1995 | 111,469,975 | 172,262 | 2,465,108 | 188,197 | | 2,825,567 | 2.53% |
| 1998 | 1996 | 89,918,000 | 507,850 | 787,538 | 175,468 | | 1,470,856 | 1.64% |
| 1999 | 1997 | 90,000,000 | 222,228 | 857,902 | 151,903 | | 1,232,033 | 1.37% |
| 2000 | 1998 | 64,797,691 | 8,580 | 1,043,705 | 269,808 | | 1,322,093 | 2.04% |
| 2001 | 1999 | 66,287,812 | 108,735 | 421,530 | 198,148 | | 728,413 | 1.10% |
| 2002 | 2000 | 126,635,207 | 9,791 | 1,041,529 | 252,777 | | 1,304,097 | 1.03% |
| 2003 | 2001 | 105,971,985 | 2,924 | 616,155 | 261,457 | 590 | 881,126 | 0.83% |
| 2004 | 2002 | 125,167,000 | 1,523 | 2,459,189 | 117,222 | | 2,577,934 | 2.06% |
| 2005 | 2003 | 84,247,031 | 4,779 | 2,138,538 | 84,088 | | 2,227,405 | 2.64% |
| 2006 | 2004 | 26,567,983 | 5,000 | 246,781 | 27,741 | | 279,522 | 1.05% |
| 2007 | 2005 | 13,883,682 | 0 | 112,801 | 0 | | 112,801 | 0.81% |
| 2008 | 2006 | 13,282,049 | 0 | 0 | 0 | | 0 | |
| 2009 | 2007 | 0 | 0 | 0 | 0 | | 0 | |
| 2010 | 2008 | 0 | 0 | 0 | 0 | | 0 | |
| 2011 | 2009 | 0 | 0 | 0 | 0 | | 0 | |
| 2012 | 2010 | 0 | 0 | 0 | 0 | | 0 | |
| 2013 | 2011 | 11,246,399 | 0 | 48,017 | 143,884 | 0 | 191,901 | 1.71% |

*Note*: Harvest estimates of hatchery fish are from CIAA (2013 a and b). CCPF = Commercial Common Property Fleet.

Appendix F7.–Tutka Bay Lagoon Hatchery salmon releases, 1977–2013.

| 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] | | |
| 2012 | [b] | 11,246,399[a] | |
| 2013 | | 18,603,000[c] | |

[a] No thermal marking.

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

[c] Thermally marked.

Appendix F8.–Trail Lakes Hatchery salmon releases, 1983–2013.

| Year released | Chinook | Sockeye | Coho | Chum |
|---|---|---|---|---|
| 1983 | | 2,310,751 | 1,039,673 | |
| 1984 | 406,755 | 1,236,864 | 1,283,815 | |
| 1985 | 398,586 | 1,805,792 | 1,538,361 | 455,809 |
| 1986 | 217,648 | 516,000 | 1,530,116 | |
| 1987 | 268,399 | 3,718,311 | 1,702,446 | |
| 1988 | 98,429 | 9,074,486 | 945,999 | |
| 1989 | | 5,690,000 | 1,337,340 | |
| 1990 | | 7,679,698 | 840,585 | |
| 1991 | | 6,345,252[a] | 390,841 | |
| 1992 | | 7,575,637[a] | 255,533 | |
| 1993 | | 7,979,820[a] | 620,588 | |
| 1994 | | 6,640,000[a] | 320,000 | |
| 1995 | | 6,339,485[a] | 516,400 | |
| 1996 | | 4,110,638[a] | 75,000 | |
| 1997 | | 10,857,470[a] | 601,700 | |
| 1998 | | 7,653,000[a] | 409,000 | |
| 1999 | | 9,923,500[a] | 357,000 | |
| 2000 | | 12,521,000[a] | 418,000[b] | |
| 2001 | | 1,140,000[a] | 432,000[b] | |
| 2002 | | 18,907,200[a] | 528,500[b] | |
| 2003 | | 16,128,000[a] | 761,000[b] | |
| 2004 | | 17,272,000[a] | 996,000[b] | |
| 2005 | | 9,959,000[a] | 988,000[b] | |
| 2006 | | 5,785,000[a] | 1,146,000[b] | |
| 2007 | | 12,668,800[a] | 956,000[b] | |
| 2008 | | 13,203,000[a] | 685,000[b] | |
| 2009 | | 7,953,000[a] | 382,000[b] | |
| 2010 | | 8,616,000[a] | 435,000[b] | |
| 2011 | | 9,324,200[a] | 437,000[b] | |
| 2012 | | 7,636,300[a] | 315,000[b] | |
| Previous 10-year average | | 10,854,530 | 710,100 | |
| 2013 | | 7,482,000[a] | 405,000[b] | |

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

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

Appendix F9.–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 trout 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, 1991–2013.

| Year | Sockeye | Coho | Pink |
|---|---|---|---|
| 1991 | 84,757 [a] | | 255,000 [a] |
| 1992 | 144,982 [a] | | 1,810,487 [a] |
| 1993 | 194,700 [a] | | |
| 1994 | 830,159 [a] | | 1,295,000 [a] |
| 1995 | | | 358,000 [a] |
| 1996 | 292,134 [a] | | 6,469,975 [a] |
| 1997 | 199,000 [a] | 29,963 [a] | 918,000 [a] |
| 1998 | | | |
| 1999 | 918,348 [a] | | 4,617,362 |
| 2000 | 906,057 [a] | | 1,142,726 |
| 2001 | | | 27,298,797 |
| 2002 | | | 6,600,985 |
| 2003 | 694,647 | | 57,200,000 |
| 2004 | 159,616 | | 36,282,671 |
| 2005 | 203,000 | | 26,567,983 |
| 2006 | 422,060 | | 13,883,682 |
| 2007 | | | 13,282,049 |
| 2008 | | | |
| 2009 | 0 [b] | | |
| 2010 | | | |
| 2011 | | | |
| 2012 | | | |
| 2013 | | | |

[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).

Appendix F12.–Ship Creek Hatchery Complex, (Fort Richardson, Elmendorf, and William Jack Hernandez state fish hatcheries combined) hatchery salmon fry releases, 1966–2013.

| 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 | | 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] | 1,194,994 [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] | |
| 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 |
| 2011 | 1,741,377 | 1,050,001 |
| 2012 | 1,853,150 | 968,716 |
| Previous 10-year average | 1,860,316 | 1,156,622 |
| 2013 | 1,428,414 | 1,079,549 |

[a] No thermal marks.

Appendix F13.–Big Lake Hatchery salmon production, 1977–1993.

| Year | Chinook | Sockeye | Coho |
|---|---|---|---|
| 1977 | 56,100 | 7,680,700 | 40,700 |
| 1978 | | 8,142,465 | 418,775 |
| 1979 | | 0 | 625,143 |
| 1980 | | 1,428,698 | 760,822 |
| 1981 | | 4,704,730 | 455,397 |
| 1982 | | 5,281,866 | 964,837 |
| 1983 | | 7,715,937 | 2,034,544 |
| 1984 | | 7,382,330 | 2,076,058 |
| 1985 | | 12,426,199 | 3,194,538 |
| 1986 | | 15,057,683 | 2,986,852 |
| 1987 | | 11,719,972 | 2,658,141 |
| 1988 | | 14,301,329 | 7,504,439 |
| 1989 | | 13,205,848 | 82,774 |
| 1990 | | 10,815,340 | 3,274,101 |
| 1991 | | 10,292,327 | 458,672 |
| 1992 | | 4,609,280 | 288,196 |
| 1993 | | 6,874,392 | 882,151 |

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

Appendix F14.–Fire Lake Hatchery salmon production, 1964–1979.

| Year | Chinook | Sockeye | Coho | Pink |
|---|---|---|---|---|
| 1964 | | | | |
| 1965 | | | | |
| 1966 | 2,840 | | 512,720 | |
| 1967 | | | 965,400 | |
| 1968 | | 146,000 | 648,800 | |
| 1969 | | | 577,400 | |
| 1970 | | 120,000 | 1,014,500 | |
| 1971 | | | 349,848 | |
| 1972 | 109,100 | 17,000 | 1,569,000 | |
| 1973 | | 192,000 | 1,060,285 | |
| 1974 | 210,500 | 1,410,500 | 1,198,900 | 13,400 |
| 1975 | 100,900 | | 2,696,000 | |
| 1976 | 1,207,600 | | 2,462,800 | |
| 1977 | 2,531,786 | | 2,624,393 | |
| 1978 | 864,041 | | 2,282,151 | |
| 1979 | | | | |

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

Appendix F15.–Historic releases of Chinook salmon from hatcheries to Lower Cook Inlet, 1972–2013.

| | Southern District (241) | | | | | | Eastern District (231) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Halibut Cove Lagoon | Homer Spit | Tutka Bay | Kasitsna Bay | Seldovia Harbor | English Bay Lakes | Resurrection Bay | Alaska Sea-Life Center | Thumb Cove | Box Canyon | Lowell Creek | Spring Creek |
| 1972 | | | | 33,800 | | | | | | | | |
| 1975 | 3,463 | | | | | | | | | | | |
| 1976 | 16,183 | | 26,000 | | | | | | | 25,100 | | |
| 1977 | 49,947 | | | | | | | | | 50,036 | | |
| 1978 | 126,306 | | | | | | | | | 150,488 | | |
| 1979 | 224,708 | | | | | | | | | 257,530 | | |
| 1980 | 155,054 | | | | | | | | | | | |
| 1981 | 101,861 | | | | | | | | | | | |
| 1983 | 200,900 | | | | | | | | | 54,521 | | |
| 1984 | 84,000 | 88,753 | | | | | | | 71,427 | | 39,206 | |
| 1985 | 98,000 | 152,226 | | | | | 53,587 | | | | 132,708 | |
| 1986 | 101,331 | 103,946 | | | | | | | | | 100,900 | |
| 1987 | 94,100 | 103,860 | | | 80,420 | | | | | | 95,963 | |
| 1988 | 93,874 | 219,572 | | | 111,435 | | 109,020 | | | | 95,673 | |
| 1989 | 115,682 | 212,737 | | | 108,300 | | 109,464 | | | | 122,800 | 75,063 |
| 1990 | 112,458 | 210,087 | | | 98,525 | 109,465 | 112,831 | | | | 216,220 | |
| 1991 | 92,363 | 190,915 | | | 91,592 | | 373,165 | | | | 93,200 | |
| 1992 | 117,850 | 353,255 | | | 112,935 | | 261,803 | | | | 108,390 | |
| 1993 | 100,228 | 312,292 | | | 106,497 | | 193,742 | | | | 104,870 | |
| 1994 | 98,872 | 320,836 | | | 107,246 | | 165,596 | | | | 104,477 | |
| 1995 | 37,577 | 339,074 | | | 116,165 | | 220,146 | | | | 95,256 | |
| 1996 | 97,729 | 312,289 | | | 118,274 | | 300,000 | | | | 115,000 | |
| 1997 | 78,133 | 318,706 | | | 103,757 | | 203,932 | | | | 219,355 | |
| 1998 | 65,893 | 289,830 | | | 69,461 | | 205,133 | | | | 101,992 | |
| 1999 | 79,221 | 222,781 | | | 74,057 | | 88,066 | | | | 85,502 | |
| 2000 | 83,277 | 219,984 | | | 68,114 | | 212,873 | | | | 109,461 | |
| 2001 | 106,719 | 208,062 | | | 102,793 | | 113,147 | | | | 114,748 | |
| 2002 | 106,279 | 190,026 | | | 83,045 | | 100,314 | | | | 93,296 | |
| 2003 | 106,844 | 206,292 | | | 107,521 | | 109,976 | | | | 110,331 | |
| 2004 | 103,771 | 168,743 | | | 88,682 | | 126,280 | 30,066 | | | 89,388 | |
| 2005 | 112,521 | 220,822 | | | 114,984 | | 211,549 | 218,759 | | | 100,088 | |
| 2006 | 117,549 | 224,053 | | | 113,974 | | 303,217 | 120,000 | | | | |
| 2007 | 54,560 | 226,972 | | | 54,276 | | 117,842 | 115,716 | | | | |
| 2008 | 58,674 | 212,141 | | | 54,464 | | 142,469 | | | | | |
| 2009 | 35,065 | 164,234 | | | 44,487 | | | | | | | |
| 2010 | 111,134 | 213,503 | | | 114,421 | | 110,671 | | | | 109,779 | |
| 2011 | 107,338 | 219,787 | | | 103,382 | | 223,881 | | | | | |
| 2012 | 110,253 | 221,547 | | | 95,800 | | 219,743 | | | | | |
| Previous 10-yr avg. | 91,771 | 207,809 | | | 89,199 | | 173,959 | | | | | |
| 2013 | 60,666 | 216,292 | | | 63,311 | | 141,550 | | | | | |

Appendix F16.–Historic releases of Chinook salmon from hatcheries to Upper Cook Inlet, 1966–2013.

| | Kenai Peninsula drainages, (244-20, -30, -70) | | | | Susitna River drainages, (247-41) | | |
|---|---|---|---|---|---|---|---|
| | Ninilchik River | Crooked Creek | Sport Lake | misc. small releases combined [a] | Deception Creek | Finger Lake | misc. small releases combined [b] |
| 1966 | | | | | | | |
| 1967 | | | | | | | |
| 1968 | | | | | | | |
| 1969 | | | | | | | |
| 1970 | | | | | | | |
| 1971 | | | | | | | 30,690 |
| 1972 | | | | | | | |
| 1973 | | | | | | | |
| 1974 | | 31,000 | | | | | |
| 1975 | | 3,679 | | | | | |
| 1976 | | 183,300 | | | | | |
| 1977 | | 131,492 | | | | | |
| 1978 | | 172,515 | | | | | |
| 1979 | | 379,453 | | | | | |
| 1980 | | 51,998 | | | | | |
| 1981 | | 160,183 | | 12,000 | | | |
| 1983 | | 264,782 | | | | | |
| 1984 | | 360,059 | | 93,800 | | | 9,797 |
| 1985 | | 359,756 | | 23,075 | 534,447 | 8,320 | 19,870 |
| 1986 | | 253,624 | | | 327,723 | | |
| 1987 | | 206,179 | | | | | |
| 1988 | | 239,593 | | | 201,091 | | 132,125 |
| 1989 | 200,203 | 432,139 | | | 240,885 | | 388,936 |
| 1990 | 215,804 | 234,019 | | | 655,491 | | |
| 1991 | 87,992 | 239,653 | | | 391,669 | | |
| 1992 | 132,387 | 229,017 | | | 179,724 | 40,686 | |
| 1993 | 251,075 | 274,268 | | 100,000 | 160,194 | 36,141 | |
| 1994 | 201,513 | 224,784 | 7,500 | 65,000 | 177,913 | 35,980 | |
| 1995 | 54,720 | 208,661 | | | 167,643 | 26,204 | |
| 1996 | 103,453 | 213,000 | | | | 36,027 | 169,443 |
| 1997 | 50,292 | 219,119 | | | | 13,000 | 207,973 |
| 1998 | 48,798 | 139,803 | | | 197,392 | 55,146 | |
| 1999 | 49,853 | 193,257 | | | 201,006 | | |
| 2000 | | 226,407 | | | 206,496 | | |
| 2001 | | | | | | | |
| 2002 | | 99,548 | | | 197,277 | | |
| 2003 | 102,628 | 98,800 | | | 101,181 | | |
| 2004 | 51,303 | 80,601 | 2,056 | | 212,570 | 78,616 | 1,210 |
| 2005 | 55,229 | 113,613 | 5,280 | | 163,016 | 97,755 | |
| 2006 | 57,537 | 111,705 | 10,198 | | 50,426 | 52,843 | |
| 2007 | 56,325 | 111,382 | | | 103,016 | 90,381 | |
| 2008 | 56,943 | 114,588 | | | 112,219 | 3,000 | |
| 2009 | 54,797 | 115,035 | 5,834 | | 111,322 | 32,585 | |
| 2010 | 58,297 | 106,145 | | | 155,125 | 114,148 | |
| 2011 | 59,462 | 64,578 | | | 140,266 | | |
| 2012 | 54,780 | 52,759 | 4,193 | | 151,220 | 30,863 | |
| 2013 | 50,315 | | 3,259 | | 149,041 | 26,452 | |

-continued-

| | Matanuska drainages, (247-50) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Beach Lake | Cheney Lake | Clunie Lake | Delong Lake | Eklutna Tailrace | Green Lake | Hillberg Lake | Knik Lake | Matanuska Lake | Memory Lake |
| 1966 | | | | | | | | | | |
| 1967 | | | | | | | | | | |
| 1968 | | | | | | | | | | |
| 1969 | | | | | | | | | | |
| 1970 | | | | | | | | | | |
| 1971 | | | | | | | | | | |
| 1972 | | | | | | | | | | |
| 1973 | | | | | | | | | | |
| 1974 | | | | | | | | | | |
| 1975 | | | | | | | | | | |
| 1976 | | | | | | | | | | |
| 1977 | | | | | | | | | | |
| 1978 | | | | | | | | | | |
| 1979 | | | | | | | | | | |
| 1980 | | | | | | | | | | |
| 1981 | | 20,795 | | | | | | | | 8,300 |
| 1983 | | | | | | | | | | |
| 1984 | | | 10,000 | | | | | | | 8,370 |
| 1985 | | | | 3,000 | | | | | | 8,350 |
| 1986 | | | | | | | | | | 8,300 |
| 1987 | | | | | | | | | | |
| 1988 | 3,227 | 5,340 | 4,756 | 5,036 | | 3,580 | 1,919 | | | 16,600 |
| 1989 | | 7,540 | 3,891 | 3,081 | | | | | 12,565 | 17,551 |
| 1990 | 3,104 | 3,030 | 4,096 | 5,051 | | | | | | |
| 1991 | 3,076 | 5,206 | 4,232 | 5,068 | | 1,007 | 512 | | | |
| 1992 | 3,037 | 7,398 | 3,937 | 7,626 | | 1,043 | 1,071 | | | |
| 1993 | 3,168 | 3,029 | 4,320 | 5,066 | | 1,051 | 1,156 | | | |
| 1994 | 6,346 | 5,489 | 4,103 | 7,432 | | 989 | 989 | | | |
| 1995 | 8,115 | 9,905 | 4,291 | 10,146 | | 1,562 | 1,468 | | | |
| 1996 | 2,989 | 4,880 | 4,023 | 5,020 | | 1,558 | 1,587 | | | |
| 1997 | 2,000 | 4,191 | 2,767 | 4,032 | | 1,586 | 1,586 | | | |
| 1998 | 7,123 | 11,358 | 6,000 | 12,537 | | 4,032 | 4,124 | | | |
| 1999 | | | | | | | | | | |
| 2000 | | | | | | | | | | |
| 2001 | | | | | | | | | | |
| 2002 | | | | | 106,991 | | | | | |
| 2003 | | | | | 218,492 | | | | | |
| 2004 | 4,078 | | 2,981 | 5,931 | 215,165 | 1,261 | 1,261 | 2,065 | 2,235 | 24,092 |
| 2005 | 3,925 | | 2,981 | 5,982 | 164,586 | 1,100 | 1,100 | 3,705 | 2,197 | 1,800 |
| 2006 | | | | 26,277 | 213,250 | | | 59,395 | 19,724 | |
| 2007 | | | | | 110,978 | | | 33,748 | 94,095 | |
| 2008 | | | | | 114,136 | | | 320 | 280 | 200 |
| 2009 | | | 3,060 | 14,838 | 77,785 | 921 | 987 | 4,193 | 4,310 | 2,717 |
| 2010 | | | | | 152,014 | | | 27,098 | 67,160 | |
| 2011 | | | | | 122,962 | | | | | |
| 2012 | 1,568 | 1,457 | 13,889 | 8,675 | 160,347 | 2,841 | 2,866 | 3,486 | 2,974 | 2,167 |
| 2013 | 3,055 | 1,400 | 1,736 | 7,235 | 94,609 | 849 | 926 | 1,890 | | |

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| | | | | | Turnagain Arm drainages, (247-60) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mirror Lake | Otter Lake | Ship Creek-comprehensive | misc. small releases combined [d] | Campbell Pt. Lake | Jewel Lake | Sand Lake | Taku Campbell Lake | misc. small releases combined [e] |
| 1966 | | | 166,874 | 2,840 | | | | | |
| 1967 | | | 538,356 | | | | | | |
| 1968 | | | 82,400 | | | | | | |
| 1969 | | | 95,900 | | | | | | |
| 1970 | | | 45,700 | | | | | | |
| 1971 | | | 186,700 | | | | | | |
| 1972 | | | 71,814 | | | | | | |
| 1973 | | | 160,134 | | | | | | |
| 1974 | | | 204,000 | | | | | | |
| 1975 | | | 184,400 | | | | | | |
| 1976 | | | 904,300 | 99,800 | | | | | |
| 1977 | | | 2,702,302 | 56,100 | | | | | |
| 1978 | | | 1,229,058 | | | | | | |
| 1979 | | | 146,414 | | | | | | |
| 1980 | | | 457,942 | | | | | | |
| 1981 | | | | 4,350 | | | | | |
| 1983 | | | | | | | | | |
| 1984 | | | 328,318 | 81,944 | | | | | 287,167 |
| 1985 | | | 1,018,812 | 106,340 | 3,000 | | | | 344,889 |
| 1986 | | 7,846 | | 9,886 | | 8,452 | 8,548 | | 217,648 |
| 1987 | | | 53,212 | | | | | | 268,399 |
| 1988 | | 39,225 | 116,336 | 12,517 | | 10,220 | 14,510 | | 230,512 |
| 1989 | 5,405 | 5,919 | 120,670 | | | 10,297 | 9,756 | | |
| 1990 | 6,880 | 5,014 | 102,523 | 2,090 | 1,587 | 38,130 | 9,973 | | |
| 1991 | 4,981 | 7,314 | 211,268 | 102,100 | 1,617 | 7,027 | 10,014 | | |
| 1992 | 20,456 | 15,106 | 176,380 | 110,122 | 1,986 | 19,664 | 15,302 | | |
| 1993 | 4,798 | 5,400 | 217,557 | 121,066 | 1,711 | 7,611 | 9,968 | | 522 |
| 1994 | 10,264 | 6,954 | 199,830 | 107,547 | 1,552 | 17,325 | 9,542 | | |
| 1995 | 9,257 | 8,528 | 229,799 | 78,973 | 1,534 | 17,562 | 6,033 | 1,948 | |
| 1996 | 8,191 | 6,776 | 228,000 | 104,000 | 1,588 | 13,929 | 3,929 | 1,985 | 1,154 |
| 1997 | 7,000 | 5,500 | 334,591 | 102,627 | 1,000 | 7,325 | 4,000 | 2,231 | 1,651 |
| 1998 | 14,550 | | 205,762 | | 4,072 | 22,261 | 10,811 | 9,219 | 2,016 |
| 1999 | | | 197,168 | | | | | | |
| 2000 | | | 1,199,327 | | | | | | |
| 2001 | | | | | | | | | |
| 2002 | | | 290,501 | | | | | | |
| 2003 | | | 329,416 | | | | | | |
| 2004 | 7,396 | | 320,226 | | 2,302 | 21,978 | 4,650 | 2,910 | |
| 2005 | 6,958 | | 358,029 | | 3,158 | 15,828 | 6,122 | 3,058 | |
| 2006 | 29,043 | | 176,055 | 2,000 | 25,723 | 60,497 | | | |
| 2007 | | | 333,940 | | | | | | |
| 2008 | | | 341,495 | | | | | | |
| 2009 | | | 282,735 | | 10,190 | 27,850 | | | |
| 2010 | | | 332,597 | | | | | | |
| 2011 | | | 314,194 | | | | | | |
| 2012 | 702 | | 329,082 | | 3,830 | 9,705 | 1,542 | | |
| 2013 | 5,980 | | 324,145 | | 1,493 | 11,860 | 1,800 | 1,521 | |

-continued-

[a] Upper Cook Inlet, Kenai Peninsula drainages miscellaneous release sites are Centennial Lake, Enceleweski Lake, Engineer Lake, Longmare Lake, Loon Lake, Rogue Lake, Scout Lake, Spirit Lake, Twin Falls Lake.

[b] Upper Cook Inlet, Susitna River drainages miscellaneous release sites are Montana Creek, Prator Lake, Sheep Creek, Willow Creek.

[c] Ship Creek comprehensive includes releases from Elmendorf, Richardson, and Hernandez hatchery sites as well as remote releases to Ship Creek.

[d] Upper Cook Inlet, Matanuska River drainages miscellaneous release sites are Beaver Pond, Big Lake, Eagle River, Echo Lake, Gwen Lake, Johnson Lake, Lower Fire Lake, Lucille Lake, Meadow Creek, Rocky Lake, Swan Lake, Triangle Lake, Upper Fire Lake, Upper Six Mile Lake, Victor Lake.

[e] Upper Cook Inlet,Turnagain Arm drainages miscellaneous release sites are Grant Creek, Campbell Lake, Portage Lake, Six Mile Creek, Summit Lake, Tangle Pond, Upper Summit Lake.

Appendix F17.–Historic releases of sockeye salmon from hatcheries to Lower Cook Inlet, 1976 –2013.

| | Southern District (241) | | | | | | Outer District (232) | Kamishak District (249) | | | | | Eastern District (231) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| year | Leisure Lake | Hazel Lake | Halibut Cove Lagoon | Tutka Bay Lagoon | English Bay Lakes | Port Graham Subdist. | 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 | |
| 2012 | 2,074,000 | 1,240,000 | | 371,300 | 213,000 | | | | | 300,000 | | | 2,490,000 | 1,305,000 | |
| 2013 | 1,800,000 | 1,450,000 | | 511,000 | 211,000 | 102,000 | | | | | | | 2,548,000 | 2,090,000 | |

Appendix F18.–Historic releases of sockeye salmon from hatcheries to Upper Cook Inlet, 1973–2013.

| | Upper Cook Inlet, Kenai Peninsula (244-30, 246-20) | | | | | | Matanuska Drainage (247-50) | | | | Susitna drainage (247-41) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal Creek | Crooked Creek | Hidden Lake | Quartz Creek | Tustumena Lake | Packers Creek Lake | Big Lake system | Blodgett Lake | Chelatna Lake | Eklutna River | Nancy Lake | Susitna 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 | | | | | | | | | |
| 2012 | | | 948,000 | | | | | | | | | |
| 2013 | | | 860,000 | | | | | | | | | |

Appendix F19.–Historical releases of coho salmon from hatcheries to Lower Cook Inlet, 1963–2013.

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

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Appendix F19.–Page 2 of 2.

| | Southern District, (241) | | | | | | | Eastern District, (231) | | | | | Total coho salmon released |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Caribou Lake | Fritz Creek | Halibut Cove Lagoon | Homer Spit | Kasitsna Bay Creek | Seldovia | Port Graham | Resurrection Bay | Seward Lagoon | Bear Lake | Grouse Lake | Lowell Creek | |
| 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 | 516,400 | | 50,698 | 811,499 |
| 1996 | | | | 149,000 | | | | | 182,000 | 425,000 | | 69,000 | 825,000 |
| 1997 | | | | 120,242 | | | 29,963 | | 144,112 | 601,700 | | 61,687 | 957,704 |
| 1998 | | | | 148,410 | | | 30,000 | | 74,365 | 409,000 | | 65,687 | 727,462 |
| 1999 | | | | 129,602 | | | | | 109,142 | 357,000 | | 62,580 | 658,324 |
| 2000 | | | | 122,338 | | | | | 145,693 | 418,000 | | 54,184 | 740,215 |
| 2001 | | | | 225,042 | | | | | 124,703 | 432,000 | | 125,618 | 907,363 |
| 2002 | | | | 216,355 | | | | | 121,743 | 528,500 | | 119,512 | 986,110 |
| 2003 | | | | 325,735 | | | | | 123,718 | 658,000 | | 124,225 | 1,231,678 |
| 2004 | | | | 243,243 | | | | 192,000 | 323,798 | 691,000 | | 131,989 | 1,582,030 |
| 2005 | | | | 220,707 | | | | | 132,229 | 893,000 | | 132,276 | 1,378,212 |
| 2006 | | | | 449,216 | | 114,000 | | | 131,326 | 562,000 | | 277,261 | 1,533,803 |
| 2007 | | | | 228,244 | | 97,000 | | | 132,811 | 758,000 | | 130,892 | 1,346,947 |
| 2008 | | | | 217,843 | | 88,000 | | | 233,365 | 502,000 | | | 1,041,208 |
| 2009 | | | | 157,696 | | | | | 91,979 | 338,000 | | 91,833 | 679,508 |
| 2010 | | | | 130,206 | | | | | 134,008 | 435,000 | | 133,947 | 833,161 |
| 2011 | | | | 129,080 | | | | | 255,252 | 437,000 | | | 821,332 |
| 2012 | | | | 107,250 | | | | | 249,309 | 315,000 | | | 671,559 |
| Previous 10-year avg. | | | | 220,922 | | | | | 180,780 | 558,900 | | 146,060 | 1,111,944 |
| 2013 | | | | 132,027 | | | | | 216,444 | 405,000 | | | 753,471 |

Appendix F20.–Historical releases of coho salmon from hatcheries to Upper Cook Inlet, 1966–2013.

| Upper Cook Inlet, Kenai Peninsula drainages, (244-20, -30, -40, -90) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Centennial Lake | Crooked Creek | Arc Lake | Elephant Lake | Engineer Lake | Longmare Lake | Loon Lake | Rogue Lake | Scout Lake | Union Lake | misc. small releases |
| 1966 | | | | | | | | | | | |
| 1967 | | | | | | | | | | | 38,200 |
| 1968 | | | | | | | | | | | 26,000 |
| 1969 | 7,900 | | | | | | | | 28,500 | | |
| 1970 | | | | | | | | | | | |
| 1971 | 7,800 | | | | | | | | | | 27,995 |
| 1972 | 7,200 | | | | | | | | 23,800 | | |
| 1973 | | | | | | | 32,435 | | | | 41,100 |
| 1974 | | 60,000 | 4,100 | | | | | 1,500 | | | 13,400 |
| 1975 | 14,400 | 5,259 | | | 34,400 | | 10,800 | | | | 14,000 |
| 1976 | | | 4,000 | | | | | 1,300 | 33,300 | | 53,500 |
| 1977 | 3,127 | | | | 34,350 | | 10,800 | | | | 7,986 |
| 1978 | | | 3,997 | | | 34,888 | | 1,000 | 18,994 | | 5,000 |
| 1979 | 6,090 | 10,740 | | | 34,240 | | 10,800 | | | | 74,998 |
| 1980 | | | | | | | | | | | |
| 1981 | 6,010 | | 3,010 | | 44,900 | | 10,797 | 1,500 | | | 30,000 |
| 1982 | | | | | | | 5,700 | | | | 20,000 |
| 1983 | | 119,996 | | | 44,960 | | | | | | 582,231 |
| 1984 | | 120,000 | | | 14,025 | | | | | 25,000 | 839,454 |
| 1985 | | 102,356 | | | | | | | | | 583,853 |
| 1986 | | 155,794 | | | 60,750 | | 21,600 | | | 22,320 | 448,675 |
| 1987 | 5,000 | 521,140 | 5,000 | | 40,000 | | 10,800 | | 19,000 | 17,000 | 97,000 |
| 1988 | 5,000 | 350,485 | 5,000 | | 46,200 | | 21,575 | | 21,000 | 17,000 | |
| 1989 | | 426,772 | | | | | 20,695 | | | | |
| 1990 | 5,000 | 71,790 | 5,000 | | 46,000 | | 21,450 | 2,000 | 19,000 | 17,000 | 78,000 |
| 1991 | 5,000 | 72,123 | 5,000 | | 46,000 | | 26,495 | 2,000 | 19,000 | 15,000 | |
| 1992 | 5,000 | 74,000 | 5,000 | 50,000 | | | 32,650 | 2,000 | 19,000 | 15,000 | |
| 1993 | 5,000 | 71,700 | | | | | | 2,000 | 19,000 | 15,000 | |
| 1994 | 5,000 | 62,421 | 5,000 | 34,000 | | | | 2,000 | 19,000 | 15,000 | |
| 1995 | 5,000 | | | | | | | 2,000 | 19,496 | 15,011 | |
| 1996 | | | | | | | | | | | |
| 1997 | 5,208 | | 5,208 | 33,768 | | 17,834 | 4,153 | 2,083 | 19,073 | | 2,113 |
| 1998 | 5,000 | | 3,210 | 34,082 | | 17,125 | 4,000 | 2,000 | 19,015 | | 2,000 |
| 1999 | 5,016 | | 3,222 | 37,678 | | 17,000 | 4,015 | 2,300 | 19,000 | | 2,020 |
| 2001 | | | | | | | | | | | |
| 2002 | | | | | | | | | | | |
| 2003 | | | | | | | | | | | |
| 2004 | | | | 28,000 | | 8,650 | | | 9,200 | | |
| 2005 | | | | 28,456 | | 9,000 | | | 9,500 | | |
| 2006 | 10,007 | | | 35,125 | | 1,000 | | | | | |
| 2007 | 1,012 | | | 35,462 | | 9,939 | | | | | |
| 2008 | | | | 12,000 | | 2,000 | | | | | |
| 2009 | 1,000 | | 3,276 | 35,120 | | 10,000 | | | | | |
| 2010 | 2,903 | | 2,903 | 54,764 | | 20,322 | | | | | 9,500 |
| 2011 | 850 | | 1,600 | 29,900 | | 10,498 | | | | | 4,952 |
| 2012 | 1,000 | | 1,600 | 35,393 | | 9,864 | | | | | |
| 2013 | 1,200 | | 1,920 | 42,110 | | 11,990 | | | | | |

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Upper Cook Inlet, Susitna River drainages, (247-41)

| | Bear Paw Lake | Benka Lake | Christiansen Lake | Finger Lake | Nancy Lake | Prator Lake | Willow Lake | misc. small releases combined |
|---|---|---|---|---|---|---|---|---|
| 1966 | | | | | | | | |
| 1967 | | 12,400 | | 210,700 | | | | 7,100 |
| 1968 | | | | 25,000 | | | | |
| 1969 | | | | 149,900 | | | | |
| 1970 | | 12,000 | | 247,900 | | | | |
| 1971 | | | | | | 15,076 | | |
| 1972 | | | | | | | | |
| 1973 | | | | | | 15,000 | | |
| 1974 | | 7,800 | | 108,600 | | | | |
| 1975 | | | | 72,500 | | | | |
| 1976 | | 23,000 | 26,900 | 72,500 | | 9,800 | | 26,100 |
| 1977 | | | | 72,500 | | | | 11,300 |
| 1978 | | 17,250 | 17,900 | 72,527 | | 9,800 | | |
| 1979 | | | | 73,030 | | | | 22,378 |
| 1980 | | | | 44,177 | | | | |
| 1981 | | 18,445 | 26,679 | 72,954 | | 9,824 | | 16,429 |
| 1982 | 5,300 | 6,550 | 11,540 | 72,400 | | | | 8,735 |
| 1983 | | | | | 287,343 | | | 38,200 |
| 1984 | 9,000 | 18,526 | 28,314 | 72,600 | 763,542 | | | 37,590 |
| 1985 | 9,370 | 18,000 | 33,000 | 303,900 | 356,732 | | | 739,980 |
| 1986 | 8,000 | 25,000 | 15,908 | 72,215 | 1,096,889 | 19,845 | | |
| 1987 | 4,500 | 12,300 | 35,800 | 72,400 | 203,011 | 9,800 | | 129,923 |
| 1988 | 8,980 | 24,600 | 37,143 | 401,433 | 4,072,878 | 19,838 | | 1,210,725 |
| 1989 | 8,880 | 12,400 | 55,446 | 37,410 | 638,956 | 19,500 | | 223,152 |
| 1990 | | 33,073 | 35,750 | 72,156 | 1,365,524 | | | 838,344 |
| 1991 | | 37,073 | 35,708 | 72,420 | 277,762 | | | 155,529 |
| 1992 | 22,500 | | 35,417 | 23,856 | 158,459 | 49,800 | | 154,466 |
| 1993 | 9,000 | 12,230 | 35,804 | 17,938 | 279,873 | 19,905 | | 47,000 |
| 1994 | 9,000 | 12,300 | 36,035 | | 126,694 | 19,600 | | |
| 1995 | 4,500 | | 17,900 | | 151,985 | 9,800 | | |
| 1996 | | | | | | | | |
| 1997 | 4,277 | | 18,562 | | | 9,022 | | |
| 1998 | 4,614 | | 17,900 | | | 10,115 | | |
| 1999 | 4,321 | | 17,906 | | | 9,809 | | |
| 2001 | | | | | | | | |
| 2002 | | | | | | | | |
| 2003 | | | | | | | | |
| 2004 | 4,600 | | 15,400 | | | | | |
| 2005 | 4,500 | | 13,078 | | | | | |
| 2006 | 4,500 | | 15,230 | | | | | |
| 2007 | 5,032 | | 15,200 | | | | | |
| 2008 | | | 10,194 | | | | 3,114 | |
| 2009 | 6,470 | | 30,054 | | | | 6,368 | |
| 2010 | 5,440 | | 18,907 | | | | 3,000 | |
| 2011 | 3,600 | | 12,160 | | | | 2,400 | |
| 2012 | 4,500 | | 31,376 | | | | 3,000 | |
| 2013 | 4,500 | | 15,200 | | | | 3,000 | |

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Matanuska drainages, (247-50)

| | Barley Lake | Carpenter Lake | Cornelius Lake | Cottonwood Creek | Echo Lake | Eklutna Hatchery | Fish Creek | Johnson Lake |
|---|---|---|---|---|---|---|---|---|
| 1966 | | | | | | | | |
| 1967 | | | | | | | | |
| 1968 | | | | 86,900 | 3,500 | | | |
| 1969 | | | | | | | | |
| 1970 | | | | | | | | |
| 1971 | | | | | 9,198 | | | |
| 1972 | | | | | 9,100 | | | |
| 1973 | | | | | 9,200 | | | |
| 1974 | | | | | 6,900 | | | |
| 1975 | | | | | 4,600 | | | |
| 1976 | | | | | | | | |
| 1977 | | | | | | | | |
| 1978 | | | | 97,120 | | | 24,099 | |
| 1979 | | | 14,306 | 81,210 | 4,606 | | 335,853 | |
| 1980 | | | 15,498 | 95,326 | | | | |
| 1981 | | | 42,571 | 95,968 | 4,600 | | | |
| 1982 | | | 21,771 | 96,339 | 4,600 | | | |
| 1983 | | | 15,805 | 96,795 | 7,000 | 633 | | |
| 1984 | | | 23,396 | 124,953 | 2,302 | 229,150 | | |
| 1985 | | | 15,400 | 163,500 | 2,300 | 43,496 | | |
| 1986 | | | | 161,059 | 4,609 | 101,326 | | 7,307 |
| 1987 | | | 94,889 | 105,552 | 4,600 | 147,715 | 206,684 | |
| 1988 | | | 91,000 | 239,000 | 4,600 | 72,881 | 198,000 | |
| 1989 | | | | 16,900 | 4,596 | 50,787 | | |
| 1990 | | | | 202,000 | 4,600 | 54,278 | 69,000 | 1,100 |
| 1991 | | | | 72,000 | 6,960 | 21,285 | 81,489 | |
| 1992 | | | | 53,900 | 4,600 | 131,829 | 74,953 | |
| 1993 | 17,560 | 1,860 | | 74,198 | 4,600 | 108,070 | 71,934 | |
| 1994 | 1,860 | 17,600 | | | 4,600 | 62,400 | | 7,431 |
| 1995 | 1,860 | 17,600 | | | 2,300 | 60,967 | | |
| 1996 | | | | | | 69,176 | | |
| 1997 | 1,860 | 14,473 | | | 2,300 | 69,000 | | 1,000 |
| 1998 | 1,875 | 17,035 | | | 2,348 | 219,070 | | |
| 1999 | 1,900 | 13,724 | | | 2,302 | 126,602 | | |
| 2001 | | | | | | | | |
| 2002 | | | | | | | | |
| 2003 | | | | | | | | |
| 2004 | 2,000 | 25,241 | | | 2,400 | 131,979 | | 1,000 |
| 2005 | 1,900 | 21,437 | | | 2,300 | 132,149 | | 1,000 |
| 2006 | 1,908 | 15,022 | | | 25,490 | 132,212 | | 1,005 |
| 2007 | 900 | 15,000 | | | 17,393 | 118,054 | | 1,100 |
| 2008 | | | | | 2,000 | 118,139 | | |
| 2009 | 3,092 | 29,388 | | | 5,019 | 120,200 | | 1,520 |
| 2010 | 2,903 | 70,700 | | | 2,300 | 131,123 | | 1,000 |
| 2011 | | 8,377 | | | 2,640 | 97,087 | | |
| 2012 | 2,077 | 38,428 | | | 2,300 | 40,921 | | 1,000 |
| 2013 | 900 | 15,000 | | | 1,645 | 132,661 | | 1,039 |

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Matanuska drainages (continued)

| | Kalmback Lake | Klaire Lake | Knik Lake | Loberg Lake | Lucille Lake | Memory Lake | Rocky Lake | Ship Creek-comprehensive |
|---|---|---|---|---|---|---|---|---|
| 1966 | | | | | 80,500 | | | |
| 1967 | | | 12,500 | | 150,000 | | 11,200 | |
| 1968 | | | 8,800 | | 75,000 | | | 129,300 |
| 1969 | | | | | | | | 112,400 |
| 1970 | | | | | | | | 177,200 |
| 1971 | | | | | | | | 30,400 |
| 1972 | | | | | | | | 87,700 |
| 1973 | | | | | 55,450 | | | 77,100 |
| 1974 | | | | | | | | 90,500 |
| 1975 | | | | | 72,500 | | | 355,800 |
| 1976 | | | | | 72,500 | 16,600 | 11,800 | 1,140,900 |
| 1977 | | | | | 64,514 | | | 1,899,165 |
| 1978 | | | | | 72,527 | 12,500 | 8,900 | 1,562,342 |
| 1979 | | | | | 72,500 | | 5,900 | |
| 1980 | | | | | | 8,285 | | |
| 1981 | | | | | 72,838 | 8,300 | 2,900 | 250,980 |
| 1982 | | | | | 104,300 | 12,400 | 3,135 | |
| 1983 | | | | | 28,708 | 25,231 | 17,538 | 71,950 |
| 1984 | | | | | | 8,426 | 5,889 | 157,463 |
| 1985 | | | | | | 8,400 | 5,900 | 251,324 |
| 1986 | | | | | 67,805 | 8,300 | 4,078 | |
| 1987 | | | | | 36,200 | 8,300 | 5,800 | 616,497 |
| 1988 | | | | | 44,463 | 8,300 | 11,740 | 344,278 |
| 1989 | | | 5,000 | | 17,161 | | 9,700 | 56,841 |
| 1990 | | | 5,850 | | | 17,550 | 12,126 | 64,006 |
| 1991 | | 6,300 | 5,000 | | | 17,660 | 13,500 | 249,800 |
| 1992 | | | 5,000 | 1,100 | | 16,598 | 11,700 | 67,178 |
| 1993 | 12,492 | 1,800 | 5,000 | 1,100 | | 15,966 | 6,062 | 54,764 |
| 1994 | 12,500 | | 5,000 | 1,600 | | 16,600 | 5,900 | 75,799 |
| 1995 | 12,500 | 900 | 5,000 | 1,100 | | 8,300 | 2,900 | 158,981 |
| 1996 | | | | | | | | 227,914 |
| 1997 | 11,091 | | 3,846 | 1,100 | | 6,751 | | 232,066 |
| 1998 | 12,500 | | 5,357 | 1,119 | | 8,300 | | 232,765 |
| 1999 | 12,841 | | 5,000 | 1,100 | | 8,396 | | 165,388 |
| 2001 | | | | | | | | |
| 2002 | | | | | | | | |
| 2003 | | | | | | | | 407,576 |
| 2004 | 10,100 | 897 | | 2,666 | | | | 327,496 |
| 2005 | 10,000 | 900 | | 1,100 | | | | 499,166 |
| 2006 | 10,000 | 907 | | 1,100 | | | | 252,775 |
| 2007 | 12,171 | 1,000 | | 1,100 | | | | 255,380 |
| 2008 | | | | 1,100 | 8,852 | | | 245,490 |
| 2009 | 19,585 | 1,516 | | 21,976 | 16,052 | | | 287,825 |
| 2010 | 11,000 | 900 | | 8,000 | 19,627 | | | 252,319 |
| 2011 | 8,800 | 720 | | | 6,400 | | | 254,718 |
| 2012 | 25,724 | 934 | | 1,100 | 8,000 | | | 243,499 |
| 2013 | 11,000 | 642 | | 785 | 8,000 | | | 273,173 |

-continued-

| Matanuska drainages (continued) | | | | Turnagain Arm drainages, (247-60) | | | |
|---|---|---|---|---|---|---|---|
| | Victor Lake | Wasilla Lake | misc. small releases combined | Bird Creek | Campbell Creek | Diamond Lake | misc. small releases combined |
| 1966 | | | 4,060 | | | | |
| 1967 | | | 87,800 | | | | |
| 1968 | 3,000 | 152,900 | 25,000 | | | | |
| 1969 | | | 40,200 | | | | 10,000 |
| 1970 | 5,000 | | | | | | |
| 1971 | 5,980 | | 5,059 | | | | |
| 1972 | 5,400 | | | | | | |
| 1973 | 5,400 | | 11,500 | | | | 8,300 |
| 1974 | 2,700 | | | | | | |
| 1975 | 2,700 | | 11,500 | | | | 6,900 |
| 1976 | 2,800 | | 20,000 | | | | 40,000 |
| 1977 | | | 90,700 | | | | 107,200 |
| 1978 | 2,800 | 110,126 | 179,176 | | | | 40,200 |
| 1979 | 2,800 | 121,002 | 76,592 | | | | 53,908 |
| 1980 | 2,800 | 121,679 | 540,757 | | | | 10,761 |
| 1981 | 1,400 | 123,307 | 207,530 | | | | 15,500 |
| 1982 | 2,700 | 122,711 | 998,769 | | | | 5,000 |
| 1983 | 6,846 | 129,532 | 1,478,239 | | | | 299,246 |
| 1984 | 1,358 | 122,107 | 862,133 | | | | 330,086 |
| 1985 | 1,400 | 111,400 | 1,496,000 | | | | 393,969 |
| 1986 | 1,364 | 111,764 | 2,255,040 | | | | 400,320 |
| 1987 | 4,400 | | 2,032,673 | | | | 682,794 |
| 1988 | 6,638 | 267,000 | 1,731,637 | | | | 314,269 |
| 1989 | 6,680 | | 213,440 | | | | 55,830 |
| 1990 | 6,700 | | 795,748 | | | | 187,000 |
| 1991 | 6,700 | | 111,843 | | | | 8,593 |
| 1992 | 6,700 | 76,315 | 61,176 | 100,924 | 97,076 | | 163,533 |
| 1993 | 5,400 | | 314,854 | 140,382 | 140,797 | 13,900 | |
| 1994 | 2,700 | | 6,200 | 84,643 | 87,686 | 13,900 | |
| 1995 | 2,700 | | | 154,753 | 157,241 | 13,900 | |
| 1996 | | | 141,923 | 147,618 | 75,943 | | |
| 1997 | 2,700 | | | 294,565 | 71,519 | 11,087 | |
| 1998 | 2,713 | | | 164,211 | 83,317 | 13,968 | |
| 1999 | | | | 111,105 | 41,926 | 13,900 | |
| 2001 | | | 1,226,342 | | | | |
| 2002 | | | 1,273,443 | | | | |
| 2003 | | | 160,736 | | 78,576 | | |
| 2004 | 2,700 | | | 109,949 | 85,790 | 11,100 | |
| 2005 | 2,700 | | | 100,605 | 60,378 | 11,000 | |
| 2006 | 2,722 | | | 104,974 | 78,805 | 11,000 | |
| 2007 | 2,900 | | | 104,979 | 82,138 | 12,171 | |
| 2008 | | | | 113,035 | 83,421 | 3,500 | |
| 2009 | 3,028 | | | 113,300 | 15,400 | 18,792 | |
| 2010 | 2,700 | | 1,254 | 157,534 | 50,214 | 29,756 | |
| 2011 | 2,160 | | | 136,047 | 71,960 | 8,800 | |
| 2012 | 2,752 | | | 70,004 | | 14,192 | |
| 2013 | 1,928 | | | 110,297 | 83,088 | 11,000 | |

Appendix F21.–Historical releases of pink salmon from hatcheries to greater Cook Inlet, 1975–2013.

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

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

Appendix F22.–Historical releases of chum salmon from hatcheries to greater Cook Inlet, 1974–2013.

| | Southern District, (241) | | Eastern District, (231) | | Upper Cook Inlet, (247-41, -50) | | | |
|---|---|---|---|---|---|---|---|---|
| | Halibut Cove | Tutka Bay | Jap Creek | Spring Creek | Eklutna River | Indian River | Susitna River | Total chum salmon released |
| 1974 | 7,782 | | | | | | | 7,782 |
| 1975 | 595 | | | | | | | 595 |
| 1976 | | | | | | | | |
| 1977 | | | | | | | | |
| 1978 | | | | | | | | 9,666 |
| 1979 | | 597,377 | | | | | | 597,377 |
| 1980 | | | | | | | | |
| 1981 | | 7,992 | | | | | | 7,992 |
| 1982 | | 15,440 | | | | | | 15,440 |
| 1983 | | 1,117,745 | | | 1,536,892 | | 24,848 | 2,679,485 |
| 1984 | | 140,500 | | | 928,143 | 10,278 | 19,797 | 1,098,718 |
| 1985 | | 25,977 | 282,622 | 173,187 | | | 14,312 | 496,098 |
| 1986 | | 18,000 | | | 1,693,382 | | | 1,711,382 |
| 1987 | | 445,700 | | | 2,740,773 | | | 3,186,473 |
| 1988 | | 3,211,200 | | | 2,697,860 | | | 5,909,060 |
| 1989 | | 2,164,393 | | | 6,121,337 | | | 8,285,730 |
| 1990 | | 1,508,557 | | | 3,209,773 | | | 4,718,330 |
| 1991 | | | | | 2,535,335 | | | 2,535,335 |
| 1992 | | | | | 3,114,793 | | | 3,114,793 |
| 1993 | | | | | | | | |
| 1994 | | | | | | | | |
| 1995 | | | | | | | | |
| 1996 | | | | | | | | |
| 1997 | | | | | | | | |
| 1998 | | | | | | | | |
| 1999 | | | | | | | | |
| 2000 | | | | | | | | |
| 2001 | | | | | | | | |
| 2002 | | | | | | | | |
| 2003 | | | | | | | | |
| 2004 | | | | | | | | |
| 2005 | | | | | | | | |
| 2006 | | | | | | | | |
| 2007 | | | | | | | | |
| 2008 | | | | | | | | |
| 2009 | | | | | | | | |
| 2010 | | | | | | | | |
| 2011 | | | | | | | | |
| 2012 | | | | | | | | |
| 2013 | | | | | | | | |

Appendix F23.–Harvest of sockeye salmon returning to China Poot and Neptune Bays in the Southern District of Lower Cook Inlet, 1979–2013.

| Return year | Sport harvest [a] | Personal Use Dipnet harvest [b] | Commercial harvest [c] | Hatchery cost recovery [d] | Unharvested [e] | Total return |
|---|---|---|---|---|---|---|
| 1979 | 650 | | 2,975 | | | 3,625 |
| 1980 | 1,000 | 953 | 13,007 | | | 14,960 |
| 1981 | 1,500 | | 24,215 | | | 25,715 |
| 1982 | 450 | 1,320 | 1,044 | | 1,430 | 4,244 |
| 1983 | 480 | 5,466 | 91,946 | | 10 | 97,902 |
| 1984 | 500 | 1,794 | 117,438 | | 500 | 120,232 |
| 1985 | 500 | 796 | 60,890 | | 920 | 63,106 |
| 1986 | 100 | 1,815 | 15,031 | | 200 | 17,146 |
| 1987 | 200 | 1,231 | 61,453 | | | 62,884 |
| 1988 | 500 | 1,910 | 90,544 | | 470 | 93,424 |
| 1989 | 1,000 | 5,416 | 84,082 | | | 90,498 |
| 1990 | 500 | 5,835 | 66,549 | | | 72,884 |
| 1991 | 1,000 | 1,528 | 142,560 | | | 145,088 |
| 1992 | 300 | 3,468 | 82,455 | 7,336 | | 93,559 |
| 1993 | 400 | 4,551 | 131,367 | | | 136,318 |
| 1994 | 500 | 5,715 | 47,494 | 3,025 | | 56,734 |
| 1995 | 1,000 | 8,605 | 132,892 | 12,497 | 450 | 155,444 |
| 1996 | 1,000 | 4,773 | 269,553 | 14,235 | 441 | 290,002 |
| 1997 | 650 | 4,773 | 121,184 | | 1,130 | 127,737 |
| 1998 | 640 | 4,773 | 143,350 | 20,579 | 380 | 169,722 |
| 1999 | 640 | 4,773 | 187,207 | 16,188 | 522 | 209,330 |
| 2000 | 640 | 4,773 | 77,462 | 18,103 | 256 | 101,234 |
| 2001 | 640 | 4,773 | 99,866 | 27,037 | 57 | 132,373 |
| 2002 | 640 | 4,773 | 114,639 | 29,517 | 51 | 149,620 |
| 2003 | 640 | 4,773 | 391,768 | 35,557 | 121 | 432,859 |
| 2004 | 640 | 4,773 | 21,621 | 12,991 | 448 | 40,473 |
| 2005 | 640 | 4,773 | 65,333 | 29,737 | 1 | 100,484 |
| 2006 | 640 | 4,773 | 52,020 | 23,283 | 820 | 81,536 |
| 2007 | 640 | 4,773 | 61,193 | 22,586 | 501 | 89,693 |
| 2008 | 640 | 4,773 | 62,675 | 1,907 | 103 | 70,098 |
| 2009 | 640 | 4,773 | | 205 | 223 | 5,841 |
| 2010 | 640 | 4,773 | | 1,007 | 45 | 6,465 |
| 2011 | 640 | 4,773 | 9,945 | | 18 | 15,376 |
| 2012 | 640 | 4,773 | 5,559 | 11,938 | 45 | 22,955 |
| 2013 | 640 | 4,773 | 15,554 | 8,755 | 13 | 29,735 |

[a] Sport harvest figures for 1997–2013 represent the estimated previous 10-year average.

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

[c] The final "Commercial Harvest" figures are the total Common Property seine harvest in the 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.

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

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

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Appendix F24.–Commercial harvest and escapement of sockeye salmon at Chenik Lake in the Kamishak Bay District of Lower Cook Inlet, 1976–2013.

| 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 |
| 2012 | 55,255 | | 16,505 [d] | 71,760 |
| 2013 | 33,154 | | 11,333 [d] | 44,487 |

[a] Estimated from aerial surveys between 1976–1990 and 1998–present, weir counts between 1991 and 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 F25.–Commercial harvest of sockeye salmon at Kirschner Lake in the Kamishak Bay District of Lower Cook Inlet, 1989–2013.

| Return year | Common Property 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 |
| 2012 | 0 | 1,260 | 1,300 | 2,560 |
| 2013 | 0 | 8,288 | - | 8,288 |

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

Appendix F26.–Commercial harvest and escapement of pink and sockeye salmon in the Tutka Bay Subdistrict in the Southern District of Lower Cook Inlet, 1985–2013.

| | Sockeye salmon [a] | | | Pink salmon [a] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Return year | Commercial Harvest | Cost Recovery | Total Return | Commercial Harvest | Cost Recovery | Broodstock | Escapement | Sport catch[b] | Total Return |
| 1975 | 12,600 | | 12,600 | 89,200 | | | 17,600 | | 106,800 |
| 1976 | 14,200 | | 14,200 | 73,100 | | 10,800[c] | 11,500 | | 95,400 |
| 1977 | 21,300 | | 21,300 | 21,900 | | 6,528 | 14,000 | | 42,428 |
| 1978 | 92,100 | | 92,100 | 167,862 | | 21,100 | 15,000 | | 203,962 |
| 1979 | 15,600 | | 15,600 | 421,816 | | 21,200 | 10,600 | 2,000 | 455,616 |
| 1980 | 13,200 | | 13,200 | 321,513 | | 26,897 | 17,300 | 5,000 | 370,710 |
| 1981 | 41,000 | | 41,000 | 1,026,574 | | 22,000 | 28,000 | 6,000 | 1,082,574 |
| 1982 | 15,800 | | 15,800 | 184,876 | | 41,200 | 18,500 | 2,000 | 246,576 |
| 1983 | 35,900 | | 35,900 | 615,459 | | 53,800 | 12,900 | 5,000 | 687,159 |
| 1984 | 26,700 | | 26,700 | 241,054 | | 41,000 | 10,500 | 8,000 | 300,554 |
| 1985 | 14,886 | | 14,886 | 491,181 | | 43,000 | 14,000 | 8,000 | 556,181 |
| 1986 | 16,340 | | 16,340 | 400,150 | | 43,000 | 13,400 | 8,000 | 464,550 |
| 1987 | 14,659 | | 14,659 | 56,465 | | 22,000 | 4,800 | 500 | 83,765 |
| 1988 | 12,900 | | 12,900 | 723,929 | | 65,000 | 11,200 | 8,500 | 808,629 |
| 1989 | 13,461 | | 13,461 | 632,147 | | 5,100 | 11,900 | 10,000 | 659,147 |
| 1990 | 7,922 | | 7,922 | 20,183 | 17,243 | 62,000 | 38,500 | 2,000 | 139,926 |
| 1991 | 7,039 | 34 | 7,073 | 14,691 | 101,837 | 103,100 | 16,820 | 2,000 | 238,448 |
| 1992 | 8,578 | | 8,578 | 41,642 | 275,897 | 67,324 | 25,921 | 2,500 | 413,284 |
| 1993 | 5,797 | 8 | 5,805 | 128,347 | 409,431 | 107,242 | 27,403 | 2,000 | 674,423 |
| 1994 | 9,129 | 8 | 9,137 | 498,436 | 953,231 | 154,000 | 14,546 | 2,000 | 1,622,213 |
| 1995 | 12,323 | 3 | 12,326 | 1,212,342 | 1,213,322 | 166,052 | 15,899 | 3,000 | 2,610,615 |
| 1996 | 20,226 | 74 | 20,300 | 6,941 | 420,411 | 138,021 | 3,456 | 1,000 | 569,829 |
| 1997 | 9,686 | | 9,686 | 130,406 | 2,375,653 | 216,786 | 45,000 | 2,100 | 2,769,945 |
| 1998 | 8,480 | | 8,480 | 504,764 | 792,542 | 153,580 | 17,473 | 2,000 | 1,470,359 |
| 1999 | 18,711[b] | 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 | | 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 | | 5,827 | 1,523 | 1,175,326 | 0[d] | 17,846 | 1,500 | 1,196,195 |
| 2005 | 6,252 | | 6,252 | 4,779 | 1,631,806 | | 133,600 | 1,500 | 1,771,685 |
| 2006 | 5,865 | | 5,865 | 11,223 | | | 25,800 | 1,500 | 38,523 |
| 2007 | 8,272 | | 8,272 | | | | 5,700 | 1,500 | 7,200 |
| 2008 | 6,414 | 14,604 | 21,018 | 1,884 | 377 | | 14,100 | 1,500 | 17,861 |
| 2009 | 9,185 | 11,584 | 20,769 | 2,136 | | | 3,800 | 1,500 | 7,436 |
| 2010 | 6,307 | 38,087 | 44,394 | 2,536 | 161 | | 2,100 | 1,500 | 6,297 |
| 2011 | 10,516 | 7,836 | 18,352 | 1,911 | 5 | 12,665[e] | 21,974 | 1,500 | 38,055 |
| 2012 | 4,839 | 17,756 | 22,595 | 4,434 | 171 | 8,140 | 10,436 | 1,500 | 24,681 |
| 2013 | 16,285 | 9,707 | 25,992 | 866 | 39,153 | 143,884 | 9,541 | 1,500 | 194,944 |

[a] Data from CIAA (2013 a and b).

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

[c] Start of enhancement at Tutka Lagoon Hatchery.

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

[e] CIAA resumed operations at Tutka Lagoon Hatchery.

Appendix F27.–Harvest of salmon from the Port Graham Section of the Port Graham Subdistrict in the Southern District of Lower Cook Inlet, 1985–2013.

| | Sockeye salmon | | | Pink salmon | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Return year | Commercial Harvest | Subsist. Harvest[a] | Cost Recovery | Commercial Harvest | Subsist. Harvest[a] | Cost Recovery | Broodstock (plus excess) | Escapement | Total 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 |
| 2012 | 30 | 661 | 30 | 21,645 | 282 | | [b] | 34,486 | 56,413 |
| 2013 | 463 | 1,034 | | 13,188 | 27 | | [c] | 11,893 | 25,108 |

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

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

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

Appendix F28.–Harvest of salmon in the English Bay Section of the Port Graham Subdistrict of the Southern District of Lower Cook Inlet, 1985–2013.

| | Sockeye salmon | | | Coho salmon | | | Pink salmon [a] | | |
|---|---|---|---|---|---|---|---|---|---|
| Return year | Commercial Harvest | Subsist. Harvest [b] | Cost Recovery | Commercial Harvest | Subsist. Harvest [b] | Cost Recovery | Commercial Harvest | Subsist. Harvest [b] | 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 | [c] | | 3 | e | | 0 | [c] | |
| 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 |
| 2012 | 0 | 300 | | 0 | 400 | | 0 | 200 | 0 |
| 2013 | 0 | 3,854 | | 0 | 2,619 | | 0 | 383 | 0 |

[a] See Appendix F21 for historic hatchery releases of pink salmon to this area.

[b] 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

[c] 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, 2013, and 2014 forecast.

| Age | 2013 Est. Spawning Biomass | Percent by Weight | 2013 Commercial Harvest[a] | Percent by Weight | 2013 Total Biomass | Percent by Weight | 2014 Forecast Biomass | Percent by Weight |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | 187 | 2.8% | 0 | 0 | 187 | 2.8% | 360 | 5.7% |
| 4 | 864 | 12.8% | 0 | 0 | 864 | 12.8% | 261 | 4.1% |
| 5 | 1,134 | 16.8% | 0 | 0 | 1,134 | 16.8% | 1,095 | 17.3% |
| 6 | 1,727 | 25.6% | 0 | 0 | 1,727 | 25.6% | 1,124 | 17.8% |
| 7 | 451 | 6.7% | 0 | 0 | 451 | 6.7% | 1,629 | 25.8% |
| 8 | 876 | 13.0% | 0 | 0 | 876 | 13.0% | 334 | 5.3% |
| 9 | 913 | 13.5% | 0 | 0 | 913 | 13.5% | 601 | 9.5% |
| 10 | 257 | 3.8% | 0 | 0 | 257 | 3.8% | 575 | 9.1% |
| 11 | 139 | 2.1% | 0 | 0 | 139 | 2.1% | 163 | 2.6% |
| 12 | 154 | 2.3% | 0 | 0 | 154 | 2.3% | 78 | 1.2% |
| 13+ | 42 | 0.6% | 0 | 0 | 42 | 0.6% | 99 | 1.6% |
| TOTALS | 6,746 | 100.0% | 0 | 0 | 6,746 | 100.0% | 6,318 | 100.0% |

*Note*: st = short ton = 2,000 lbs.

[a] The commercial herring fishery in Kamishak Bay did not open in 2013.

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, 1961–2013.

| | Southern | | Kamishak | | Eastern | | Outer | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 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 | [a] | [a] | 0 | – | 831 | 22 | 0 | – | 844 | 24 |
| 1972 | [a] | [a] | 0 | – | [a] | [a] | 0 | – | [a] | [a] |
| 1973 | 204 | 16 | 243 | 14 | 831 | 25 | 301 | 12 | 1,579 | 37 |
| 1974 | 110 | 7 | 2,114 | 26 | 47 | 5 | 384 | 26 | 2,655 | 45 |
| 1975 | 24 | 5 | 4,119 | 40 | CLOSED | | CLOSED | | 4,143 | 41 |
| 1976 | 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 | [a] | [a] | 1,348 | 29 |
| 1986 | CLOSED | | 1,959 | 54 | 167 | 4 | 28 | 3 | 2,154 | 57 |
| 1987 | CLOSED | | 6,132 | 63 | 584 | 4 | 202 | 9 | 6,918 | 69 |
| 1988 | CLOSED | | 5,548 | 75 | 0 | – | [a] | [a] | 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[b] | 45[b] | CLOSED | | CLOSED | | 1,746 | 45 |
| 1998 | CLOSED | | 331[b] | 20[b] | CLOSED | | CLOSED | | 331 | 20 |
| 1999 | CLOSED | | 100[c] | 1[c] | CLOSED | | CLOSED | | 100 | 1 |
| 2000-2013 | CLOSED | | CLOSED | | CLOSED | | CLOSED | | CLOSED | |
| 1961-1999 Average [d] | 295 | -NA- | 2,520 | 49 | 556 | -NA- | 146 | -NA- | 2,205 | -NA- |

*Source*: ADF&G fish ticket database. Commercial Fisheries Entry Commission License Statistics, 1974–2013, Juneau.

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

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

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

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

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, 1978–2013.

| Year | Preseason Forecasted Biomass (st) | Preseason Projected Harvest (st)[a] | Actual Commercial Harvest (st)[a] | Average Roe % | No. of Permits w/Landings | Exvessel 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 | – | – | – |
| 2012 | [i] | – | CLOSED | – | – | – |
| 2013 | [i] | – | CLOSED | – | – | – |

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

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

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

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

[e] Data not available.

[f] Includes retroactive adjustment.

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

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

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

Appendix G4.–Summary of herring sac roe seine fishery openings and commercial harvests in the Kamishak Bay District of Lower Cook Inlet, 1969–2013.

| 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 |
| 1998 | 4/22 | 2 | 136 | 68 | 11 |
| | 5/14[d] | [d] | 10 | [d] | – |
| | 5/22[d] | [d] | 23 | [d] | – |
| 1999–2013 | 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, 1990–2013.

| Year | Preseason | | Actual Commercial Harvest (st)[a] | Estimated Exploitation Rate (%)[b] | ASA Hindcast Total Biomass Estimate (st)[c,d,e] | Hindcast Exploitation Rate (%)[c,f] |
|---|---|---|---|---|---|---|
| | Forecasted Biomass (st) | Projected Harvest (st)[a] | | | | |
| 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 | – |
| 2011 | 3,830 | – | CLOSED | – | [i] | – |
| 2012 | [i] | – | CLOSED | – | [i] | – |
| 1990 - 2011 Average[j] | 12,818 | 2,418 | 2,302 | 10.3% | 7,462 | 21.4% |
| 2013 | [i] | – | CLOSED | – | [i] | – |

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

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

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

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

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

[e] ASA estimates based on the most recent available hindcast, run 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 or hindcasted abundance estimate possible due to lack of age composition samples.

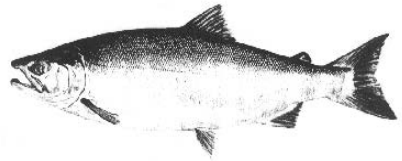
[j] Averages based only on years with data presented.

# APPENDIX H: 2013 OUTLOOK

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

*Cora Campbell, Commissioner*

*Jeff Regnart, Director*



Contact:
Glenn Hollowell, Area Finfish Management Biologist
Ethan Ford, Fishery Biologist I
Phone: (907) 235-8191
Fax: (907) 235-2448

Homer Area Office
3298 Douglas Place
Homer, AK 99603
Date Issued: March 19, 2013
Time: 2:00 PM

**2013 LOWER COOK INLET SALMON FISHERY OUTLOOK**

***General Information***

This outlook is provided to assist the commercial salmon industry in planning for the 2013 season in the Lower Cook Inlet (LCI) Management Area. Preseason forecasts and previous five year commercial common property harvest averages are the basis for the information provided. Forecasts for LCI can be found on ADF&G's web site:

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

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

http://www.ciaanet.org

Inseason modifications to harvest projections, season opening dates, and strategies for weekly fishing periods may occur as fisheries develop. Hatchery Annual Management Plans (AMP) are used to provide guidelines to the department when managing enhanced fisheries to achieve cost recovery and broodstock objectives. CIAA AMPs will undergo Regional Planning Team (RPT) review on April 18, and then be submitted for the commissioner's approval.

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

Management of the LCI commercial salmon fisheries is based in the Homer area office. All emergency order announcements of fishery openings and closures are broadcast on VHF channel 10. As was done last year, fishery announcements from the Homer ADF&G office will routinely occur at 2:00 PM or earlier if possible. Announcement recordings will be available for commercial fisheries at 907-235-7307. Emergency order announcement information is also transmitted by FAX and email to all registered processors, local radio stations, news media and interested members of

-continued-

the public. Harvest information and fisheries announcements are located on the ADF&G web site: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarealci.salmon

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

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

The first announcement is anticipated to be released at 2:00 PM, Wednesday, May 1 and concerns CIAA cost recovery harvest.

The preliminary CIAA annual corporate budget for fiscal year 2013 incorporates an overall cost recovery goal of 2.4 million dollars. A total of 155,514 hatchery produced sockeye, and 339,033 pink salmon are anticipated to return to CIAA release sites in 2013. Based on current market conditions, CIAA anticipates the market value of the return (minus broodstock) to be 1.4 million dollars, and therefore CIAA anticipates a 1.0 million dollar revenue shortfall in 2013. CIAA anticipates harvesting close to 100% of the hatchery returns up to a value of 2.4 million dollars.

The overall commercial common property harvest from Lower Cook Inlet is anticipated to be 278,579 salmon nearly all of which are anticipated to be of wild stock origin. Total anticipated harvest by species is shown on Table 1.

***Set Gillnet Fishery***

The **Southern District** is anticipated to open for the 2013 season on Monday, June 3 at 6:00 AM for a 48-hour period. Following periods will likely be 48-hours in length beginning at 6:00 AM on Monday and Thursday as specified in regulation. The 5-year harvest averages for this area and gear are 89 Chinook, 400 coho and 1,600 chum salmon. The 5-year commercial harvest average for the wild sockeye salmon harvested in the English Bay Section is 1,100 fish. Harvests for 2013 are anticipated to be similar to the historic average. The department's preliminary pink salmon forecast estimated a harvestable surplus of 40,000 fish from the Southern District; which is to be shared by commercial set gillnet and purse seine permit holders. Sockeye salmon returns to subdistricts outside of the English Bay Section are comprised significantly of fish returning to hatchery release sites at Leisure Lake, Hazel Lake, and Tutka Bay Lagoon. Returns to Leisure and Hazel lakes from the 2010 release (2009 brood year) of 3.2 million sockeye salmon is anticipated to be 43,352 fish. Fishing time in the Port Graham Subdistrict will be closely linked to escapement levels to English Bay Lakes. Management priority will be to provide for the subsistence needs of those immediate communities at the level prescribed in the Customary and Traditional Use finding in 5 AAC 01.566(d) of 4,800 – 7,200 salmon. The Port Graham Subdistrict is anticipated to remain closed to commercial harvest until English Bay River escapement is tracking to meet the overall spawning escapement goal (6,000–13,500) and hatchery broodstock goals (1,586 fish). While 2,000 sockeye salmon are anticipated to return to the release site near the Port Graham Hatchery; 1,900 of these fish will likely be subsistence harvest with the remainder harvested by CIAA for broodstock. Further information regarding previous year's hatchery releases and commercial harvests may be found in Annual Management Reports for this area at:

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

***Purse Seine Fishery***

Portions of the **Southern District** are anticipated to open to purse seine harvest in mid-June coinciding with enhanced returns to Leisure and Hazel lakes. Historically this return peaks from July 15-21 (week 29). CIAA anticipates a return of 43,352 sockeye salmon to Leisure and Hazel lakes combined, as well as 17,821 sockeye salmon to Tutka Bay. All hatchery returns to Tutka Bay are anticipated to be used by CIAA for cost recovery and broodstock purposes.

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Commercial fishing time after mid-July will be correlated to pink salmon escapement at Humpy Creek, Seldovia Bay, Port Graham and other locations in this district. A total of 339,033 hatchery produced pink salmon are anticipated to return to release sites in Kachemak Bay. Of those, 130,000 will be required for broodstock purposes. Waters of the Halibut Cove SHA are anticipated to open to CCPF in early-July to ascertain arrival of Windy Bay stock pink salmon. The SHA will then close and a portion will reopen to cost recovery harvest. Following the completion of cost recovery this area may reopen to CCPF for final clean-up. The department's priority in managing this remote hatchery release is to minimize straying to nearby wild pink salmon streams while focusing on harvesting only enhanced returns for hatchery cost recovery. The Tutka Bay and China Poot SHAs will remain closed to CCPF in order to maximize cost recovery harvest at those locations.

Hatchery sockeye salmon returns to the **Eastern District** are forecast by CIAA to be 70,666 fish. This is fewer than last year's forecasted return of 216,000 Trail Lakes Hatchery produced fish, where the actual estimated total return was 96,000 sockeye salmon. The Resurrection Bay North subdistrict is anticipated to open on May 20 to cost recovery harvest. Historically common property fishing has occurred in early June after cost recovery is completed. Wild stock harvest from the Eastern District will be linked to aerial survey observations of wild sockeye and pink salmon escapement to Aialik Lake and other spawning systems in this district. In addition, surveys of chum salmon index systems in Resurrection Bay and Day Harbor will be flown, weather permitting.

Portions of the **Outer District** are anticipated to open to commercial harvest in mid-July focusing on sockeye returns to McCarty Fjord lakes. Escapement to these systems is monitored by aerial survey (Desire and Delusion lakes) as well as a weir at the outlet of Delight Lake. In addition, waters in the western portion of this district are also anticipated to open at this time and later focusing on pink and chum salmon returns to Port Dick, as well as Windy and Rocky bays. There are numerous other smaller systems in the Nuka Passage area that are also monitored for returning chum and pink salmon. In the far west end of this district, systems with the latest return timing: Dogfish Bay, Chugach Bay and Port Chatham will be evaluated for chum and pink salmon harvest potential from August to early September. The previous 5-year harvest average for this district is 10,200 sockeye and 47,100 chum salmon. The department has forecast a harvestable surplus of 63,000 pink salmon from this district. Last year's harvest was 69,359 pink and 51,313 chum salmon.

Portions of the **Kamishak Bay District** open by regulation to commercial harvest on June 1. Previous 5-year average harvests for this district (excluding the Kirchner Subdistrict) are 77,000 sockeye and 37,400 chum salmon with the majority of the sockeye salmon harvest attributed to Chenik Lake runs and the chum salmon harvest spread throughout the district. Due to poor pink salmon escapement in 2011, the department has forecast that there will not be a significant commercial harvest of pink salmon from this district. Returns of hatchery released sockeye to the Kirchner Lake outfall remote release site are anticipated to be 21,675 fish. The Kirschner Lake SHA will be closed to CCPF until the conclusion of hatchery cost recovery efforts. The department tracks salmon escapement in this district using remote video monitoring sites at Chenik and Mikfik lakes, as well as regular aerial survey observations of index streams.

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Table 1.- Projected commercial common property harvests and hatchery returns for Lower Cook Inlet, 2013.

| **SOCKEYE SALMON** | Total anticipated harvest = | | **88,300** |
|---|---|---|---|
| **Natural stocks,** (5-yr average commercial harvest) | | | |
| Southern District, (English Bay Section only) | | | 1,100 |
| Eastern District, (Aialik Bay) | | | 0 |
| Outer District | | | 10,200 |
| Kamishak Bay District, (excluding Kirchner Lake Subdistrict) | | | 77,000 |
| **Sockeye salmon hatchery stocks**[a] | **Total** | **Hatchery** | **Commercial** |
| Resurrection Bay | 70,666 | 70,666 | 0 |
| China Poot and Hazel lakes | 43,352 | 43,352 | 0 |
| Tutka Bay Lagoon | 17,821 | 17,821 | 0 |
| Kirchner Lake | 21,675 | 21,675 | 0 |
| Port Graham Bay | 2,000 | 100 | 0 |

| **PINK SALMON,** ADF&G Preliminary Pink Salmon Forecast[c] | Total anticipated harvest = | | **103,000** |
|---|---|---|---|
| Southern District (combined gear) | | | 40,000 |
| Eastern District | | | 0 |
| Outer District | | | 63,000 |
| Kamishak Bay District | | | 0 |
| **Pink salmon hatchery stocks**[a] | **Total** | **Hatchery** | **Commercial** |
| Tutka Bay Lagoon | 244,653 | 244,653 | 0 |
| Halibut Cove Bight | 94,380 | 94,380 | 0 |

| **CHUM SALMON** - 5-year average harvest | Total anticipated harvest = | **86,330** |
|---|---|---|
| Southern District (purse seine) | | 160 |
| Southern District (set gillnet) | | 1,600 |
| Eastern District | | 70 |
| Outer District | | 47,100 |
| Kamishak Bay District | | 37,400 |

| **COHO SALMON** - 5-year average harvest | Total anticipated harvest = | **830** |
|---|---|---|
| Southern District (purse seine) | | 300 |
| Southern District (set gillnet) | | 400 |
| Eastern District | | 0 |
| Outer District | | 30 |
| Kamishak Bay District | | 100 |

| **CHINOOK SALMON** – 5-year average harvest | Total anticipated harvest = | **119** |
|---|---|---|
| Southern District (purse seine) | | 23 |
| Southern District (set gillnet) | | 89 |
| Eastern District | | 0 |
| Outer District | | 4 |
| Kamishak Bay District | | 2 |

**Total LCI anticipated commercial common property harvest- all salmon species = 278,579**

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

[b] Includes hatchery cost recovery, broodstock and natural spawning escapement.