

Fishery Management Report No. 05-54

**Prince William Sound Management Area
2003 Annual Finfish Management Report**

by

Dan Ashe,

Dan Gray,

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and

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October 2005

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Alaska Department of Fish and Game
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ABSTRACT

The 2003 Prince William Sound Area commercial salmon harvest of 58.28 million fish is the largest on record. Harvest was comprised of 51.10 million pink, 2.83 million sockeye, 3.78 million chum, 515.37 thousand coho, and 48.13 thousand Chinook salmon. The majority of the harvest, 43.94 million fish, was common property harvest while 14.33 million were sold for hatchery cost recovery (exclusive of roe/meal sales). Provided is a list of the processors that registered to buy salmon for the 2003 fishing season.

Preliminary estimated value of the combined commercial salmon harvest is \$44.3 million, including hatchery sales. During the 2003 season, 514 drift gillnet permit holders fished. Drift gillnet harvest is valued at an estimated \$20.2 million, setting average earnings at \$39,327. Set gillnet harvest is valued at an estimated \$1.1 million setting average earnings of the 28 participating permits at \$38,741. Seine fishery harvest was worth an estimated \$13.5 million for an average exvessel value of \$127,443 for the 106 permit holders that participated this year. Revenue generated for hatchery operations (exclusive of roe/meal sales) was approximately \$9.5 million.

No commercial fisheries for herring occurred in 2003 due to a spawning biomass of less than 22,000 metric ton of herring.

Key words: Prince William Sound, pink salmon *Oncorhynchus gorbuscha*, sockeye salmon *O. nerka*, chum salmon *O. keta*, coho salmon *O. kisutch*, Chinook salmon *O. tshawytscha*, hatchery operations, harvest, drift gillnet, set gillnet, purse seine, herring.

INTRODUCTION

MANAGEMENT AREA DESCRIPTION

Prince William Sound (PWS) management area encompasses all coastal waters and inland drainages entering the north central Gulf of Alaska between Cape Suckling and Cape Fairfield (Figure 1 and Figure 4). This area includes the Bering River, Copper River, and all of Prince William Sound with a total adjacent land area of approximately 38,000 square miles.

The salmon management area is divided into eleven districts that correspond to local geography and distribution of the five species of Pacific salmon (Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta*) harvested by the commercial fishery. The management objective for all districts is the achievement of escapement goals for the major stocks while allowing for the orderly harvest of all fish surplus to spawning requirements. In addition, the department follows regulatory plans to manage fisheries and to allow private non-profit (PNP) hatcheries to achieve cost recovery and broodstock objectives.

Six hatcheries contribute to the area's fisheries. Prince William Sound Aquaculture Corporation (PWSAC) operates five of the hatcheries. Gulkana Hatchery in Paxson augments production of sockeye salmon in the Copper River. Cannery Creek Hatchery located on the north shore of PWS, and Armin F. Koernig (AFK) Hatchery in southwestern PWS produce pink salmon, Wally Noerenberg Hatchery (WNH) in northwestern PWS produces pink, chum, and coho salmon and Main Bay Hatchery in western PWS produces sockeye salmon. Valdez Fisheries Development Association (VFDA) operates Solomon Gulch Hatchery in Port Valdez and produces pink and coho salmon.

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

As an avenue for the commercial fishing industry to formally provide management recommendations to the department, representatives from PWS area processors, gear groups, and aquaculture associations sit on an advisory body known as the PWS Salmon Harvest Task Force (SHTF).

Five commercial fisheries for Pacific herring occur during the year, when spawning biomass allows. Gillnet sac roe, purse seine sac roe, spawn-on-kelp not in pounds, and spawn-on-kelp in pounds fisheries occur in the spring. A herring food/bait fishery occurs in the fall. All of the herring fisheries are managed for a guideline harvest level established by the Prince William Sound Herring Management Plan, 5 AAC 27.365. The management objective for herring is to target fisheries on a high quality segment of the biomass while maintaining a minimum spawning biomass.

PRINCE WILLIAM SOUND AND COPPER RIVER COMMERCIAL SALMON FISHERIES

OVERVIEW OF AREA WIDE SALMON FISHERIES

The 2003 Prince William Sound Area commercial salmon harvest of 58.28 million fish (Table 1) is the largest on record (Table 2, Figure 2). Harvest was comprised of 51.10 million pink, 2.83 million sockeye, 3.78 million chum, 515.37 thousand coho, and 48.13 thousand Chinook salmon. The majority of the harvest, 43.94 million fish, was common property harvest (CPH) while 14.33 million were sold for hatchery cost recovery (exclusive of roe/meal sales). Table 7 provides a list of the processors that registered to buy salmon for the 2003 fishing season.

Preliminary estimated value of the combined commercial salmon harvest is \$44.3 million, including hatchery sales (Table 3, Figure 3). During the 2003 season, 514 drift gillnet permit holders fished (Table 5). Drift gillnet harvest is valued at an estimated \$20.2 million, setting average earnings at \$39,327. Set gillnet harvest is valued at an estimated \$1.1 million, setting average earnings of the 28 participating permits at \$38,741. Seine fishery harvest was worth an estimated \$13.5 million for an average ex-vessel value of \$127,443 for the 106 permit holders that participated this year. Revenue generated for hatchery operations (exclusive of roe/meal sales) was approximately \$9.5 million.

No commercial fisheries for herring occurred in 2003 due to a spawning biomass of less than 22,000 metric ton (mt) of herring,

SALMON SEASON SUMMARY BY DISTRICT

COPPER RIVER DISTRICT

The Alaska Department of Fish and Game (ADF&G), with direction from the Alaska Board of Fisheries, has consistently endeavored to manage salmon runs to the Copper River District to assure sustained yield, and to meet all user group allocations, as outlined in 5AAC 24.360 COPPER RIVER DISTRICT SALMON MANAGEMENT PLAN. To these ends, the past decade can be measured more by its successes than shortfalls. At the December 1999 meeting in Valdez, the Board of Fisheries amended 5 AAC 24.361 COPPER RIVER CHINOOK SALMON FISHERY MANAGEMENT PLAN to provide ADF&G both the tools and the discretion to manage the early season as necessary to maintain the spawning escapement within the range of 28,000 to 55,000 Chinook salmon. In 2003 the Board of Fisheries modified the spawning escapement goal to 24,000 or greater Chinook salmon. The department actively enacted provisions in the plan for the 2003 season, with positive results.

Management tools currently available to ADF&G have allowed it to consistently respond to indices of abundance inseason, and to regulate the commercial salmon harvest accordingly. In 2000, the department began reassessing the feasibility of using dipnets and small mesh gillnets to assess the early inseason sockeye salmon run strength in the lower Copper River. Accurately monitoring inriver movement of salmon above the commercial fishing district and below the Miles Lake sonar has long been recognized as a useful tool that could add precision to early season management actions. The department has been pursuing lower Copper River assessment projects since the 1992 season.

Working in the lower Copper River in May has proven to be challenging. ADF&G received new funding to broaden its test-fishing efforts in 2002. Initial fish monitoring results may be used to confirm that inriver migration has begun. The long-term goal is to establish an early mechanism to evaluate inriver escapement in response to commercial fishing effort before reliable Miles Lake sonar escapement trends are available. The Native Village of Eyak has also initiated a lower river assessment project that has the potential to further help characterize run entry below the Miles Lake sonar counters. Preliminary work to assess the feasibility of their project began in 2002.

In managing commercial harvest to provide for upriver escapement and allocations, ADF&G's primary measure of inseason success is the escapement index provided by the Bendix sonar counters at Miles Lake. Upriver subsistence harvests have averaged 188,000 salmon from 2000-2002. An increasing trend in subsistence harvests is reflected annually through additions to the inriver goal. Additionally, aerial escapement indices, coded wire tag data, and weir data have provided supporting information as to the relative success the department has had in meeting provisions of the Copper River District Salmon Management Plan. Achieving biological escapement goals and satisfying other management plan provisions have remained the department's primary management objectives.

The Copper River District commercial fishing season has historically opened in mid-May. Fishing periods are now established in season by emergency order following many years of "book openings" that formerly ran from Monday mornings to Friday evenings. In general, fishing time has steadily been reduced over the years in response to changing patterns in the fishery, increased efficiency of the fleet, and reallocations by the Board of Fisheries. Two commercial fishing periods per week have been the recent pattern, with the duration of a given fishing period dependant upon trends in escapement, harvest, and environmental conditions.

The current upriver biological escapement goal for wild stock sockeye salmon is 300,000 to 500,000 fish. Adopted in 1972 and placed into regulation in 1980 (Fried 1994) the sockeye salmon escapement goal was 300,000 fish until 2003, when the Board of Fisheries adopted the escapement goal of 300,000 to 500,000 fish. Timing of enhanced fish passing Miles Lake sonar was determined from their timing in commercial harvest adjusted for travel time from the commercial fishing district to Miles Lake. The Copper River District Salmon Management Plan outlines the biological and allocation categories that comprise the inriver goal for Miles Lake sonar. The categories included in the management plan's inriver goals are (1) spawning escapement, (2) subsistence harvest, (3) personal use harvest, (4) sport fishery harvest, and (5) hatchery brood, and hatchery surplus.

Of the five categories contained within the inriver goal, the most significant increases over time have been in the hatchery surplus, subsistence, and personal use categories. In the early 1980s,

the inriver goal stood at 516,000 salmon. In 2003, the inriver sonar goal was set at 617,379 to 817,379, which included natural and enhanced surplus salmon. In 2003, based upon the forecasted run of some 350,000 enhanced sockeye salmon to the Copper River, the hatchery surplus within the inriver goal was set at 76,879 sockeye salmon. Other inriver goal categories included 300,000 to 500,000 upriver natural spawners, 188,000 sockeye for subsistence and personal use, 15,000 for the sport fishery, 17,500 categorized as “other salmon,” and 20,000 hatchery broodstock sockeye salmon for a total inriver goal of 617,379 to 817,379 salmon. The escapement objective for the Miles Lake sonar counter called for 602,524 salmon to pass the counter by July 31, the last scheduled day of counting for the sonar project.

The category of subsistence and personal use salmon within the inriver goal is expressed as a range. The number of fish added to the inriver goal for subsistence and personal use is set annually based on harvest in recent years. In 2003, the three-year average harvest from both the Glennallen Subdistrict and Chitina Subdistrict were combined and incorporated into the inriver goal. The number of surplus sockeye salmon within the inriver goal is determined annually based on the Gulkana Hatchery run forecast and a preseason estimate of commercial harvest exploitation rate that wild stocks can likely sustain during the late June and July mixed stock fishery in the Copper River District. It is important to note that these surplus salmon do not fulfill any biological escapement needs, nor are they specifically linked to any upriver subsistence harvest or sport allocations. An unknown percentage of the substantial hatchery surplus is taken during July and August in these upriver fisheries.

Preseason Outlook and Harvest Strategy

The 2003 commercial harvest forecast for Copper River District was 49,100 chinook, 1,160,698 sockeye, and 306,950 coho salmon (Eggers 2003, Table 6). Gulkana Hatchery located north of Paxson Lake was expected to contribute approximately 250,000 sockeye salmon to the commercial harvest. The actual 2003 sockeye salmon harvest of 1,188,052 ranked as the twelfth largest on record, but was slightly below the recent ten-year average harvest of 1.56 million sockeye salmon (Appendix A2). The harvest of 47,721 Chinook salmon was slightly below the projected harvest and ranked as the seventh largest Chinook salmon harvest on record. The 2003 inriver goal for salmon passing Miles Lake was set at 617,379 to 817,379 fish. This number equated to a preseason sonar goal of 602,524 to 802,524 salmon by July 31, the normal season ending date for sonar counting at Miles Lake. By July 31 the last day of sonar counting, 700,618 salmon had passed the Miles Lake sonar counter (Appendix A1 and A3).

The traditional fishing schedule for Copper River District is two evenly spaced periods per week. Periods usually occur on Mondays and Thursdays. Duration of fishing periods is adjusted by emergency order as needed. After August 7, the management priority switches to coho salmon management, and fishing has recently begun with one 24-hour period per week. Additional fishing time depends upon the strength of the return determined from harvest and escapement information.

Early-season management of Copper River District is based on actual harvest as compared to anticipated harvest with environmental conditions, fishing effort, and harvest consistency throughout the period taken into account (Appendix A4). This is the most reliable method of evaluating early run strength prior to installation of the inriver sonar at Miles Lake and subsequent sonar escapement trends. In late May, sonar counts and commercial harvest information become the primary factors governing management of the fishery. By mid-June,

aerial estimates of sockeye escapement in Copper River Delta systems become an additional consideration when scheduling commercial fishing periods. Due to the many spawning systems in the Copper River Delta, an actual weekly escapement index of selected sockeye systems is compared to an anticipated weekly escapement index. The escapement index goal for the Copper River Delta is 55,000 to 130,000 sockeye salmon. The sockeye salmon aerial escapement index for the Copper River Delta systems in 2003 was 73,150, 13.5% below the mid-point index goal of 84,600 (Appendix A5 and A9).

Sockeye and Chinook Salmon Fishery Season Summary

Typically the Copper River District opens for a single commercial fishing period during statistical week 20 (May 11-17), afterwards the management strategy is to provide for two evenly spaced fishing periods per week as escapement allows. In April the department met with the local Salmon Harvest Task Force (SHTF), which is comprised of local processors, fishermen, and fishermen union representatives to discuss initial management strategies for the 2003 Copper River District fishing season. Since the department was anticipating opening the district for a single fishing period sometime between May 11-May 17, it was not believed that allowing the SHTF to decide on the approximate opening date would compromise escapement objectives. The SHTF chose May 14 as the opening date for the Copper River District salmon season, in order to provide ample time for fresh product to reach national and worldwide markets for weekend sales.

The spring of 2003 can be characterized as mild and dry. By the end of April all snow and ice was gone in the Copper River Delta region with water levels extremely low (Appendix A6). 2003 Snowcourse data for the Copper River Basin was however similar to that of 2002 with approximately 115.5” of water content in 2003 versus 115.2” water content in 2002 for May 1. The Lower River Test Fishery (LRTF) began test fishing operations in Flag Point Channel on May 7 and caught 2 sockeye on May 13. The Native Village of Eyak sonar began observing fish passage through Flag Point Channel on May 8 with an estimated 55 fish counted for the day.

The first Copper River District commercial fishing period occurred on May 14 and was for 12-hours. Since 1997 the first commercial fishing period has had area restrictions to provide for Chinook salmon escapement. Based on radio-tag telemetry studies it has been observed that Chinook salmon stocks in the Copper River Basin have distinct run timing curves and temporally overlap one another. In 2003 the department decided to delay area restrictions that provide for Chinook salmon escapement with the expectation that by doing so would provide escapement opportunity to the majority of the stocks and that environmental conditions would be more conducive at a later date in which Chinook salmon would be more apt to pursue inriver migration. Therefore, the first opener in 2003 had no area restrictions placed upon it to provide for Chinook salmon escapement. The harvest from the first period was 26,541 sockeye and 10,030 Chinook salmon (Appendix A7 and A8).

The second fishing period was on May 19 and was for 12-hours. ADF&G imposed an inside area closure restriction from the west side of Pete Dahl to the east side of Kokenhenik Channel for the first 6-hours of the period centered on a -2.6’ low tide (Appendix A19). The department did not believe an inside closure was necessary for the entire 12-hour period due to the 5-day escapement window that had elapsed between the first and second periods. Also the Chinook salmon run appeared robust, based on initial harvest information. However, due to uncertainty in Chinook salmon run strength and escapement inseason, the department felt that some precautionary measure was warranted, thus an inside area closure was imposed during the first

six hours of the second period. The harvest for the second fishing period was 35,401 sockeye and 4,295 Chinook salmon. It should also be noted that large ocean swells for this period may have hindered the fleet's mobility and beach sets that may have resulted in a larger harvest of both sockeye and Chinook salmon.

The Miles Lake sonar became operational on May 14 and immediately began counting escapement greater than anticipated. On May 21 the cumulative sonar escapement was 17,778 versus an anticipated escapement of 5,467 fish. The LRTF was confirming that fish inriver migration was responding well to commercial harvest efforts with Catch per Unit Effort rebounding within two days after a commercial opener. Harvest distribution across the district also indicated that the fish were spread throughout the district east to west and inside and outside the barrier grass islands. With escapement tracking well ahead of what was anticipated and the fish appearing to be migrating inriver from the district with a sense of urgency, the third period was on Thursday, May 22 for 24-hours. The period was announced to commence at the traditional time of 7:00 p.m. for a Thursday 24-hour opener. The fleet and processors expressed outrage over the 7:00 p.m. start time, arguing that it did not allow adequate time for the fish to be processed and shipped to market for weekend Memorial Day sales. They countered that the department should have managed for the market and commenced the third period at 7:00 a.m. rather than 7:00 p.m. The department had discussed this topic at the April SHTF meeting with no consensus being reached on the subject. Also prior to the announcement department staff had received no feedback or requests from the industry that the department manage the third period to optimize time for product shipping. However, ADF&G is now more cognizant of processing and shipping time for Memorial Day sales. If found in a similar situation, the department will commence a Thursday 24-hour fishing period at 7:00 a.m. when shifting fishing time from a 12-hour schedule to a 24-hour fishing schedule; afterward the historical pattern will hold with two evenly spaced fishing periods per week as escapement allows. The third period's harvest was 83,915 sockeye and 8,814 Chinook salmon.

By May 31 the water stage height at the Million Dollar Bridge was near average with 40.33 meters stage height versus an historical mean stage height of 40.47 meters. Sonar escapement continued to track about 4 days ahead of anticipated escapement with a May 31 cumulative sonar escapement of 112,056 versus an anticipated cumulative escapement of 62,035. The fourth through the eighth fishing periods were all for 24-hours and began on May 26, 29, June 2, 5, and June 9 respectively. At the conclusion of the eighth commercial fishing period on June 10 the cumulative harvest was 469,112 sockeye and 43,288 Chinook salmon.

The ninth and tenth fishing periods began on June 12 and 16 respectively, each for 36-hours. The first Copper River Delta aerial survey was conducted on June 10 using a 206 aircraft, which is faster than the ideal aircraft a PA-12 that aerial surveys are routinely conducted with. During the June 10 aerial survey 2,065 sockeye salmon were observed versus an anticipated count of 3,700 (Appendix A9). Most of the delta sockeye salmon escapement observed during this first survey was in Martin Lake and Eyak Lake. The cumulative sonar escapement on June 14 was 315,516 versus an anticipated escapement of 230,896. The principle reason for increasing fishing time for these two periods to 36-hours each was to exploit the spring tides that were occurring from June 12 through June 17 to slow sonar escapement. A second aerial survey was conducted on June 16 in fair to poor conditions with 5,325 sockeye salmon observed versus an anticipated count of 7,477, and again most of the observed delta escapement was in Eyak and Martin Lakes.

Fishing periods 11th through 13th were each for 24-hours beginning on June 19, 23, and 26 respectively. Most of the drift gillnet was still concentrating their efforts in the Copper River District during this time, due to Main Bay within the Eshamy District not yet opening to common property harvest. By mid-June the department was actively managing for delta sockeye salmon escapement. A June 23 delta aerial survey was conducted with 19,655 sockeye salmon observed versus an anticipated escapement of 20,605. On June 28 the cumulative sonar escapement was 462,354 fish, versus an anticipated 341,208 fish. Although sonar escapement during this time continued to track stronger than anticipated, it was difficult to increase fishing time (much of the fleet's effort was still centered on the district) while managing for delta escapement concurrently.

The 14th fishing period began on June 30 and was for 36-hours. Eshamy and Coghill districts were open concurrently with the period and allowed the fleet to spread their effort. To contrast, 238 permits participated during this period compared to 318 permits fishing the district during the eleventh fishing period on June 19.

Fishing periods 15 through 19 were all for 48-hours beginning on July 3, 7, 10, 14, and 17 respectively. On June 30 a delta aerial survey was conducted in fair conditions with 36,505 sockeye salmon observed versus an anticipated count of 26,109. On July 5 the cumulative sonar escapement was 527,178 versus an anticipated escapement of 397,398 fish. A subsequent aerial survey was conducted on July 7 in ideal conditions with 42,085 sockeye salmon observed versus an anticipated count of 42,320. On July 12, cumulative sonar escapement was 579,467 fish versus an anticipated count of 469,165. The cumulative harvest after the nineteenth fishing period was 1,109,594 sockeye and 47,694 Chinook salmon.

From July 8 until July 19 daily sonar escapements were below the daily escapement objectives. The poor daily sonar escapement can be attributed to high river flows. The water stage height at the Million Dollar Bridge peaked on July 18 with a stage height of 44.63 meters. Incidentally this is the largest water stage height ever recorded at the Million Dollar Bridge since 1978. Sonar escapement had nearly completely ceased by July 19 with less than two hundred fish passing the sonar per day. On July 20 the water stage height at the Million Dollar Bridge dropped to 43.54 meters, and subsequently the daily sonar escapement increased to 14,414 fish.

Weekly sonar escapements had been below anticipated for nearly two weeks. Delta sockeye salmon escapement had also slowed with a July 23 aerial survey yielding a count of 28,825 versus an anticipated count of 49,248. In response ADF&G decreased fishing time for periods 20 through 25 to 24-hours each. The department switched its priority from sockeye to coho salmon management beginning on August 11, at which time the cumulative harvest was 1,179,386 sockeye and 47,718 Chinook salmon. The 2003 actual sonar escapement was 700,618 salmon on July 31 (when the sonar was removed) versus an anticipated escapement of 602,524 to 802,524 salmon for that date. Sockeye salmon escapement index in the lower Copper River in 2003 was above the lower end of the escapement range. The actual delta escapement index of 73,150 sockeye salmon was 13.5% below the mid-point goal of 84,600.

Upper Copper River aerial survey index counts for Chinook and sockeye salmon may be found in Appendices A20 and A21 respectively.

Estimated age and sex composition of sockeye and Chinook salmon harvested in the commercial fishery can be found in Appendices A22 and A23 respectively.

Coho Salmon Fishery Season Summary

The Copper River District coho salmon harvest of 363,489 fish was 19% above the projected harvest of 306,000 (Appendix A10) and ranked as the eleventh largest harvest on record. The department met with the local PWS Salmon Harvest Task Force and the public in April to discuss coho salmon management. It was decided that a single 24-hour per week schedule would be maintained until escapement warranted either extending or decreasing fishing time. Deciding on the most appropriate fishing strategy to apply to the coho salmon return has been a contentious issue for the past few seasons. In order to maximize quality, processors universally prefer two shorter periods per week. Fishers tend to prefer a single, longer fishing period per week, both for logistical reasons and for conservation reasons. Two distinct fishing periods per week will potentially allow for two “clean up” harvests to occur when milling fish may be more effectively harvested. The contention is that a single long weekly period will allow a broader window of time for fish to mill in the estuary and still escape the fishery. Arriving at a consensus over harvest strategy between processors and the fishing fleet has proven difficult to achieve. Overriding the concern over which would be the best harvest strategy for coho salmon has been the concern about the pattern of weak returns to the Copper River District since 1996. Prior to 2002 the district has seen harvests fall below projections and seasons end prematurely due to weak returns. In 1997, coho salmon escapement into delta streams was weak enough to close the commercial season and a bag limit reduction was imposed for sport fishers. In 1998, weather during the fall precluded an accurate assessment of coho salmon escapement for the year. Because of the recent history of poor coho salmon returns and inconclusive escapement data, the department intended to approach the season with extreme caution.

An aerial survey was conducted in ideal conditions on August 9 with 11,035 coho salmon observed versus an anticipated count 1,515, with most of the observed escapement in Martin Lake (Appendix A11 and A.12). The coho salmon season officially began at 7:00 a.m. on August 11 with a single 24-hour period that week. The harvest from the first coho salmon fishing period was 6,259 fish.

Most of the fishing fleet’s effort was on the western side of the delta surrounding the Eyak River. Coupled with favorable harvest and adequate escapement into the Eyak River and Ibeck Creek the decision was made to continue with fishing opportunities through a conservative approach. The second commercial fishing period on August 18 resulted in a harvest of 33,616 coho salmon versus a projected harvest of approximately 46,000 for that week. The female percentage measured from the harvest was estimated to be below the historic average for that date, with 33% of the harvest being females versus a projected female percentage of 42.7%. Due to low harvest and female percentages the run at this time appeared to be tracking late. An aerial survey was conducted on August 23 in fair conditions with 15,375 coho salmon observed versus an anticipated count of 9,309. The third opening on August 25 resulted in a harvest of 67,057 coho salmon with the peak effort of 254 permit holders participating. The observed harvest contained 40% females versus a projected 48% female harvest.

With both escapement and harvest improving coupled with below average female percentages it was decided that the week of September 1 could support increased fishing pressure with two 24-hour fishing periods. The fourth 24-hour period for Monday, September 1 had a coho salmon

harvest of 65,630 fish with 235 permit holders participating. The fifth fishing period began on Thursday, September 4 with 50,743 coho salmon harvested. An aerial survey was conducted in ideal conditions on September 5 with 44,380 coho salmon observed versus an anticipated count of 25,162.

The coho salmon escapement goal for the Copper River District is 32,000 to 67,000 with a mid-point goal of 50,000. With coho salmon escapement near the mid-point the department increased fishing time to an alternating 48 and 36-hour weekly fishing schedule for the next two weeks. This schedule was agreed upon by most processors in order to allow maximum fishing time and processor tender rotations. The sixth fishing period began on September 8 and was for 48-hours with the seventh fishing period beginning on September 12 for 36-hours. The combined harvest from these two fishing periods was 92,436 coho salmon. On September 9 both Peter Pan Seafoods and Ocean Beauty Seafoods ceased processing operations. An aerial survey was conducted in fair conditions on September 11 with 39,959 coho salmon observed versus an anticipated count of 35,840. The eighth and ninth fishing periods began on September 15 and 19 respectively and followed the 48 and 36-hour schedule. The combined harvest from these two periods was 27,739 coho salmon.

Copper River Seafoods ceased operations on September 16 with Norquest Seafoods following suit on September 23. With all major processors having ceased operations and escapement within the desired range, near unlimited fishing time was given with breaks only for harvest reporting. The weeks of September 22 and 29 each had 156-hour fishing periods with minimal harvest and effort. The Copper River District was closed for the season at 7:00 p.m., October 5. The coho salmon escapement was above the mid-point goal of 50,000 with a peak index count of 72,280 fish.

Estimated age and sex composition of coho salmon harvested in the Copper River commercial fishery can be found in Appendix A24.

BERING RIVER DISTRICT

Preseason Outlook and Harvest Strategy

Opening in early June, Bering River District is managed concurrently with the Copper River District (Appendix A13). The 2003 harvest of 18,266 sockeye salmon from Bering River District was near the recent ten-year average of 16,000 (Appendix A14). Sockeye salmon escapement into Bering River District streams were near the mid-point goal of 32,000 with a peak index estimate of 32,840 fish. The Bering River drainage, the largest sockeye salmon spawning system in the district, had a peak index count of 32,075 fish versus an anticipated peak count of 21,980 sockeye salmon (Appendix A15).

The coho salmon harvest of 59,481 fish was below the recent ten-year average of 94,000. The coho salmon escapement goal was achieved with a peak escapement index of 32,470 versus an anticipated count of 24,619 fish for the Bering River District (Appendix A16).

Sockeye Salmon Season Summary

Bering River District generally opens the second or third week of June. In 2003, the first period began on June 9 for 24-hours. The Copper River District sockeye salmon harvest and escapement at that time indicated a return near anticipated. Minimal fishing effort and harvest for Bering River District was reported for the first fishing period. The district was opened to

fishing concurrently with Copper River District until the close of the season on October 5. Peak harvest and effort occurred during the second fishing period on June 12 when 55 permit holders harvested 6,270 sockeye salmon for the period (Appendix A17).

Aerial surveys were conducted on June 10, 16, 23, 30, July 7, 16, 23, August 2, 9, 23, September 5, and 11. Beginning June 23 and continuing throughout the season aerial surveys indicated sockeye salmon near or above the anticipated counts. The Bering Lake drainage had the largest observed escapement for the district. Dick Creeks which are tributaries to Bering Lake had a peak escapement of 13,800 sockeye salmon on July 7. Bering Lake's peak escapement of 18,000 sockeye salmon was observed on July 23. Katalla River which is not a sockeye salmon index system had a peak observed escapement of 17,000 sockeye salmon on August 2.

Coho Salmon Season Summary

The coho salmon fishery is managed concurrently with the Copper River and typically begins in early August. In 2003 the Bering River District coho salmon fishery began on August 11 with a 24-hour fishing period. No permit holders fished for the first period. The district was managed concurrently with the Copper River District until the close of the season on October 5. Peak fishing effort was on during the seventh fishing period on September 12 when 34 permit holders harvested 17,149 coho salmon.

Aerial surveys conducted from August 9 through September 11 all indicated that coho salmon escapement into Bering River spawning areas were near or above anticipated levels (Appendix A18). The Katalla River had a peak observed escapement of 10,000 coho salmon on August 23. Bering Lake, Dick Creek, Nichawak River, and Edwards River all had a peak observed escapement on September 5 with 9,000, 2,050, 900, and 2,800 coho salmon observed respectively.

COGHILL DISTRICT (PRIOR TO JULY 21 AND COHO SALMON MANAGEMENT)

Preseason Outlook and Harvest Strategy

The 2003 fishing season is the first season that the purse seine fleet has been allowed in the Esther Subdistrict prior to July 21 in accordance with 5AAC 24.370(e)(2). According to the intent of the BOF, the department developed a management strategy for the 2003 season for how the Esther Subdistrict would be managed. Drift gillnet gear would be allowed to initiate the season in early June with area within the Esther Subdistrict open to drift gillnet harvest. The initial fishing period would commence on a Monday allowing for subsequent concurrent fishing periods with the Copper River and Eshamy districts. The purse seine fleet would follow with a period of equal duration with area within the Esther Subdistrict open on a Thursday after the first drift gillnet period and concurrent with open fishing periods in the Port Chalmers Subdistrict. Thereafter, the two gear groups would alternate fishing periods within the Esther Subdistrict on a similar weekly schedule until run strength allowed more fishing time or area. Area for the drift gillnet fleet was planned to be the entire Esther Subdistrict and that area would be contracted based on wild stock escapement, effort, and PWSAC cost recovery concerns. Area for the purse seine fleet was planned to be the waters of the Esther Subdistrict east of 148° 6' W. longitude and west of 147° 56' W. longitude, and within one nautical mile of Esther Island. If either cost recovery or wild stock escapement concerns were to arise, the purse seine fleet would be restricted to the Wally Noerenberg Hatchery (WNH) THA. If either cost recovery or wild stock

escapement concerns were to persist both gillnet and purse seine fleets would be closed from the Esther Subdistrict until those concerns were alleviated.

The 2003 wild stock sockeye salmon run to Coghill Lake was forecasted to be 142,200 fish. Meeting the mid-point escapement goal of 30,000 sockeye salmon would leave approximately 112,200 fish for common property harvest. The early run of chum salmon to WNH was forecasted by PWSAC to be 3.7 million fish. PWSAC's 2003 revenue goal for chum salmon production was \$1.4 million. Preseason estimates of revenue and broodstock requirements, PWSAC's corporate escapement needs equated to approximately 1.3 million WNH chum salmon.

PWSAC's 2003 forecast for pink salmon returning to WNH in 2003 was 5,330,000 fish assuming 4.8% marine survival. Preseason PWSAC assumed a broodstock goal of 228,000 pink salmon and approximately 4,092,000 pink salmon would be needed to meet production revenue needs. This equated to 81.1% of the anticipated return of pink salmon to WNH for PWSAC corporate escapement needs. Based on preseason forecast the common property harvest of pink salmon returning to WNH would be 1,010,000 fish. Management for pink salmon returning to WNH begins after July 20.

PWSAC's 2003 forecast for coho salmon returning to WNH was 22,500 fish assuming a 9.3% marine survival. PWSAC does not actively harvest coho salmon for cost recovery. PWSAC anticipated that approximately 900 coho salmon would be needed to satisfy broodstock requirements and that the remaining 21,600 coho salmon returning to WNH would be available for common property harvest.

Season Summary

The total chum salmon harvest for both the common property and corporate escapement was 3.0 million fish, which was below PWSAC's preseason forecast of 3.7 million. The common property harvest of early chum salmon was 1.47 million fish (Appendix B1 and B2). The respective purse seine and drift gillnet chum salmon harvest was 750,834 and 726,431 fish. PWSAC harvested 1.54 million chum salmon for sales, and the broodstock goal was achieved. PWSAC required more chum salmon for corporate sales than predicted due to the substantial smaller size of the fish that actually returned to WNH. Preseason PWSAC assumed an average chum salmon weight of 8.5 pounds when calculating the number of fish required to satisfy corporate escapement needs, in actuality the average weight of chum salmon returning to WNH was 5.9 pounds. The total commercial harvest of sockeye salmon in the district was 287,513 fish, of which the purse seine fleet harvested 125,641 and the drift gillnet fleet harvested 161,872. The larger sockeye salmon harvest than forecasted was a result of Main Bay bound sockeye salmon being intercepted by both gear types in the Culross area of the Esther Subdistrict. Based on inseason stock contribution estimates approximately 191,526 or 67% of the sockeye salmon harvested in the Coghill District were of Main Bay Hatchery origin. Sockeye salmon escapement into Coghill Lake was 75,427 fish, exceeding the mid-point goal by about 45,000 fish (Appendix B3, B4, and B5). Peak sockeye salmon passage occurred between June 28 and July 2 when 24,526 sockeye salmon passed the weir. A total of 453,752 pink salmon were counted past the weir. Peak pink salmon passage occurred between July 11 and July 28, when 388,799 pink salmon were passed through the weir.

Coghill District management strategy discussed at the April SHTF meeting was based on the WNH enhanced chum salmon corporate escapement goal of 1.3 million and the forecasted run of

3.7 (PWSAC) million fish. With a Coghill Lake forecast of 142,200 sockeye salmon and a mid-point escapement goal of 30,000, the Coghill District was expected to open for two periods per week beginning in early June (Appendix B6). The 2003 strategy for cost recovery was to begin harvesting as soon as adequate numbers of chum salmon were available in the THA and SHA using two purse seine vessels for harvesting. PWSAC began monitoring the run in mid-May and began harvesting chum salmon on May 24. Due to the large number of three-year-old chum salmon that returned in 2002, a large component of age-4 salmon were expected to contribute heavily to the 2003 WNH enhanced chum salmon run. These younger aged chum salmon generally return later in the season than age-5 and age-6 chum salmon. Accurately forecasting the 2003 chum salmon return was complicated by PWSAC's adoption of a rearing practice that appears to have successfully influenced chum salmon survivals. It remains unclear if the sibling relationship used to model previous forecasts would remain unchanged in light of new rearing strategies. If survivals were indeed enhanced, a large component of age-4 and age-5 chum salmon would likely be the result in 2003.

The first drift gillnet commercial opening in the Coghill District excluding the WNH THA and SHA occurred on May 26 for 24-hours after chum salmon were observed in the district. Effort and harvest for this period were very low. Initial effort in Coghill District was low due to low chum salmon prices and continuous sockeye salmon harvests on the Copper River.

The second fishing period was for 24-hours beginning on May 29. During this period purse seine gear was allowed in the Esther Subdistrict east of 1480 6' W. longitude and west of 1470 56' W. longitude, and within one nautical mile of Esther Island excluding the WNH THA and SHA. Drift gillnet gear was not allowed in the Esther Subdistrict during the period in accordance with the Prince William Sound Management and Salmon Enhancement Allocation Plan 5 AAC 24.370. Drift gillnet gear was however allowed in the Coghill District excluding the Esther Subdistrict for the second period. Drift gillnet effort and harvest was minimal. Twenty-two purse seine permit holders harvested 94,442 chum salmon for the period.

The third commercial opening in the Coghill District excluding the WNH THA and SHA began on June 2 for 24-hours with only drift gillnet gear permitted in accordance with 5 AAC 24.370. Only thirteen drift gillnet permit holders participated for the period harvesting 17,492 chum and 29 sockeye salmon.

The fourth fishing period was for 24-hours beginning on June 5. During this period purse seine gear was allowed in the Esther Subdistrict east of 1480 6' W. longitude and west of 1470 56' W. longitude, and within one nautical mile of Esther Island excluding the WNH THA and SHA. Drift gillnet gear was not allowed in the Esther Subdistrict during the period in accordance with the Prince William Sound Management and Salmon Enhancement Allocation Plan 5 AAC 24.370. Drift gillnet gear was however allowed in the Coghill District excluding the Esther Subdistrict for the fourth period. Twenty-two drift gillnet permit holders harvested 26,230 chum and 55 sockeye salmon. Forty-one purse seine permit holders harvested 133,827 chum salmon for the period.

Only drift gillnet gear was permitted to participate during the fifth fishing period beginning on June 9 with all of the Coghill District open excluding the WNH THA and SHA. Forty-eight drift gillnet permit holders participated for the period harvesting 67,530 chum and 888 sockeye salmon.

The sixth fishing period began on June 12 for 24-hours. Purse seine gear was permitted in the Esther Subdistrict east of 1480 6' W. longitude and west of 1470 56' W. longitude, and within one nautical mile of Esther Island excluding the WNH THA and SHA. Drift gillnet gear was allowed in the Coghill District south of Point Pakenham excluding the Esther Subdistrict. The Coghill weir became operational on June 9. The purse seine harvest for the period was 4,862 sockeye and 198,399 chum salmon with fifty-four permit holders participating. The drift gillnet fleet harvested 936 sockeye and 50,314 chum salmon for the period with forty-five permit holders participating.

Drift gillnet gear was the only gear type allowed to participate for the seventh fishing period which began on June 16 for 24-hours. The Coghill District south of Point Pakenham excluding the WNH THA and SHA were open for the period. Seventy-eight permit holders harvested 5,530 sockeye and 116,893 chum salmon. Sockeye salmon harvest stock composition was estimated to be 59% Main Bay and 41% natural origin for the period. The Coghill River weir had a cumulative count 3,904 sockeye salmon versus an anticipated count of 328 fish on June 17. The department had difficulty in determining the sockeye salmon run strength to the Coghill River at this time due to the large Main Bay Hatchery stock composition from the harvest and uncertainty in whether or not if the strong weir counts were due to spring tides that occurred between June 11 through June 19.

On June 18 PWSAC reported that they had harvested 841,000 chum salmon for their corporate revenue. PWSAC estimated at this time that they would require another 680,000 chum salmon to satisfy their revenue and broodstock requirements for WNH. Recent cost recovery harvest was yielding smaller chum salmon than anticipated with an actual average weight of 5.7 pounds. In addition PWSAC had forecasted preseason that the returning chum salmon to WNH would be comprised of 80% four-year olds. As of June 17 cost recovery harvest indicated that the four-year old return was only about half of what was anticipated. In order to ensure that PWSAC's corporate revenue goals would be met the department paused fishing effort in the Esther Subdistrict for the eighth fishing period and what would have been the purse seine fleet's scheduled rotation in the Esther Subdistrict in accordance with 5 AAC 24.370. The drift gillnet fleet was allowed to fish in the Coghill District south of Point Pakenham excluding the Esther Subdistrict for 24-hours beginning June 19. One Hundred and six drift gillnet permit holders harvested 4,448 sockeye and 103,710 chum salmon for the period. The Coghill River weir cumulative count on June 20 was 6,385 versus an anticipated count of 835 fish. Once again the strong weir counts were difficult to interpret with peak spring tides occurring between June 13 and 16.

On June 21 PWSAC had reported that they had harvested 960,000 chum salmon for cost recovery. PWSAC's estimate at this date was that they would require approximately 575,000 additional chum salmon to satisfy corporate revenue and broodstock goals for WNH. Recent cost recovery harvest continued to indicate that the four-year old component of the chum salmon run to WNH was weaker than anticipated. To further confound concerns for cost recovery, the five-year old component of the chum salmon return appeared to be stronger than forecasted. Older chum salmon returning to WNH tend to return earlier than younger chum salmon. On June 20 the female percentage from the chum salmon cost recovery harvest was 56.3%. Average weights for chum salmon continued to below anticipated, with actual average weight for this time being 5.8 pounds. The Esther Subdistrict remained closed to common property harvest to ensure that PWSAC corporate revenue and broodstock goals would be met. Beginning June 23, the Coghill

District south of Point Pakenham excluding the Esther Subdistrict was open to drift gillnet gear for 24-hours. One hundred and twenty six permit holders harvested 15,305 sockeye and 125,901 chum salmon. On June 24 the cumulative Coghill River weir count was 11,876 sockeye salmon versus an anticipated count of 2,036 fish.

On June 24 PWSAC estimated that they would require approximately 345,000 chum salmon to fulfill their revenue and broodstock goals for WNH. Cost recovery harvest on June 24 yielded an average weight of 5.7 pounds per fish and the female percentage was 65.1%, suggesting the chum salmon run to WNH was nearing completion. The Esther Subdistrict remained closed to common property harvest to ensure that PWSAC's revenue and broodstock goals for WNH would be met. Drift gillnet gear was permitted in the Coghill District excluding the Esther Subdistrict with no anadromous stream closures in effect for 24-hours beginning June 26. One hundred twenty nine permit holders harvested 17,181 sockeye and 130,224 chum salmon for the period. On June 27 the cumulative Coghill River weir count was 20,676 sockeye salmon versus an anticipated count of 3,507 fish.

On June 30 PWSAC had achieved their revenue goal for WNH through the harvest of enhanced chum salmon. On this date the Coghill River weir cumulative count was 33,142 sockeye salmon versus an anticipated count of 4,925 fish. With the mid-point of the Coghill River sockeye salmon escapement goal achieved there is no concern of wild stock interception at this time. Beginning June 30, purse seine gear was allowed in the Esther Subdistrict east of 1480 6' W. longitude and west of 1470 56' W. longitude, and within one nautical mile of Esther Island excluding the WNH THA and SHA for 24-hours. Purse seine gear was then permitted to harvest salmon in the Esther Subdistrict excluding the WNH SHA on July 3 and 5 for 12-hours each period. Drift gillnet gear was permitted in the Coghill District excluding the Esther Subdistrict on June 30 for 24-hours. With concerns of seriously exceeding sockeye salmon escapement objectives into Coghill Lake, drift gillnet gear was permitted to continuously fish north of the head of Esther Pass or north of 60° 55.89' N. latitude from July 1 through July 6. Deep mesh gillnet gear was permitted beginning July 3. Drift gillnet gear was also permitted in the Esther Subdistrict excluding the WNH SHA for 12-hour periods on July 2, 4, and 6 in accordance with 5 AAC 24.370. One hundred twenty three drift gillnet permit holders harvested 45,690 sockeye and 63,911 chum salmon during this time. Fifty-six purse seine permit holders participated during the June 30, July 3, 5 fishing periods harvesting 49,057 sockeye and 286,791 chum salmon.

The Coghill River weir continued to pass sockeye salmon into the month of July. The Coghill Lake biological sockeye escapement goal is 20,000 to 40,000 sockeye salmon. On July 8 the weir count stood at 44,442 sockeye salmon versus an anticipated count 12,372 and on July 11 the cumulative escapement to the lake had soared to 52,357 sockeye salmon. The Coghill District north of the head of Esther Pass opened continuously to drift gillnet gear beginning Monday, July 7 until Sunday, July 13 in an effort to concentrate effort on sockeye salmon returning to Coghill Lake. At this time PWSAC reported that they required 50,000 chum salmon in order to fulfill their broodstock requirements for WNH. Purse seine gear was permitted in the Esther Subdistrict excluding Lake Bay north of 600 47.15' N. latitude beginning July 7, 9, 11, and 13 for 12-hours each period. Drift gillnet gear was permitted in the Esther Subdistrict excluding Lake Bay north of 600 47.15' N. latitude beginning July 8, 10, and 12 for 12-hours each period in accordance with 5 ACC 24.370. One hundred forty one drift gillnet permit holders harvested 52,623 sockeye and 15,883 chum salmon between July 7 and 13. Fifteen purse seine permit

holders harvested 52,577 sockeye salmon and 22,251 chum salmon during the same time period. Sockeye salmon stock contribution estimates for this period were that approximately 69.1% or 36,346 of the sockeye harvested by purse seine gear during this time were of Main Bay Hatchery origin. Drift gillnet gear harvested 44,086 Main Bay Hatchery origin sockeye salmon from July 7 through July 13.

With the Coghill Lake sockeye salmon biological escapement goal exceeded, the Coghill District north of the head of Esther Pass was open to drift gillnet gear from July 14 through July 17 with no anadromous stream closure for Coghill River in effect. From July 18 through July 20 the Coghill District north of Point Pakenham with no anadromous stream closure in effect was open to drift gillnet gear. In addition drift gillnet gear was permitted in the Esther Subdistrict excluding Lake Bay north of 60° 47.15' N. latitude for 12-hour periods on July 14, 16, and 18. Purse seine gear was allowed in Esther Subdistrict excluding Lake Bay north of 60° 47.15' N. latitude for 12-hour periods on July 15, 17, and 19. In response to continuing sockeye salmon escapement past the Coghill River weir and the lack of drift gillnet effort near the mouth of Coghill River to harvest sockeye salmon, waters of the Coghill District north of Point Pakenham was open to purse seine gear from July 15 to July 17 for 60-hours. Waters of the Coghill District north of Point Pakenham was again open to purse seine gear for another 60-hour period from July 18 through July 20. Drift gillnet gear harvested 16,209 sockeye and 4,695 chum salmon between July 14 and July 17. Between July 18 and July 20 drift gillnet gear harvested 2,249 sockeye and 285 chum salmon. Purse seine permit holders harvested 14,159 sockeye, 11, 795 chum, and 131,932 pink salmon between July 14 and July 17. Between July 18 and July 20 purse seine gear harvested 4,780 sockeye, 3,116 chum, and 103,132 pink salmon.

By July 21 purse seine permit holders had harvested 125,437 sockeye and 750,651 chum salmon. Of the total purse seine sockeye salmon harvest it is estimated that approximately 88,326 fish or 70.3% of the sockeye salmon harvest was of Main Bay Hatchery origin. Drift gillnet gear harvested 161,143 sockeye and 726,431 chum salmon by July 21. Of the total drift gillnet sockeye salmon harvest it is estimated that approximately 103,200 or 63.8% of the sockeye salmon harvest was of Main Bay Hatchery origin.

Beginning July 21 both drift gillnet and purse seine gear are managed concurrently for the Coghill District. Purse seine gear is permitted in the district from July 21 until pink salmon are no longer predominant by number in the harvestable surplus. There was no further drift gillnet effort observed in the Coghill District from July 21 until August 23 with one permit holder fishing at that date, and then there was no effort until September 4 when drift gillnet permit holders began to target coho salmon returning to WNH. The Coghill River weir was removed on July 28 with 75,427 and 453,752 pink salmon having escaped past the weir.

Estimated age and sex composition of sockeye salmon harvested in the Coghill District commercial fishery and through the Coghill River weir may be found in Appendices B7 and B8 respectively.

The department and PWSAC were at odds over the most appropriate management strategy for coho salmon returning to WNH. In the past the department has opened the Esther Subdistrict excluding the WNH SHA for 156-hour fishing periods for the harvest of WNH enhanced coho salmon. PWSAC does not actively harvest coho salmon for cost recovery and their broodstock requirements for WNH are 900 fish. PWSAC advocated for two 48-hour fishing periods per week in the Esther Subdistrict excluding the WNH SHA. The department advocated for the 156-

hour fishing periods with breaks for harvest reporting. There was no purse seine effort in the district after September 3. Drift gillnet effort in the district peaked at five permit holders participating and targeting coho salmon on September 11. Due to conflicts between PWSAC and the department the fishery from September 8 through September 20 can be characterized only as disorderly, with a string of announcements superseding one another. The department's stance was to accommodate the few permit holders participating so they could retain their markets as long as possible. Due to the large number of pink salmon still built up in front of the hatchery it was felt that the remaining drift gillnet permit holders fishing in the area would avoid most of the hatchery terminal harvest areas and provide a corridor for coho salmon to escape to the hatchery to be collected as broodstock. PWSAC had concerns because their initial assessment of coho salmon entry to the hatchery was low. PWSAC's low initial assessment of coho salmon was likely and rightly low due to the large number of unutilized pink salmon remaining in front of the hatchery.

Drift gillnet gear effort targeting coho salmon returning to WNH can be characterized as low, with a peak effort of five permit holders fishing between September 11 and 20. The total drift gillnet harvest of coho salmon returning to WNH was 9,900 fish. The Coghill District was closed for the 2003 season effective 8:00 p.m., October 5. PWSAC achieved its broodstock goal of 900 coho salmon for the WNH Hatchery.

UNAKWIK DISTRICT

Both drift gillnet and purse seine are legal commercial fishing gear types in Unakwik District. The total 2003 Unakwik District harvest was 3,180 sockeye, 2,261 pink, and minimal incidental harvests of chum salmon (Appendix B9). The sockeye salmon harvest was below the ten year average harvest of 6,448 (Appendix B10). The Unakwik District opened June 16 for a 24-hour period (Appendix B9) and followed a schedule of two evenly spaced periods per week that were concurrent with that of Esther Subdistrict and Eshamy District. Primarily sockeye salmon are targeted that are returning to Miners Lake. No changes were made to the concurrent fishing schedule until July 14 and July 17 when the district was open for 48-hours to coincide with available fishing time in Eshamy District. On July 19, the Unakwik District closed for the season due to the Northern District opening.

ESHAMY DISTRICT

Preseason Outlook and Harvest Strategy

Wild stock sockeye salmon returns to Eshamy Lake were forecasted to total 32,000 fish, 30,000 of which were needed to meet the midpoint of the lake's biological escapement goal of 20,000 to 40,000 sockeye salmon. Onsite returns to Main Bay Hatchery were projected by PWSAC to be 1,100,000 sockeye salmon composed entirely of Coghill stock. However, the department's forecast for the sockeye salmon return to the hatchery was 835,840 Coghill Lake stock sockeye salmon. The disparity between the forecasts is likely due to the fact that the department's forecast uses a greater range of historical survival estimates whereas PWSAC uses a smaller range to obtain the average survival rate of fry releases.

PWSAC had announced preseason that each enhanced species that they release would be harvested in accordance to finance the rearing costs for each species. The timing and frequency of common property openings from mid-June through the remainder of the season would be

balanced to provide for wild stock escapement, PWSAC's revenue needs, hatchery broodstock, and to maintain a high quality commercial harvest.

The hatchery operator for cost recovery harvests used the Special Harvest Area (SHA) at the head of Main Bay during periods when the commercial fishery was closed for cost recovery harvest of enhanced Coghill stock sockeye salmon. The commercial fleet could use the SHA during scheduled periods. Unless opened by emergency order, the Alternating Gear Zone (AGZ) was to remain closed to commercial fishing to protect the hatchery barrier seine. It was expected that the barrier seine would be removed once PWSAC had achieved their broodstock goal.

Season Summary

The run timing of Coghill stock sockeye salmon is from mid-June until about mid-July. PWSAC anticipated installing their barrier seine on June 10 to begin broodstock collection. The first period was for 24-hours for the Main Bay Subdistrict and began on June 9 (Appendix C2). Set gillnet gear was permitted to fish in the AGZ for this period due to the drift gillnet fishing first in the AGZ in 2002. Six drift gillnet and nine set gillnet permit holders participated in the first fishing period harvesting 1,224 sockeye salmon (Appendix C1).

PWSAC began their cost recovery harvest on June 21. On June 27 PWSAC had obtained 25% of their cost recovery revenue goal. The second period began on June 30 and was for 24-hours. The area open to common property harvest was the Crafton Island Subdistrict south of Main Bay or south of 600 32.86 N. latitude. During this period 135 drift gillnet and 22 permit holders participated harvesting 151,313 sockeye salmon.

PWSAC had obtained 70% of their cost recovery revenue goal on July 1. By this date there were no salmon interception concerns for the district due to strong sockeye escapement past the Coghill River weir and PWSAC having achieved their cost recovery goal for chum salmon at Wally Noerenberg Hatchery. The third fishing period was for 24-hours beginning July 4 with the entire district open excluding the hatchery SHA and Terminal Harvest Area (THA). Deep mesh gillnet gear was allowed for this period and for the remainder of the season. Sockeye salmon harvest for the period was 184,600. On July 5 PWSAC had completed 75% of their cost recovery goal with 313,510 sockeye salmon harvested.

The fourth and fifth fishing periods were each for 24-hours beginning on July 8 and 10 respectively. During the fourth fishing period the Eshamy District excluding the Main Bay THA and SHA were open. During the fifth fishing period the district was open to a line of buoys in front of the barrier seine. Drift gillnet gear was permitted to fish in the open waters of the AGZ during the fifth fishing period. The combined harvest from these two periods was 178,414 sockeye salmon. PWSAC achieved their sockeye salmon revenue goal on July 10 with 366,768 fish harvested. PWSAC removed the hatchery barrier seine on July 12.

The sixth and seventh fishing periods began on July 14 and 17 respectively. During both periods waters of the Eshamy District were open from the north latitude of the anadromous stream marker on the north side of Loomis Creek, including the AGZ. The rationale for closing the waters south of Loomis Creek was in response to low weir counts at the Eshamy weir. On July 8 the weir had become operational and by July 12 only 30 sockeye salmon had passed the weir versus an anticipated count of 1,768 fish, and by July 16 the weir count was 31 sockeye salmon pass the weir versus an anticipated count of 2,357 (Appendix C5 and C6). The sixth fishing period was for 48-hours while the seventh period was for 36-hours. In hindsight the department

may have been able to open the entire district for shorter durations without severely overexploiting sockeye salmon bound for Eshamy Lake. In the future it may be wise to consider such actions to better maintain quality and to avoid displacing set gillnet fishermen that do not have set gillnet sites north of Loomis Creek. The combined harvest from the sixth and seventh fishing periods was 159,149 sockeye salmon.

On July 19 the Eshamy weir had only passed 32 sockeye salmon versus an anticipated count of 2,929 fish. In response only waters of Eshamy District north of the south marker of the Main Bay Subdistrict or north of 600 32.86 N. latitude including the Main Bay Subdistrict and AGZ were open for the eighth fishing period. The eighth fishing period began on July 21 and was for 36-hours in duration. The harvest for the eighth fishing period was 20,675 sockeye salmon.

The ninth through the eleventh fishing periods were all for 72-hours, beginning on July 24, 28, and 31 respectively. The twelfth fishing period was for 48-hours, and began on August 2. During these periods only waters of the Main Bay Subdistrict and the AGZ were open, due to continued low Eshamy weir escapement. On July 23 the weir had passed 58 sockeye salmon versus an anticipated escapement of 3,647 fish. By July 30 the weir escapement stood at 703 sockeye salmon versus an anticipated count of 5,900. The combined harvest for these periods was 77,709 sockeye salmon.

The thirteenth through the fifteenth fishing periods were all for 24-hours, beginning on August 7, 11, and 15 respectively. The sixteenth fishing period was for 48-hours and began on August 18. During these fishing periods all of Eshamy District was open including the Main Bay Subdistrict and the AGZ. Area was increased from the previous period's fishing boundaries in response to Eshamy weir sockeye salmon escapement improving. On August 6 the weir had passed 8,601 sockeye salmon versus an anticipated count of 8,004 fish. By August 16 the weir had passed 27,731 sockeye salmon versus an anticipated escapement of 14,998 fish. The BEG for Eshamy Lake is 20,000 to 40,000 sockeye salmon. The fourteenth fishing period which began on August 11 had only 2 set gillnet permits participate after which for the remainder of the season there was no set gillnet effort. The combined harvest for these periods was 10,362 sockeye salmon.

The Eshamy weir was removed on August 18 at which time had a cumulative sockeye salmon escapement of 39,845 fish versus an anticipated count of 17,601 fish for that date (Appendix C5 and C8). The escapement goal for Eshamy Lake is 20,000 to 40,000 sockeye salmon. In response area was further expanded over the previous periods to include waters of Eshamy Bay west of 147° 57.748' W. longitude and east of the regulatory sport fish markers located on the seaward shore of the small island located in front of the Eshamy River mouth for periods seventeen through nineteen. These periods were all for 48-hours in duration and began on August 21, 25, and 28 respectively. Only drift gillnet permit holders participated during these periods harvesting a total of 7,543 sockeye salmon.

During the twentieth fishing period that occurred on September 1 the waters of Eshamy District including the waters of Eshamy Bay west of 147° 57.748' W. longitude and east of the regulatory sport fish markers located on the seaward shore of the small island located in front of the Eshamy River mouth were open for 12-hours from 8:00 a.m. until 8:00 p.m. September 1. After 8:00 p.m. on September 1 all waters of Eshamy Bay and Lagoon were open with no anadromous stream closures in effect for the remainder of the period that ended 36-hours later at 8:00 a.m., September 3. The department kept the Eshamy Lagoon closed for the first portion of

the period to keep commercial and sport fishermen spatially separated. There was no reported effort or harvest for this period.

Fishing periods 21 through 23 were all for 48-hours each beginning September 4, 8, and 11 respectively. For each of these periods all of Eshamy District including the waters of Eshamy Bay and Lagoon were open with no anadromous stream closures in effect in Eshamy Bay. The only reported harvest occurred during the twenty-first fishing period with 347 sockeye salmon harvested. Periods twenty-two and twenty-three had no reported effort.

The twenty-fourth and last fishing period of the season began on September 15 and was for 156-hours. During this period all of Eshamy District including the waters of Eshamy Bay and Lagoon were open with no anadromous stream closures in effect in Eshamy Bay. There was no reported fishing effort for this period. The Eshamy District was officially closed for the 2003 fishing season at 8:00 p.m., September 21. At the close of the season the respective drift gillnet and set gillnet harvest was 575,608 and 215,733 sockeye salmon (Appendix C1 and C7).

Estimated age and sex composition of sockeye salmon harvested in the Eshamy District commercial fishery and through the Eshamy River weir may be found in Appendices C3 and C4 respectively.

GENERAL PURSE SEINE DISTRICTS

Preseason Outlook and Harvest Strategy

The general purse seine districts include the Eastern, Northern, Unakwik, Coghill, Northwestern, Southwestern, Montague, and Southeastern Districts (Appendix D). The PWS Management and Salmon Enhancement Allocation Plan (5 AAC 24.370(d)) closes the Southwestern District prior to July 18. The plan also closes the Coghill District to purse seine gear prior to July 21, except under the WNH Management Plan (5 AAC 24.368(f)), to prevent deterioration of fish quality of the harvestable surplus of chum salmon, or under the PWS Management and Salmon Enhancement Allocation Plan (5AAC 24.370(e)) if the purse seine fleet caught 40 percent or less of the total commercial CPF exvessel value in the PWS area in the previous year. Beginning July 21, both purse seine and drift gillnet gear are allowed in the Coghill District. Purse seine gear is allowed in the district as long as the harvestable surplus is predominantly pink salmon by number. Fishing periods in all districts are established by emergency order.

The general purse seine districts are managed to achieve wild pink and chum salmon escapement goals by district and allow for the orderly harvest of surplus wild and hatchery stocks. Escapement of pink and chum salmon is monitored through the season by weekly aerial surveys of 209 index streams. Management to achieve hatchery corporate escapement goals is accomplished by opening and closing subdistricts near the hatcheries. Subdistrict openings are also utilized to target the fleet on hatchery stocks when wild salmon escapement is weak.

The VFDA Solomon Gulch pink salmon stock harvest peaks in early July (Appendix E) while the coho salmon run typically occurs in late August and early September. It is assumed that all of VFDA's enhanced production returns to the Solomon Gulch Hatchery in Port Valdez, with the exception of a small run of coho salmon that returns to Boulder Bay near the Village of Tatitlek.

PWSAC pink salmon stocks peak in mid-August (Appendix E), returning to Cannery Creek, WNH and AFK Hatcheries. A moderate run of coho salmon at WNH is incidental to the late pink salmon fishery. The outlook for the general purse seine fishery in 2003 was for a total return of

30.3 million pink salmon composed of 25.2 million hatchery and 5.1 million wild stock pink salmon (49% PWSAC, 34% VFDA, 17% wild). The forecasted CPF harvest was 11.9 million pinks with an additional 16.4 million for corporate escapement and 2.0 million for wild stock escapement. The wild stock chum salmon forecast was 525,000 fish with a midpoint escapement goal of 174,500. The forecast for enhanced chum salmon in purse seine districts was 3.7 million fish returning to WNH and 990,000 fish returning to Port Chalmers remote release site in the Montague District.

Similar to 2002, when the Prince William Sound SHTF met prior to the fishing season, poor market conditions, harvest limits, and low prices caused a great deal of concern over the potential for a successful purse seine season. Recent purse seine effort has been greatly reduced due to low prices. The SHTF felt that the remaining purse seiners would likely concentrate their fishing effort and target hatchery returns where high volume harvests could occur. The department restated its intent to open multiple districts concurrently as wild stock escapements allow. This would help to relieve congestion in the hatchery subdistricts where a majority of the hatchery returns have traditionally been harvested. The department also agreed to fish earlier in the Southwestern District if the early wild stock returns showed significant strength and hatchery stocks composed a majority of the samples in the test fishery. The department also reviewed Coghill District management regarding the sharing of the Esther Subdistrict by purse seine and drift gillnet gear groups prior to July 21 (Appendix D).

The 2003 VFDA sales harvest revenue goal was \$2,635,400 as outlined in the VFDA FY-2003 Income and Expense Statement in their 2003 Annual Management Plan. Fish determined to be surplus to the association's needs would be made available for common property harvesting. In 2003, two processors had contracts to purchase VFDA's cost recovery salmon. VFDA did not pursue cost recovery during CPF periods either due to cost recovery fishermen's contracts that required them to fish only on days when there was no CPF or cost recovery processors' unwillingness to give processing capacity to the hatchery in favor of their fleets. Without the ability to harvest for cost recovery every day, the preseason management strategy was to allow VFDA to reach approximately 33% of their revenue goal prior to the start of a CPF. This strategy would accomplish three goals: 1) It would allow VFDA to reach their revenue goal in a timely fashion; 2) It would allow the department to assess the strength of the hatchery run and; 3) It would allow early run wild stocks to escape into their natal streams. This strategy was abandoned after the first CPF period on June 23 resulted in a harvest of 1.36 million pink salmon and it became apparent that the pink salmon return was early, and possibly compressed and/or larger than forecast. For the purpose of hatchery cost recovery, two processors operating at full capacity in 2003 were inadequate to prevent a buildup of pink salmon in the head of Port Valdez. Furthermore they were inadequate to allow VFDA to efficiently achieve their cost recovery goal while allowing common property fisheries targeting the build-up of enhanced fish.

According to PWSAC's annual management plans, the corporate escapement goal for pink salmon was based on broodstock needs of approximately 900,000 fish and a revenue goal of \$4.1 million. In consultation with PWSAC, the Department collectively manages the pink salmon returns to WNH, CC, and AFK Hatcheries to achieve the goal. Fish estimated to be surplus to the corporation's needs would be made available for common property harvest. In 2003, seven processors were contracted to purchase PWSAC pink salmon cost recovery. PWSAC's contract purse seiners were required to fish every day that fish were available for harvest so cost recovery

and common property fisheries could proceed according to run assessments and not be tied to a completed percentage of cost recovery.

Chum Salmon Season Summary

In spite of strong wild chum salmon runs and regular fishing periods, the ability of purse seiners to target wild chum salmon in the Eastern and Southeastern Districts was hampered by the large pink salmon returns. PWSAC enhanced chum salmon runs in the Montague and Coghill Districts were below forecast. For the first time in 2003, all age classes of Port Chalmers chum salmon had otolith thermal marks enabling the department to determine their harvest contributions. The harvest of 566,535 fish was less than the forecast for Montague District and included 31,000 WNH enhanced chum salmon (Appendix E19). Additionally, an unexpectedly large number, 323,713 or 32% of the total Port Chalmers chum salmon forecast was found in the Coghill District purse seine and gill net harvests (Appendix E20). At times Port Chalmers origin chum salmon represented as much as 44% of the Coghill District harvest by period (Appendix E20). Coghill District gillnet only periods contained over 64,000 chum salmon of Port Chalmers origin. All PWSAC Port Chalmers enhanced chum salmon are intended to be harvested by the purse seine fleet.

A fishing schedule of 156-hour periods each week was initiated in the Montague and Southwestern districts on May 26. The schedule was from Monday at 8:00 a.m. to Sunday at 8:00 p.m. with a 12-hour closure on Sunday night. This schedule was maintained through July 20. A total of 656 chum salmon were harvested in the Southwestern District during this period, considerably less than the preseason forecast. The return of chum salmon to the WNH was also less than the preseason forecast of 3.7 million adults. The regulatory provision in the PWS Management and Salmon Enhancement Allocation Plan (5AAC 24.370(e)) was exercised in 2003. This allows the purse seine fleet into the Esther Subdistrict prior to July 21 if in the previous year they caught 40 percent or less of the total commercial CPF ex-vessel value in the PWS area. According to the intent statement developed and endorsed by the Alaska Board of Fisheries (BOF) at the 2003 meeting, the drift gillnet fleet began with a 24-hour period in the Coghill District on May 26. The purse seine fleet followed with a 24-hour period in the Esther Subdistrict as described in 5AAC 24.370 and thereafter fished in the Esther Subdistrict, alternating periods of equal duration but not necessarily equal area with the gill net fleet until July 21, at which time purse seine gear became a legal gear for the entire district as pink salmon became the target species. Wild stock chum salmon escapements were within or above escapement goal ranges for every district. The Eastern, Northern, and Southeastern Districts comprise 68% of the expected chum salmon escapement goal. Overall, the PWS chum salmon escapement was 57% above the upper end of the escapement goal range.

Pink Salmon Season Summary

The number of pink salmon that returned to Prince William Sound was nearly twice the 30.3 million fish forecast and resulted in a harvest of approximately 51.1 million fish (Table 1). This is largest harvest ever recorded exceeding the previous record of 45.0 million pink salmon harvested in 1999. The returning adults in 2003 had an average weight of approximately 3.6 pounds. An estimated 4,489,184 wild stock pink salmon contributed to the commercial common property and cost recovery fisheries based on otolith recoveries. Approximately 99% of the wild stock harvest occurred in the commercial CPF. The ratio of enhanced pink salmon to wild pink salmon in the 2003 total commercial common property harvest is estimated to have been 8:1. An

estimated 2.9 million pink salmon escaped into Prince William Sound index streams to spawn, which is the second largest escapement since 1965. Approximately 41% (106 permit holders) of the Area E salmon purse seine permit holders made at least one delivery during the 2003 season.

Aerial surveys to assess early chum and pink salmon escapement in the Eastern and Northern Districts began in mid-June. In July, surveys began in all other seine districts. Most fishing effort was directed at the hatchery subdistricts and terminal areas. The Eastern District supported early season purse seine effort with the VFDA return exceeding the preseason forecast and wild stocks well above the escapement goals for the entire 2003 season. Southeastern District wild stocks were above the cumulative anticipated counts throughout the 2003 fishing season. The situation was similar in western PWS as late run hatchery pink salmon began to arrive. Wild stock escapements were well above the anticipated counts for all western PWS districts and the hatchery returns showed early signs of strong returns. Purse seine fishing periods were targeted on the Southwestern District Capes to attempt to slow run entry and on the hatchery subdistricts to prevent large buildups. The peak effort occurred on June 26 when 81 permit holders delivered fish. The Eastern, Northern/Unakwik, and Coghill Districts were 25.0%, 8.5%, and 36.4% above the upper end of their escapement goal ranges, respectively. The Northwestern, Eshamy, Southwestern, Montague, and Southeastern Districts were within their escapement goal ranges. Overall, wild stock pink salmon escapement was 5.7% above the upper end of the escapement goal range. Wild stock pink salmon received minimal fishing pressure during 2003 due to large hatchery returns and low participation caused by reductions in processing capacity.

The limiting factor affecting the management of hatchery pink salmon in 2003 was decreased processor capacity and corresponding fleet size. One of the major fish processors, North Pacific Processors, ceased buying pink salmon from their fleet on July 15 and thereafter only accepted small deliveries from a few purse seiners. By the time the PWSAC pink salmon return was nearing its peak most of the remaining processors had their vessels on harvest limits and the total fleet size was drastically reduced. Many of the remaining vessels were participating in the roe recovery fisheries at the hatchery THAs and SHAs and were not available to harvest fish in the general fishing districts before they reached the hatcheries. Large buildups were experienced at all pink salmon hatcheries in PWS as a result of limited harvest and processing capacity.

Eastern District

VFDA's anticipated 2003 adult return of pink salmon to the Solomon Gulch Hatchery was 9.1 million fish, based on an assumed 4.5% marine survival from the 2002 fry release of 202.5 million. A total of 323,000 salmon were anticipated to be required to meet egg-take objectives at the hatchery. The 2003 pink salmon cost recovery revenue goal for VFDA was \$2.64 million. Based on their sales contracts with Peter Pan Seafoods and Bear & Wolf Salmon Company, VFDA needed to harvest approximately 15.5 million pounds of pink salmon to reach that revenue goal. VFDA began cost recovery on June 18 with strong harvests. An aerial survey of the Eastern District on Thursday, June 19, indicated that early wild chum salmon returns to Port Fidalgo, Port Gravina, and Sheep Bay were greater than anticipated for this date. The first common property fishery (CPF) opened on June 23 in Eastern District, south of the latitude of Black Point. The harvest for that first period was 1.36 million pink salmon. Pink salmon harvested during the first period were slightly larger than expected averaging approximately 3.8 pounds. On 24 June, ADF&G port sampling had a female percentage of 30% versus an anticipated female percentage of 23%, indicating the return may have been early. An aerial survey conducted on Tuesday, June 24, documented that early wild pink and chum salmon

returns were greater than anticipated for this date. Cost recovery harvest was 29% complete on 25 June at which time VFDA reported a female percentage of 36%. The second CPF yielded 1.38 million pink salmon on 26 June. ADF&G port sampling, on 27 June, had a mean female percentage of 36% in the Valdez arm versus an anticipated female percentage of 28%, continuing to indicate an early run entry. The ADF&G inseason total harvest forecast on 29 June was 19.3 million fish. The CPF had harvested 5.26 million pink salmon by 30 June. By 1 July VFDA had completed 44% of cost recovery having harvested 6.8 million pounds or 1.96 million pink salmon. At this time VFDA estimated the female percentage to be 50% at Entrance point and 41 % at Allison Point. At the same time, ADF&G sampling provided estimates of 41% females on 30 June and 34% on 1 July. The third aerial survey of the Eastern District, on 29 June, showed wild pink and chum salmon escapement to be greater than anticipated, except in Galena Bay. Due to strong harvests (both common property and cost recovery) and greater than anticipated escapement numbers, ADF&G management opened the Eastern District for three consecutive 12-hour periods on 2, 3, and 4 July with pink salmon harvests of 936,380, 430,870, and 763,679 respectively. During those openings VFDA did not conduct cost recovery fishing. VFDA requested a closure of the CPF for 5 and 6 July in order to conduct cost recovery fishing. Cost recovery harvest for 5 and 6 July was 459,423 and 432,092 pink salmon respectively, completing 64% of the goal. ADF&G conducted the fourth aerial survey of the Eastern District on 6 July at which time pink and chum salmon escapements continued to be greater than expected. The CPF reopened for a 12-hour period on 7 July with a harvest of 988,624 pink salmon. VFDA aggressively pressured ADF&G to close the CPF on alternating days to allow cost recovery to occur during times when the CPF was closed.

The harvest management of large returns of VFDA pink salmon has been complicated by recent changes in the commercial fishing industry. In July 2003, total pink salmon processing capacity decreased by approximately 20% with the loss of North Pacific Processors and their fleet of 20 purse seine vessels. The record 2003 Eastern District return of 21 million pink salmon demonstrates how the reduced processing capacity complicates harvest management. Returns of this magnitude overwhelm processing capacity and delivery timing becomes an important factor in maximizing the available capacity. Prior to this year, ADF&G scheduled cost recovery and CPF harvests in the Eastern District on an alternating day schedule. This makes cost recovery an attractive commodity as it allows cost recovery processors to have fresh product in their plants everyday, increasing roe and flesh quality. However, with only two cost recovery buyers, VFDA's average processing capacity was approximately 1.1 million pounds per day. The average daily processing capacity for a CPF over the same period was 3.0 million pounds. Cost recovery is given priority in regulation and may proceed regardless of CPF schedules assuring that revenue goals are met. Despite the record 2003 return and the substantial buildup of pink salmon in the hatchery SHA, during the peak of the run VFDA was behind on their cost recovery. VFDA was either unwilling or unable to force their cost recovery buyers to accept product during CPF periods. VFDA used the cost recovery priority to pressure ADF&G to close the CPF fishery in the interests of achieving cost recovery. The closure of the CPF on four occasions in order to accommodate cost recovery resulted in an estimated 7.6 million pounds of idle processing capacity during the peak of the return. These CPF closures contributed to the large build-up of fish in Port Valdez. This large build-up resulted in an emergency regulation allowing for a precedent setting roe fishery in Port Valdez. The roe fishery was conducted on an emergency basis and the department does not consider this to be the best use of the resource. At times of large pink salmon returns in the future, it is imperative that the CPF schedule gets the

most out of processing capacity. This will maximize resource utilization and economic benefit. It is reasonable to expect that in years of large returns cost recovery should be readily accomplished without limiting CPF time.

Due to the inability of VFDA to conduct cost recovery during CPF periods, an alternating cost recovery and CPF schedule was set despite the continuing build up of fish in Port Valdez. On 8 July cost recovery harvested 360,868 pink salmon, completing 73% of the VFDA goal. At this time the build up of pink salmon in the port was estimated to be 3 – 5 million fish. The build up and continuing run entry was assumed to exceed the processing capacity of all processors involved. The quality of the fish flesh was also deteriorating to the point where it was no longer marketable for human consumption. Because of the fish build up and deteriorating quality, a roe recovery fishery and CPF were announced for 9 July. The roe fishery, limited to the Terminal Harvest Area (THA), was authorized under emergency regulation 5 AAC 93.325 Hatchery salmon use authorization. On 9 July the CPF harvested 953,882 pink salmon. Despite the massive build up of pink salmon in Port Valdez, VFDA continued to express concern about their ability to complete their cost recovery. VFDA continued to press for an alternating day harvest pattern for cost recovery and common property fisheries. VFDA harvested 443,993 pink salmon on 10 July completing 82% of the cost recovery goal. The large run of pink salmon continued to build-up in the Port and a THA roe recovery fishery and CPF were announced for 11 July. Jack Bay and Sawmill Bay were closed behind the yellow Salmon Harvest Task Force markers for fishing periods on 11, 13, and 15 July due to lagging wild stock escapement. Escapement in Sawmill Bay exceeded anticipated counts during the 15 July aerial survey and was subsequently open for fishing. Jack Bay remained closed for fishing periods from 17 July until 2 August after which time it too opened. The harvest for 11 July was 865,216 pink salmon. VFDA harvested 385,740 pink salmon on 12 July completing 92% of the goal. On July 13 the common property harvest was 680,771 pink salmon. VFDA completed their cost recovery goal on 14 July with a total season harvest of 4,188,294 pink salmon (15,580,015 pounds). The ADF&G inseason total harvest forecast on 14 July was 19.4 million fish. VFDA anticipated being 70% complete with brood stock collection on this date but had not yet begun brood collection. The fifth aerial survey of the Eastern District on 15 July yielded greater than anticipated bay, stream mouth, and stream counts for chum and pink salmon. ADF&G opened the roe and flesh CPF from 15 to 22 July with a harvest of 3.16 million pink salmon. As the fishery progressed from 17 July, processors gradually stopped taking fish as their capacity was met or exceeded. Through the remainder of July, the CPF was open for 12 additional days, mostly on an every-other day schedule. During that time a total of 801,589 pink salmon were harvested with an average daily harvest of 61,661 fish. Pink salmon harvests in the Eastern District ended on 14 August. Of the 14.8 million pink salmon harvested in the Eastern District 12.3 million were harvested in Port Valdez (sub-districts 221-60, 61 and 62). VFDA collected 297,314 pink salmon during brood stock collection from 21 July through 12 August. Of that number 46,163 were weir mortalities, 57,243 were excess males, and 16,028 were classified as unviable or system mortalities. A total of 230 million eyed-eggs were produced from 177,880 pink salmon composed of 131,335 females and 46,545 males. VFDA also harvested pink salmon roe between 14 July and 25 August, harvesting an additional 374,968 pink salmon. An additional 1 million unutilized hatchery produced pink salmon were estimated to have remained and died in local streams, rivers and tidal flats.

Southeastern District

Starting with the first aerial survey on July 5, Southeastern District wild stock pink and chum salmon escapements were ahead of anticipated escapement for the entire season. A 12-hour Southeastern District CPF period was announced to open concurrently with the Eastern District on July 7 and the district remained open every other day thereafter until August 14. Peak effort and harvest occurred on July 19 when 14 permit holders landed 131,137 pink salmon. During the alternate day schedule between July 27 and August 12 fishing effort was minimal, with a harvest of just 9,847 pink salmon. No fishing effort occurred during 23 consecutive days of 12-hour periods from August 14 until September 5 at which time the district closed for the season. The 2003 Southeastern District harvest was composed of 514,452 pink salmon, 13,148 chum salmon, 1,535 sockeye salmon, 299 coho salmon, and 2 Chinook salmon.

Southwestern District

PWSAC's anticipated 2003 adult return of pink salmon to the AFK Hatchery was 7.6 million fish, based on an assumed 5.0% marine survival from the 2002 fry release of 156.0 million. A total of 300,000 pink salmon were required to meet egg-take objectives at the hatchery. The 2003 pink salmon cost recovery revenue goal for PWSAC was \$4.14 million. This revenue goal is shared by all three PWSAC pink salmon hatcheries and the amount required from each hatchery is not set. PWSAC requires its contract cost recovery vessels to fish for cost recovery during CPF open periods.

Pink salmon began to arrive at the AFK Hatchery during the week of July 14-20 when 10,155 fish were landed during the final 156-hour period of the chum salmon fishery in the hatchery Special Harvest Area. A 12-hour fishing period was announced to open July 21 in the Point Elrington Subdistrict to gauge early run composition and strength. The harvest from this period was 143,535 pink salmon with a stock composition of 60% hatchery production (5% SGH, 5% Cannery Creek, 30% WNH, and 20% AFK). Twelve-hour fishing periods were announced to open July 23 and 25 in the Port San Juan Subdistrict to further gauge early run composition and strength nearer to the hatchery. The ADF&G Research Vessel Montague began recovering otoliths from pink salmon entering the Southwestern District on July 24 with an initial stock composition of 76% hatchery production (3% SGH, 17% Cannery Creek, 37% WNH, and 18% AFK). Wild stock pink salmon escapement was above anticipated and wild stock chum salmon escapement was slightly below anticipated during a July 24 aerial survey of the Southwestern District.

Cost recovery at AFK Hatchery began on July 25, with a harvest of approximately 100,000 pink salmon with an 18% female sex ratio. Twelve-hour fishing periods, targeting AFK Hatchery pink salmon, were announced for the Point Elrington Subdistrict (226-51) and the east side of Knight Island (226-30) for July 27, 29, 31, and August 2. The remainder of the Southwestern District remained closed in response to lagging Eshamy sockeye salmon escapement. By July 29, commercial fishery samples indicated that 84% of the pink salmon entering the district were hatchery produced (4% SGH, 15% Cannery Creek, 28% WNH, and 38% AFK). An August 3 aerial survey found Southwestern District wild stock pink and chum salmon escapements were at or above anticipated levels. The Port San Juan Subdistrict (226-60, 61, and 62) was added to the previously opened fishing area (226-30, 51) for 12-hour periods on August 4, and 6.

The entire Southwestern District was opened for 12-hour periods on August 8, 10, 12, and 14 with the AFK Hatchery SHA remaining closed for cost recovery. On August 8, 19 permit holders

harvested 208,167 pink salmon but on August 10, 12, and 14, effort and harvest dropped to zero. Processors cited deteriorating fish quality as the reason for their lack of participation. On August 14, the bay estimate for pink salmon at AFK Hatchery was one million and PWSAC had collected 68% of their pink salmon revenue goal. After August 14, cost recovery efforts ceased at AFK Hatchery and became focused on WNH and CCH pink salmon. Because of the fish build up and deteriorating quality, a roe recovery fishery and CPF were announced on August 14 for daily 12-hour periods until further notice. The roe fishery, limited to the AFK Hatchery THA and SHA, was authorized under emergency regulation 5 AAC 93.326 Hatchery salmon use authorization. The daily periods were increased to 14 hours beginning August 19 to accommodate tender schedules. Peak effort and harvest occurred on July 27 with 23 permit holders landing 396,991 pink salmon. From August 15 through September 11, one to five permit holders per day participated in the roe fishery harvesting 3.2 million pink salmon. Total CPF pink salmon harvest for the Southwestern District was 5.8 million of which 54% were harvested for roe only. PWSAC cost recovery operations at AFK Hatchery harvested 1.4 million pink salmon including 70,644 fish for roe. The Southwestern District closed for the season on September 24.

Northern District

PWSAC's anticipated 2003 adult return of pink salmon to the CCH was 2.2 million fish, based on an assumed 4.5% marine survival from the 2002 fry release of 138.6 million and poor recent returns. A total of 300,000 salmon were required to meet egg-take objectives at the hatchery. The 2003 pink salmon cost recovery revenue goal for PWSAC was \$4.14 million. This revenue goal is shared by all three PWSAC pink salmon hatcheries and the amount required from each hatchery is not set.

Aerial survey escapement estimates of Northern District wild pink and chum salmon were greater than anticipated throughout the season. The Northern District opened with two 12-hour periods on July 21 and 23 based on the greater than anticipated wild pink and chum salmon escapement estimates. These openers were scheduled concurrently with Eastern, Southeastern, Southwestern, and Coghill Districts. Perry Island and Cannery Creek subdistricts remained closed to ensure that cost recovery was not impeded at WNH or CCH. Effort for these periods was 11 and 18 permit holders respectively and harvest was 97,848 and 157,941 pink salmon respectively. Thereafter, 12-hour periods occurred every-other day through August 14 after which a daily schedule was implemented. By August 10, cumulative CCH run entry was estimated at 2.1 million with a CCH bay estimate of 400,000 pink salmon. The bay estimate increased to 600,000 on August 14 and reached 1,000,000 on August 18. Flesh quality at CCH remained relatively high compared to fish at WNH and AFK Hatcheries. The department, in consultation with PWSAC, managed the Cannery Creek Subdistrict for a flesh fishery, maximizing cost recovery at CCH in late August. Peak effort occurred on July 27 when 47 permit holders harvested 490,268 pink salmon. Peak harvest did not occur until August 31 when 529,533 pink salmon were harvested by 15 permit holders.

Large numbers of pink salmon built up in the CCH THA and SHA due to low harvest effort in the Northern District from August 17 to 25. A roe recovery fishery in the CCH THA was announced for 14-hour periods daily beginning 26 August until 29 August. The roe recovery fishery expanded to include the SHA from August 30 through September 22. The roe fishery was authorized under emergency regulation 5 AAC 93.326 Hatchery salmon use authorization. Fish were harvested in the roe fishery from August 26 through September 5. During the peak of the

roe fishery, August 28 to September 3, an average of 14 permits holders per day had a daily average harvest of 292,000 pink salmon. A total of 2.6 million pink salmon were harvested in the roe fishery.

PWSAC began their cost recovery operations on July 30 at the CCH, approximately one week earlier than in 2002. In mid-August PWSAC shifted the cost recovery focus from AFK to WNH and CCH, allowing common property fishermen to harvest remaining AFK pink salmon in a roe fishery. PWSAC cost recovery operations at CCH harvested 2.4 million pink salmon including 52,440 fish for roe. PWSAC complete cost recovery operations at CCH on August 27. The average pink salmon weighed 3.5 pounds. The female percentage in the cost recovery harvest was initially higher than expected, indicating an early pink salmon return. A total of 5.9 million pink salmon were harvested in the Northern District including 2.6 million (45%) in the roe fishery. The Northern District closed for the season on September 24.

Montague District

Pink salmon aerial escapement estimates in the Montague District were above anticipated levels for the entire season. The Montague District CPF opened on May 26 for eight consecutive 156-hour periods. Fishing effort focused on Port Chalmers remote release chum salmon harvesting 566,535 fish during that time. Harvest peaked during the fourth period (June 16 – 22) with a harvest of 153,615 chum salmon. The Montague District opened for 12-hour periods every other day from July 27 through August 12 and thereafter daily through September 5. There was no harvest or effort reported after July 21. The 2003 Montague District harvest was composed of 566,535 chum salmon, 60,287 pink salmon, 2,078 sockeye salmon, 19 coho salmon, and 62 Chinook salmon. The Montague District closed to salmon fishing for the 2003 season on September 24.

Coghill District

Aerial survey information indicated strong wild pink and chum salmon escapements in the Coghill District throughout the season. Under provisions of the PWS Management and Salmon Enhancement Allocation Plan, purse seine gear is allowed in the Esther Subdistrict to harvest WNH enhanced salmon prior to July 21. A total of 750,834 chum salmon were harvested from the Esther Subdistrict during the first seven periods that the area was open to purse seine gear. Effort and harvest for WNH chum salmon peaked on June 12 with 40 permit holders harvesting 153,141 fish. By regulation the entire Coghill District is open to both purse seine and drift gill net gear after July 21. This season's sockeye salmon return to Coghill River was strong and the midpoint of the escapement goal range for sockeye salmon for Coghill Lake was met on June 30. The Coghill District north of Esther Pass was open to drift gillnet gear from June 30 until July 16. At that time, despite near unlimited fishing time, Coghill River sockeye escapement approached the upper end of the escapement goal range. In an effort to reduce escapement into the Coghill River, purse seine gear was allowed by emergency order into the Coghill District north of Point Pakenham from July 18-20, prior to the July 21 regulation date. Commercial CPF periods in the Coghill District were limited to waters north of the latitude of Point Pakenham from July 21 through July 31 in order to expedite cost recovery and direct fishing effort to Coghill River salmon stocks.

The first CPF in the Coghill District targeting WNH pink salmon occurred in the Esther Subdistrict excluding the WNH THA and SHA on August 2 for 12 hours and 290,857 pink salmon were harvested by 26 permit holders. The same area was open for 12-hour periods

every-other day through August 14 after which a daily schedule was implemented. Even as harvests remained strong the bay estimate had built to 2 million pink salmon by August 9. Due to the large pink salmon build up in the WNH THA and SHA, a roe recovery fishery was announced for daily 12-hour periods beginning August 10 until September 22. The roe fishery, limited to the WNH THA and SHA, was authorized under emergency regulation 5 AAC 93.326 Hatchery salmon use authorization. Peak effort and harvest in the roe recovery fishery occurred on August 24 when 41 permit holders landed 747,088 pink salmon. Roe fishing effort ceased after September 4. Total harvest for the roe recovery fishery in the Coghill District was 8,638,779 pink salmon.

PWSAC began their cost recovery operations at WNH for pink salmon on July 14 with a harvest of approximately 3,000 pink salmon and a sex ratio of 13% females. Eleven days later on August 9, PWSAC had harvested 54% of the pink salmon revenue goal. PWSAC cost recovery operations at WNH harvested 4,400,958 pink salmon ending on September 4. The average pink salmon weight was 3.3 lbs. The female percentage in the cost recovery harvest was initially higher than expected, indicating that the pink salmon were early in their return timing. The district closed for the season on October 5 with 11,439,915 pink salmon harvested by the common property purse seine fleet including the roe fishery harvest. A total of 750,834 chum, 125,641 sockeye, 724 coho and 15 Chinook salmon were also harvested in the 2003 Coghill District seine fishery.

Coho Salmon

The waters of Port Valdez north of a line from Entrance Point to Potato Point and west of 146° 21.3' W. longitude were opened for 12 hours on September 2 to allow the harvest of coho salmon returning to Solomon Gulch Hatchery. The area open to the common property fleet was limited because the return of coho salmon had yet to appear in the vicinity of the hatchery. VFDA also expressed concern that allowing the fleet into Port Valdez near the hatchery could jeopardize coho salmon broodstock collection. Effort and harvest during this period was seventeen permit holders harvesting 20,383 coho salmon. The department reopened waters of Port Valdez north of the Entrance Point – Potato Point line on September 4, 6, 8, and 10 for 12-hour periods and increased the area open inside the port. Both effort and harvest decreased during these periods. Waters of Port Valdez were reopened on September 12 and 16 for 84-hour periods. There was no harvest reported for either of the last two periods. A total of 63,570 coho salmon were harvested in the Eastern District.

Conclusions and Recommendations

The department and fishing industry representatives continue to explore management options that maximize pink salmon quality and value while providing for wild stock escapement and cost recovery and broodstock collection. Because of the large hatchery pink salmon returns in 2003, purse seine fishing in PWS was concentrated in the hatchery subdistricts and terminal areas. Wild stock pink salmon escapements were within or above the escapement goal ranges in every district. After accounting for wild stock escapement, hatchery broodstock, and post-season surplus that was not harvested, the 2003 total return estimate for pink salmon is 58.4 million fish. During this unusually large run coordination between the department, hatcheries, and fishing industry representatives was especially important. Approximately 15,411,000 of the surplus enhanced hatchery produced pink salmon were harvested for their roe according to the provisions of emergency regulation 5 AAC 93.326 Hatchery Salmon Use Authorization. An

estimated 1.3 million surplus enhanced fish were left unharvested among the four PWSAC pink salmon hatcheries and an additional 1.0 million VFDA fish were left unharvested.

ADF&G has improved pink salmon utilization by broadening its ability to use otolith marks for improved forecasting and inseason management. With otolith-marked fish, the risks to wild stocks associated with a harvest decision can be evaluated prior to a fishery being announced. Post fishery analysis can be used to further refine management. Stream escapements, commercial harvests, and migration routes can all be accurately characterized using otolith marks. As a management tool, otolith marks offer a great deal of information about wild and hatchery pink salmon interactions. Figure 7 provides the PWS pink salmon contribution to the commercial harvest based on otolith thermal marks.

Reliably forecasting the magnitude of the PWS return can assist local managers, hatchery operators and the fishing industry in sufficiently preparing for the coming salmon season. The commercial harvest of 38.5 million pink salmon in 2003 was more than double the forecasted harvest of 17.1 million fish. Reliable forecasts can help the entire industry identify and address where and if regional processing capacity shortfalls and excesses are likely to occur.

ADF&G is concerned about straying of PWSAC enhanced chum salmon because of the detection of enhanced chum salmon in harvests outside their point of origin and in wild escapements. Approximately 323,000 Port Chalmers remote release chum salmon were identified in the Coghill District harvest, representing 30% of PWSAC's projected Port Chalmers return. (Appendix E20). WNH chum salmon were also identified in the 2003 Port Chalmers Subdistrict harvest (Appendix E19). Port Chalmers, WNH, and AFK origin enhanced chum salmon were also found in the Eshamy River escapement in 2002 and 2003 and in Gun Boat Creek escapement in 2001. Further indications of straying include a recent anomalous increase in chum salmon population aerial survey counts in Montague and Southwestern districts' streams.

An evaluation of remote release fish straying into streams is identified as one of the required evaluations in the Prince William Sound-Copper River Phase III Comprehensive Salmon Plan (1994). The Phase Three Plan delineates a set of studies that were determined to be 'necessary to evaluate the effect of remote release programs on wild stocks' (RPT 1994). The Port Chalmers remote release initially had a coded wire tag straying evaluation component. However, no formal study plan was developed and an unbiased and accurate straying evaluation was never completed. Port Chalmers remote release chum salmon straying has yet to be accurately investigated. The Department recommends a straying study of enhanced chum salmon in PWS because of the incomplete nature of the initial study, current evidence of straying, and its implications on allocation issues and possible interactions with wild stocks.

PRINCE WILLIAM SOUND AND COPPER RIVER SUBSISTENCE FISHERIES

Subsistence and personal use harvests (Appendices F1 – F6) harvest has increased over the recent years in the Prince William Sound Management area. The largest subsistence fisheries occur on the upper Copper River, upstream of regulatory markers above Haley Creek to the Copper River's confluence with the Slana River. A major change occurred in this fishery for the 2003 season. At the 2003 Prince William Sound Board of Fisheries meeting, the board reversed its 1999 finding that the Chitina fishery was a Customary and Traditional Use finding for salmon stocks in Chitina Subdistrict on the upper Copper River. This resulted in the Chitina Subdistrict

subsistence fishery reverting back to a personal use fishery. As a result, there is currently one subsistence fisheries in Upper Copper River District, Glennallen Subdistrict.

In Prince William Sound, Copper, and Bering River Districts, commercial permit holders may withhold a portion of their commercial harvest for home use. Since 1994, all Chinook salmon in Copper and Bering River Districts that are harvested, but not sold in the commercial fishery must be reported on a fish ticket. In 2003 the harvest of Chinook salmon retained for home use was 1,094 and 4,100 sockeye salmon were also reported as kept for home use (Appendix F6).

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

PRINCE WILLIAM SOUND AND LOWER COPPER RIVER

Boundary lines for Copper River District subsistence fishing are the same as for the commercial drift gillnet fishery. Subsistence fishing is allowed from May 15 until September 30, until two days before the commercial opening of Copper River District, seven days a week. Once the commercial season has commenced, subsistence fishing is allowed only during commercial fishing periods or by emergency order. Within Copper River District, drift gillnets are the only legal gear and may have a maximum length of 50 fathoms with a maximum mesh size of 6 inches prior to July 15. In addition to the subsistence fishery, commercial fishermen may withhold a portion of their harvest for home use. Any commercially caught Chinook salmon not sold must be reported on a fish ticket.

In 2003, 11 subsistence permits were issued for Prince William Sound. Eight permits did not fish and one permit holder fished unsuccessfully, the two successful permit holders that fished reported a harvest total of 48 sockeye and three chum salmon. In Copper River District, 384 permits were issued in 2003, of which 19 were not returned. Of the 365 permits that were returned, 140 permit holders did not fish. A harvest of 710 Chinook, 1,607 sockeye, and 36 coho salmon was reported from the 225 permits that fished.

EASTERN AND SOUTHWESTERN DISTRICT SUBSISTENCE FISHERIES

Permitting for Southwestern and Eastern Districts subsistence areas began in 1988. Residents of both Chenega and Tatitlek are eligible for subsistence permits in their respective areas. In 1991, a court ruling qualified all residents of Alaska for a subsistence permit in the Eastern and Southwestern Districts. Permit holders are allowed to fish in these areas from May 15 until two days before the first commercial fishing period. Once the commercial fishing season is established, subsistence fishing may occur only during commercial fishing periods. Two days after the closure of the commercial fishing season, subsistence harvesting is open to seven days per week fishing until September 30 in the Southwestern District and until October 31 in the Eastern District.

In 2003, 15 permits were issued for Eastern District of which 10 permits were not returned. Four permit holders reported fishing, harvesting a total of 81 sockeye, 185 coho, 20 pink, and 12 chum salmon. In Southwestern District, 13 permits were issued and five permit holders reported harvesting 6 Chinook, 219 sockeye, 156 coho, 149 pink, and 147 chum salmon. Of the 13 permits issued for the Southwestern District six were not returned and two permits were reported as to not having fished.

UPPER COPPER RIVER

Glennallen Subdistrict

Glennallen Subdistrict is that portion of the main stem Copper River upstream of the McCarthy Bridge to the mouth of the Slana River. This subdistrict is open June 1 through September 30 for continuous fishing. Fish wheels and dip nets are legal gear. During the 1996 Board of Fisheries meeting, the Copper River District Salmon Fishery Management Plan was modified and a range of 60,000-75,000 subsistence salmon was established to accommodate the variability in harvest levels and allow for increased harvests between board cycles. Participants are allowed one permit per household and the permit identifies the gear type to be used. Total annual harvest cannot exceed 500 salmon for a household of two or more and 200 salmon for a household of one. No more than 5 Chinook salmon may be taken by each dip net permit holder. Caudal fins must be clipped from all salmon that are harvested. Subsistence permits with completed harvest information are required to be returned to ADF&G by September 30 of each year.

In 2003, a total of 1,012 permits were issued to both fish wheel and dip net users. Total effort has remained somewhat constant since 1997 with an average number of 1,124 permits issued per season. An average of approximately 67,193 salmon were harvested during the last 5 years compared to an average of 64,487 salmon during 1993 to 2002 seasons. Sockeye salmon dominate the harvest with approximately 95% of the catch, followed by Chinook and coho salmon.

The 2003 Chinook harvest for the subdistrict was 2,585 compared to a record harvest of 4,782 set in 2000 (Appendix F5). A reported harvest of 47,719 sockeye salmon was below the 1998 to 2002 average of 67,193 sockeye salmon. From the permits received in the past, it appears approximately 25% of the Chinook salmon harvested are landed by 2% of the permit holders, indicating that some individuals effectively target Chinook salmon for subsistence uses.

Chitina Subdistrict

Chitina Subdistrict is the portion of the main stem Copper River from a marker just above Haley Creek to the downstream edge of the McCarthy-McCarthy Road Bridge. The Alaska Board of Fisheries changed this fishery from a subsistence fishery to a personal use fishery in 2003. Regulations for the Chitina Subdistrict personal use fishery remained similar to the Copper River Subsistence Use Salmon Dip Net Fishery regulations with one exception. The exception is that permit holders are required to possess a sport fishing license. Annual bag limits will continue to be 30 salmon for a household of two or more, and 15 salmon for a household of one, only one fish may be a Chinook salmon. The Board of Fisheries determined that retaining the bag limit of one Chinook salmon provided for a reasonable opportunity to harvest Chinook salmon, but would also maintain Chinook salmon harvests at historic levels. Based upon recent harvests the board determined that 100,000-150,000 sockeye salmon were necessary for personal use needs to be met for the Chitina Subdistrict fishery. This number included contributions of hatchery fish,

and after this contribution was subtracted, resulted in an 85,000-130,000 sockeye salmon wild stock harvest level.

5 AAC 01.647 Copper River Subsistence Salmon Fisheries Plans requires the fishery to be opened between June 1 and June 11 depending on the strength and timing of the sockeye run. In 2003, the dip net fishery was opened by emergency order on June 4 for a 112-hour fishing period. Beginning June 9, the fishery remained open continuously until July 13. Between July 15 and August 10 the fishery was opened weekly for 96-144 hour fishing periods. From August 11 to September 30 the fishery was open continuously.

Reported harvest for the Chitina Subdistrict subsistence fishery in 2003 was 1,870 chinook, 80,134 sockeye, and 2,409 coho salmon. There were 6,418 permits issued for the subdistrict in 2003 (Appendix F5).

Batzulnetas

In 1987, an interim subsistence fishery was provided by emergency regulation at Batzulnetas to settle the United States District Court case of John vs. Alaska. The Batzulnetas fishery encompasses all waters from the regulatory markers near the mouth of Tanada Creek and approximately one-half mile downstream from that mouth and in Tanada Creek between ADF&G regulatory markers identifying the open waters of the creek. The fishery may begin after June 1. Fishing periods during the month of June are one 48-hour period per week. Beginning in July fishing periods are increased to 84 hours per week until September 1 when the fishery closes.

In 1987, the fishery was conducted near the mouth of Tanada Creek near the historical village site of Batzulnetas. Eight permits were issued in that year to individuals, or family groups, from Mentasta and Dot Lake and the fishery was conducted during July and August. A total harvest of 22 sockeye salmon was reported in 1987. The Board of Fisheries reviewed the fishery before the 1988 season and set seasons, eliminated the quota, and provided for additional gear types. Permits can be issued throughout the season and must be completed and returned to ADF&G by September 30. No permits were issued for this fishery between 1988 and 1992 and 1996. Between 1993 and 2002 the average harvest was 211 sockeye salmon. From 1999 to 2002 only one permit was issued each year with a harvest of 55 sockeye salmon for each year.

2003 PRINCE WILLIAM SOUND HERRING FISHERIES

PRESEASON OUTLOOK AND HARVEST STRATEGY

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

For management purposes, all herring fisheries target what is treated as a single major stock of herring that spawns from mid-April to early May. At the 1994 BOF meeting in Cordova, the minimum spawning biomass threshold was raised from 8,400 to 22,000 tons for the PWS stock.

No fishery may be opened if the estimated spawning biomass is below this level. The 22,000-ton threshold is 25% of the potential spawning biomass from an unfished stock. The higher threshold will establish manageable harvest levels while reducing the risk of driving the population to low abundance through overfishing. When the stock size is between 22,000 and 42,500 tons, the PWS Herring Management Plan (5 AAC 27.365) allocates the projected available surplus to the five fisheries based on a 0-20 % harvest rate. The maximum harvest rate of 20% is applied when stock size is greater than 42,500 tons. The sac roe seine fishery is allocated 58.1% of the available surplus; the food/bait fishery 16.3%; the pound spawn-on-kelp fishery 14.2%; the wild spawn-on-kelp fishery 8.0 %; and the gillnet sac roe fishery is allocated 3.4%. The sac roe fishery has dominated catches with a peak in the early 1990's followed by a precipitous decline and a fishery closure in eight of the past ten years (Appendices G2 and G3).

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

The Prince William Sound herring purse seine fishery is comprised of 104 permanent and 2 interim permits. Purse seines can be 150 fathoms long and 1,025 meshes deep. Mesh size is not regulated. There are 24 gillnet permits in Prince William Sound. Gillnets are limited to 100 fathoms in aggregate length and 120 meshes in depth during the spring sac roe fishery (1 March through 30 June). Gillnets may be 150 fathoms in aggregate length for the food and bait fishery. Mesh size is regulated from a minimum of 2 1/8 inches to a maximum of 3 inches. Historical sac roe harvest is presented in Appendices G3 and G4. There are 128 herring pound permits in Prince William Sound. Seine specifications for the closed pound fishery are the same as the sac roe seine fishery. Open and closed pound fisheries can be managed separately or in combination. The size of the pound is limited to 2,000 square feet at the surface and walls of a closed pound cannot exceed 30 feet in depth. The herring allocation for this fishery is divided among the number of permit holders and the department establishes the maximum number of blades of kelp a permit may maintain in the pound based on the number of permits registered to fish by 15 March. The historical pound spawn-on-kelp harvest peaked in the early 1990's and has declined since that time with multiple season closures (Appendix G6). The wild spawn-on-kelp fishery, utilizing native Prince William Sound kelp, occurs after a major spawning event takes place on marketable species of kelp. Wild kelp is taken by divers or by hand picking depending on the type of kelp available for harvest and market demand. The historical wild spawn-on-kelp fishery harvest is given in Appendix G5. Once instituted, pound fisheries, dominated harvests compared to wild spawn on kelp (Appendix G7). The food/bait fishery season may run from October 1 through January 31; however, industry concerns over product quality usually results in a delay of the season's opening date until November. Purse seine size is not restricted for the food/bait fishery and trawling or gillnetting may also occur. The historical food/bait fishery harvest is

given in Appendices G8 and G9. Historical fishery harvest values for all Prince William Sound fisheries are presented in Appendix G12.

SEASON SUMMARY

Based on observed spawning biomass, miles of spawn, hydroacoustic surveys, and the spawning population's age structure in 2003, it was anticipated that the 22,000-ton minimum spawning biomass threshold needed to conduct a commercial fishery would not be reached for the 2002-2003 herring year. In September of 2002, the department canceled the 2002 food/bait fishery, and all 2003 spring herring fisheries including the seine and gillnet sac roe harvests, the spawn-on-kelp in pound fishery, and the wild spawn-on-kelp harvest. By regulation, the Prince William Sound herring food/bait fishery is scheduled to open on October 1 of each year. The maximum aerial biomass estimate in 2003 was 5,600 tons compared to 150 tons 2002, 587 tons in 2001, 1,610 tons in 2000, and 6,366 tons in 1999. An estimate of the 2003-2004 spawning biomass based on the Age Structure Analysis (ASA) model was not done.

Biomass was estimated and spawning activity documented during ten aerial surveys, from 1 March through 23 April 2003. In recent years spawn has been concentrated on Montague Island but this year spawning activity was more equally spread between southeastern, northeastern shores, and Montague Island. Prince William Sound had a total of 28.6 miles of spawn observed in 2003 (Appendix G1) A total of 6.9 miles of spawn were documented in Port Gravina, 6.4 miles in Port Fidalgo, 3.1 miles in Tatitlek, 2.4 miles in Sheep and Simpson Bay, and 9.7 miles on Montague Island. The peak biomass estimate occurred on March 1 when 2,560 tons of herring were observed in the Simpson and Sheep bays area. Some additional spawning may have occurred on non-survey days and on days with inclement weather that precluded flying. No spawning activity was observed in the Naked Island area. Results of the spring 2003 hydroacoustic survey estimated the herring biomass at 29,873 tons (Appendices G10-11). This number is not adjusted for the immature, non-spawning portion of the population.

Size and age composition samples were collected at eight sites from 20 March to 15 April 2003 (Appendix G13). These sites included Stockdale Harbor, Rocky and Zaikof bays on Montague Island, and Two Moon Bay, Hells Hole, Port Gravina, Graveyard Point, and St. Mathews Bay in the Eastern District. Age-4 fish predominated samples from all areas sampled. Percent age-4 fish ranged from 72% at Two Moon Bay on 22 March to 82% at Rocky Bay on 14 April. Average weights of age-4 fish ranged from 96 to 107 g and lengths ranged from 180 to 198 mm.

2003-2004 HERRING SEASON OUTLOOK

A commercial harvest is not anticipated in 2004 given the PWS herring spawning population, current size and age structure, Consecutive years of low recruitment will further delay the recovery of the herring population to a size that is capable of supporting a sustainable commercial harvest. The department will continue to monitor the PWS herring biomass to assess growth and recruitment. An ongoing disease study will continue to examine the incidence of VHS in the PWS herring population.

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TABLES

Table 1.—Total commercial salmon harvest by species, gear type, and district in the Prince William Sound Management Area, 2003.

District	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Purse Seine							
Eastern	95	21	13,843	63,570	14,945,744	113,154	15,136,332
Northern	72	1	8,538	550	5,909,643	12,412	5,931,144
Coghill	84	15	125,648	724	11,465,010	751,038	12,342,435
Southwestern	47	19	44,755	1,676	5,789,419	25,624	5,861,493
Montague	55	62	2,078	19	60,287	566,535	628,981
Southeastern	22	2	1,535	299	514,452	13,148	529,436
Unakwik	1	0	1,017	0	2,261	20	3,298
Total Purse Seine	106	120	197,414	66,838	38,686,816	1,481,931	40,433,119
Drift Gillnet							
Bering River	120	151	18,266	59,481	33	13	77,944
Copper River	507	47,721	1,187,936	363,489	12,934	10,109	1,622,189
Unakwik	5	0	2,163	0	0	0	2,163
Coghill	223	114	161,872	9,900	44,419	725,871	942,176
Eshamy	272	19	575,608	1,764	61,565	15,444	654,400
Total Drift Gillnet	514	48,005	1,945,845	434,634	118,951	751,437	3,298,872
Set Gillnet							
Eshamy	28	0	215,733	663	28,537	6,265	251,198
Total Set Gillnet	28	0	215,733	663	28,537	6,265	251,198
Hatchery							
Solomon Gulch	1	0	0	0	4,188,294	0	4,188,294
Cannery Creek	1	0	0	0	2,400,133	0	2,400,133
Wally Noerenberg	1	0	0	0	4,400,958	1,540,227	5,941,185
Main Bay	1	0	366,770	0	0	0	366,770
Armin F. Koernig	1	0	0	0	1436990	0	1,436,990
Total Hatchery^a	5	0	366,770	0	12,426,375	1,540,227	14,333,372
Other Harvest							
Donated Fish	1	3	35	0	9,500	0	9,538
Confiscated Fish	1	0	10	0	0	0	10
Copper River Per/Use	287	1,073	4,077	0	0	0	5,150
All Other Per/Use	21	26	23	0	0	1	50
Total Other Harvest	309	1,102	4,145	0	9,500	1	14,748
Prince William Sound							
Total all categories^b	962	49,227	2,729,907	502,135	51,270,179	3,779,861	58,331,309

^a Hatchery sales for hatchery operating costs.

^b Does not include salmon taken for home use as reported on fish tickets.

Table 2.—Total commercial salmon harvest by species from all gear types, Prince William Sound Area, 1971-2003.

Year	Harvest					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1971	20,142	741,945	327,697	7,312,730	579,552	8,982,066
1972	23,003	976,115	124,670	57,090	46,088	1,226,966
1973	22,638	473,044	199,019	2,065,844	740,017	3,500,562
1974	20,602	741,340	76,041	458,619	89,210	1,385,812
1975	22,325	546,634	84,109	4,453,041	101,286	5,207,395
1976	32,751	1,008,912	160,494	3,022,426	370,657	4,595,240
1977	22,864	943,943	179,417	4,536,459	573,166	6,255,849
1978	30,435	505,509	312,930	2,917,499	489,771	4,256,144
1979	20,078	369,583	315,774	15,615,810	349,615	16,670,860
1980	8,643	208,724	337,123	14,161,023	482,214	15,197,727
1981	20,782	784,469	396,163	20,558,304	1,888,822	23,648,540
1982	47,871	2,362,328	623,877	20,403,423	1,336,878	24,774,377
1983	53,879	908,469	365,469	13,977,116	1,048,737	16,353,670
1984	39,774	1,303,515	609,484	22,119,309	1,229,185	25,301,267
1985	43,735	1,464,563	1,025,046	25,252,924	1,321,538	29,107,806
1986	42,128	1,288,712	426,240	11,410,302	1,700,906	14,868,288
1987	41,909	1,737,989	175,214	29,230,303	1,919,415	33,104,830
1988 ^a	31,797	767,674	477,816	11,820,121	1,843,317	14,940,725
1989 ^a	32,006	1,175,238	424,980	21,886,466	1,001,809	24,520,499
1990 ^a	22,163	911,607	524,274	44,165,077	967,384	46,590,505
1991 ^b	35,355	1,734,544	641,854	37,135,561	352,321	39,899,635
1992 ^c	41,306	1,771,612	619,460	8,637,116	334,376	11,403,870
1993 ^d	32,005	1,851,133	445,612	5,761,097	1,186,365	9,276,212
1994 ^e	48,558	1,514,329	1,058,154	36,886,301	1,058,213	40,565,555
1995 ^e	67,083	1,523,464	992,798	16,221,493	864,245	19,669,083
1996 ^e	56,457	3,000,602	459,253	26,042,942	2,103,559	31,662,813
1997 ^e	52,482	4,163,074	83,113	25,836,563	2,227,190	32,362,422
1998 ^e	70,910	1,715,778	194,621	28,685,115	1,271,911	31,938,335
1999 ^e	63,434	2,035,293	244,754	45,003,656	2,989,255	50,336,392
2000 ^e	32,411	1,430,838	714,286	38,885,528	5,163,760	46,226,823
2001 ^e	40,461	2,261,097	494,135	35,246,524	3,099,794	41,142,011
2002 ^e	39,706	2,262,134	650,331	18,950,931	6,373,491	28,276,593
1993 - 2002 Average	50,351	2,175,774	533,706	27,752,015	2,633,778	33,145,624
2003 ^e	49,227	2,838,679	502,135	51,136,305	3,779,657	58,306,003

^a Includes confiscated and educational special use permits. Also includes hatchery sales harvests and carcass sales.

^b Includes confiscated and educational special use permits, hatchery sales harvests, donated and discarded catches.

^c Includes harvests from confiscated and educational special use permits, hatchery sales harvest, and test fisheries.

^d Includes harvests from confiscated permits, hatchery sales harvests, donated fish harvest, and test fisheries.

^e Includes harvests from confiscated permits, all hatchery sales harvests (excluding roe salvage), and test fisheries.

Table 3.—Mean price and estimated exvessel value of the total commercial salmon harvest by gear type, Prince William Sound, 2003.

Purse Seine					
Species	Number	Pounds ^a	Average Weight	Price ^a	Value
Chinook	120	1,925	16.04	\$0.48	\$924
Sockeye	306,186	1,194,319	3.90	\$0.71	\$847,966
Coho	66,838	539,569	8.07	\$0.42	\$226,619
Pink	38,552,942	142,885,067	3.71	\$0.08	\$10,716,380
Chum	1,481,727	10,100,491	6.82	\$0.17	\$1,717,083
Total	40,407,813	154,721,371			\$13,508,973
Drift Gillnet					
Species	Number	Pounds	Average Weight	Price	Value
Chinook	48,005	1,094,833	22.81	\$3.48	\$3,810,019
Sockeye	1,945,961	11,889,630	6.11	\$1.16	\$13,791,971
Coho	434,634	3,672,092	8.45	\$0.48	\$1,762,604
Pink	118,951	465,062	3.91	\$0.06	\$27,904
Chum	752,611	4,834,223	6.42	\$0.17	\$821,818
Total	3,300,162	21,955,840			\$20,214,315
Set Gillnet ^b					
Species	Number	Pounds	Average Weight	Price	Value
Chinook	0	0			\$0
Sockeye	215,733	1,337,573	6.20	\$0.80	\$1,070,058
Coho	663	3,357	5.06	\$0.48	\$1,611
Pink	28,537	105,393	3.69	\$0.06	\$6,324
Chum	6,265	39,658	6.33	\$0.17	\$6,742
Total	251,198	1,485,981			\$1,084,735
Hatchery Sales					
Species	Number	Pounds	Average Weight	Price	Value
Chinook	0	0			\$0
Sockeye	366,770	2,211,474	6.03	\$0.80	\$1,769,179
Coho	0	0			\$0
Pink	12,426,375	43,345,735	3.49	\$0.14	\$6,068,403
Chum	1,540,227	9,129,130	5.93	\$0.18	\$1,643,243
Total	14,333,372	54,686,339			\$9,480,826
Other Gear ^c					
Species	Number	Pounds	Average Weight	Price	Value
Chinook	3	54	18.00	\$0.48	\$26
Sockeye	45	275	6.11	\$0.71	\$195
Coho	0	0			\$0
Pink	9,500	35,150	3.70	\$0.08	\$2,812
Chum	0	0			\$0
Total	9,548	35,479			\$3,033
Value of Common Property Fishery (CPF) Catch					
Gear Type	Value of Catch	No. of Permits	Average Earnings		
Purse Seine	\$13,508,973	106	\$127,443		
Drift Gillnet	\$20,214,315	514	\$39,327		
Set Gillnet	\$1,084,735	28	\$38,741		
Value of CPF Catch	\$34,808,024				
Hatchery	\$9,480,826				
Other Gear	\$3,033				
Total Value	\$44,291,882				

^a Mean prices are based on Commercial Operator Annual Reports. Pounds of fish are based on on fish ticket reporting and does not represent pounds reported in Commercial Operator Annual Reports.

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

^c Includes the sales of confiscated fish.

Table 4.—Average price paid to permit holders for salmon, Prince William Sound, 1994 – 2003.

District(s)	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Chinook										
Copper/Bering	\$1.43	\$2.19	\$1.96	\$2.00	\$2.07	\$3.44	\$4.02	\$3.30	\$3.34	\$3.48
Prince William Sound	\$0.80	\$0.91	\$0.71	\$1.00	\$0.94	\$1.28	\$1.59	\$0.92	\$0.92	\$0.48
Sockeye										
Copper River	\$1.27	\$1.67	\$1.38	\$0.88	\$1.49	\$1.84	\$1.72	\$1.35	\$1.29	\$1.16
Bering River	\$1.06	\$1.44	\$1.21	\$0.88	\$1.35	\$1.81	\$1.72	\$1.35	\$1.29	\$1.16
Coghill/Unakwik Districts	\$0.94	\$0.75	\$0.82	\$0.80	\$1.24	\$1.60	\$1.14	\$0.77	\$0.64	\$0.80
Eshamy	\$1.19	\$1.06	\$0.85	\$0.80	\$1.11	\$0.89	\$1.14	\$0.77	\$1.14	\$0.80
General Purse Seine	\$0.88	\$0.94	\$0.73	\$0.85	\$1.06	\$1.18	\$0.90	\$0.74	\$0.56	\$0.71
Coho										
Copper/Bering Districts	\$0.74	\$0.52	\$0.53	\$0.30	\$0.46	\$0.58	\$0.57	\$0.32	\$0.35	\$0.48
Prince William Sound	\$0.60	\$0.42	\$0.36	\$0.30	\$0.33	\$0.33	\$0.42	\$0.26	\$0.26	\$0.42
Pink										
Prince William Sound	\$0.16	\$0.18	\$0.07	\$0.12	\$0.13	\$0.15	\$0.15	\$0.13	\$0.09	\$0.08
Chum										
Prince William Sound	\$0.45	\$0.45	\$0.13	\$0.27	\$0.22	\$0.21	\$0.28	\$0.37	\$0.15	\$0.17

Note: Based on processor reports, fish tickets, and other sources before 1995. The 1995-2002 prices are based on processor reports. A weighted average is generally used. Prices are an estimate and generally do not reflect postseason adjustments. The 2003 prices are based on Commercial Operator Annual Reports, and do not accurately report prices for individual districts. Caution should be used if estimating value from these prices.

Table 5.—Estimated exvessel value of the total commercial salmon harvest by gear type, Prince William Sound, 1994- 2003.

Purse Seine											
Species	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Chinook	379	1,104	1,169	570	3,422	4,386	7,427	2,706	5,435	1,353	924.00
Sockeye	169,236	432,156	205,178	111,337	151,532	127,854	141,923	195,169	539,388	58,142	847,966.00
Coho	21,288	208,661	327,260	314,773	125,946	124,325	329,317	965,404	398,532	69,207	226,619.00
Pink	1,469,531	12,537,403	6,736,581	4,445,231	6,795,323	8,565,392	9,456,108	13,728,606	9,584,465	2,425,505	10,716,380.00
Chum	22,344	164,181	152,047	386,967	1,742,759	950,912	3,128,816	3,964,546	2,863,466	2,423,525	1,717,083.00
Total	\$1,682,778	\$13,343,505	\$7,422,236	\$5,258,878	\$8,818,982	\$9,772,869	\$13,063,591	\$18,856,431	\$13,391,287	\$4,977,731	\$13,508,972
Drift Gillnet											
Chinook	1,180,382	1,534,059	3,573,848	2,259,958	2,367,538	3,341,148	5,510,840	2,698,417	2,791,619	2,691,215	3,810,019
Sockeye	11,767,820	9,209,486	12,864,113	23,037,225	19,796,170	13,223,761	20,048,000	13,554,212	14,158,076	14,964,894	13,791,971
Coho	2,702,999	7,129,685	4,207,678	1,450,095	57,798	379,366	733,022	2,486,184	790,544	2,027,738	1,762,604
Pink	115,040	127,997	165,462	12,028	83,398	249,293	43,612	177,559	144,896	23,889	27,904
Chum	3,091,611	2,393,837	1,709,831	1,229,842	1,567,526	1,035,808	1,529,765	3,550,614	3,371,206	2,206,854	821,818
Total	\$18,857,852	\$20,395,065	\$22,520,932	\$27,989,149	\$23,872,430	\$18,229,376	\$27,865,239	\$22,466,986	\$21,256,342	\$21,914,590	\$20,214,316
Set Gillnet											
Chinook	848	121	182	148	159	25	592	2,902	787	765	0
Sockeye	517,182	638,164	181,653	697,572	1,055,286	177,723	407,497	912,603	844,123	1,701,077	1,070,058
Coho	4,343	3,513	2,003	612	340	336	1,877	3,346	1,686	388	1,611
Pink	48,618	117,298	18,892	2,373	20,477	16,659	8,721	53,160	22,048	10,848	6,324
Chum	97,911	18,675	21,018	11,312	17,242	337	13,630	25,641	20,045	27,638	6,742
Total	\$668,901	\$777,770	\$223,747	\$712,017	\$1,093,504	\$195,079	\$432,317	\$997,652	\$888,689	\$1,740,716	\$1,084,735
Hatchery Sales											
Chinook	26,736	11,526	11,692	91	1,252	22,621	0	0	0	15	0
Sockeye	371,621	358,077	380,378	444,198	1,381,948	953,857	143,855	478	174,418	418,114	1769179
Coho	11,712	82,571	28,759	100,413	7,090	63,980	0	2	9,459	1	0
Pink	1,472,128	7,222,015	4,157,847	4,076,578	5,814,214	6,283,525	6,312,337	6,358,529	6,430,468	4,989,921	6068403
Chum	1,576,882	1,598,524	895,509	1,430,814	1,758,276	1,261,354	2,380,321	4,007,449	3,070,274	3,794,069	1643243
Total	\$3,459,882	\$9,272,731	\$5,474,186	\$6,052,094	\$8,965,780	\$8,585,338	\$8,836,513	\$10,366,458	\$9,684,619	\$9,202,119	\$9,480,825
Other Gear											
Chinook	154	143	25	76	0	5,004	448	1,266	0	200	26
Sockeye	52,272	3,686	27,880	2,582	2,085	2,085	68,525	5,944	509	1,324	195
Coho	751	89	479	0	0	10	106		468	0	0
Pink	9,084	28,287	88,152	0	1	271	81,476		382	0	2812
Chum	16,066	35,139	4,234	1	190	13	358	600	4,206	5	0
Total	\$78,327	\$67,344	\$120,771	\$2,659	\$2,276	\$7,383	\$150,913	\$7,811	\$5,564	\$1,529	\$3,033

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Table 5.-Page 2 of 2.

	Average Earnings										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Purse Seine	\$11,686	\$78,032	\$39,691	\$58,432	\$77,359	\$65,590	\$93,983	\$143,942	\$88,101	\$41,481	\$127,443
Drift Gillnet	\$36,688	\$39,990	\$43,477	\$54,989	\$45,909	\$34,922	\$53,280	\$41,994	\$39,731	\$41,039	\$39,327
Set Gillnet	\$22,297	\$29,914	\$8,606	\$26,371	\$42,058	\$12,192	\$20,587	\$35,630	\$27,772	\$62,168	\$38,741

	Number of Permits Fished										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Purse Seine	144	171	187	90	114	149	139	131	152	120	106
Drift Gillnet	514	510	518	509	520	522	523	535	535	534	514
Set Gillnet	30	26	26	27	26	16	21	28	32	28	28

Table 6.—Preseason harvest projections for the 2003 commercial salmon fishery by district and species, Prince William Sound Area.

District	Commercial Harvest (1,000's of fish)									
	Chinook		Sockeye		Coho		Pink		Chum	
	Point Estimate	Range	Point Estimate	Range	Point Estimate	Range	Point Estimate	Range	Point Estimate	Range
Copper River ^a	49.0	29.5 - 68.5	1,160.1	473.6 - 1,847.8	307.0	12.0 - 601.9				
Bering River ^b			16.0	5.5 - 26.5	94.0	0.0 - 236.6				
Coghill ^c			112.2	24.9 - 349.7						
Eshamy			4.8	0.0 - 34.8						
General PWS.			10.2	7.9 - 12.4			5,130.0	0.0 - 7,890.0	350.9	269.9 - 431.8
Total Wild Stock	49.0	29.5 - 68.5	1,303.3	511.9 - 2,271.2	401.0	12.0 - 838.5	5,130.0	0.0 - 7,890.0	350.9	269.9 - 431.8
Solomon Gulch					184.3	151.6 - 217.0	5,190.0	2,380.0 - 8,000.0		
Armin F. Koernig							4,550.0	2,960.0 - 6,140.0	2.4	0.0 - 4.5
Wally Noerenberg Hatchery ^d					16.8	13.1 - 20.4	2,950.0	1,009.0 - 4,810.0	3,232.9	1,751.1 - 4,714.7
Cannery Creek							1,310.0	0.0 - 3,510.0		
Main Bay Hatchery ^e			501.5	343.4 - 659.6						
Gulkana			250.0	3.0 - 460.0						
Total Hatchery			751.5	346.4 - 1,119.6	201.1	164.7 - 237.4	14,000.0	6,349.0 - 22,460.0	3,235.3	1,751.1 - 4,719.2
Total Hatchery and Wild	49.0	29.5 - 68.5	2,054.8	858.3 - 3,390.8	602.1	176.7 - 1,075.9	19,130.0	6,349.0 - 30,350.0	3,586.2	2,021.0 - 5,511.0

Note: Formal forecast procedures are used for estimating wild stock returns for pink and chum salmon in PWS. Hatchery contributions are based on known fry releases and average marine survival rates. General PWS sockeye salmon production is based upon average harvest. Harvest estimates are made only for species that constitute a significant portion of the catch. The harvest projections do not include salmon harvest by hatcheries for cost recovery.

^a Formalized forecast procedures are used for Copper River Chinook and sockeye salmon runs. Copper River coho salmon harvests are based on the mean annual harvest.

^b Bering River coho salmon harvest estimates are based on mean annual harvest.

^c Coghill sockeye salmon runs are formally forecast using a sibling relationship model for the major age class and an average brood year return for other age classes. The Coghill District's wild pink and chum salmon harvest is included in the "General PWS Districts" projection.

^d Wally Noerenberg Hatchery chum salmon harvest estimate includes all on-site and remote returns of chum salmon.

^e Main Bay Hatchery sockeye salmon harvest estimate includes all on-site and remote returns of sockeye salmon.

Table 7.—A listing of finfish processors, their location of operation, and type of product processed, Prince William Sound Area, 2003.

Executive Names, Address Location of Operations	Processor Code	Type of Product	Executive Names, Address Location of Operations	Processor Code	Type of Product
Alan Spencer P.O. Box 253 Homer, AK 99603 Alan Spencer	F5818	Salmon Roe	Mark Meadows 4894 Wendy Ln Kelseyville, CA 95451 Mark Meadows	F5269	Salmon Roe
Alaska Seafood P.O. Box 878973 Wasilla, AK 99687 Dave Martinsen	F5805	Salmon	Maxcy Fishing Co. 6115 Shadow Circle Bozeman, MT 59715 Heather Maxcy	F5616	Salmon
Alaskan Marine Resources, LLC P.O. Box 1976 Cordova, AK 99574 Charles Smith	F4755	Salmon	Michael F. Durtschi P.O. Box 1012 Girdwood, AK 99587 Michael F. Durtschi	C5746	
Bear and Wolf Salmon Co. 4209 21st Ave W. Seattle, WA 98199 Peter Kuttel	F4287	Salmon Roe	Norquest Seafoods P.O. Box 260 Cordova, AK 99574 Bill Gilbert	F1484 F1486	Salmon Roe
Gulkana Seafoods P.O. Box 1230 Cordova, AK 99574 Bill Webber	F5617	Salmon	North Pacific Processors, Inc. P.O. Box 1040 Cordova, Alaska 99574 Ken Roemhildt	F0232	Salmon
Brian C. Lee HC 03 Box 8385 Palmer, AK 99645 Brian C. Lee	F5220	Salmon Roe	Ocean Beauty Seafoods P.O. Box 548 Cordova, AK 99574 Hap Symmonds / William Fejes	F1930 F5202	Salmon Roe
Brian L. King P.O. Box 881 Cordova, AK 99574 Brian L. King	F5246	Salmon Roe	Peter Pan Seafoods, Inc. P.O. Box 1027 Valdez, Alaska 99686 Mark Hansen	F1041	Salmon Roe
Copper River Seafoods P.O. Box 158 Cordova, AK 99574 William A. Bailey III	F2977	Salmon Roe	Prime Select Seafoods, Inc. P.O. Box 846 Cordova, Alaska 99574 Susan Laird	F1816	Salmon
Edward W. Fee 9321 Arlene St. #10 Anchorage, AK 99502 Edward W. Fee	F5690	Salmon Roe	Prince William Sound Aquaculture P.O. Box 1110 Cordova, Alaska 99574 David Reggiani	F1901 F1903 F3468	Salmon Salmon roe
FAVCO Box 190968 Anchorage, AK 99519 Bill Buck	F0398	Salmon	Robert R. Eckley P.O. Box 1274 Cordova, AK 99574 Robert R. Eckley	C2772	Salmon Roe

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Table 7.-Page 2 of 2.

Executive Names, Address Location of Operations	Processor Code	Type of Product	Executive Names, Address Location of Operations	Processor Code	Type of Product
Flying Finn Seafoods P.O. Box 2162 Cordova, AK 99574 John Bosett	F5686	Salmon	Snug Harbor Box 701 Kenai, AK 99611 Brenda Stoops	F3894	Salmon
Gerald D. Thorne P.O. Box 1192 Cordova, AK 99574 Gerald D. Thorne	F5673 F4767	Salmon Roe	Steven R. Smith P.O. Box 1724 Cordova, AK 99574 Steven R. Smith	F5526	Salmon Roe
Glenn D. Borodkin P.O. Box 423 Cordova, AK 99574 Glenn D. Borodkin	C4759	Salmon Roe	Valdez Fisheries Development P.O. Box 125 Valdez, Alaska 99686 Mike Wells	F1355	Salmon Salmon roe
Great Pacific Seafoods, Inc. P.O. Box 710 Whittier, AK 99693 Glen Brackett / Judi Murdock	F1267 F2857	Salmon	Waterkist Corporation P.O. Box 727 Valdez, AK 99686 Tom Waterer	F2003	Salmon Roe
Icicle Seafoods Inc. P.O. Box 8 Seward, Alaska 99664 Tim Schmidt	F0135	Salmon Roe	Wild Salmon P.O. Box 1389 Cordova, AK 99574 Dennis M. Zadra	F4567	Salmon Roe
Inlet Fish Producers, Inc. P.O. Box 114 Kenai, AK 99611 Robert Utrup	F4682	Salmon	William E. Crump P.O. Box 688 Valdez, AK 99686 William E. Crump	F5828	Salmon Roe
John Stack P.O. Box 1983 Cordova, AK 99574 John Stack	F5237	Salmon Roe			
Joseph G. Linville P.O. Box 1753 Seward, AK 99664 James Hubbard	F5769	Salmon Roe			
Kurt J. Goetzinger P.O. Box 1268 Cordova, AK 99574 Kurt J. Goetzinger	F3433	Salmon Roe			
Lynn Potter P.O. Box 1472 Cordova, AK 99574 Lynn Potter	F3346 F4225	Salmon Roe			

FIGURES

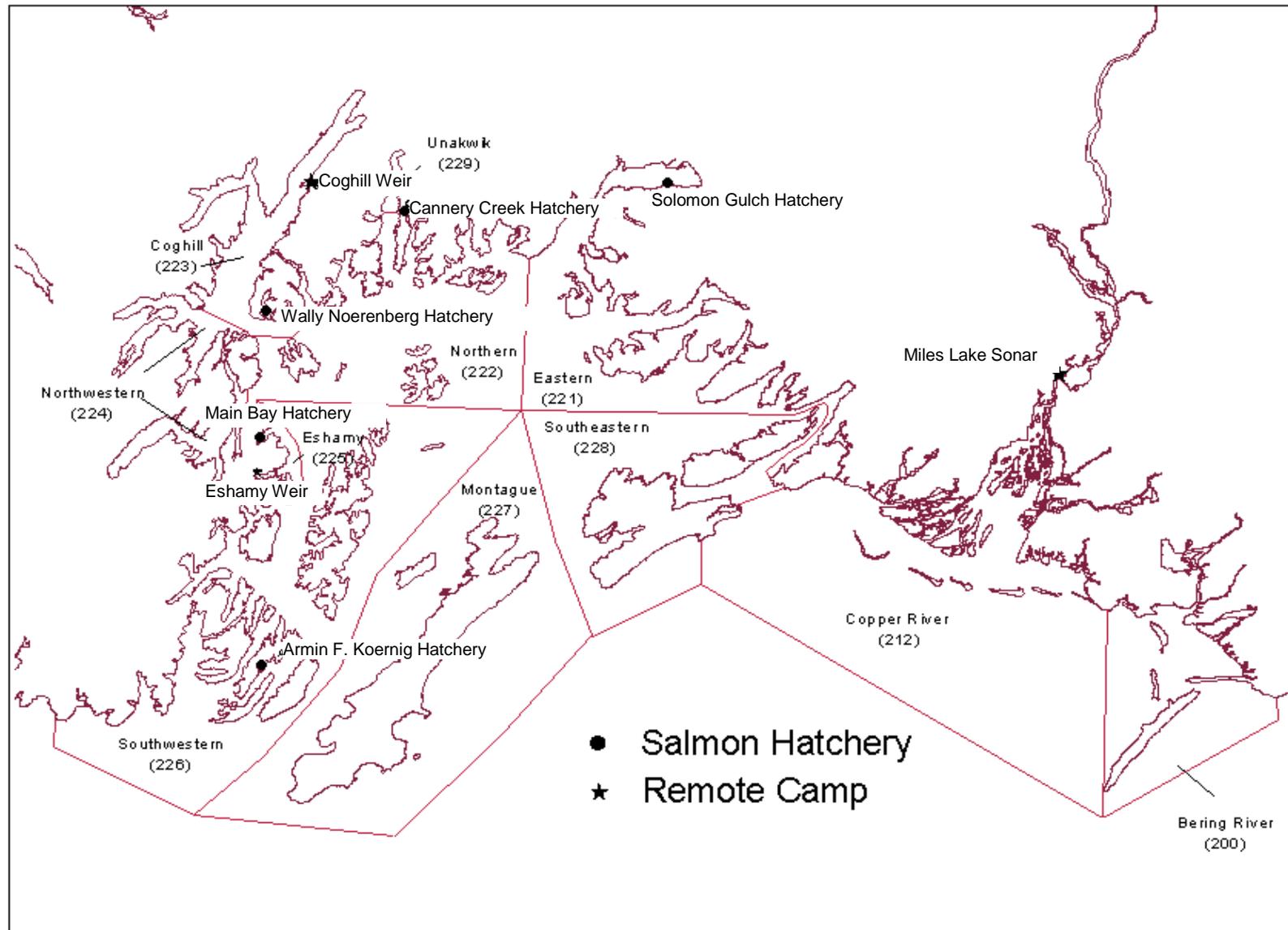


Figure 1.—Prince William Sound Management Area showing commercial fishing districts, salmon hatcheries, weir locations, and Miles Lake sonar camp.

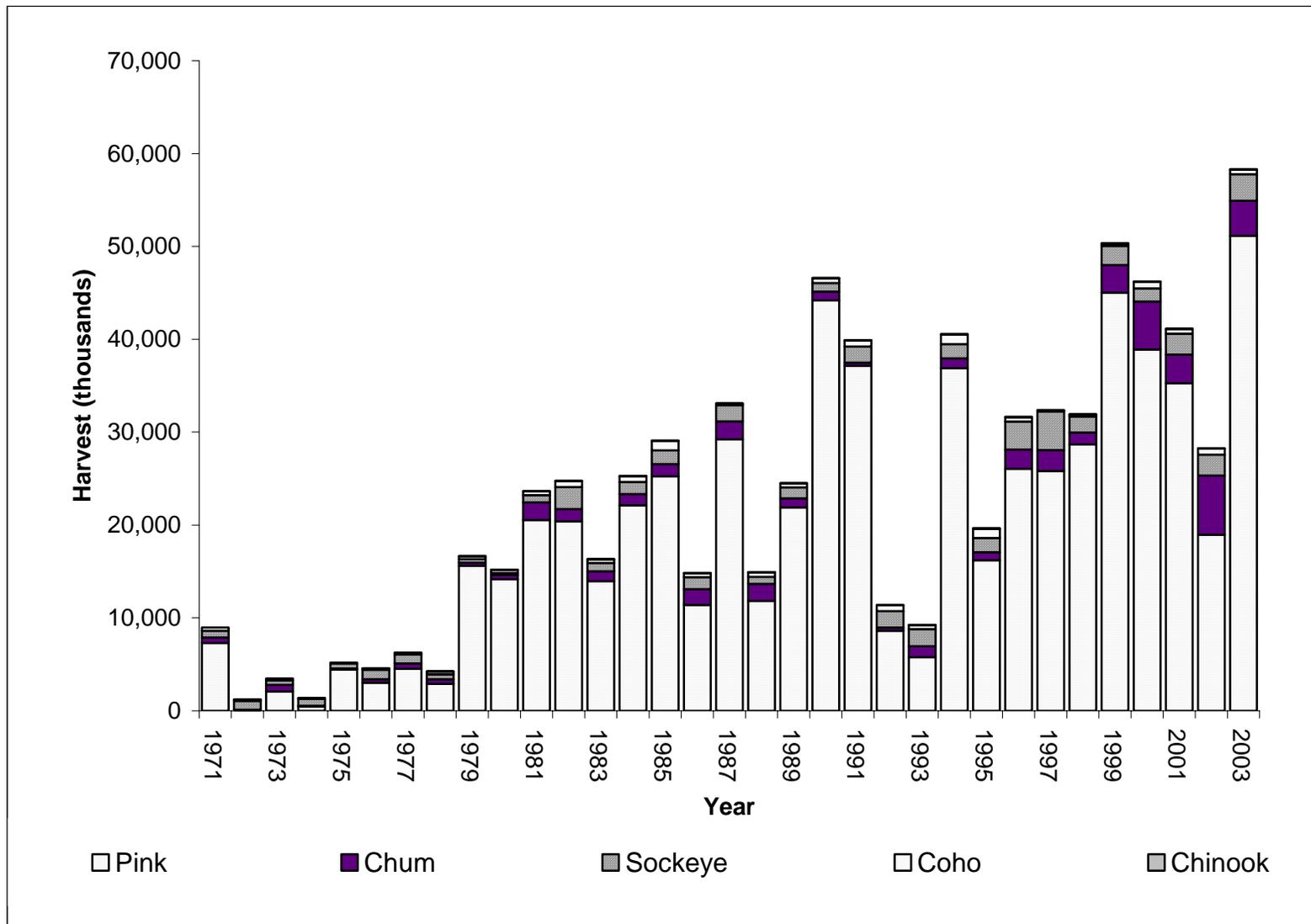


Figure 2.—Commercial salmon harvest by species for all gear types combined, Prince William Sound, 1971-2003.

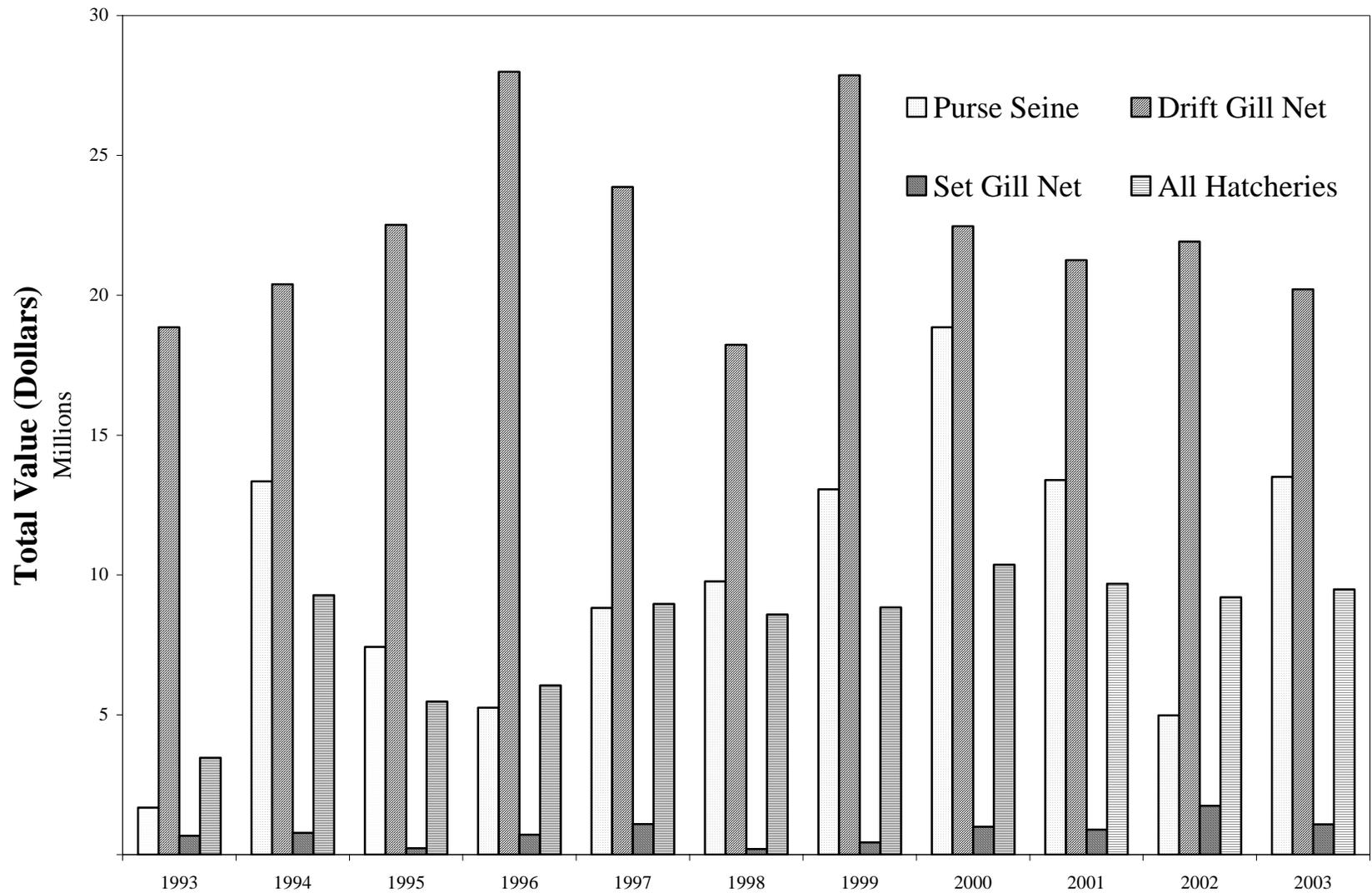


Figure 3.—Exvessel value of the commercial salmon harvest by gear type, 1993 – 2003.

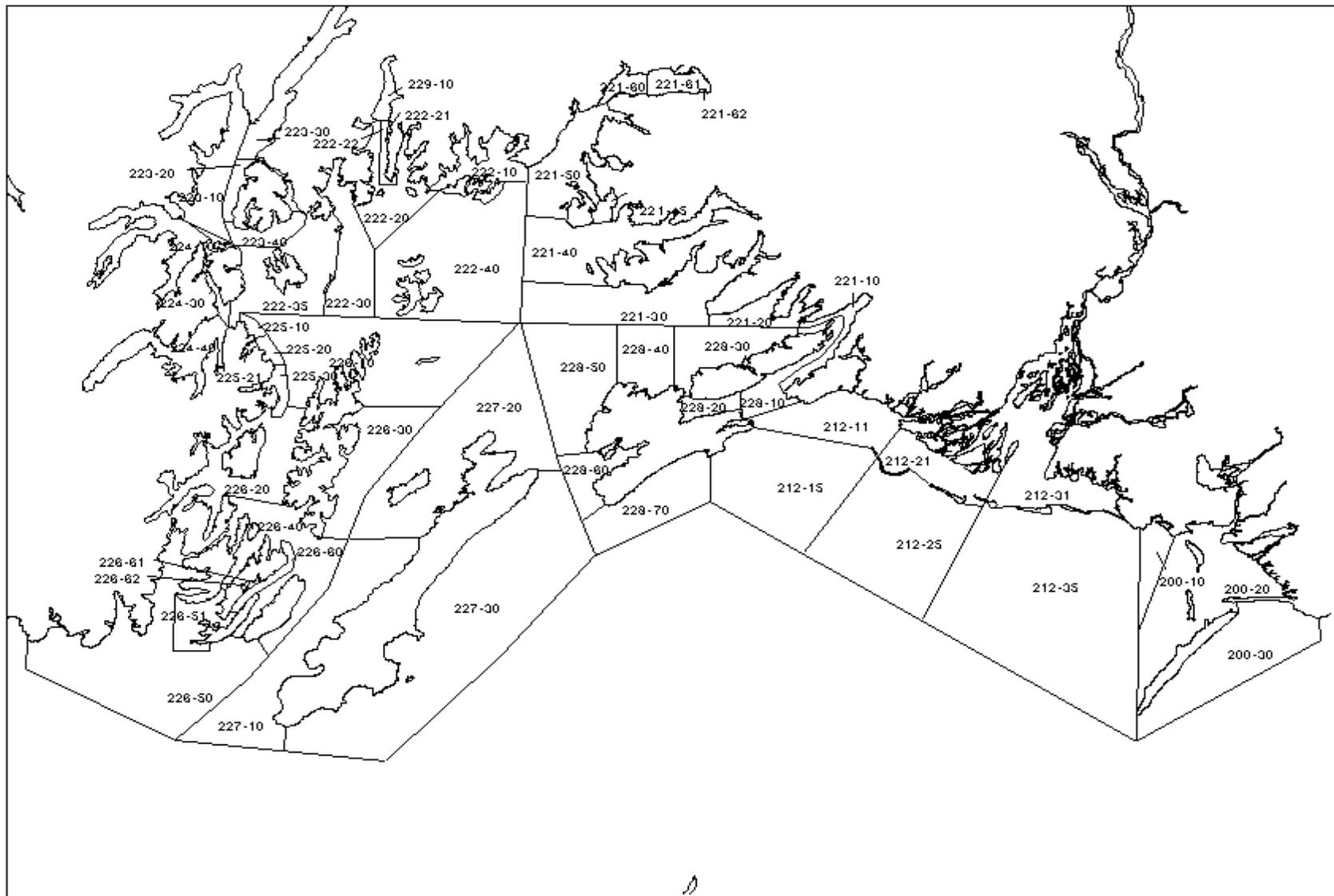
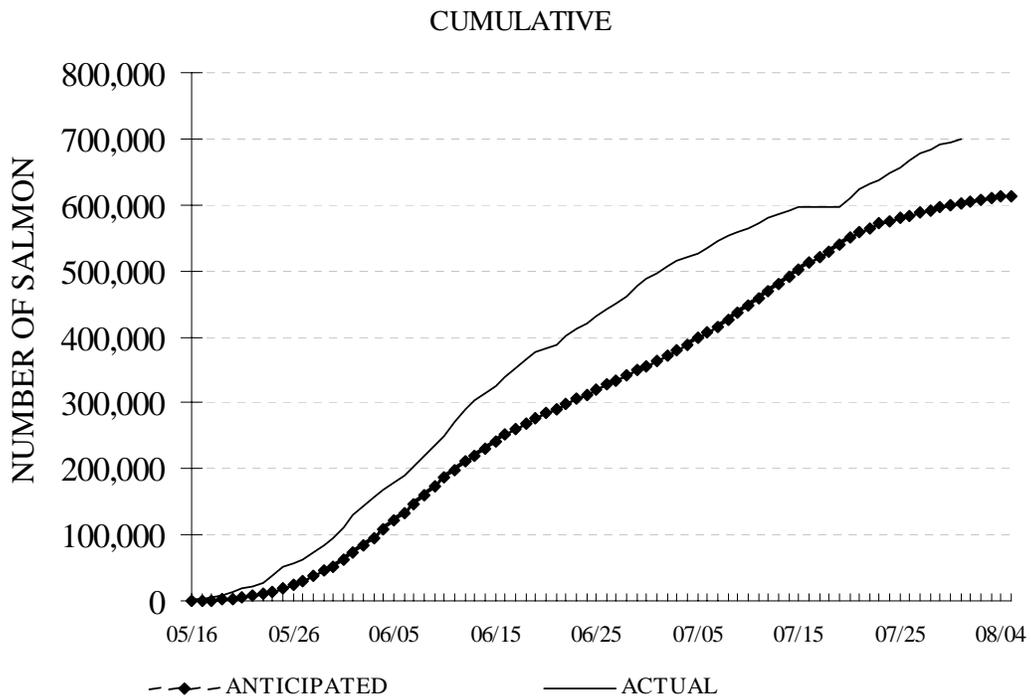
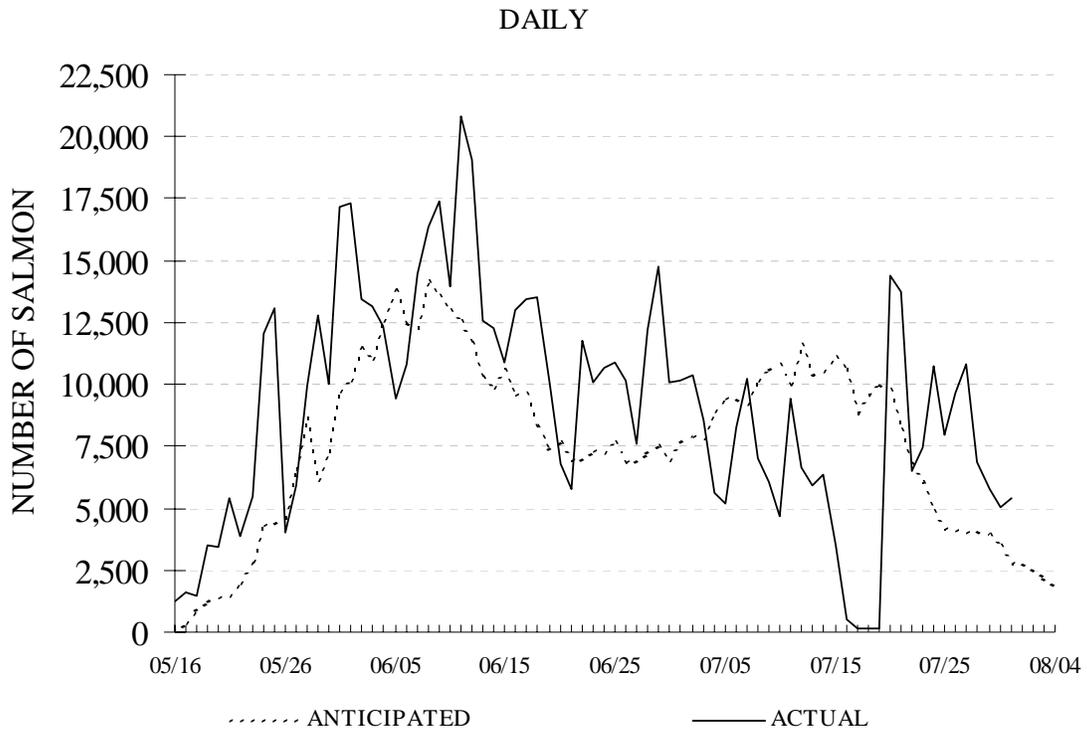


Figure 4.—Prince William Sound Area showing commercial fishing districts and statistical reporting areas, 2003.

APPENDIX A: COPPER AND BERING RIVER DISTRICTS



Appendix A1.—Anticipated versus actual daily and cumulative salmon escapement, Miles Lake sonar, 2003.

Appendix A2.— Total commercial salmon harvest by species in the Copper River District, 1974-2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1974	18,980	607,766	46,625	9,839	664	683,874
1975	19,644	335,384	53,805	236	807	409,876
1976	31,479	865,195	111,900	3,392	178	1,012,144
1977	21,722	602,737	131,356	23,185	335	779,335
1978	29,062	249,872	220,338	3,512	2,233	505,017
1979	17,678	80,528	194,885	1,295	107	294,493
1980	8,454	18,908	225,299	3,966	198	256,825
1981	20,178	477,662	310,154	23,952	1,799	833,745
1982	47,362	1,177,632	454,763	7,154	1,177	1,688,088
1983	52,500	626,735	234,243	7,345	2,217	923,040
1984	38,957	900,043	382,432	32,194	6,935	1,360,561
1985	42,214	927,553	587,990	19,061	5,966	1,582,784
1986	40,670	780,808	295,980	3,016	17,614	1,138,088
1987	41,001	1,180,782	111,599	31,635	14,796	1,379,813
1988	30,741	576,950	315,568	2,775	11,022	937,056
1989	30,863	1,025,923	194,454	25,877	5,845	1,282,962
1990	21,702	844,778	246,797	1,596	7,545	1,122,418
1991	34,787	1,206,811	385,086	1,246	20,220	1,648,150
1992	39,810	970,938	291,627	1,664	5,807	1,309,846
1993	29,727	1,398,234	281,469	9,579	13,002	1,732,011
1994	47,061	1,152,220	677,633	12,079	19,055	1,908,048
1995	65,675	1,271,822	542,658	19,809	56,100	1,956,064
1996	55,646	2,356,365	193,042	6,372	25,533	2,636,958
1997	51,273	2,955,431	18,656	8,483	2,465	3,036,308
1998	68,827	1,341,692	108,232	20,829	5,022	1,544,602
1999	62,337	1,682,559	153,061	10,205	25,321	1,933,483
2000	31,259	880,334	304,944	9,804	5,363	1,231,704
2001	39,524	1,323,577	251,473	9,387	2,789	1,626,750
2002	38,734	1,248,503	504,223	3,677	31,627	1,826,764
2003	47,721	1,188,052	363,489	12,934	10,110	1,622,306
(1994-2002)						
10-Year Average	50,806	1,540,056	311,741	11,358	18,339	1,932,299

Appendix A3.—Anticipated and actual semi-weekly harvest and escapement of sockeye salmon in the Copper River District drift gillnet fishery, 2003.

Date	Estimated Daily Escapement					Escapement		0600 Count	Projected Daily
	Water Level (m)	North Bank	South Bank	Daily	Cumulative	Objective Daily	Objective Cumulative		
05/12	39.81		0	0	0				
05/13	39.16		81	81	81				
05/14	39.10	187	250	437	518				
05/15	39.06	280	381	661	1,179	0	0		
05/16	39.07	304	915	1,219	2,398	17	17	152 ^a	608
05/17	39.08	432	1,163	1,595	3,993	382	399	304 ^a	1,216
05/18	39.11	272	1,178	1,450	5,443	911	1,310	378 ^a	1,512
05/19	39.15	960	2,563	3,523	8,966	1,264	2,574	476 ^a	1,904
05/20	39.17	832	2,604	3,436	12,402	1,415	3,989	466 ^a	1,864
05/21	39.17	832	4,544	5,376	17,778	1,478	5,467	1,196 ^a	4,784
05/22	39.18	672	3,178	3,850	21,628	1,973	7,440	546 ^a	2,184
05/23	39.21	640	4,849	5,489	27,117	2,823	10,263	932 ^a	3,728
05/24	39.31	544	11,535	12,079	39,196	4,316	14,579	2,216 ^a	8,864
05/25	39.52	1,480	11,621	13,101	52,297	4,397	18,976	4,199	16,796
05/26	39.66	944	3,053	3,997	56,294	4,593	23,569	1,371	5,484
05/27	39.80	1,464	4,421	5,885	62,179	6,589	30,158	1,036	4,144
05/28	40.01	881	9,049	9,930	72,109	8,637	38,795	2,228	8,912
05/29	40.16	816	11,961	12,777	84,886	6,159	44,954	3,573	14,292
05/30	40.29	536	9,502	10,038	94,924	7,330	52,284	2,011	8,044
05/31	40.33	696	16,436	17,132	112,056	9,751	62,035	3,443	13,772
06/01	40.45	336	16,942	17,278	129,334	10,138	72,173	4,270	17,080
06/02	40.49	288	13,149	13,437	142,771	11,464	83,637	4,669	18,676
06/03	40.45	160	13,004	13,164	155,935	11,049	94,686	3,475	13,900
06/04	40.43	288	12,083	12,371	168,306	12,535	107,221	3,219	12,876
06/05	40.46	184	9,262	9,446	177,752	13,792	121,013	3,764	15,056
06/06	40.71	128	10,692	10,820	188,572	12,457	133,471	2,614	10,456
06/07	40.98	272	14,200	14,472	203,044	12,236	145,707	2,795	11,180
06/08	41.23	648	15,711	16,359	219,403	14,192	159,899	4,258	17,032
06/09	41.29	1,112	16,303	17,415	236,818	13,581	173,480	4,448	17,792
06/10	41.35	2,088	11,863	13,951	250,769	13,013	186,493	3,484	13,936
06/11	41.61	2,264	18,585	20,849	271,618	12,577	199,070	5,082	20,328
06/12	41.93	816	18,230	19,046	290,664	11,659	210,729	7,136	28,544
06/13	42.25	1,568	10,994	12,562	303,226	10,271	221,000	2,309	9,236
06/14	42.53	1,104	11,186	12,290	315,516	9,896	230,896	2,588	10,352
06/15	42.67	408	10,459	10,867	326,383	10,615	241,512	1,897	7,588
06/16	42.48	496	12,525	13,021	339,404	9,600	251,112	1,948	7,792
06/17	42.25	864	12,583	13,447	352,851	9,612	260,724	3,008	12,032
06/18	42.17	1,272	12,234	13,506	366,357	8,319	269,043	3,489	13,956
06/19	42.08	520	9,510	10,030	376,387	7,389	276,432	3,143	12,572
06/20	42.12	432	6,391	6,823	383,210	7,637	284,069	2,000	8,000

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Appendix A3. – Page 2 of 2.

Date	Estimated Daily Escapement					Escapement		0600 Count	Projected Daily
	Water Level (m)	North Bank	South Bank	Daily	Cumulative	Objective			
						Daily	Cumulative		
06/21	42.12	472	5,299	5,771	388,981	6,950	291,020	1,352	5,408
06/22	41.99	1,288	10,485	11,773	400,754	6,967	297,986	2,235	8,940
06/23	42.00	896	9,214	10,110	410,864	7,299	305,285	2,582	10,328
06/24	42.05	792	9,905	10,697	421,561	7,248	312,533	2,365	9,460
06/25	42.15	1,472	9,418	10,890	432,451	7,684	320,217	1,986	7,944
06/26	42.09	704	9,445	10,149	442,600	6,890	327,107	2,649	10,596
06/27	41.93	448	7,142	7,590	450,190	6,881	333,988	1,841	7,364
06/28	41.71	1,064	11,100	12,164	462,354	7,220	341,208	1,945	7,780
06/29	41.73	2,208	12,571	14,779	477,133	7,541	348,749	2,843	11,372
06/30	41.84	1,184	8,920	10,104	487,237	6,914	355,663	2,400	9,600
07/01	42.09	1,176	9,007	10,183	497,420	7,682	363,345	2,127	8,508
07/02	42.40	950	9,427	10,377	507,797	7,900	371,244	2,585	10,340
07/03	42.69	448	8,122	8,570	516,367	7,826	379,070	2,490	9,960
07/04	42.84	368	5,221	5,589	521,956	8,926	387,996	1,636	6,544
07/05	43.09	605	4,617	5,222	527,178	9,402	397,398	1,200	4,800
07/06	43.15	400	7,821	8,221	535,399	9,419	406,817	1,634	6,536
07/07	43.04	560	9,663	10,223	545,622	9,181	415,998	1,903	7,612
07/08	43.12	670	6,352	7,022	552,644	10,161	426,159	2,480	9,920
07/09	43.42	400	5,676	6,076	558,720	10,568	436,726	1,862	7,448
07/10	43.60	448	4,262	4,710	563,430	10,780	447,506	1,404	5,616
07/11	43.62	832	8,588	9,420	572,850	10,008	457,514	2,242	8,968
07/12	43.65	520	6,097	6,617	579,467	11,651	469,165	2,012	8,048
07/13	43.68	1,168	4,759	5,927	585,394	10,394	479,559	1,448	5,792
07/14	43.82	1,402	4,965	6,367	591,761	10,492	490,051	1,422	5,688
07/15	44.02	456	3,041	3,497	595,258	11,090	501,141	915	3,660
07/16	44.26	144	343	487	595,745	10,581	511,722	278	1,112
07/17	44.48	128	51	179	595,924	8,853	520,575	48	192
07/18	44.63	176	na	176	596,100	9,584	530,160	55	220
07/19	44.48	128	28	156	596,256	10,038	540,198	60	240
07/20	43.54	1,312	13,102	14,414	610,670	9,754	549,951	92	368
07/21	43.65	2,296	11,418	13,714	624,384	8,171	558,123	3,572	14,288
07/22	43.91	1,576	4,945	6,521	630,905	6,799	564,921	1,681	6,724
07/23	43.79	2,472	4,965	7,437	638,342	6,060	570,981	1,660	6,640
07/24	43.45	3,032	7,725	10,757	649,099	4,927	575,908	1,581	6,324
07/25	43.27	1,520	6,464	7,984	657,083	4,165	580,073	1,999	7,996
07/26	43.09	1,840	7,773	9,613	666,696	4,061	584,134	1,690	6,760
07/27	42.90	952	9,880	10,832	677,528	4,016	588,151	2,315	9,260
07/28	42.64	600	6,297	6,897	684,425	4,062	592,213	1,670	6,680
07/29	42.58	664	5,113	5,777	690,202	3,977	596,189	1,374	5,496
07/30	42.57	893	4,138	5,031	695,233	3,529	599,719	1,144	4,576
07/31	42.58	1,608	3,777	5,385	700,618	2,806	602,524	937	3,748
08/01						2,765	605,289		
08/02						2,579	607,868		
08/03						2,156	610,024		
08/04						1,833	611,857		
08/05						1,311	613,167		

^a South Bank estimate only.

Appendix A4.—Anticipated and actual semi-weekly harvest and escapement of sockeye salmon in the Copper River District drift gillnet fishery, 2003.

Date		Fishing Time (Hours)	Anticipated Harvest ^a	Actual Harvest	Anticipated Cumulative Escapement ^b	Actual Cumulative Escapement ^c
05/17	Sat	12	30,722	26,541	399	3,993
05/21	Wed	12	60,363	35,401	5,467	17,778
05/24	Sat	24	86,714	83,915	14,579	39,196
05/28	Wed	24	116,486	96,722	38,795	72,109
05/31	Sat	24	67,159	50,687	62,035	112,056
06/04	Wed	24	104,849	67,064	107,221	168,306
06/07	Sat	24	63,135	63,642	145,707	203,044
06/11	Wed	24	60,539	45,140	199,070	271,618
06/14	Sat	36	27,699	65,623	230,896	315,516
06/18	Wed	36	54,820	51,978	269,043	366,357
06/21	Sat	24	34,294	41,215	291,020	388,981
06/25	Wed	24	51,033	39,526	320,217	432,451
06/28	Sat	24	37,161	44,007	341,208	462,354
07/02	Wed	36	49,548	63,614	371,244	507,797
07/05	Sat	48	44,708	84,458	397,398	527,178
07/09	Wed	48	58,742	75,033	436,726	558,720
07/12	Sat	48	45,485	59,300	469,165	579,467
07/16	Wed	48	52,654	77,910	511,722	595,745
07/19	Sat	48	29,111	37,818	540,198	596,256
07/23	Wed	24	32,407	23,156	570,981	638,342
07/26	Sat	24	14,647	20,187	584,134	666,696
07/30	Wed	24	15,609	8,302	599,719	695,233
08/02	Sat	24	6,919	8,790	607,868	
08/06	Wed	24	6,608	6,303	613,167	
08/09	Sat	24	3,352	3,054		
08/13	Wed	24	2,607	3,413		
08/16	Sat	24	794	3,848		
08/20	Wed	24	1,116	822		
08/23	Sat	24	474	496		
08/27	Wed	24	395	43		
08/30	Sat	24	244	37		
09/03	Wed	24	161	5		
09/06	Sat	24	83	1		
09/10	Wed	48	34	1		
09/13	Sat	24	13	0		
Total		996	1,160,685	1,188,052		

a Based on average historical harvests for comparable dates (1992-1999).

b Based on the inriver goal applied to historical escapement timing in the commercial fishery lagged by four days to account for travel time to Miles Lake. The inriver goal components are specified in 5AAC 24.360 Copper River District Salmon Management Plan. This does not account for salmon escapements to the Copper/Bering delta streams.

c Escapement counts from Miles Lake sonar; Sonar counts ended July 31.

Appendix A5.—Copper River and Bering River area sockeye salmon escapement indices, 1994-2003.

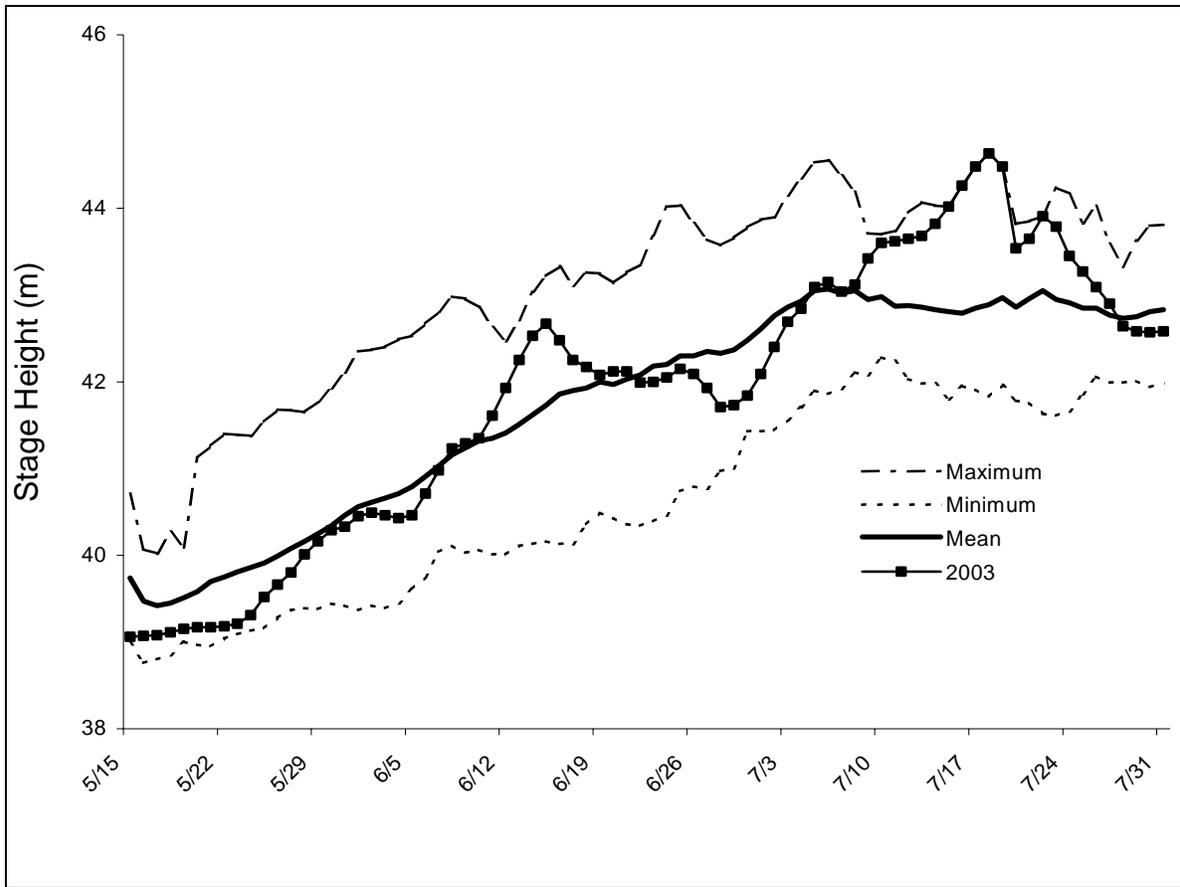
Stream/Lake ^{a,b}	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Eyak Lake	18,040	17,720	16,110	^c	16,300	18,100	20,500	7,400	13,375	12,900
Hatchery Creek	2,800	3,700	1,900	^c	3,300	200	2,800	950	1,700	0
Power Creek	500	650	1,200	^c	1,500	1,400	6,700	2,450	1,600	850
Ibek Creek	800	^c	100	^c	^c	50	^c	1,500	0	475
McKinley Lake	12,700	13,100	8,600	8,500	11,300	400	2,850	2,080	4,200	3,200
Salmon Creek	420	200	2,600	3,100	3,300	7,100	4,220	9,650	4,900	1,800
26/27 Mile Creek	4,900	2,000	1,440	1,700	1,800	3,800	3,300	4,000	850	475
39 Mile Creek	7,000	5,400	6,200	9,300	11,500	12,000	6,500	9,000	10,000	7,800
Goat Mountain	600	650	1,000	350	300	60	60	5	70	0
Pleasant Creek	1,400	1,600	1,400	5,000	1,000	7,615	2,300	8,100	2,425	6,850
Martin River	4,700	1,500	2,700	1,100	2,700	2,800	2,650	200	700	3,425
Ragged Pt. River/Lake	0	6,200	1,540	4,400	4,800	5,900	3,600	2,900	3,375	4,750
Martin Lake	13,100	9,450	9,000	13,100	13,600	19,150	22,900	7,100	10,600	18,900
Pothole Lake	950	1,200	1,160	300	1,500	2,100	3,050	1,910	8,400	1,500
L. Martin Lake	1,760	2,500	300	470	750	1,800	830	825	2,540	2,175
Tokun Lake/River	2,850	7,150	7,150	5,750	8,950	7,600	6,485	5,695	6,500	3,600
Martin River Slough	5,850	3,350	3,070	4,000	4,900	10,900	9,300	7,300	4,500	4,450
Copper River Delta Total	78,370	76,370	65,470	57,070	87,500	100,975	98,045	71,065	75,735	73,150
Upper Copper River ^d	715,577	599,265	906,239	1,148,079	866,957	850,951	587,497	833,569	819,886	700,618
Copper River District Total	793,947	675,635	971,709	1,205,149	954,457	951,926	685,542	904,634	895,621	773,768
Bering River/Lake	23,000	28,650	22,420	^c	21,600	39,030	21,050	7,750	19,540	32,075
Shepherd Creek	1,400	2,600	2,000	1,400	^c	1,215	950	60	60	205
Stillwater Creek	800	900	1,100	700	400	950	320	320	350	375
Kushtaka Lake	150	400	990	65	500	1,100	700	293	265	185
Katalla River	1,200	900	800	700	900	3,900	1,200	400	4,500	17,000
Bering River Area Total	26,550	33,450	33,450	27,310	2,865	46,195	24,220	8,823	24,715	49,840
Copper/Bering River Total	820,497	709,085	1,005,159	1,232,459	957,322	998,121	709,762	913,457	920,336	823,608

^a The escapement indices are based on peak aerial survey estimates and sonar counts from a majority of known salmon spawning areas in the Copper and Bering River Delta. The indices are not intended to provide a true estimate of total escapement, but a comparable index based upon the best data currently available.

^b The areas in this table represent combined survey sites corresponding to the "system" designations for the current year survey results presented elsewhere in this report.

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

^d Upriver escapement estimate from Miles Lake sonar counts.



Appendix A6.— Measured water stage height at the Million Dollar Bridge from 1982-2003.

Appendix A7.—Anticipated and actual weekly harvest of Chinook salmon in the Copper River District drift gillnet fishery, 2003.

Week Ending Date	Fishing Time (hours)	Anticipated Harvest ^a	Actual Harvest
05/17	12	7,079	10,030
05/24	12 and 24	15,110	13,109
05/31	24 and 24	10,145	10,926
06/07	24 and 24	9,107	7,382
06/14	24 and 36	3,867	3,515
06/21	36 and 24	2,260	1,608
06/28	24 and 24	851	675
07/05	36 and 48	284	279
07/12	48 and 48	170	105
07/19	48 and 48	80	65
07/26	24 and 24	27	20
08/02	24 and 24	10	2
08/09	24 and 24	5	2
08/16	24	3	2
08/23	24	3	0
08/30	24	3	1
09/06	24 and 24	0	0
09/13	48 and 24	0	0
09/20	48 and 36	0	0
09/27	156	0	0
10/04	156	0	0
Total		49,004	47,721

^a Based on average historical harvests for comparable dates (1992-2001).

Appendix A8.—Copper River commercial drift gillnet salmon harvest by period 2003.

Period	Date(s)	Hours	Permits	Landings	<u>Chinook</u>		<u>Sockeye</u>		<u>Coho</u>		<u>Pink</u>		<u>Chum</u>	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01 ^a	05/14	12	476	656	10,030	233,041	26,541	155,446	0	0	0	0	292	1,987
02 ^b	05/19	12	481	596	4,295	102,330	35,401	208,816	0	0	0	0	152	919
03 ^a	05/22-05/23	24	478	836	8,814	202,727	83,915	508,692	1	7	1	4	466	2,858
04	05/26-05/27	24	470	749	6,497	145,586	96,722	579,038	1	7	0	0	686	4,166
05	05/29-05/30	24	465	633	4,429	96,338	50,687	301,082	1	8	0	0	763	4,899
06	06/02-06/03	24	425	632	5,061	117,100	67,064	398,251	1	9	2	7	2,814	16,432
07	06/05-06/06	24	335	459	2,321	51,244	63,642	379,623	1	6	0	0	510	2,999
08	06/09-06/10	24	414	535	1,841	43,443	45,140	269,081	0	0	0	0	196	1,181
09	06/12-06/13	36	412	682	1,674	37,888	65,623	391,415	298	1,808	320	1,359	364	2,178
10	06/16-06/17	36	325	558	957	22,979	51,978	310,223	16	107	79	271	623	3,831
11	06/19/06/20	24	318	397	651	14,656	41,215	249,702	81	584	1,102	4,535	238	1,423
12	06/23-06/24	24	278	365	475	9,759	39,526	238,689	96	620	1,743	6,902	437	2,802
13	06/26-06/27	24	248	326	200	4,368	44,007	267,176	55	394	4,288	15,176	395	2,014
14	06/30-07/01	36	238	402	146	3,164	63,614	384,185	851	5,429	620	2,375	106	711
15	07/03-07/05	48	195	441	133	2,557	84,458	513,809	406	2,384	387	1,502	94	673
16	07/07-07/09	48	230	485	61	1,105	75,033	463,885	395	2,266	129	531	478	2,175
17	07/10-07/12	48	220	420	44	823	59,300	361,567	449	3,266	832	2,890	318	1,852
18	07/14-07/16	48	221	478	32	521	77,910	476,873	682	4,291	764	3,605	320	1,752
19	07/17-07/19	48	209	300	33	418	37,818	233,738	473	2,819	227	964	276	1,548
20	07/21-07/22	24	182	207	10	101	23,156	143,428	570	3,963	438	1,894	90	546
21	07/24-07/25	24	137	160	10	138	20,187	125,457	1,319	9,533	460	1,965	263	1,544
22	07/28-07/29	24	96	98	0	0	8,302	51,350	1,176	7,618	104	395	26	149
23	07/31-08/01	24	99	106	2	20	8,790	54,571	3,174	21,651	1,129	3,798	95	462
24	08/04-08/05	24	86	89	2	20	6,303	38,655	3,427	24,682	104	553	55	361

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Period	Date(s)	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
25	08/07-08/08	24	64	66	0	0	3,054	19,219	2,724	21,740	167	536	27	148
26	08/11-08/12	24	91	120	2	24	3,413	21,435	6,259	45,359	33	127	13	80
27	08/18-8/19	24	213	335	0	0	3,848	27,480	33,616	271,120	5	19	2	8
28	08/25-08/26	24	254	417	1	8	822	5,319	67,057	557,066	0	0	6	44
29	09/01-09/02	24	235	390	0	0	496	4,074	65,630	549,732	0	0	4	26
30	09/04-09/05	24	217	328	0	0	43	265	50,743	427,410	0	0	1	6
31	09/08-09/10	48	201	441	0	0	37	234	61,520	545,581	0	0	0	0
32	09/12-09/13	24	127	235	0	0	5	31	30,916	273,971	0	0	0	0
33	09/15-09/17	48	111	201	0	0	1	7	21,149	194,155	0	0	0	0
34	09/19-09/20	36	40	66	0	0	1	6	6,590	61,279	0	0	0	0
35	09/22-09/28	156	23	32	0	0	0	0	3,812	35,596	0	0	0	0
36	09/29-10/05	156	0	0	0	0	0	0	0	0	0	0	0	0
Total			507	13,241	47,721	1,090,358	1,188,052	7,182,822	363,489	3,074,461	12,934	49,408	10,110	59,774
Average Weight						22.85		6.00		8.46		3.82		5.91

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^a All waters of the Copper River District were open for periods 1 and 3-36.

^b Waters of the Copper River District were open; however, those waters inside the barrier islands from the west side of Pete Dahl to the east side of Kokenhenik were closed for the first 6 hours of the period from 7:00 a.m. until 1:00 p.m. The entire district was open from 1:01 p.m. until 7:00 p.m.

Appendix A9.– Sockeye salmon aerial survey escapement indices by date and location, Copper River Delta, 2003.

Drainage	System	Escapement Indices														
		06/10	06/16	06/23	06/30	07/07	07/16	07/23	08/02	08/09	08/23	08/30	09/05	09/11	09/24	
Eyak River	Eyak R.	10	50	360	1,075	575	85	875	200	100	0 ^a	0	0	0	0	
	West Shore Beaches	10	0	50	1,700	250	450	2,600	5,600	1,900	4,200 ^a	1,250	300	200	0	
	East Shore Beaches	0	150	200	200	1,300	600	1,250	4,000	3,000	900 ^a	900	750	2,700	500	
	Middle Arm Beaches ^b	700	300	150	800	1,400	NS	950	2,800	4,100	7,500 ^a	6,000	9,000	5,000	4,200	
	North Shore Beaches	0	0	600	1,700	3,800	300	675	100	0	300 ^a	NS	0	200	900	
	Hatchery Creek Delta	0	0	0	0	0	20	0	0	0	0 ^a	NS	75	400	0	
	Hatchery Creek	NS	0	0	0	0	0	0	0	0	0 ^a	NS	0	0	0	
	Power Creek Delta	0	0	0	0	25	300	0	0	25	400 ^a	NS	700	425	800	
Ibeck Creek	Power Creek	0	0	25	25	325	800	600	600	75	450 ^a	NS	325	850	1,600	
	Ibeck Creek	NS	NS	NS	NS	NS	NS	NS	475	300	75	150	200	100	10	
Alaganik Slough	Alaganik Slough	0	0	10	0	25	0	0	0	0	0	NS	0	0	NS	
	McKinley Lk.	0	0	0	150	850	600	1,100	3,000	1,000	2,500	3,200 ^a	2,500	2,200	NS	
	Salmon Creek W. Fork	0	0	0	75	100	575	400	0	0	0	NS	100 ^a	100	NS	
	Salmon Creek E. Fork	0	0	0	5	25	300	1,300	450	3,725	1,700 ^a	NS	650	400	NS	
26/27 Mile Creek	26/27 Mile Creek	0	0	0	0	175	325	475	275 ^a	475 ^a	50	250	350	300	NS	
39 Mile Creek	39 Mile Creek	0	NS	210	550	1,500	2,400	3,200	7,750	7,500	6,000	7,800 ^a	3,200	3,300	NS	
Goat Mountain	Goat Mountain Creek	0	NS	0	0	0	0	0	0	0	NS	0	0	NS		
Pleasant Creek	Pleasant Creek	0	0	1,600	3,600	6,850 ^a	1,275	175	200	NS	0	NS	0	0	NS	
Martin River	Martin R. - Lower	50	150	700	1,600	1,500	725 ^a	575	1,050	200	0	0	0	0	NS	
	Ragged Point R.	NS	NS	0	0	0	1,500	850	900	600	200	NS	25	250 ^a	NS	
	Ragged Pt. Lk Outlet	NS	NS	0	0	0	750	1,000	275	500	800	NS	1,500	300 ^a	NS	
	Ragged Pt. Lk.	NS	NS	0	0	0	0	125	1,500	3,200	4,000	NS	4,000	4,200 ^a	NS	
	Martin R. Upper ^b	75	90	175	1,400	3,800	2,700 ^a	1,300	450	350	100	NS	0	0	NS	
	Martin Lk. Outlet	20	20	0	100	100	1,500 ^a	1,500	25	25	100	NS	125	200	NS	
	Martin Lk.	1,200	4,120	15,000	13,200 ^a	10,000	5,400	1,100	400	200	0	NS	10	0	NS	
	Martin Lk. Feeders	0	0	0	4,200 ^a	5,400	6,600	4,000	1,825	600	200	NS	0	0	NS	
	Pothole R.	0	NS	0	300	675	450	1,200	200	0	0	NS	200	200 ^a	NS	
	Pothole Lk.	0	NS	0	0	0	0	0	0	0	75	NS	1,000	1,300 ^a	NS	
	Little Martin R.	0	0	0	0	10	0	100	5	0	0	NS	0	25 ^a	NS	
	Little Martin Lk.	0	0	0	25	15	0	200	2,150	625	1,900	NS	1,500	450	NS	
	Tokun	Tokun Springs	0	0	0	0	0	0	0	0	450	500	NS	150 ^a	0	NS
		Tokun R.	0	20	75	150	85	300	550	725	500	1,200	NS	450 ^a	250	NS
Tokun Lk. Outlet		0	25	0	450	100	0	0	0	25	300	NS	600 ^a	300	NS	
Tokun Lk.		0	0	0	750	0	50	850	1,000	1,600	1,000	NS	2,400 ^a	2,200	NS	
Martin R. Slough	Martin R. Slough	0	400	500	4,450 ^a	3,200	2,250	1,875	1,800	300	25	NS	0	0	NS	
Copper R. Aerial Survey Daily Total		2,065	5,325	19,655	36,505	42,085	30,255	28,825	37,755	31,375	34,475	19,550	30,110	25,850	8,010	
Anticipated Escapement		3,700	7,477	20,605	26,109	42,320	45,815	49,248	51,472	52,191	42,498	40,637	31,749	27,878	15,916	

-continued-

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Aerial Escapement Indices by Survey Date

Drainage	System	Estimated Escapement			
		Site ^c	System ^d	Anticipated	
Eyak R.	Eyak R.	0	13,750	10,037 to 23,724	
	West Shore Beaches	4,200			
	East Shore Beaches	900			
	Middle Arm Beaches ^b	7,500			
	North Shore Beaches	300			
	Hatchery Creek Delta	0			
	Hatchery Creek	0			
	Power Creek Delta	400			
	Power Creek	450			
	Ibeck Creek	Ibeck Creek	475	475	
Alaganik Slough	Alaganik Slough	0	5,000	8,330 to 19,689	
	McKinley Lk.	3,200			
	Salmon Creek West Fork	100			
	Salmon Creek East Fork	1,700			
	26/27 Mile Creek	26/27 Mile Creek	475	475	2,143 to 5,066
39 Mile Creek	39 Mile Creek	7,800	7,800	5,827 to 13,773	
Goat Mountain	Goat Mountain Creek	0	0	536 to 1,267	
Pleasant Creek	Pleasant Creek	6,850	6,850	1,097 to 2,593	
Martin R.	Martin R. - Lower	725	725		
	Ragged Point R.	250	4,750		
	Ragged Point Lk. Outlet	300			
	Ragged Point Lk.	4,200			
	Martin R. - Upper ^b	2,700	2,700		
	Martin Lk. Outlet	1,500	18,900	17,557 to 41,498	
	Martin Lk.	13,200			
	Martin Lk. Feeders	4,200			
	Pothole R.	200	1,500		
	Pothole Lk.	1,300			
	Little Martin R.	25	2,175		
	Little Martin Lk.	2,150			
	Tokun	Tokun Springs	150	3,600	5,347 to 12,638
		Tokun R.	450		
	Tokun Lk. Outlet	600			
	Tokun Lk.	2,400			
Martin R. Slough	Martin R. Slough	4,450	4,450	4,126 to 9,753	
Copper R. Aerial Survey Daily Total		73,150			
Anticipated Escapement			73,150	55,000 to 130,001	

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Notes: The survey sites represent most of the known sockeye salmon spawning locations in the Copper River Delta drainage.

Weather permitting, the sites are surveyed weekly. The indices are not intended to provide an actual estimate of escapement for coastal stocks, but have been used for that purpose in the absence of any other escapement estimating method.

NS indicates that the site was Not Surveyed.

- ^a Indicates that this survey count was used as the peak survey for the site without duplication of counts for survey sites along migratory corridors (see footnote c).
- ^b The sites typically have very protracted run timing or two temporally segregated spawning populations at the same sites. Aerial counts from more than one day may be marked with an asterisk and used in the escapement estimate if the surveyor indicates that these counts represented different fish.
- ^c The escapement estimates for each site is marked with an asterisk. Where the survey site is a terminal spawning area, the peak count is used. However, if the site is a schooling area for migratory fish bound for sites further upstream, the count which minimizes possible duplication of counts across dates is selected.
- ^d The sum of the estimates by site within a system.

Appendix A10.—Anticipated and actual weekly harvest of coho salmon in the Copper River District drift gillnet fishery, 2003.

Week Ending Date	Length of Fishing Periods (Hrs)	Coho	
		Actual Harvest	Anticipated Harvest ^a
05/17	12	0	0
05/24	12 and 24	1	1
05/31	24 and 24	2	24
06/07	24 and 24	2	11
06/14	24 and 36	298	37
06/21	36 and 24	97	80
06/28	24 and 24	151	184
07/05	36 and 48	1,257	275
07/12	48 and 48	844	624
07/19	48 and 48	1,155	1,754
07/26	24 and 24	1,889	2,034
08/02	24 and 24	4,350	3,697
08/09	24 and 24	6,151	10,568
08/16	24	6,259	24,316
08/23	24	33,616	46,351
08/30	24	67,057	64,170
09/06	24 and 24	116,373	63,971
09/13	48 and 24	92,436	50,624
09/20	48 and 36	27,739	24,827
09/27	156	3,812	10,467
10/04	156	0	2,268
Season Total		363,489	306,283

^a Based on average historical harvests for comparable dates (1973 - 2002).

Appendix A11.– Aerial escapement indices by date and location for coho salmon returning to the Copper River Delta, 2003.

Drainage	System	Escapement Indices						
		08/09	08/16	08/23	08/30	09/05	09/11	09/24
Eyak R.	Eyak R.	400	NS	400	280	475	1,250	3,300 ^a
	East Shore Beaches	100	NS	25	600	1,700	1,250	2,600 ^a
	West Shore Beaches	0	NS	125	800	300	1,700	2,400 ^a
	Middle Arm Beaches	0	NS	0	0	0	100	500 ^a
	North Shore Beaches	0	NS	0	NS	0	0	450 ^a
	Hatchery Creek Delta	0	NS	0	NS	0	100	800 ^a
	Hatchery Creek	0	NS	0	NS	0	0	0 ^a
	Power Creek Delta	0	NS	0	NS	0	50	600 ^a
	Power Creek	0	NS	0	NS	0	0	900 ^a
Ibeck Creek	Ibeck Creek	900	NS	1,425	4,500	11,400	13,950	26,000 ^a
Scott R. ^b	Scott Lk.	0	NS	0	0	0	0	100 ^a
	Elsner Lk. ^c	0	NS	0	0	0	25	25 ^a
Alaganik Slough	Alaganik Slough	0	NS	25	NS	100 ^a	75	NS
	18/20 Mile Creek	0	NS	50	150	205 ^a	175	350
	McKinley Lk.	0	NS	0	NS	0	0 ^a	NS
	Salmon Creek West Fork	0	NS	25	NS	0	50 ^a	NS
	Salmon Creek East Fork	0	NS	100	NS	525	675 ^a	NS
	26/27 Mile Creek	26/27 Mile Creek	0	NS	50	85	50	275 ^a
39 Mile Creek	39 Mile Creek	300	NS	750	900	1,000	1,250 ^a	NS
Goat Mountain	Goat Mountain Creek	0	NS	125 ^a	NS	100	0	NS
Pleasant Creek	Pleasant Creek	NS	NS	100	NS	2,000 ^a	1,500	NS
Martin R.	Martin R. - Lower	500	NS	475	750	3,800 ^a	1,600	NS
	Ragged Point R.	0	NS	75	NS	250 ^a	50	NS
	Ragged Point Lk. Outlet	0	NS	0	NS	25 ^a	0	NS
	Ragged Point Lk.	0	NS	100 ^a	NS	0	0	NS
	Martin R. - Upper	700	NS	775	NS	6,400 ^a	5,000	NS
	Martin Lk. Outlet	150	NS	0	NS	800 ^a	525	NS
	Martin Lk.	3,900	NS	200	NS	700 ^a	500	NS
	Martin Lk. Feeders	2,600	NS	4,700	NS	4,800 ^a	750	NS
	Pothole R.	875	NS	3,600 ^a	NS	800	600	NS
	Pothole Lk.	0	NS	400 ^a	NS	1,000	200	NS
	Little Martin R.	0	NS	625	NS	900 ^a	550	NS
	Little Martin Lk.	0	NS	100	NS	100 ^a	25	NS
	Tokun Springs	0	NS	0	NS	200 ^a	100	NS
	Tokun R.	0	NS	375	NS	350 ^a	125	NS
	Tokun Lk. Outlet	0	NS	0	NS	0 ^a	0	NS
Tokun Lk.	0	NS	0	NS	0 ^a	0	NS	
Martin R. Slough	Martin R. Slough	610	NS	750	NS	6,400	7,500 ^a	NS
Copper R. Aerial Survey Daily Total		11,035	0	15,375	8,065	44,380	39,950	38,025
Anticipated Escapement		1,515	3,129	9,309	15,816	25,162	35,840	33,755

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Drainage	System	Escapement Indices		
		Site ^d	System ^e	Anticipated
Eyak R.	Eyak R.	3,300	11,550	7,096
	East Shore Beaches	2,600		
	West Shore Beaches	2,400		
	Middle Arm Beaches	500		
	North Shore Beaches	450		
	Hatchery Creek Delta	800		
	Hatchery Creek	0		
	Power Creek Delta	600		
	Power Creek	900		
	Ibeck Creek	Ibeck Creek		
Scott R. ^a	Scott Lk.	100	100	
	Elsner Lk. ^a	25		
Alaganik Slough	Alaganik Slough	100	1,030	3,845
	18/20 Mile Creek	205		
	McKinley Lk.	0		
	Salmon Creek West Fork	50		
	Salmon Creek East Fork	675		
26/27 Mile Creek	26/27 Mile Creek	275	275	835
39 Mile Creek	39 Mile Creek	1,250	1,250	3,857
Goat Mountain	Goat Mountain Creek	125	125	1,191
Pleasant Creek	Pleasant Creek ^a	2,000	2,000	
Martin R.	Martin R. - Lower	3,800	3,800	7,284
	Ragged Point R.	250	375	
	Ragged Point Lk. Outlet	25		
	Ragged Point Lk.	100		
	Martin R. - Upper	6,400	6,400	
	Martin Lk. Outlet	800	6,300	
	Martin Lk.	700		
	Martin Lk. Feeders	4,800		
	Pothole R.	3,600	4,000	1,474
	Pothole Lk.	400		
	Little Martin R.	900	1,000	4,682
	Little Martin Lk.	100		
	Tokun Springs	200	550	1,310
	Tokun R.	350		
	Tokun Lk. Outlet	0		
Tokun Lk.	0			
Martin R. Slough	Martin R. Slough	7,500	7,500	9,642
Copper R. Aerial Survey Total			72,255	
Anticipated Escapement				48,034

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Note: The survey sites represent most of the known coho salmon spawning locations in the Copper River Delta drainage. Weather permitting, the sites are surveyed weekly. The indices are not intended to provide an actual estimate of escapement for coastal stocks but have been used for that purpose in the absence of any other escapement estimating method. NS = no survey.

- ^a Indicates that this survey count was used as the peak survey for the site.
- ^b Scott River was not surveyed in 2003.
- ^c This stream is not included in the total escapement index because it is a non-index stream.
- ^d Where the survey site is a terminal spawning area the peak count is used. However, if the site is a schooling area for migratory fish bound for further sites upstream, the count which minimizes possible duplication of counts across dates is selected.
- ^e The sum of the estimates by site within the index systems.

Appendix A12.—Copper River Delta and Bering River coho salmon escapement indices, 1993–2003.

Stream/Lake ^{a,b}	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Eyak Lake	NC ^c	9,900	4,050	5,100	6,800	2,550	1,250	2,130	7,800	17,425	10,050
Hatchery Creek	NC ^c	700	170	0	1,400	1,200	300	1,900	450	1,400	0
Power Creek	NC ^c	700	300	0	2,700	4,900	2,700	1,450	480	2,000	1,500
Ibeck Creek	NC ^c	3,060	3,000	6,300	4,700	1,500	4,600	7,000	14,000	23,900	26,000
Scott & Elsner River ^d	1,580	1,600	540	1,000	2,200	750	2,500	300	600	2,400	125
18/20 Mile	1,750	3,300	2,550	3,800	3,300	1,300	610	420	420	1,450	205
McKinley Lake	700	2,100	400	NC ^c	1,100	400	50	120	800	2,200	0
Salmon Creek	1,400	0	1,250	1,500	2,500	2,100	3,080	2,600	200	1,100	725
26/27 Mile	1,500	1,300	1,300	1,480	2,300	700	2,610	1,000	400	240	275
39 Mile	1,600	4,150	3,800	5,250	6,100	2,100	3,650	5,000	1,800	4,500	1,250
Goat Mountain	650	1,000	2,800	1,000	1,400	800	650	430	330	160	125
Pleasant Creek ^d	NS	45	100	40	620	450	1,220	45	210	0	2,000
Martin River	4,540	10,600	5,000	15,400	NC ^c	6,250	3,900	4,500	3,755	13,325	10,200
Ragged Point River/Lake	300	0	100	0	80	850	275	330	440	3,400	375
Martin Lake	150	0	10	0	NC ^c	300	600	1,350	311	1,850	6,300
Pothole Lake	730	0	300	140	60	1,500	600	245	390	3,400	4,000
Little Martin Lake	6,400	200	1,500	700	10,500	3,800	3,600	3,000	3,010	500	1,000
Tokun River/Lake	950	1,780	1,900	1,300	1,300	2,000	1,130	710	1,600	540	550
Martin River Slough	11,200	5,120	5,950	4,100	10,500	6,400	12,900	10,600	4,100	10,025	7,500
Copper Delta Total	33,450	45,555	35,020	47,110	57,560	39,850	46,225	43,130	41,096	89,815	72,180
Katalla River	4,400	4,500	4,500	6,800	8,000	5,100	3,000	2,800	2,900	5,000	10,000
Bering Lake	5,900	5,800	10,600	6,000	14,800	14,300	13,800	10,370	21,040	15,375	13,750
Dick Creek	200	100	100	0	1,300	0	1,270	2,500	760	1,700	2,050
Shepherd Creek	600	900	800	NC ^c	NC ^c	NC ^c	200	450	300	675	700
Nichawak River	4,100	2,000	2,700	2,000	4,300	2,500	4,800	4,300	1,300	1,420	900
Gandil River	1,250	950	1,350	1,000	1,900	950	3,000	600	900	330	900
Controller Bay	13,600	14,300	7,400	11,000	12,100	6,900	5,220	5,360	2,807	9,700	4,175
Bering Area Total	30,050	28,550	27,450	26,800	42,400	29,750	31,290	26,380	30,007	34,200	32,475
Copper/Bering Total	63,500	74,105	62,470	73,910	99,960	69,600	77,515	69,510	71,103	124,015	104,655

^a The escapement figures in this table are based on peak aerial survey estimates counts from a majority of the known salmon spawning areas in the Copper and Bering River Delta. These indices are not intended to provide a true estimate of total escapement for the coastal stocks, but a comparable index based upon the best data currently available. An effort has been made to standardize the indices across years, however counts were obtained only as environmental conditions allowed and may not necessarily correspond to periods of peak abundance. Missing counts are generally a result of bad weather, high water, turbulence or other factors that prevent surveys for that given year.

^b The areas in this table represent combined survey sites corresponding to the "system" designations for the current year survey results presented elsewhere in this report.

^c Due poor stream or weather conditions these systems are listed as "NC" no count.

^d Not an indexed stream.

Appendix A13.—Summary of periods and emergency orders issued for the commercial salmon drift gillnet fisheries in the Bering and Copper River Districts, 2003.

Bering River District (200)			Copper River District (212)			Emergency Orders Issued
Periods	Dates	Hours Fished	Periods ^a	Dates	Hours Fished	
			01	05/14	12	2-F-E-001-03
			02 ^b	05/19	12	2-F-E-003-03
			03	05/23-05/24	24	2-F-E-006-03
			04	05/26-05/27	24	2-F-E-007-03
			05	05/29-05/30	24	2-F-E-008-03
			06	06/2-06/3	24	2-F-E-010-03
			07	06/5-06/6	24	2-F-E-011-03
01	06/9-06/10	24	08	06/9-06/10	24	2-F-E012-03
02	06/12-06/14	36	09	06/12-06/14	36	2-F-E-015-03
03	06/16-06/17	36	10	06/16-06/17	36	2-F-E-017-03
04	06/19-06/20	24	11	06/19-06/20	24	2-F-E-018-03
05	06/23-06/24	24	12	06/23-06/24	24	2-F-E-025-03
06	06/26-06/27	24	13	06/26-06/27	24	2-F-E-027-03
07	06/30-07/1	36	14	06/30-07/1	36	2-F-E-034-03
08	07/3-07/5	48	15	07/3-07/5	48	2-F-E-040-03
09	07/7-07/9	48	16	07/7-07/9	48	2-F-E-044-03
10	07/10-07/12	48	17	07/10-07/12	48	2-F-E-052-03
11	07/14-07/16	48	18	07/14-07/16	48	2-F-E-059-03
12	07/17-07/19	36	19	07/17-07/19	36	2-F-E-065-03
13	07/21-07/22	24	20	07/21-07/22	24	2-F-E-071-03
14	07/24-07/25	24	21	07/24-07/25	24	2-F-E-076-03
15	07/28-07/29	24	22	07/28-07/29	24	2-F-E-078-03
16	07/31-08/1	24	23	07/31-08/1	24	2-F-E-084-03
17	08/4-08/5	24	24	08/4-08/5	24	2-F-E-086-03
18	08/7-08/8	24	25	08/7-08/8	24	2-F-E-088-03
19	08/11-08/12	24	26	08/11-08/12	24	2-F-E-090-03
20	08/18-08/19	24	27	08/18-08/19	24	2-F-E-094-03
21	08/25-08/26	24	28	08/25-08/26	24	2-F-E-102-03
22	09/1-09/2	24	29	09/1-09/2	24	2-F-E-104-03
23	09/4-09/5	24	30	09/4-09/5	24	2-F-E-108-03
24	09/8-09/10	48	31	09/8-09/10	48	2-F-E-109-03
25	09/12-09/13	36	32	09/12-09/13	36	2-F-E-116-03
26	09/15-09/17	48	33	09/15-09/17	48	2-F-E-126-03
27	09/19-09/20	36	34	09/19-09/20	36	2-F-E-131-03
28	09/22-09/28	156	35	09/22-09/28	156	2-F-E-133-03
29	09/29-10/5	156	36	09/29-10/5	156	2-F-E-136-03

^a The Copper River schedule is typically two 24-hour periods per week; from 7:00 a.m. Monday to 7:00 a.m. Tuesday and from 7:00 p.m. Thursday to 7:00 p.m. Friday. All 12-hours periods began at 7:00 a.m.

^b The following waters were closed to commercial fishing during the first six hours of the period on May 19: The waters inside of a line from the Steamboat marker to the U.S.C.G. light on the west side of Pete Dahl entrance to the ADF&G marker located on the east side of Pete Dahl entrance and from the U.S.C.G. light on the west side of Grass Island entrance to the ADF&G marker located on the east side of Grass Island entrance and from the U.S.C.G light on the west side of Kokenhenik Island entrance to the ADF&G marker located on the east side of Kokenhenik Island entrance and all waters west of the ADF&G marker at Coffee Creek.

Appendix A14.–Total commercial salmon harvest by species in the Bering River District, 1973 – 2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1973	285	15,426	65,348	2	5	81,066
1974	32	4,208	28,615	7	2	32,864
1975	162	21,637	24,162	0	0	45,961
1976	228	30,908	42,423	43	1	73,603
1977	127	14,445	47,218	192	221	62,203
1978	331	33,554	91,097	266	2,391	127,639
1979	385	139,015	114,046	6,895	23,094	283,435
1980 ^a	0	0	108,872	0	0	108,872
1981	200	55,585	82,626	9,882	8,307	156,600
1982	254	129,667	144,752	47	333	275,053
1983	610	179,273	117,669	851	4,615	303,018
1984	330	91,784	214,632	309	20,408	327,463
1985	215	26,561	419,276	214	9,642	455,908
1986	128	19,038	115,809	15	243	135,233
1987	34	16,926	15,864	54	7	32,885
1988	19	7,152	86,539	23	181	93,914
1989	30	9,225	26,952	7	2	36,216
1990	14	8,332	42,952	2	1	51,301
1991	28	19,181	110,951	4	195	130,359
1992	21	19,721	125,616	4	1	145,363
1993	130	33,951	115,833	82	22	150,018
1994	121	27,926	259,003	34	63	287,147
1995	44	21,585	282,045	26	229	303,929
1996	111	37,712	93,763	0	30	131,616
1997	23	9,651	97	2	0	9,773
1998	70	8,439	12,284	5	2	20,800
1999	42	13,697	9,852	204	96	23,891
2000	5	1,279	56,329	0	0	57,613
2001	76	5,450	2,715	0	0	8,241
2002	14	235	108,522	0	0	108,771
2003	151	18,266	59,481	33	0	77,931
1994-2003						
10-Year Average	66	14,424	88,409	30	42	102,971

^a In 1980 no fishing was allowed prior to August 11.

Appendix A15.—Aerial escapement indices by date and location for sockeye salmon returning to the Bering River Delta, 2003.

Drainage	System	Aerial Escapement Indices by Survey Date					
		06/10	06/16	06/23	06/30	07/07	07/16
Bering River	Bering River	30	100	125	50	155	50
	Bering Lake	0	125	4,200	1,275	500	12,825
	Dick Creek	0	0	0	10,100	13,800	4,200
	Shepherd Creek - Lagoon	0	0	5	0	0	0
	Shepherd Creek	NS	NS	NS	0	0	25
	Carbon Creek	NS	NS	NS	0	0	0
	Clear Creek	NS	NS	NS	NS	NS	0
	Kushtaka Lake	NS	NS	NS	NS	NS	0
	Shockum Creek	NS	NS	NS	NS	NS	0
Katalla River ^a	Katalla River	0	0	275	225	2,100	2,000
Bering River Aerial Survey Daily Index		30	225	4,605	11,650	16,555	19,100
Anticipated Escapement Index		2,213	6,653	7,707	11,563	21,377	21,685

Drainage	System	Aerial Escapement Indices by Survey Date					
		07/23	08/02	08/09	08/23	09/05	09/11
Bering River	Bering River	175	275	0	0	0	0
	Bering Lake	18,000	1,500	275	500	1,000	1000
	Dick Creek	3,200	7,200	4,425	750	0	350
	Shepherd Creek - Lagoon	0	0	0	0	0	0
	Shepherd Creek	10	0	125	0	0	0
	Carbon Creek	275	100	75	0	0	0
	Clear Creek	100	375	250	10	25	0
	Kushtaka Lake	0	175	0	5	0	0
	Shockum Creek	0	10	5	25	0	0
Katalla River ^a	Katalla River	3,500	17,000	10,000	400	0	0
Bering River Aerial Survey Daily Index		25,260	26,635	15,155	1,690	1,025	1,350
Anticipated Escapement Index		21,180	20,898	17,858	5,216	1,992	1,212

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System and Drainage	Survey System	Aerial Escapement Indices by Survey Date		
		Site^b	System^c	Anticipated
	Bering River	275	32,075	21,980
	Bering Lake	18,000		
	Dick Creek	13,800		
	Shepherd Creek - Lagoon	5	205	4,294
	Shepherd Creek	125		
	Carbon Creek	75		
	Clear Creek	375	375	1,215
	Kushtaka Lake	175	185	1,210
	Shockum Creek	10		
Katalla River ^a	Katalla River	17,000	17,000	
Bering River Aerial Survey Daily Index		32,840		28,699

Note: The survey sites represent most of the known sockeye salmon spawning locations in the Bering River drainage. Weather permitting, the sites are surveyed weekly. The indices are not intended to provide an actual estimate of escapement for coastal stocks but have been used for that purpose in the absence of any other escapement estimating method.

NS = no survey.

^a This stream is not included in the estimated escapement for the Bering River drainage because it is a non-index stream.

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

^c The sum of the estimates by site within a system.

Appendix A16.–Aerial escapement indices by date and location for coho salmon returning to the Bering River Delta, 2003.

Drainage	System	Escapement Indices				
		08/09	08/16	08/23	09/05	09/11
Bering River	Bering River ^a	280	NS	425	2,075	4750 ^b
	Bering Lake	525	NS	1,350	9,000 ^b	6200
	Dick Creek	0	NS	2,000	2,050 ^b	1450
Shepherd Drainage ^c	Shepherd Creek - Lagoon	0	NS	0	25	0 ^b
	Shepherd Creek	0	NS	0	75	700 ^b
	Carbon Creek	0	NS	0	0	0 ^b
Katalla River	Katalla River	0	NS	10,000 ^b	9,400	7800
Lower Bering River	Gandil River	NS	NS	50	700	900 ^b
	Nichawak River	NS	NS	15	900 ^b	175
Controller Bay	Campbell River	NS	NS	0	0	250 ^b
	Edwardes River	NS	NS	300	2,800 ^b	1200
	Okalee River	NS	NS	50	0	125 ^b
	Other Clear Streams	NS	NS	0	275	1000 ^b
Bering River Aerial Survey Daily Index		805	0	14,190	27,300	24,550
Anticipated Aerial Index		1,137	1,126	4,939	17,708	18,807

Drainage	System	Estimated Escapement		Anticipated Aerial Index
		Site ^d	System ^e	
Bering River	Bering River ^a	4,750	15,800	5,608
	Bering Lake	9,000		
	Dick Creek	2,050		
Shepherd Drainage ^c	Shepherd Creek - Lagoon	0	700	
	Shepherd Creek	700		
	Carbon Creek	0		
Katalla River	Katalla River	10,000	10,000	6,633
Lower Bering River	Gandil River	900	1,800	9,877
	Nichawak River	900		
Controller Bay	Campbell River	250	4,175	2,501
	Edwardes River	2,800		
	Okalee River	125		
	Other Clear Streams	1,000		
Bering River/Controller Bay Aerial Survey Total			32,475	
Anticipated Aerial Index				24,619

Note: The survey sites represent most of the known coho salmon spawning locations in the Bering River drainage. Weather permitting, the sites are surveyed weekly. The indices are not intended to provide an actual estimate of escapement for coastal stocks but have been used for that purpose in the absence of any other escapement estimating method. NS = no survey.

^a Bering River counts include coho observed in the Don Miller Hill tributaries.

^b Indicates that this survey count was used as the peak survey for the site without duplication of counts for survey sites along migratory corridors (see footnote d).

^c This stream is not included in the total escapement index because it is a non-index stream.

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

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

Appendix A17–Total commercial salmon harvest by period in the Bering River District drift gillnet fishery, 2003.

Period	Date	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01	06/9-06/10	24	5	6	15	214	654	3,935	0	0	0	0	0	0
02	06/12-06/13	36	35	40	46	952	6,270	37,775	0	0	0	0	4	30
03	06/16-06/17	36	55	69	55	982	7,651	46,755	0	0	12	36	8	56
04	06/19-06/20	24	11	12	21	399	1,226	7,460	0	0	0	0	0	0
05	06/23-06/24	24	9	11	14	372	2,034	12,344	2	16	9	37	1	7
06	06/26-06/27	24	3	3	0	0	353	2,180	9	57	12	48	0	0
07	06/30-07/01	36	0	0	0	0	0	0	0	0	0	0	0	0
08	07/03-07/05	48	0	0	0	0	0	0	0	0	0	0	0	0
09	07/07-07/09	48	0	0	0	0	0	0	0	0	0	0	0	0
10	07/10-07/12	48	0	0	0	0	0	0	0	0	0	0	0	0
11	07/14-07/16	48	0	0	0	0	0	0	0	0	0	0	0	0
12	07/17-07/19	48	0	0	0	0	0	0	0	0	0	0	0	0
13	07/21-07/22	24	0	0	0	0	0	0	0	0	0	0	0	0
14	07/24-07/25	24	0	0	0	0	0	0	0	0	0	0	0	0
15	07/28-07/29	24	0	0	0	0	0	0	0	0	0	0	0	0
16	07/31-08/01	24	0	0	0	0	0	0	0	0	0	0	0	0
17	08/04-08/05	24	1	1	0	0	73	438	45	315	0	0	0	0
18	08/07-08/08	24	0	0	0	0	0	0	0	0	0	0	0	0
19	08/11-08/12	24	0	0	0	0	0	0	0	0	0	0	0	0
20	08/18-08/19	24	0	0	0	0	0	0	0	0	0	0	0	0
21	08/25-08/26	24	1	1	0	0	0	0	260	1,816	0	0	0	0
22	09/01-09/02	24	23	40	0	0	2	15	6,398	53,682	0	0	0	0
23	09/4-09/05	24	15	24	0	0	1	8	3,497	31,219	0	0	0	0
24	09/08-09/10	48	23	76	0	0	0	0	14,968	125,779	0	0	0	0
25	09/12-09/13	24	34	96	0	0	1	6	17,149	143,452	0	0	0	0
26	09/15-09/17	48	29	79	0	0	1	7	10,264	95,980	0	0	0	0
27	09/19-09/20	36	12	27	0	0	0	0	5,855	56,521	0	0	0	0
28	09/22-09/28	156	7	8	0	0	0	0	1,034	10,304	0	0	0	0
29	09/29-10/05	156	0	0	0	0	0	0	0	0	0	0	0	0
Total			120	493	151	2,919	18,266	110,923	59,481	519,141	33	121	13	93
Average Weight						19.33		6.07		8.73		3.67		7.15

Appendix A18.—Anticipated and actual weekly harvest and escapement of coho salmon in the Bering River District drift gillnet fishery, 2003.

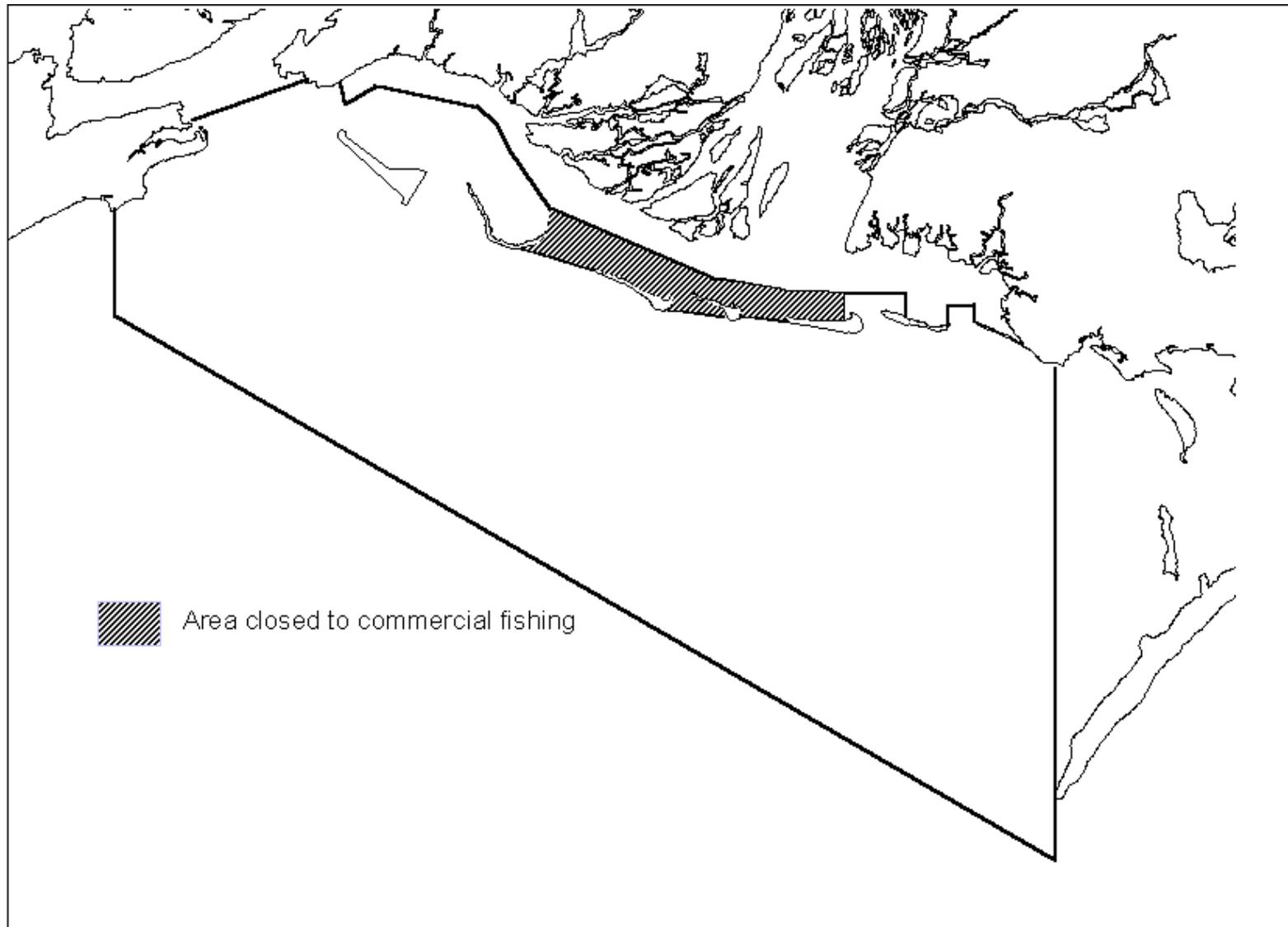
Week Ending Date	Fishing Time (hours)	Actual Harvest	Anticipated Harvest ^a	Actual Aerial Index ^b	Anticipated Index ^c
06/07	24 and 24	0	0		
06/14	24 and 36	0	13		
06/21	36 and 24	0	10		
06/28	24 and 24	11	24		
07/05	36 and 48	0	67		
07/12	48 and 48	0	58		
07/19	48 and 48	0	34		
07/26	24 and 24	0	24		
08/02	24 and 24	0	33		
08/09	24 and 24	45	120	805	1,137
08/16	24	0	268	NS	1,045
08/23	24	0	6,094	14,190	4,939
08/30	24	260	20,676	NS	8,007
09/06	24 and 24	9,895	29,340	27,300	17,708
09/13	48 and 24	32,117	25,552	24,550	18,807
09/20	48 and 36	16,119	8,657	NS	15,191
09/27	156	1,034	2,639	NS	14,368
10/04	156	0	402	NS	16,102
Season Totals		59,481	94,011		

Note: NS designates that no survey was flown.

^a Based on average historical harvest for comparable dates (1970-2002, excluding years 1972, 1975, 1987, 1997-1999).

^b Coho salmon surveys were actively conducted weather permitting beginning August 9.

^c Based on average historical aerial escapement surveys for comparable dates (1984-1992).



Appendix A19.—Copper River District area closed to Chinook salmon harvest during the second commercial fishing period, 2003.

Appendix A20.—Upper Copper River Chinook salmon aerial escapement index counts, 1977-2003.

Year	Copper River									Total
	Upstream of Gulkana ^a			Tazlina Drainage ^a		Klutina Drainage ^a		Tonsina Drainage ^a		
	Gulkana R. ^b	E. Fork Chistochina R.	Indian River	Mendeltna Creek	Kiana Creek	St. Anne Creek	Manker Creek	Little Tonsina River	Graying Creek	
1977	729	132	^c	73	91	10	15	^c	^c	1,050
1978	618 ^d	137	9	52 ^e	125 ^e	24 ^e	20 ^e	285 ^e	92 ^e	1,362
1979	764	810	29	5 ^e	279 ^e	16 ^e	16 ^e	285 ^e	153 ^e	2,357
1980	712	575	24	3 ^e	247	8 ^e	35 ^e	70 ^e	66 ^e	1,740
1981	77	120	^c	51	191	19	33	191	107	789
1982	879 ^d	1,260	179	70 ^e	200 ^e	35 ^e	49 ^e	440 ^e	124 ^e	3,236
1983	589	575	41	12 ^e	166	87	141	330	287	2,228
1984	1,331	577	17	26 ^{e,f}	382 ^f	89 ^f	264 ^f	568	279	3,533
1985	224	360	14	26 ^e	91 ^e	15 ^e	22 ^e	203 ^e	58 ^e	1,013
1986	1,484	618	^c	76	328	182	251	424	224	3,587
1987	1,098	764	33	10	80	92	141	247	112	2,677
1988	831	709	^c	25 ^e	249	64	119	78	167	2,242
1989	2,009	750	7	187	345	90	165	68 ^e	78	3,699
1990	1,171 ^e	645	15 ^e	323 ^e	414 ^e	43 ^e	43	57	52 ^e	2,763
1991	1,223 ^e	925	18	310 ^f	522 ^f	130	107	59	159	3,453
1992	540	88	1	83 ^e	79 ^e	12 ^e	14 ^e	107	17 ^e	941
1993	693	^c	^c	^c	^c	^c	^c	^c	^c	693
1994	786	508	47	120	430	250	75	4 ^e	2 ^e	2,222
1995	285 ^f	37 ^e	2 ^e	32 ^e	111 ^e	26 ^e	8 ^e	25 ^e	26 ^e	552
1996	1,364 ^f	450 ^f	11 ^f	360 ^f	723 ^f	117 ^f	164 ^f	25 ^f	143 ^f	3,357
1997	2,270	2,245 ^f	270 ^f	311 ^f	693 ^f	900 ^f	466 ^f	55 ^f	330 ^f	7,540
1998	1,407	740 ^f	48	280 ^f	700 ^f	515 ^f	843 ^f	60	527 ^f	5,120
1999	934 ^e	82 ^e	2 ^e	38 ^e	216 ^e	486 ^e	69 ^e	93 ^e	88 ^e	2,008
2000	1,174	580	62	125	155 ^e	70	54 ^e	26 ^e	104 ^e	2,350
2001	556 ^e	0 ^e	0 ^e	80 ^e	154 ^e	75 ^e	24 ^e	7 ^e	73 ^e	969
2002	2,087	956	27	220	240	130	130	139	164	4,093
2003	2,113	160 ^e	4 ^e	^c	200 ^e	85 ^e	^c	^c	^c	2,562
1977-1986^g	725	516	45	67	234	77	141	378	224	2,407
1987-1996^g	951	605	20	197	392	141	116	96	132	2,650
1997-2003^g	1,810	1,130	102	234	544	404	480	85	340	5,129

Note: Data in this table have been modified from previous year's reports. Past years table reporting accounted for estimates from outside of defined survey reaches and included extrapolated data.

^a Some historical data published in Brady et al. 1991, but the remainder is unpublished.

^b Gulkana River index counts are those upstream and including the West Fork.

^c No aerial survey conducted.

^d Counts determined by two surveyors. In years where more than one surveyor was used, counts from the most experienced surveyor are listed.

^e Survey flown outside of July 17-31.

^f Visibility poor due to high water conditions.

^g Averages exclude years when surveys were flown outside July 17-31.

Appendix A21.—Estimated age and sex composition of sockeye salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2003.

Location	Year survey Indices											10 Year Average 1983-92 ^b
	1993 ^a	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Fish Lake				4,800		4,900	1,880	5,000	5,000	125	1,300	6,418
Bad Crossing 1 & 2				780		7,800	195	19	2,000	157	90	2,604
Suslota Lake				4,100		1,060	0	3,000	2,500	1,500	2,750	1,416
Dickey Lake				0		350	11	0	1	0	0	115
Keg Creek				850	420	160	125	0	1	30	38	725
Mahlo Creek				3,800	11,800	12,300	325	1,000	400	5,000	6,850	2,648
St. Anne Creek				3,500	4,800	4,100	1,300	1,100	300	3,500	3,750	4,888
Fish Creek-Mentasta				400		1,400	450	800	3,500	900		963
Swede Lake				20		770	270	135	500	150	325	531
Tana River											250	1,345
Mentasta Lake				2,800		6,100	715	1,200	13,000	5,400	4,800	3,277
Tanada Lake		6,270	3,100				350	3,200	200	950	0	3,849
Salmon Creek							0	500	1,500	1,400	300	825
Paxson Inlet-Mud Creek				16,800		15,200	5,700	2,200	7,000	4,800	2,800	6,560
Mud Creek and Lake				240			20	30	300	30	75	172
Mendeltna Creek				1,250	400		120	2,800	800	1,875	1,200	2,470
Paxson Lake Outlet						200	1,800	1,000	200	140		2,661
Mud Creek.- Summit Lake						700	820	140	450	2,800	3,900	7,445
Long Lake												1,577
Tonsina Lake												1,080
Totals	NS	6,270	3,100	39,340	17,420	55,040	14,081	22,124	37,652	28,757	28,428	51,569

Note: These escapement numbers are based on peak aerial survey estimates and weir counts from a majority of the known spawning areas in the upper Copper River drainage. These indices are not intended to provide a true estimate of escapement for these stocks, but a comparable index based upon the best data currently available. An effort has been made to standardize the indices across years; however, counts were obtained only as environmental conditions allowed and may not necessarily correspond to periods of peak abundance. Missing counts are generally a result of bad weather, high water or other factors that prevented surveys for that given year.

^a No survey flown (NS).

^b The 1983-1992 average used for anticipated estimate.

Appendix A22.—Estimated age and sex composition of Chinook salmon harvested in the Copper River District commercial common property drift gillnet fishery, 2003.

		Brood Year and Age Class										Total
		2000		1999		1998			1997		1996	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	
Strata Combined:		05/14 - 08/19										
Sampling dates:		05/14 - 07/26										
Sample size:		5,054										
Female	Sample size	11	2	124	213	1	2031	15	8	78	1	2484
	Percentage of sample	0.2	0.0	2.2	4.4	0.0	40.6	0.2	0.1	1.2	0.0	49.1
	Number in harvest	2,651	326	26,310	52,673	319	481,863	2,549	1,749	14,830	356	583,626
Male	Sample size	25	5	129	332	2	1978	15	6	74	0	2566
	Percentage of sample	0.4	0.1	2.3	7.2	0.0	39.2	0.3	0.1	1.1	0.0	50.8
	Number in harvest	4,749	1,426	27,549	85,318	305	465,466	3,877	1,574	13,416	0	603,679
Total	Sample size	36	7	253	545	3	4012	30	14	153	1	5054
	Percentage of sample	0.6	0.1	4.5	11.6	0.1	79.8	0.5	0.3	2.4	0.0	100.0
	Number in harvest	7,399	1,752	53,859	137,991	623	947,846	6,427	3,322	28,360	356	1,187,936
	Standard error	1,308	705	3,526	5,799	389	7,145	1,257	915	2,492	356	

Appendix A23.—Estimated age composition of Copper River area Chinook salmon in commercial common property drift gillnet harvest, 2003.

Sample	Total	Percentage of Harvest by Brood Year and Age Group									
		2000		1999		1998		1997		1996	
Size	Catch	0.2	1.1	0.3	1.2	2.1	1.3	1.4	2.3	1.5	2.4
1,931	47,721	0.1	0.3	0.1	5.9	0.1	62.7	29.5	1.1	0.0	0.2

Appendix A24.—Estimated age composition of Copper/Bering River area coho salmon in commercial common property drift gillnet harvest, 2003.

Location	Sample	Commercial	Percentage of Harvest by Brood Year and Age Group				
			2000	1999		1998	
	Size	Harvest	1.1	1.2	2.1	2.2	3.1
Copper River	1,241	363,489	61.6	0.1	37.7	0.1	0.4
Bering River	762	59,481	55.7	0.0	43.8	0.0	0.5

APPENDIX B: COGHILL AND UNAKWIK DISTRICTS

Appendix B1.—Total commercial common property salmon harvest by period in the Coghill District drift gillnet and purse seine fisheries, 2003.

Period	Date(s)	Hours	Permits	Landings	Drift Gillnet										
					Chinook		Sockeye		Coho		Pink		Chum		
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	
01 ^a	05/26-05/27	24	8	9	0	0	0	0	0	0	0	0	0	3,224	24,052
02 ^b	05/29-05/30	24	1	1	0	0	0	0	0	0	0	0	0	139	1,118
03 ^a	06/02-06/03	24	13	20	7	98	29	184	1,078	5,410	0	0	0	17,492	110,499
04 ^b	06/05-06/06	24	22	36	4	48	55	330	0	0	0	0	0	26,230	175,794
05 ^a	06/09-06/10	24	48	116	8	105	888	6,342	919	7,355	4	12	67,530	431,631	
06 ^b	06/12-06/13	24	45	111	28	226	936	6,766	0	0	0	0	0	50,314	343,246
07 ^c	06/16-06/17	24	78	210	20	177	5,530	35,319	0	0	5	20	116,893	793,829	
08 ^d	06/19-06/20	24	106	275	10	139	4,448	27,265	2	14	32	109	103,710	653,631	
09 ^b	06/23-06/24	24	126	353	21	197	15,305	89,704	3	20	407	1,483	125,901	783,394	
10 ^b	06/26-06/27	24	129	343	3	35	17,181	102,269	6	24	1,916	7,917	130,224	820,971	
11 ^e	06/30-07/06	156	123	356	8	145	45,690	280,750	794	7,843	17,309	62,634	63,911	411,524	
12 ^f	07/07-07/13	156	141	322	1	12	52,623	328,151	314	1,481	12,684	52,309	15,883	97,042	
13 ^g	07/14-07/17	84	63	115	4	48	16,209	102,751	344	1,769	8,609	38,924	4,695	27,288	
14 ^h	07/18-07/20	60	10	12	0	0	2,249	13,349	1	6	2,928	9,662	285	1,862	
15 ⁱ	07/21-07/24	84	0	0	0	0	0	0	0	0	0	0	0	0	0
16 ^j	07/25-07/27	60	0	0	0	0	0	0	0	0	0	0	0	0	0
17 ⁱ	07/29-07/31	48	0	0	0	0	0	0	0	0	0	0	0	0	0
18 ^j	8/2	12	0	0	0	0	0	0	0	0	0	0	0	0	0
19 ^j	8/4	12	0	0	0	0	0	0	0	0	0	0	0	0	0
20 ^k	8/6	12	0	0	0	0	0	0	0	0	0	0	0	0	0
21 ^l	8/8	12	0	0	0	0	0	0	0	0	0	0	0	0	0
22 ^m	8/10	12	0	0	0	0	0	0	0	0	0	0	0	0	0
23 ⁿ	8/11	12	0	0	0	0	0	0	0	0	0	0	0	0	0
24 ^m	8/12	12	0	0	0	0	0	0	0	0	0	0	0	0	0
25 ⁿ	8/13	12	0	0	0	0	0	0	0	0	0	0	0	0	0
26 ^j	8/14	12	0	0	0	0	0	0	0	0	0	0	0	0	0
27 ^j	8/15	12	0	0	0	0	0	0	0	0	0	0	0	0	0
28 ^j	8/16	12	0	0	0	0	0	0	0	0	0	0	0	0	0
29 ^j	8/17	12	0	0	0	0	0	0	0	0	0	0	0	0	0
30 ^j	8/18	12	0	0	0	0	0	0	0	0	0	0	0	0	0
31 ^j	8/19	12	0	0	0	0	0	0	0	0	0	0	0	0	0
32 ^m	8/20	14	0	0	0	0	0	0	0	0	0	0	0	0	0
33 ^m	8/21	14	0	0	0	0	0	0	0	0	0	0	0	0	0
34 ^m	8/22	14	0	0	0	0	0	0	0	0	0	0	0	0	0
35 ^m	8/23	14	1	1	0	0	398	2,389	36	220	0	0	0	0	0
36 ^m	8/24	14	1	2	0	0	330	1,745	74	564	0	0	0	0	0
37 ^m	8/25	14	0	0	0	0	0	0	0	0	0	0	0	0	0
38 ^m	8/26	14	0	0	0	0	0	0	0	0	0	0	0	0	0
39 ^m	8/27	14	0	0	0	0	0	0	0	0	0	0	0	0	0
40 ^m	8/28	14	0	0	0	0	0	0	0	0	0	0	0	0	0
41 ^m	8/29	14	0	0	0	0	0	0	0	0	0	0	0	0	0
42 ^m	8/30	14	0	0	0	0	0	0	0	0	0	0	0	0	0
43 ^m	8/31	14	0	0	0	0	0	0	0	0	0	0	0	0	0
44 ^m	9/1	14	0	0	0	0	0	0	0	0	0	0	0	0	0
45 ^m	9/2	14	0	0	0	0	0	0	0	0	0	0	0	0	0
46 ^m	9/3	14	0	0	0	0	0	0	0	0	0	0	0	0	0
47 ^m	9/4	12	2	2	0	0	1	6	39	428	0	0	0	0	0
48 ^m	9/5	12	0	0	0	0	0	0	0	0	0	0	0	0	0
49 ⁿ	9/6	12	0	0	0	0	0	0	0	0	0	0	0	0	0
50 ⁿ	9/7	12	0	0	0	0	0	0	0	0	0	0	0	0	0
51 ^o	9/8-09/10	48	0	0	0	0	0	0	0	0	0	0	0	0	0
52 ^p	09/11-09/20	216	5	10	0	0	0	0	3,570	25,869	525	3,677	0	0	0
53 ⁿ	9/21	12	0	0	0	0	0	0	0	0	0	0	0	0	0
54 ^q	9/22-09/25	72	4	5	0	0	0	0	1,989	11,957	0	0	0	0	0
55 ^l	09/26-09/28	60	2	2	0	0	0	0	731	4,392	0	0	0	0	0
56 ^l	09/29-10/05	156	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			223	2,301	114	1,230	161,872	997,320	9,900	67,352	44,419	176,747	726,431	4,675,881	
Average Weight						10.79		6.16		6.8		3.98		6.44	

-continued-

Appendix B1.–Page 2 of 3.

Purse Seine															
Period	Date	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum		
					Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	
02 ^a	05/29-05/30	24	22	28	9	199	2	11	0	0	0	0	0	94,442	704,153
04 ^a	06/05-06/06	24	41	52	0	0	0	0	0	0	0	0	0	133,827	955,179
06 ^a	06/12-06/13	24	54	74	1	49	4,862	32,057	0	0	2	7	198,399	1,399,833	
11 ^b	06/30-07/06	156	56	103	1	17	49,057	293,130	465	3,693	58,972	229,892	286,791	1,859,259	
12 ^c	07/07-07/13	156	15	45	2	17	52,577	318,155	179	1,173	119,149	434,682	22,251	156,855	
13 ^d	07/14-07/17	84	21	34	1	12	14,159	85,428	66	369	131,932	519,120	11,795	70,133	
14 ^e	07/18-07/20	60	9	11	1	20	4,780	29,436	5	40	103,132	363,192	3,116	23,460	
15 ^e	07/21-07/24	84	1	1	0	0	0	0	0	0	8,267	40,510	19	150	
16 ^f	07/25-07/27	60	2	2	0	0	56	350	8	47	7,499	26,999	157	1,051	
17 ^f	07/29-07/31	48	2	3	0	0	0	0	0	0	23,874	78,788	0	0	
18 ^g	8/2	12	26	30	0	0	46	294	1	8	316,010	1,131,531	5	32	
19 ^g	8/4	12	17	22	0	0	13	84	0	0	218,174	710,634	0	0	
20 ^h	8/6	12	12	12	0	0	27	188	0	0	114,554	387,852	6	50	
21 ⁱ	8/8	12	8	8	0	0	61	405	0	0	71,469	214,414	26	148	
22 ^j	8/10	12	12	14	0	0	0	0	0	0	393,511	1,359,610	0	0	
23 ^k	8/11	12	7	11	0	0	0	0	0	0	146,659	536,316	0	0	
24 ^j	8/12	12	14	22	0	0	0	0	0	0	359,243	1,275,278	0	0	
25 ^k	8/13	12	11	16	0	0	1	7	0	0	273,646	931,513	0	0	
26 ^g	8/14	12	11	15	0	0	0	0	0	0	301,683	1,031,610	0	0	
27 ^g	8/15	12	6	11	0	0	0	0	0	0	308,697	1,113,057	0	0	
28 ^g	8/16	12	13	17	0	0	0	0	0	0	404,880	1,441,597	0	0	
29 ^g	8/17	12	14	17	0	0	0	0	0	0	280,901	972,628	0	0	
30 ^g	8/18	12	19	27	0	0	0	0	0	0	435,630	1,519,253	0	0	
31 ^g	8/19	12	22	32	0	0	0	0	0	0	467,093	2,008,475	0	0	
32 ^j	8/20	14	25	33	0	0	0	0	0	0	790,133	3,004,554	0	0	
33 ^j	8/21	14	28	39	0	0	0	0	0	0	631,593	2,644,596	0	0	
34 ^j	8/22	14	25	31	0	0	0	0	0	0	777,035	2,758,453	0	0	
35 ^j	8/23	14	27	40	0	0	0	0	0	0	864,382	3,010,780	0	0	
36 ^j	8/24	14	30	42	0	0	0	0	0	0	766,088	2,752,090	0	0	
37 ^j	8/25	14	24	41	0	0	0	0	0	0	712,444	2,568,369	0	0	
38 ^j	8/26	14	27	37	0	0	0	0	0	0	532,484	1,963,078	0	0	
39 ^j	8/27	14	20	29	0	0	0	0	0	0	467,608	1,670,147	0	0	
40 ^j	8/28	14	13	19	0	0	0	0	0	0	313,701	1,566,951	0	0	
41 ^j	8/29	14	8	8	0	0	0	0	0	0	225,750	743,740	0	0	
42 ^j	8/30	14	9	10	0	0	0	0	0	0	235,056	1,110,485	0	0	
43 ^j	8/31	14	5	5	0	0	0	0	0	0	227,808	763,575	0	0	
44 ^j	9/1	14	4	5	0	0	0	0	0	0	135,417	473,376	0	0	
45 ^j	9/2	14	2	2	0	0	0	0	0	0	83,700	279,410	0	0	
46 ^j	9/3	14	2	2	0	0	0	0	0	0	100,269	330,888	0	0	
47 ^j	9/4	12	1	1	0	0	0	0	0	0	31,470	107,000	0	0	
48 ^j	9/5	12	0	0	0	0	0	0	0	0	0	0	0	0	
49 ^k	9/6	12	0	0	0	0	0	0	0	0	0	0	0	0	
50 ^k	9/7	12	0	0	0	0	0	0	0	0	0	0	0	0	
51 ^l	9/8-09/010	48	0	0	0	0	0	0	0	0	0	0	0	0	
52 ^m	09/11-09/20	216	0	0	0	0	0	0	0	0	0	0	0	0	
53 ^k	9/21	12	0	0	0	0	0	0	0	0	0	0	0	0	
54 ^o	09/22-09/24	48	0	0	0	0	0	0	0	0	0	0	0	0	
Total			84	951	15	314	125,641	759,545	724	5,330	11,439,915	42,074,450	750,834	5,170,303	
Average Weight						20.93		6.05		7.36		3.68		6.89	

^a Waters of the Coghill District excluding the Wally Noerenberg Hatchery Terminal Harvest Area and Special Harvest Area were open.

^b Waters of the Coghill District, excluding the Esther Subdistrict, were open.

^c Waters of the Coghill District south of Point Pakenham at 61° 00.384 N. latitude excluding the Wally Noerenberg Hatchery Terminal Harvest Area and Special Harvest Area were open.

^d Waters of the Coghill District south of Point Pakenham at 61° 00.384 N. latitude excluding the Esther Subdistrict were open.

^e The Coghill District excluding the Esther Subdistrict was open from 8:00 a.m., Monday, June 30 until 8:00 a.m., Tuesday, July 1. The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Tuesday, July 1 until 8:00 p.m., Sunday, July 6. Anadromous stream closures were not in effect for the Coghill River. The Coghill District, excluding the Wally Noerenberg Hatchery SHA, was open from 8:00 a.m. until 8:00 p.m., Wednesday, July 2; Friday, July 4; and Sunday, July 6.

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- ^f The Coghill District excluding waters of Lake Bay north of 60° 47.15' N. latitude were open from 8:00 a.m. until 8:00 p.m. Tuesday, July 8, Thursday, July 10, and Saturday, July 12. The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Monday, July 7 until 8:00 p.m., Sunday, July 13. The anadromous stream closure for Coghill River was not in effect.
- ^g The Coghill District north of 60° 55.89' N. latitude was open from 8:00 a.m., Monday, July 14 until 8:00 p.m., Thursday, July 17. The Coghill District, excluding waters of Lake Bay north of 60° 47.15' N. latitude, was open from 8:00 a.m. until 8:00 p.m. Monday, July 14 and Wednesday, July 16.
- ^h The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Friday, July 18 until 8:00 p.m., Sunday, July 20. The Coghill District, excluding waters of Lake Bay north of 60° 47.15' N. latitude, was open from 8:00 a.m. until 8:00 p.m. Friday, July 18.
- ⁱ The Coghill District north of Point Pakenham at 61° 00.384' N. latitude was open. The anadromous stream closure for Coghill River was not in effect.
- ^j The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open.
- ^k The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open.
- ^l The Esther Subdistrict was open.
- ^m The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open. The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ⁿ The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ^o The Esther Subdistrict excluding the Wally Noerenberg Hatchery SHA was open. The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ^p The Esther Subdistrict, excluding the Wally Noerenberg Hatchery THA and SHA, was open from 8:00 p.m., Thursday, September 11 until 3:30 p.m. Friday September 12. The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open from 3:30 p.m. Friday September 12 until 8:00 p.m., Saturday, September 20. The Wally Noerenberg Hatchery SHA and THA was open for pink salmon roe recovery.
- ^q The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open.

Appendix B2.—Total commercial common property salmon harvest by species in the Coghill District, 1983–2003.

Drift Gillnet						
Year	Harvest by Species					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1983	340	38,273	1,013	233,263	234,022	506,911
1984	396	94,956	563	897,496	264,878	1,258,289
1985	380	339,296	1,131	454,531	246,824	1,042,162
1986	617	381,565	789	68,887	218,971	670,829
1987	352	377,454	13,396	712,897	318,842	1,422,941
1988	501	82,294	41,307	1,314,061	346,388	1,784,551
1989	364	106,114	80,737	628,522	194,584	1,010,321
1990	126	11,988	128,605	1,907,510	301,209	2,349,438
1991	92	3,888	78,363	231,501	34,223	348,067
1992	242	57,919	86,782	167,384	182,433	494,760
1993	576	66,532	37,898	141,279	635,208	881,493
1994	390	12,928	50,879	58,334	554,181	676,712
1995	468	57,797	29,343	161,493	379,659	628,760
1996	575	177,530	20,926	59,447	612,969	871,447
1997	862	227,231	5,618	154,969	689,977	1,078,657
1998	605	59,463	2,925	383,604	347,317	793,914
1999	401	106,028	1,114	32,408	689,210	829,161
2000	269	176,452	82,869	88,228	1,643,801	1,991,619
2001	216	87,539	3,185	308,707	1,142,449	1,542,096
2002	203	59,758	784	6,457	1,660,443	1,727,645
2003	114	161,872	9,900	44,419	726,431	942,736
Ten Year						
Average (1993-2002)	457	103,126	23,554	139,493	835,521	1,102,150

-continued-

Purse Seine						
Year	Harvest by Species					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1983	0	175	16	41,048	8,958	50,197
1984	0	21	0	10,911	1,126	12,058
1985	85	10,757	112	69,242	19,330	99,526
1986	186	18,514	98	145,706	27,078	191,582
1987	58	38,899	1,956	865,671	59,252	965,836
1988	63	1,623	15,787	1,600,481	11,755	1,629,709
1989	61	2,030	39,484	3,296,965	124,639	3,463,179
1990	2	286	11,819	785,278	10,951	808,336
1991	11	1,562	621	1,980,074	11,519	1,993,787
1992	6	765	27,382	196,503	1,603	226,259
1993	46	6,250	1,760	352,468	3,645	364,169
1994	50	21,060	30,517	3,538,760	3,575	3,593,962
1995	33	20,670	5,337	917,200	2,597	945,837
1996	1	2,640	5,319	1,484,422	463	1,492,845
1997	7	5,694	1,269	1,875,617	33,139	1,915,726
1998	20	1,702	1,531	2,845,157	21,600	2,870,010
1999	34	3,229	338	3,509,722	621,349	4,134,672
2000	1	2,984	31,991	3,271,314	1,338	3,307,628
2001	8	2,398	356	648,335	3,802	654,899
2002	5	2,068	2,431	1,271,180	794,794	2,070,478
2003	15	125,641	724	11,439,915	750,834	12,317,129
Ten Year						
Average (1993-2002)	21	6,870	8,085	1,971,418	148,630	2,135,023

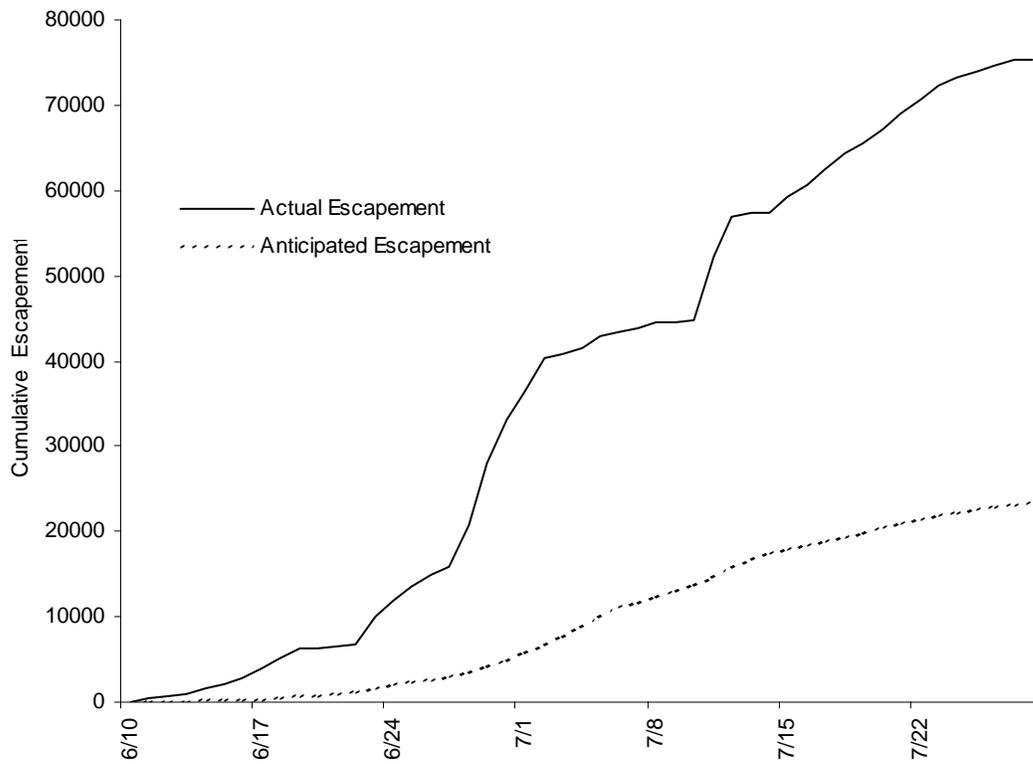
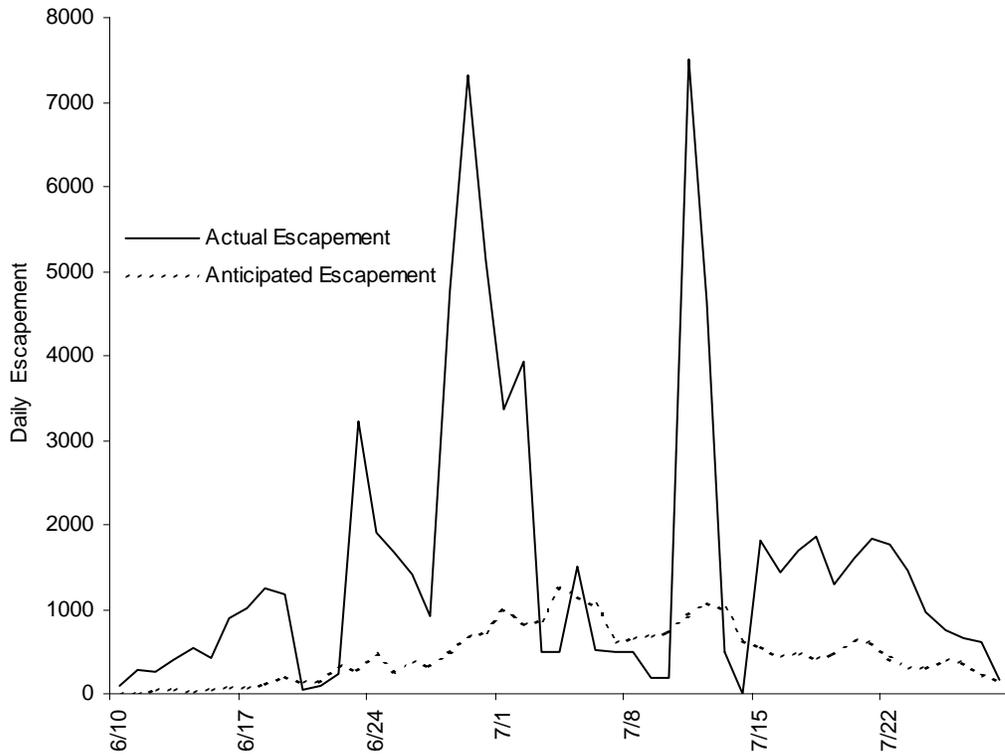
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Combined Gear Harvest by Species						
Year	Chinook	 sockeye	Coho	Pink	Chum	Total
1983	340	38,448	1,029	274,311	242,980	557,108
1984	396	94,977	563	908,407	266,004	1,270,347
1985	465	350,053	1,243	523,773	266,154	1,141,688
1986	803	400,079	887	214,593	246,049	862,411
1987	410	416,353	15,352	1,578,568	378,094	2,388,777
1988	564	83,917	57,094	2,914,542	358,143	3,414,260
1989	425	108,144	120,221	3,925,487	319,223	4,473,500
1990	128	12,274	140,424	2,692,788	312,160	3,157,774
1991	103	5,450	78,984	2,211,575	45,742	2,341,854
1992	248	58,684	114,164	363,887	184,036	721,019
1993	622	72,782	39,658	493,747	638,853	1,245,662
1994	440	33,988	81,396	3,597,094	557,756	4,270,674
1995	501	78,467	34,680	1,078,693	382,256	1,574,597
1996	576	180,170	26,245	1,543,869	613,432	2,364,292
1997	869	232,925	6,887	2,030,586	723,116	2,994,383
1998	625	61,165	4,456	3,228,761	368,917	3,663,924
1999	435	109,257	1,452	3,542,130	1,310,559	4,963,833
2000	270	179,436	114,860	3,359,542	1,645,139	5,299,247
2001	224	89,937	3,541	957,042	1,146,251	2,196,995
2002	208	61,826	3,215	1,277,637	2,455,237	3,798,123
2003	129	287,513	10,624	11,484,334	1,477,265	13,259,865
Ten Year						
Average (1993-2002)	477	109,995	31,639	2,110,910	984,152	3,237,173

Appendix B3.—Daily and cumulative (Cum.) salmon escapement past the Coghill River weir, 2003.

Date	Sockeye		Pink ^a		Chum		Coho		Chinook	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
06/10	84	84	0	0						
06/11	291	375	0	0	0	0	0	0	0	0
06/12	263	638	0	0	0	0	0	0	0	0
06/13	403	1,041	0	0	0	0	0	0	0	0
06/14	538	1,579	0	0	0	0	0	0	1	1
06/15	428	2,007	0	0	0	0	0	0	0	1
06/16	887	2,894	0	0	0	0	0	0	0	1
06/17	1,010	3,904	0	0	0	0	0	0	0	1
06/18	1,254	5,158	0	0	0	0	0	0	0	1
06/19	1,185	6,343	0	0	0	0	0	0	0	1
06/20	42	6,385	2	2	0	0	0	0	1	2
06/21	104	6,489	1	3	0	0	0	0	0	2
06/22	243	6,732	5	8	0	0	0	0	1	3
06/23	3,233	9,965	43	51	2	2	0	0	1	4
06/24	1,911	11,876	31	82	0	2	0	0	0	4
06/25	1,681	13,557	58	140	0	2	0	0	0	4
06/26	1,410	14,967	185	325	1	3	0	0	1	5
06/27	926	15,893	237	562	0	3	0	0	0	5
06/28	4,783	20,676	365	927	0	3	0	0	0	5
06/29	7,328	28,004	1,030	1,957	3	6	0	0	0	5
06/30	5,138	33,142	3,702	5,659	1	7	0	0	0	5
07/01	3,355	36,497	7,969	13,628	3	10	0	0	1	6
07/02	3,922	40,419	6,879	20,507	1	11	0	0	1	7
07/03	500	40,919	1,872	22,379	1	12	0	0	0	7
07/04	500	41,419	1,221	23,600	1	13	0	0	0	7
07/05	1,500	42,919	30,864	54,464	3	16	0	0	1	8
07/06	523	43,442	2,688	57,152	0	16	0	0	0	8
07/07	500	43,942	1,413	58,565	0	16	0	0	0	8
07/08	500	44,442	3,057	61,622	0	16	0	0	0	8
07/09	200	44,642	1,601	63,223	0	16	0	0	0	8
07/10	200	44,842	1,730	64,953	0	16	0	0	0	8
07/11	7,515	52,357	35,138	100,091	7	23	0	0	2	10
07/12	4,645	57,002	25,377	125,468	6	29	0	0	0	10
07/13	484	57,486	7,590	133,058	0	29	0	0	1	11
07/14	0	57,486	0	133,058	0	29	0	0	0	11
07/15	1,819	59,305	22,670	155,728	11	40	0	0	0	11
07/16	1,434	60,739	27,617	183,345	4	44	0	0	0	11
07/17	1,694	62,433	21,914	205,259	6	50	0	0	0	11
07/18	1,856	64,289	25,167	230,426	0	50	0	0	1	12
07/19	1,292	65,581	25,156	255,582	2	52	0	0	0	12
07/20	1,601	67,182	19,330	274,912	5	57	0	0	1	13
07/21	1,840	69,022	23,595	298,507	14	71	0	0	0	13
07/22	1,764	70,786	34,521	333,028	11	82	0	0	1	14
07/23	1,460	72,246	27,754	360,782	12	94	2	2	0	14
07/24	975	73,221	19,447	380,229	12	106	0	2	1	15
07/25	751	73,972	27,687	407,916	22	128	3	5	0	15
07/26	661	74,633	17,013	424,929	17	145	4	9	1	16
07/27	620	75,253	15,345	440,274	18	163	4	13	0	16
07/28	174	75,427	13,478	453,752	6	169		13	2	18
07/29	0	75,427	0	453,752		169		13		18
07/30	0	75,427	0	453,752		169		13		18

^a Counts may be incomplete. The weir is designed to prevent the passage of sockeye salmon. Smaller pink salmon may be able to pass through the weir pickets undetected.



Appendix B4.—Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the Coghill River weir, 2003.

Appendix B5.—Salmon escapement by species in the Coghill District, 1970-2003.

Year	Sockeye^a	Pink^b	Chum^b
1970	35,200	95,170	11,880
1971	15,000	62,160	6,600
1972	51,000	30,960	28,160
1973	55,000	493,780	72,610
1974	22,333	56,940	29,280
1975	34,855	452,430	3,640
1976	9,056	57,090	25,670
1977	31,562	130,510	43,940
1978	42,284	85,450	18,160
1979	48,281	70,980	6,330
1980	142,253	214,930	23,340
1981	156,112	106,450	2,050
1982	180,314	368,380	22,130
1983	38,783	310,330	61,410
1984	63,622	429,450	19,690
1985	163,311	296,970	22,140
1986	71,095	101,600	13,140
1987	187,263	147,060	24,510
1988	72,052	37,070	39,240
1989	37,751	45,510	22,680
1990	8,949	49,110	26,020
1991	9,752	98,580	6,070
1992	29,642	23,611	10,003
1993	9,232	41,837	8,430
1994	7,264	65,648	14,176
1995	30,382	46,029	11,596
1996	38,693	104,781	19,669
1997	35,517	52,961	3,101
1998	28,923	85,968	22,764
1999	59,311	168,816	5,057
2000	28,446	223,646	20,488
2001	38,558	148,665	13,388
2002	28,323	54,882	7,430
2003	75,427	375,147	19,729
10-year Average (1993-2002)	30,465	99,323	12,610

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

^b Pink and chum escapements estimated for streams in district by aerial surveys. Historical data revised in 1990.

Appendix B6.–Summary of periods, dates, duration, and emergency orders (EO) issued for the commercial salmon drift gillnet fisheries in the Coghill and Unakwik Districts, 2003 .

UNAKWIK (229)				COGHILL (223)			
Periods	Dates	Duration	EO Issued	Periods	Dates	Duration	EO Issued
01	06/16-06/17	24	2-F-E-016	01 ^a	05/26-05/27	24	2-F-E-005-03
02	06/19-06/20	24	2-F-E-019	02 ^b	05/29-05/30	24	2-F-E-005-03
03	06/23-06/24	24	2-F-E-024	03 ^a	06/02-06/03	24	2-F-E-009-03
04	06/26-06/27	24	2-F-E-028	04 ^b	06/05-06/06	24	2-F-E-009-03
05	06/30-07/01	24	2-F-E-036	05 ^a	06/09-06/10	24	2-F-E-014-03
06	07/04-07/05	24	2-F-E-042	06 ^b	06/12-06/13	24	2-F-E-014-03
07	07/08-07/09	24	2-F-E-045	07 ^c	06/16-06/17	24	2-F-E-020-03
08	07/10-07/11	24	2-F-E-054	08 ^d	06/19-06/20	24	2-F-E-020-03
09	07/14-07/16	48	2-F-E-062	09 ^b	06/23-06/24	24	2-F-E-023-03
10	07/17-07/19	36	2-F-E-068	10 ^b	06/26-06/27	24	2-F-E-029-03
				11 ^e	06/30-07/06	156	2-F-E-039-03
				12 ^f	07/07-07/13	156	2-F-E-055-03
				13 ^g	07/14-07/17	84	2-F-E-060-03
				14 ^h	07/18-07/20	60	2-F-E-066-03
				15 ⁱ	07/21-07/24	84	2-F-E-074-03
				16 ⁱ	07/25-07/27	60	2-F-E-081-03
				17 ⁱ	07/29-07/31	48	2-F-E-083-03
				18 ^j	8/2	12	2-F-E-096-03
				19 ^j	8/4	12	2-F-E-097-03
				20 ^k	8/6	12	2-F-E-098-03
				21 ^l	8/8	12	2-F-E-099-03
				22 ^m	8/10	12	2-F-E-100-03
				23 ⁿ	8/11	12	2-F-E-112-03
				24 ^m	8/12	12	2-F-E-112-03
				25 ⁿ	8/13	12	2-F-E-112-03
				26 ^j	8/14	12	2-F-E-113-03
				27 ^j	8/15	12	2-F-E-113-03
				28 ^j	8/16	12	2-F-E-113-03
				29 ^j	8/17	12	2-F-E-113-03
				30 ^j	8/18	12	2-F-E-113-03
				31 ^j	8/19	12	2-F-E-113-03
				32 ^m	8/20	14	2-F-E-118-03
				33 ^m	8/21	14	2-F-E-118-03
				34 ^m	8/22	14	2-F-E-118-03
				35 ^m	8/23	14	2-F-E-118-03
				36 ^m	8/24	14	2-F-E-118-03
				37 ^m	8/25	14	2-F-E-118-03
				38 ^m	8/26	14	2-F-E-118-03
				39 ^m	8/27	14	2-F-E-118-03
				40 ^m	8/28	14	2-F-E-118-03
				41 ^m	8/29	14	2-F-E-118-03
				42 ^m	8/30	14	2-F-E-118-03
				43 ^m	8/31	14	2-F-E-118-03
				44 ^m	9/1	14	2-F-E-118-03
				45 ^m	9/2	14	2-F-E-118-03
				46 ^m	9/3	14	2-F-E-118-03
				47 ^m	9/4	12	2-F-E-123-03
				48 ^m	9/5	12	2-F-E-123-03
				49 ⁿ	9/6	12	2-F-E-123-03
				50 ⁿ	9/7	12	2-F-E-123-03
				51 ^o	9/8-09/10	48	2-F-E-111-03
				52 ^p	09/11-09/20	216	2-F-E-132-03
				53 ⁿ	9/21	12	2-F-E-132-03
				54 ^q	9/22-09/25	72	2-F-E-134-03
				55 ^l	09/26-09/28	60	2-F-E-137-03
				56 ^l	09/29-10/05	156	2-F-E-138-03

-continued-

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- ^a Waters of the Coghill District excluding the Wally Noerenberg Hatchery Terminal Harvest Area and Special Harvest Area were open
- ^b Waters of the Coghill District, excluding the Esther Subdistrict, were open.
- ^c Waters of the Coghill District south of Point Pakenham at 61° 00.384' N. latitude excluding the Wally Noerenberg Hatchery Terminal Harvest Area and Special Harvest Area were open
- ^d Waters of the Coghill District south of Point Pakenham at 61° 00.384' N. latitude excluding the Esther Subdistrict were open.
- ^e The Coghill District excluding the Esther Subdistrict was open from 8:00 a.m., Monday, June 30 until 8:00 a.m., Tuesday, July 1. The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Tuesday, July 1 until 8:00 p.m., Sunday, July 6. Anadromous stream closures were not in effect for the Coghill River. The Coghill District, excluding the Wally Noerenberg Hatchery SHA, was open from 8:00 a.m. until 8:00 p.m., Wednesday, July 2; Friday, July 4; and Sunday, July 6.
- ^f The Coghill District excluding waters of Lake Bay north of 60° 47.15' N. latitude were open from 8:00 a.m. until 8:00 p.m. Tuesday, July 8, Thursday, July 10, and Saturday, July 12. The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Monday, July 7 until 8:00 p.m., Sunday, July 13. The anadromous stream closure for Coghill River was not in effect.
- ^g The Coghill District north of 60° 55.89' N. latitude was open from 8:00 a.m., Monday, July 14 until 8:00 p.m., Thursday, July 17. The Coghill District, excluding waters of Lake Bay north of 60° 47.15' N. latitude, was open from 8:00 a.m. until 8:00 p.m. Monday, July 14 and Wednesday, July 16.
- ^h The Coghill District North of 60° 55.89' N. latitude was open from 8:00 a.m., Friday, July 18 until 8:00 p.m., Sunday, July 20. The Coghill District, excluding waters of Lake Bay north of 60° 47.15' N. latitude, was open from 8:00 a.m. until 8:00 p.m. Friday, July 18.
- ⁱ The Coghill District north of Point Pakenham at 61° 00.384' N. latitude was open. The anadromous stream closure for Coghill River was not in effect.
- ^j The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open.
- ^k The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open.
- ^l The Esther Subdistrict was open.
- ^m The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open. The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ⁿ The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ^o The Esther Subdistrict excluding the Wally Noerenberg Hatchery SHA was open. The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ^p The Esther Subdistrict, excluding the Wally Noerenberg Hatchery THA and SHA, was open from 8:00 p.m., Thursday, September 11 until 3:30 p.m. Friday September 12. The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open from 3:30 p.m. Friday September 12 until 8:00 p.m., Saturday, September 20. The Wally Noerenberg Hatchery SHA and THA was open for pink salmon roe recovery.
- ^q The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open.

Appendix B7.—Summary of periods, dates, duration, and emergency orders issued for the commercial common property purse seine salmon fisheries in the Coghill and Unakwik Districts, 2003.

UNAKWIK (229)				COGHILL (223)			
Periods	Dates	Duration	Emergency Orders	Periods	Dates	Duration	Emergency Orders
			Issued				Issued
01	06/16-06/17	24	2-F-E-016	02 ^a	05/29-05/30	24	2-F-E-005-03
02	06/19-06/20	24	2-F-E-019	04 ^a	06/05-06/06	24	2-F-E-009-03
03	06/23-06/24	24	2-F-E-024	06 ^a	06/12-06/13	24	2-F-E-014-03
04	06/26-06/27	24	2-F-E-028	11 ^a	06/30-07/01	24	2-F-E-035-03
05	06/30-07/01	24	2-F-E-036	b	07/03	12	2-F-E-038-03
06	07/04-07/05	24	2-F-E-042	b	07/05	12	2-F-E-038-03
07	07/08-07/09	24	2-F-E-045	12 ^c	07/07	12	2-F-E-049-03
08	07/10-07/11	24	2-F-E-054	c	07/09	12	2-F-E-050-03
09	07/14-07/16	48	2-F-E-062	c	07/11	12	2-F-E-070-03
10	07/17-07/19	36	2-F-E-068	c	07/13	12	2-F-E-057-03
				13 ^d	07/15-07/17	60	2-F-E-058-03
				14 ^e	07/18-07/20	60	2-F-E-064-03
				15 ^f	07/21-07/24	84	2-F-E-074-03
				16 ^f	07/25-07/27	60	2-F-E-081-03
				17 ^f	07/29-07/31	48	2-F-E-083-03
				18 ^g	8/2	12	2-F-E-096-03
				19 ^g	8/4	12	2-F-E-097-03
				20 ^h	8/6	12	2-F-E-098-03
				21 ⁱ	8/8	12	2-F-E-099-03
				22 ^j	8/10	12	2-F-E-100-03
				23 ^k	8/11	12	2-F-E-100-03
				24 ^j	8/12	12	2-F-E-112-03
				25 ^k	8/13	12	2-F-E-112-03
				26 ^j	8/14	12	2-F-E-113-03
				27 ^j	8/15	12	2-F-E-113-03
				28 ^j	8/16	12	2-F-E-113-03
				29 ^j	8/17	12	2-F-E-113-03
				30 ^j	8/18	12	2-F-E-113-03
				31 ^j	8/19	12	2-F-E-113-03
				32 ^j	8/20	14	2-F-E-118-03
				33 ^j	8/21	14	2-F-E-118-03
				34 ^j	8/22	14	2-F-E-118-03
				35 ^j	8/23	14	2-F-E-118-03
				36 ^j	8/24	14	2-F-E-118-03
				37 ^j	8/25	14	2-F-E-118-03
				38 ^j	8/26	14	2-F-E-118-03
				39 ^j	8/27	14	2-F-E-118-03
				40 ^j	8/28	14	2-F-E-118-03
				41 ^j	8/29	14	2-F-E-118-03
				42 ^j	8/30	14	2-F-E-118-03
				43 ^j	8/31	14	2-F-E-118-03
				44 ^j	9/1	14	2-F-E-118-03
				45 ^j	9/2	14	2-F-E-118-03
				46 ^j	9/3	14	2-F-E-118-03
				47 ^j	9/4	12	2-F-E-123-03
				48 ^j	9/5	12	2-F-E-123-03
				49 ^k	9/6	12	2-F-E-123-03
				50 ^k	9/7	12	2-F-E-123-03
				51 ^{h,k}	9/8-09/10	48	2-F-E-111-03
				52 ^{g,k}	09/11-09/20	216	2-F-E-132-03
				54 ^h	09/22-09/25	72	2-F-E-135-03

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- ^a In the Coghill District, waters of the Esther Subdistrict east of 148° 7' W. longitude, west of 147° 56' W. longitude, and within one nautical mile of Esther Island, excluding the Wally Noerenberg Hatchery THA and SHA were open.
- ^b The Esther Subdistrict excluding the Wally Noerenberg Hatchery SHA was open.
- ^c The Esther Subdistrict excluding waters of Lake Bay north of 60° 47.15' N. latitude was open from 8:00 a.m. until 8:00 p.m. Monday, July 7, Wednesday, July 9, Friday, July 11, and Sunday, July 13
- ^d The Esther Subdistrict excluding waters of Lake Bay north of 60° 47.15' N. latitude was open from 8:00 a.m. until 8:00 p.m. Tuesday, July 15 and Thursday, July 17. The Coghill District north of Point Pakenham at 61° 00.384' N. latitude was open from 8:00 a.m., Tuesday, July 15 until 8:00 p.m., Thursday, July 17.
- ^e The Coghill District north of Point Pakenham at 61° 00.384' N. latitude was open from 8:00 a.m., Friday, July 18 until 8:00 p.m., Sunday, July 20. The Esther Subdistrict, excluding waters of Lake Bay north of 60° 47.15' N. latitude, was open from 8:00 a.m. until 8:00 p.m. Saturday, July 19.
- ^f The Coghill District north of Point Pakenham at 61° 00.384' N. latitude was open. The anadromous stream closure for Coghill River was not in effect.
- ^g The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open.
- ^h The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA, was open.
- ⁱ The Esther Subdistrict was open.
- ^j The Esther Subdistrict, excluding the Wally Noerenberg Hatchery SHA and THA, was open. The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.
- ^k The Wally Noerenberg Hatchery SHA and THA, up to a line 50 feet from the barrier seine, was open for pink salmon roe recovery.

Appendix B8.—Estimated age and sex composition of sockeye salmon harvested in the Coghill District commercial common property drift gillnet fisheries, 2003.

		Brood Year and Age Class ^a					Total
		1999		1998		1997	
		0.3	1.2	1.3	1.4	2.3	
<u>Strata Combined:</u>	05/26 - 08/29						
Sampling dates:	06/18 - 07/15						
Sample size:	861						
Female	Percentage of sample	0.2	19.4	23.0	0.0	0.7	43.3
	Number in harvest	668	55,768	66,120	0	2,004	124,559
Male	Percentage of sample	0.0	21.8	33.9	0.3	0.6	56.7
	Number in harvest	0	62,780	97,510	1,002	1,670	162,961
Total	Percentage of sample	0.2	41.2	56.9	0.3	1.3	100.0
	Number in harvest	668	118,548	163,629	1,002	3,673	287,520
	Standard error	472	4,826	4,855	578	1,101	

^a Age composition generated using length frequency data only.

Appendix B9.– Estimated age and sex composition of sockeye salmon escapement through the weir on the outlet stream of Coghill Lake, 2003.

		Brood Year and Age Class								
		2000		1999		1998		1997		
		0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	Total
Strata Combined:	06/09 - 07/30									
Sampling dates:	06/20 - 07/18									
Sample size:	1,364									
Female	Percentage of sample	0.0	0.0	48.1	0.0	10.0	0.5	0.0	0.3	58.9
	Number in escapement	0	0	36,318	0	7,554	347	0	191	44,409
Male	Percentage of sample	0.1	0.6	32.1	0.3	7.8	0.0	0.1	0.2	41.1
	Number in escapement	73	419	24,191	219	5,877	0	73	166	31,018
Total	Percentage of sample	0.1	0.6	80.2	0.3	17.8	0.5	0.1	0.5	100.0
	Number in escapement	73	419	60,508	219	13,431	347	73	358	75,427
	Standard error	73	171	855	126	825	155	73	138	

Appendix B10.—Total commercial common property salmon harvest by period in the Unakwik District drift gillnet and purse seine fisheries, 2003.

DRIFT GILLNET														
Period	Date(s)^a	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01	06/16-06/17	24	2	2	0	0	214	1,280	0	0	0	0	0	0
02	06/23-06/24	24	1	1	0	0	169	1,019	0	0	0	0	0	0
04	06/30-07/01	24	1	1	0	0	900	5,405	0	0	0	0	0	0
05	07/04-07/05	24	1	1	0	0	239	1,503	0	0	0	0	0	0
08	07/14-07/16	48	1	1	0	0	266	1,596	0	0	0	0	0	0
09	07/17-07/19	48	2	2	0	0	375	2,474	0	0	0	0	0	0
Total			5	8			2,163	13,277			0	0	0	0
Average Weight								6.14				0.00		0.00

PURSE SEINE														
Period	Date^a	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
08	07/14-07/16	48	1	1	0	0	466	2,800	0	0	0	0	0	0
09	07/17-07/19	36	1	1	0	0	551	3,305	0	0	2,261	6,783	20	142
Total			1	2			1,017	6,105			2,261	6,783	20	142
Average Weight								6.00				3.00		7.10

^a For area and opening times refer to Appendix B6.

Appendix B11.—Total commercial common property salmon harvest by species in the Unakwik District, 1990–2003.

DRIFT GILLNET						
HARVEST BY SPECIES						
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1982	1	48,947	0	335	598	49,881
1983	3	13,215	0	1,515	1,426	16,159
1984	2	18,522	0	27,742	7,125	53,391
1985	26	27,532	22	9,191	3,942	40,713
1986	5	25,759	1	1,973	2,463	30,201
1987	2	5,894	1	4,871	1,356	12,124
1988	15	8,589	0	281	1,504	10,389
1989	31	21,412	27	41,820	404	63,694
1990	3	247	127	9,986	23	10,386
1991	13	4,482	11	12,299	118	16,923
1992	3	2,224	13	3,972	94	6,306
1993	5	14,691	4	3,338	978	19,016
1994	0	548	0	300	0	848
1995	8	2,116	0	1	36	2,161
1996	3	6,063	0	17	694	6,777
1997	3	3,411	0	0	177	3,591
1998	10	13,651	55	1,932	586	16,234
1999	4	8,544	5	0	296	8,849
2000	0	1,119	0	0	20	1,139
2001	3	2,298	2	4	44	2,351
2002	5	9,825	14	0	761	10,605
2003	0	2,163	0	0	0	2,163
10-Year Average (1993-2002)	4	6,227	8	559	359	7,157

-continued-

PURSE SEINE						
HARVEST BY SPECIES						
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1982	0	2	4	89,137	517	89,660
1983	0	6	0	3,344	716	4,066
1986 ^a						
1985	0	138	0	28,210	4,123	32,471
1986	0	76	0	4,718	4,675	9,469
1987	0	146	0	187,752	6,549	194,447
1988	0	667	7	57,844	23,860	82,378
1989 ^a						
1990 ^a						
1991	0	819	3	121,068	79	121,969
1992	0	42	2	13,264	119	13,427
1993	0	79	0	3,233	67	3,379
1994	0	226	102	388,901	73	389,302
1995 ^a						
1996 ^a						
1997 ^a						
1998 ^a						
1999	1	386	0	0	2	389
2000	0	0	0	20,485	0	20,485
2001 ^a						
2002	3	1,141	16	133	123	1,416
2003	0	1,017	0	2,261	20	3,298
10-Year Average (1993-2002)	1	366	24	82,550	53	82,994

-continued-

COMBINED GEARS						
HARVEST BY SPECIES						
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1982	1	48,949	4	89,472	1,115	139,541
1983	3	13,221	0	4,859	2,142	20,225
1984	2	18,522	0	27,742	7,125	53,391
1985	26	27,670	22	37,401	8,065	73,184
1986	5	25,835	1	6,691	7,138	39,670
1987	2	6,040	1	192,623	7,905	206,571
1988	15	9,256	7	58,125	25,364	92,767
1989	31	21,412	27	41,820	404	63,694
1990	3	247	127	9,986	23	10,386
1991	13	5,301	14	133,367	197	138,892
1992	3	2,266	15	17,236	213	19,733
1993	5	14,770	4	6,571	1,045	22,395
1994	0	774	102	389,201	73	390,150
1995	8	2,116	0	1	36	2,161
1996	3	6,063	0	17	694	6,777
1997	4	3,797	0	0	179	3,980
1998	10	14,668	55	4,193	606	19,532
1999	5	8,930	5	0	298	9,238
2000	0	1,119	0	20,485	20	21,624
2001	3	2,298	2	4	44	2,351
2002	8	10,966	30	133	884	12,021
2003	0	3,180	0	2,261	20	5,461
10-Year Average (1993-2002)	5	6,550	20	42,061	388	49,023

^a No harvest recorded.

APPENDIX C. ESHAMY DISTRICT

Appendix C1.—Total commercial salmon harvest by period in the Eshamy District drift gillnet and set gillnet fisheries, 2003.

DRIFT GILLNET															
Period	Date(s)^a	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum		
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	
01	06/9-06/10	24	6	6	1	6	289	1,945	0	0	0	0	45	285	
02	06/30-07/01	24	135	350	2	22	117,194	747,413	54	178	922	3,578	3,269	22,841	
03	07/04-07/05	24	238	555	2	34	148,639	936,691	14	101	2,093	7,750	1,844	11,897	
04	07/08-07/09	24	186	412	0	0	75,532	467,912	80	545	4,503	16,203	1,400	8,981	
05	07/10-07/11	24	169	338	3	50	65,292	398,298	247	1,743	6,368	24,250	2,280	14,436	
06	07/14-07/16	48	143	417	5	99	67,736	420,968	141	1,005	16,381	65,558	2,973	19,061	
07	07/17-07/19	36	99	224	3	36	37,522	224,040	214	1,546	11,194	43,317	2,262	13,044	
08	07/21-07/22	36	56	90	1	8	8,111	50,592	232	1,166	5,120	22,928	388	2,365	
09	07/24-07/27	72	32	79	1	25	18,860	118,405	71	511	4,235	15,743	133	876	
10	07/28-07/31	72	11	25	1	25	7,186	43,727	22	150	2,511	7,930	304	1,241	
11	07/31-08/03	72	20	36	0	0	10,315	61,466	15	120	1,814	5,983	271	988	
12	08/4-08/06	48	10	12	0	0	4,252	25,315	17	130	1,661	5,617	632	1,626	
13	08/07-08/08	24	19	21	0	0	6,055	35,850	272	1,260	3,313	13,771	242	744	
14	08/11-08/12	24	6	8	0	0	618	3,689	14	113	1,123	4,848	9	54	
15	08/14-08/15	24	2	2	0	0	117	692	2	16	0	0	0	0	
16	8/18-8/20	48	0	0	0	0	0	0	0	0	0	0	0	0	
17	8/21-8/23	48	15	27	0	0	3,772	21,511	98	738	327	1,310	4	30	
18	8/25-8/27	48	11	31	0	0	3,771	24,537	169	1,057	0	0	1	6	
19	08/28-08/30	48	0	0	0	0	0	0	0	0	0	0	0	0	
20	09/01-09/03	48	0	0	0	0	0	0	0	0	0	0	0	0	
21	09/04-09/06	48	1	3	0	0	347	1,932	102	759	0	0	0	0	
22	09/08-09/10	48	0	0	0	0	0	0	0	0	0	0	0	0	
23	09/11-09/13	48	0	0	0	0	0	0	0	0	0	0	0	0	
24	09/15-09/21	156	0	0	0	0	0	0	0	0	0	0	0	0	
Total			272	2,636	19	305	575,608	3,584,983	1,764	11,138	61,565	238,786	16,057	98,475	
Average Weight						16.05		6.23		6.31		3.88		6.13	

-continued-

Appendix C1.-Page 2 of 2.

SET GILLNET

Period	Date(s) ^a	Hours	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
					Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
01	06/9-06/10	24	9	15	0	0	935	6,495	0	0	0	0	81	505
02	06/30-07/01	24	22	88	0	0	34,119	219,521	97	326	423	1,556	1,779	10,977
03	07/04-07/05	24	27	106	0	0	35,961	221,149	0	0	880	3,142	739	4,720
04	07/08-07/09	24	28	70	0	0	23,277	144,692	6	42	1,783	6,259	310	2,222
05	07/10-07/11	24	28	85	0	0	14,313	87,693	22	154	2,908	10,879	409	2,727
06	07/14-07/16	48	24	120	0	0	41,985	256,451	18	115	3,295	13,051	1,891	11,728
07	07/17-07/19	36	23	64	0	0	11,906	72,739	397	1,983	5,018	19,598	407	2,731
08	07/21-07/22	36	20	74	0	0	12,564	80,316	9	64	1,377	5,247	276	1,646
09	07/24-07/27	72	17	84	0	0	10,028	61,500	26	168	3,426	14,513	200	1,311
10	07/28-07/31	72	11	52	0	0	13,085	79,324	49	230	1,202	3,806	89	599
11	07/31-08/03	72	9	21	0	0	9,383	56,908	16	108	2,098	7,043	49	306
12	08/4-08/06	48	7	9	0	0	4,605	27,617	11	70	1,148	3,875	18	72
13	08/07-08/08	24	8	9	0	0	3,114	20,471	6	53	4,979	16,424	17	114
14	08/11-08/12	24	2	4	0	0	458	2,697	6	44	0	0	0	0
15	08/14-08/15	24	0	0	0	0	0	0	0	0	0	0	0	0
16	8/18-8/20	48	0	0	0	0	0	0	0	0	0	0	0	0
17	8/21-8/23	48	0	0	0	0	0	0	0	0	0	0	0	0
18	8/25-8/27	48	0	0	0	0	0	0	0	0	0	0	0	0
19	08/28-08/30	48	0	0	0	0	0	0	0	0	0	0	0	0
20	09/01-09/03	48	0	0	0	0	0	0	0	0	0	0	0	0
21	09/04-09/06	48	0	0	0	0	0	0	0	0	0	0	0	0
22	09/08-09/10	48	0	0	0	0	0	0	0	0	0	0	0	0
23	09/11-09/13	48	0	0	0	0	0	0	0	0	0	0	0	0
24	09/15-09/21	156	0	0	0	0	0	0	0	0	0	0	0	0
Total			28	801			215,733	1,337,573	663	3,357	28,537	105,393	6,265	39,658
Average Weight							6.20				3.69		6.33	
Combined Total			300	3,437	19	305	791,341	4,922,556	2,427	14,495	90,102	344,179	22,322	138,133
Average Weight						16.05	6.22		5.97		3.82		6.19	

^a For area refer to Appendix C2.

Appendix C2.—Summary of periods, dates, duration, and emergency orders issued for the commercial salmon fisheries in the Eshamy District, 2003.

Main Bay Subdistrict (225-21)			Crafton Island Subdistrict (225-10, 20, 30)			Emergency Orders Issued
Period	Dates	Duration	Periods	Dates	Duration	
01 ^a	06/9-06/10	24				2-F-E-013-03
			02 ^b	06/30-07/01	24	2-F-E-037-03
03 ^c	07/04-07/05	24	03 ^c	07/04-07/05	24	2-F-E-041-03
04 ^d	07/08-07/09	24	04 ^d	07/08-07/09	24	2-F-E-048-03
05 ^e	07/10-07/11	24	05 ^e	07/10-07/11	24	2-F-E-053-03
06 ^g	07/14-07/16	48	06 ^g	07/14-07/16	48	2-F-E-061-03
07 ^g	07/17-07/19	36	07 ^g	07/17-07/19	36	2-F-E-067-03
08 ^h	07/21-07/22	36	08 ^h	07/21-07/22	36	2-F-E-072-03
09 ⁱ	07/24-07/27	72				2-F-E-077-03
10 ^j	07/28-07/31	72				2-F-E-079-03
11 ⁱ	07/31-08/03	72				2-F-E-085-03
12 ^j	08/4-08/06	48				2-F-E-087-03
13 ^k	08/07-08/08	24	13 ^k	08/07-08/08	24	2-F-E-089-03
14 ^l	08/11-08/12	24	14 ^l	08/11-08/12	24	2-F-E-091-03
15 ^k	08/14-08/15	24	15 ^k	08/14-08/15	24	2-F-E-092-03
16 ^l	8/18-8/20	48	16 ^l	8/18-8/20	48	2-F-E-095-03
17 ^m	8/21-8/23	48	17 ^m	8/21-8/23	48	2-F-E-101-03
18 ⁿ	8/25-8/27	48	18 ⁿ	8/25-8/27	48	2-F-E-103-03
19 ⁿ	08/28-08/30	48	19 ⁿ	08/28-08/30	48	2-F-E-105-03
20 ^o	09/01-09/03	48	20 ^o	09/01-09/03	48	2-F-E-106-03
21 ^p	09/04-09/06	48	21 ^p	09/04-09/06	48	2-F-E-107-03
22 ^q	09/08-09/10	48	22 ^q	09/08-09/10	48	2-F-E-110-03
23 ^p	09/11-09/13	48	23 ^p	09/11-09/13	48	2-F-E-117-03
24 ^q	09/15-09/21	156	24 ^q	09/15-09/21	156	2-F-E-127-03

^a Waters of Main Bay Subdistrict were open. The alternating gear zone (AGZ) was open to set gillnets. Anadromous stream closures were not in effect.

^b Waters of Crafton Island Subdistrict South of 60° 32. 86 N latitude were open.

^c Waters of Eshamy District, excluding Main Bay Hatchery Terminal Harvest Area (THA) and Special Harvest Area (SHA), were open.

^d Waters of Eshamy District, excluding the Main Bay Hatchery THA and SHA, were open. Anadromous stream closures were not in effect in the Main Bay Subdistrict.

^e Waters of the Eshamy District and the Main Bay Subdistrict to a line of buoys in front of the barrier seine were open. The AGZ was open to drift gillnets.

^f Waters of the Eshamy District and the Main Bay Subdistrict to a line of buoys in front of the barrier seine were open. The AGZ was open to set gillnets.

^g Waters of the Eshamy District north of the latitude of anadromous stream marker on north side of Loomis Creek were open. The AGZ was open to drift gillnets.

^h Waters of the Eshamy District north of 60° 32. 86 N. latitude, (the south marker at the mouth of Main Bay) were open. The AGZ was open to set gillnets.

ⁱ Waters of the Main Bay Subdistrict were open. The AGZ was open to drift gillnets.

^j Waters of the Main Bay Subdistrict were open. The AGZ was open to set gillnets.

^k Waters of the Eshamy District were open. The AGZ was open to drift gillnets.

^l Waters of the Eshamy District were open. The AGZ was open to set gillnets.

^m Waters of the Eshamy District and Eshamy Bay west of 147° 57.748' W. longitude and east of the sport fish regulatory markers located on the seaward shore of small island in front of Eshamy River outlet were open. The AGZ was open to drift gillnets.

ⁿ The waters of the Eshamy District and Eshamy Bay west of 147° 57.748' W. longitude and east of the sport fish regulatory markers located on the seaward shore of the small island in front of the Eshamy River outlet were open. The AGZ was open to set gillnets.

^o The waters of the Eshamy District and Eshamy Bay west of 147° 57.748' W. longitude and east of the sport fish regulatory markers located on the seaward shore of the small island in front of the Eshamy River outlet were open until 8:00 p.m., Monday, September 1, after which all of Eshamy Bay and Lagoon were open. Anadromous stream closures were not in effect in Eshamy Bay. The AGZ was open to set gillnets.

^p The waters of the Eshamy District and all of Eshamy Bay and Lagoon were open. Anadromous stream closures were not in effect in Eshamy Bay and Lagoon for this period. Waters of the AGZ were open to set gillnets.

^q The waters of the Eshamy District and all of Eshamy Bay and Lagoon were open. Anadromous stream closures were not in effect in Eshamy Bay and Lagoon for this period. Waters of the AGZ were open to drift gillnets.

Appendix C3.—Estimated age and sex composition of sockeye salmon harvested in the Eshamy District commercial common property gillnet fishery, 2003.

		Brood Year and Age Class			
		1999	1998	1997	
		1.2	1.3	1.4	Total
Strata Combined:	06/09 - 09/21				
Sampling dates:	07/01 - 07/11				
Sample size:	1,461				
Female	Percentage of sample	16.8	29.0	0.0	45.9
	Number in harvest ^a	133,251	229,632	0	362,883
Male	Percentage of sample	25.6	28.3	0.2	54.1
	Number in harvest ^a	202,589	224,083	1,786	428,458
Total	Percentage of sample	42.4	57.3	0.2	100.0
	Number in harvest ^a	335,841	453,714	1,786	791,341
	Standard error	13,872	13,886	1,261	

^a Generated using length frequency data only.

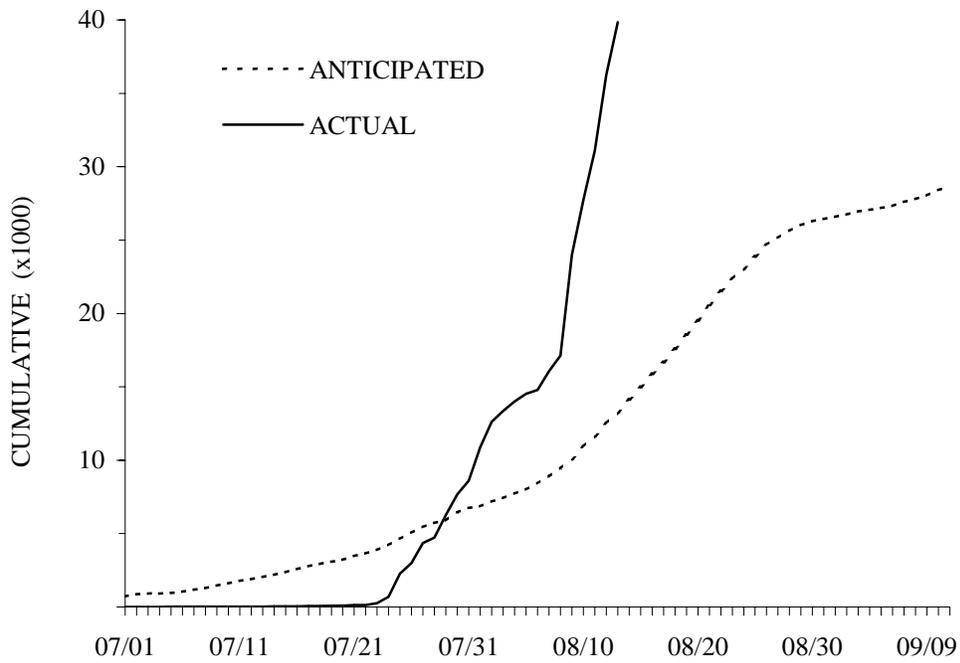
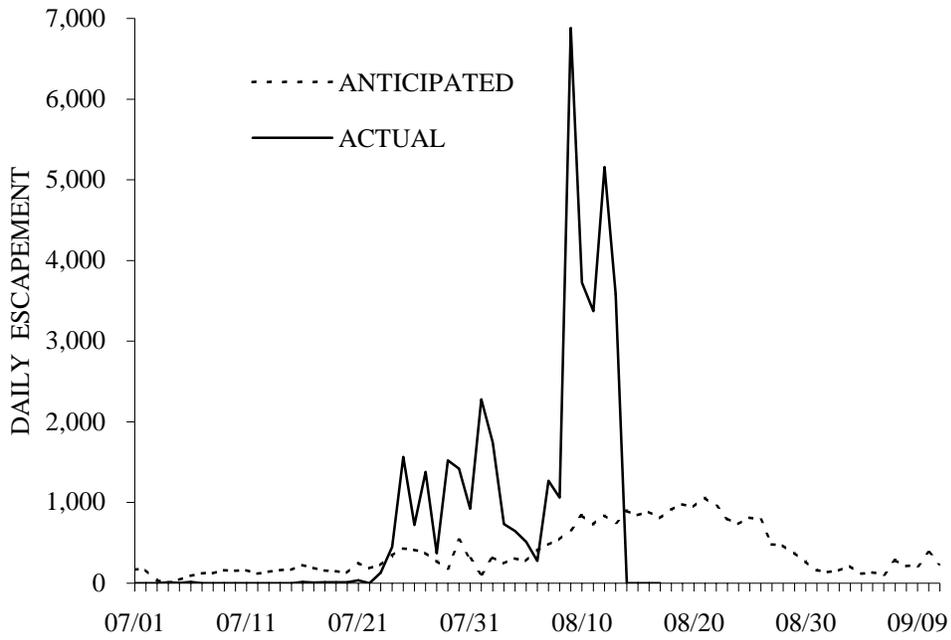
Appendix C4.—Estimated age and sex composition of the sockeye salmon escapement through the weir at the head of Eshamy Lagoon, 2003.

		Brood Year and Age Class						
		2000	1999	1998		1997		
		1.1	1.2	1.3	2.2	1.4	2.3	Total
Strata Combined:	07/08 - 08/21							
Sampling dates:	07/29 - 08/16							
Sample size:	1,455							
Female	Percentage of sample	0.0	29.1	7.0	20.9	0.0	4.6	61.6
	Number in escapement	0	11,586	2,788	8,317	0	1,840	24,531
Male	Percentage of sample	0.1	18.7	3.4	13.0	0.1	3.1	38.4
	Number in escapement	49	7,437	1,359	5,183	33	1,253	15,314
Total	Percentage of sample	0.1	47.7	10.4	33.9	0.1	7.8	100.0
	Number in escapement	49	19,023	4,148	13,500	33	3,093	39,845
	Standard error	36	543	327	508	33	293	

Appendix C5.—Daily and cumulative (Cum.) salmon escapement through the Eshamy weir, 2003.

Date	Sockeye		Pink ^a		Chum		Coho		Chinook	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
07/02				0		0		0		0
07/03		0		0		0		0		0
07/04		0		0		0		0		0
07/05		0		0		0		0		0
07/06	0	0		0		0		0		0
07/07	0	0		0		0		0		0
07/08	0	0		0	10	10		0		0
07/09	10	10		0	81	91		0		0
07/10	3	13		0	67	158		0		0
07/11	17	30		0	39	197		0		0
07/12	1	31		0	13	210		0		0
07/13	0	31		0	6	216		0		0
07/14	0	31		0	9	225		0		0
07/15	0	31		0	2	227		0		0
07/16	1	32		0	9	236		0		0
07/17	0	32		0	0	236		0		0
07/18	0	32		0	2	238		0		0
07/19	1	33		0	13	251		0		0
07/20	0	33		0	4	255		0		0
07/21	16	49		0	14	269		0		0
07/22	9	58		0	10	279		0		0
07/23	10	68		0	5	284		0		0
07/24	11	79	1	1	10	294		0		0
07/25	10	89		1	2	296		0		0
07/26	35	124		1	9	305		0		0
07/27	0	124		1	0	305		0		0
07/28	130	254	9	10	4	309		0		0
07/29	449	703	12	22	4	313		0		0
07/30	1,565	2,268	25	47	4	317		0		0
07/31	720	2,988	24	71	4	321		0		0
08/01	1,379	4,367	26	97	3	324		0		0
08/02	369	4,736	16	113	0	324		0		0
08/03	1,521	6,257	12	125	4	328		0		0
08/04	1,421	7,678	32	157	2	330		0	1	1
08/05	923	8,601	28	185	0	330		0		1
08/06	2,278	10,879	47	232	1	331		0		1
08/07	1,743	12,622	70	302	2	333		0		1
08/08	734	13,356	75	377	0	333		0		1
08/09	646	14,002	51	428	0	333		0		1
08/10	514	14,516	48	476	0	333		0		1
08/11	277	14,793	17	493	1	334		0		1
08/12	1,270	16,063	234	727	1	335		0	1	2
08/13	1,059	17,122	275	1,002	0	335		0		2
08/14	6,881	24,003	576	1,578	0	335	6	6		2
08/15	3,728	27,731	590	2,168	1	336	5	11		2
08/16	3,373	31,104	215	2,383	0	336	7	18		2
08/17	5,160	36,264	477	2,860	2	338	6	24		2
08/18	3,581	39,845	220	3,080	0	338	3	27		2
08/19	0	39,845		3,080		338		27		2
08/20	0	39,845		3,080		338		27		2
08/21	0	39,845		3,080		338		27		2
08/22	0									
Totals	39,845		3,080		338		27		2	

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



Appendix C6.—Anticipated daily and cumulative sockeye salmon escapement versus actual escapement past the Eshamy River weir, 2003.

Appendix C7–Total commercial salmon harvest by species in the Eshamy District, 1987–2003.

DRIFT GILLNET						
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1987	2	642	3	3,225	7,060	10,932
1988	94	50,868	794	348,873	206,060	606,689
1989 ^a						
1990	110	12,967	574	165,362	264,772	443,785
1991	107	296,234	468	44,516	202,183	543,508
1992	158	373,596	1,017	153,018	50,974	578,763
1993	8	80,807	673	45,974	27,045	154,507
1994	2	61,848	623	254,535	9,497	326,505
1995	21	29,851	1,468	60,712	13,284	105,336
1996	19	179,064	1,056	19,043	23,552	222,734
1997	17	475,498	426	146,324	34,768	657,033
1998	2	98,002	252	101,068	343	199,667
1999	30	86,032	2,036	127,082	13,120	228,300
2000	634	235,085	5,396	375,250	27,511	643,876
2001	47	499,972	10,423	367,588	21,316	899,346
2002	428	589,199	3,532	122,365	104,284	819,808
2003	19	575,608	1,764	61,565	16,057	655,013
10-Year Average (1993-2002)	121	233,536	2,589	161,994	27,472	425,711
SET GILLNET						
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1987	31	5,387	336	86,677	45,099	137,530
1988	100	18,321	283	180,456	93,577	292,737
1989 ^a						
1990	56	10,204	532	369,589	94,494	474,875
1991	76	184,028	504	20,075	49,394	254,077
1992	101	144,568	1,242	390,097	4,695	540,703
1993	55	101,717	832	84,568	20,369	207,541
1994	9	97,664	628	311,134	6,908	416,343
1995	19	30,814	695	28,118	6,621	66,267
1996	13	132,268	309	16,648	9,276	158,514
1997	12	196,005	163	76,610	8,475	281,265
1998	1	25,533	91	33,916	214	59,755
1999	131	74,378	1,092	43,443	11,101	130,145
2000	41	101,105	662	139,008	12,319	253,135
2001	25	176,060	1,006	127,737	7,057	311,885
2002	30	241,660	525	64,421	22,987	329,623
2003	0	215,733	663	28,537	6,265	251,198
10-Year Average (1993-2002)	34	117,720	600	92,560	10,533	221,447

-continued-

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Year	COMBINED GEAR					Total
	Chinook	Sockeye	Coho	Pink	Chum	
1987	33	6,029	339	89,902	52,159	148,462
1988	194	69,189	1,077	529,329	299,637	899,426
1989 ^a						
1990	166	23,171	1,106	534,951	359,266	918,660
1991	183	480,262	972	64,591	251,577	797,585
1992	259	518,164	2,259	543,115	55,669	1,119,466
1993	63	182,524	1,505	130,542	47,414	362,048
1994	11	159,512	1,251	565,669	16,405	742,848
1995	40	60,665	2,163	88,830	19,905	171,603
1996	32	311,332	1,365	35,691	32,828	381,248
1997	29	671,503	589	222,934	43,243	938,298
1998	3	123,535	343	134,984	557	259,422
1999	161	160,410	3,128	170,525	24,221	358,445
2000	675	336,190	6,058	514,258	39,830	897,011
2001	72	676,032	11,429	495,325	28,373	1,211,231
2002	458	830,859	4,057	186,786	127,271	1,149,431
2003	19	791,341	2,427	90,102	22,322	906,211
10- Year Average (1993-2002)	154	351,256	3,189	254,554	38,005	647,159

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

Appendix C8.—Salmon escapement by species at the Eshamy River weir, 1967-2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1967	0	10,821	192	10,433	1	21,447
1968	1	68,048	450	919	1	69,419
1969	0	61,196	96	3,095	2	64,389
1970	0	11,460	25	387	0	11,872
1971 ^b	0	954	97	3,179	0	4,230
1972 ^c		28,683				28,683
1973	0	10,202	205	1,698	0	12,105
1974 ^c		633				633
1975 ^c		1,724				1,724
1976 ^c		19,367				19,367
1977	0	11,746	230	32,080	0	44,056
1978	0	12,580	20	552	0	13,152
1979	0	12,169	5	3,654	1	15,829
1980	5	44,263	128	963	2	45,361
1981	1	23,048	249	5,956	13	29,267
1982	0	6,782	79	1,056	79	7,996
1983	0	10,348	40	7,047	4	17,439
1984	2	36,121	881	3,970	0	40,974
1985	0	26,178	96	6,271	0	32,545
1986	2	6,949	55	1,004	31	8,041
1987 ^d						
1988	2	31,747	48	1,205	1	33,003
1989	1	57,232	0	7,782	210	65,225
1990	0	14,477	43	2,209	5	16,734
1991	2	46,229	907	31,241	17	78,396
1992	1	36,237	52	3,004	5	39,299
1993	1	42,893	92	3,435	9	46,430
1994	1	64,660	1,184	12,061	87	77,993
1995	7	21,701	1,076	18,601	407	41,792
1996	2	5,271	108	7,959	9	13,349
1997	2	39,015	111	15,142	18	54,288
1998 ^d						
1999	1	27,057	194	32,756	3	60,011
2000	2	22,653	151	20,515	381	43,702
2001	0	55,187	335	21,027	176	76,725
2002	0	40,478	14	4,843	1,072	46,407
2003	2	39,845	N/A	2,440	335	42,622
10-Year Average (1993-2002)	2	35,435	367	15,149	240	51,189

^a For break down of jacks versus adult sockeye salmon see specific year's daily escapement enumeration table.

^b Escapement estimate may be low due to holes in weir. Actual escapement is estimated to be more than 3,000 sockeye salmon.

^c Passage of salmon other than sockeye salmon was not recorded.

^d The Eshamy River weir was not in operation.

**APPENDIX D: PRINCE WILLIAM SOUND PURSE SEINE
DISTRICTS**

Appendix D1.–Prince William Sound commercial common property purse seine harvest by day, 2003.

Date	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
			Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
05/27	8	8	0	0	0	0	0	0	0	0	5,904	47,248
05/28	7	10	0	0	0	0	0	0	0	0	7,829	62,080
05/29	1	1	0	0	0	0	0	0	0	0	3,509	24,565
05/30	23	33	10	218	2	11	0	0	0	0	95,331	713,914
06/01	6	6	0	0	0	0	0	0	0	0	8,959	62,525
06/03	12	16	4	116	0	0	0	0	0	0	14,825	115,730
06/05	21	27	0	0	0	0	0	0	0	0	58,871	405,025
06/06	26	30	0	0	0	0	0	0	0	0	83,770	608,399
06/07	11	11	0	0	0	0	0	0	0	0	18,301	132,180
06/08	26	28	3	70	0	0	0	0	0	0	46,666	336,134
06/09	17	18	2	51	0	0	0	0	0	0	12,886	90,856
06/10	22	29	2	55	0	0	0	0	0	0	19,338	137,193
06/11	10	12	8	59	0	0	0	0	577	1,758	14,636	97,720
06/12	40	53	1	49	4,862	32,057	0	0	2	7	153,141	1,042,271
06/13	22	22	0	0	0	0	0	0	0	0	51,981	404,627
06/14	23	33	5	100	0	0	0	0	1,476	5,546	38,715	279,320
06/15	28	41	8	78	18	113	0	0	1,995	7,205	54,453	376,979
06/16	31	49	6	110	0	0	0	0	776	2,735	40,093	285,124
06/17	19	23	10	210	1	6	0	0	65	210	21,683	162,881
06/18	14	16	7	88	1	7	0	0	116	412	17,844	120,387
06/19	23	27	1	21	0	0	0	0	2,770	10,992	31,608	229,383
06/20	19	25	1	22	0	0	0	0	12,677	51,190	22,286	135,350
06/21	24	26	0	0	62	331	11	98	2,736	10,687	17,185	132,313
06/22	4	4	0	0	3	20	0	0	35	123	3,572	28,020
06/23	74	120	2	19	153	960	1	8	1,358,609	5,149,781	21,197	96,565
06/24	2	3	0	0	1	15	0	0	6,690	24,767	3,864	22,369
06/25	11	17	0	0	0	0	0	0	208	769	45,570	319,365
06/26	81	127	0	0	278	1,675	0	0	1,411,486	5,303,760	13,749	73,880
06/27	14	20	0	0	0	0	0	0	450	1,578	49,093	319,232
06/28	54	74	4	23	25	152	0	0	931,693	3,426,997	2,023	16,183
06/29	52	77	4	89	45	268	2	20	871,758	3,206,700	17,217	85,237
06/30	65	80	0	0	4,688	27,049	2	8	724,757	2,745,869	66,915	435,848
07/01	12	16	0	0	5,676	33,904	0	0	4,888	18,096	54,551	327,540
07/02	65	94	1	4	211	1,277	6	27	936,380	3,509,580	743	4,650
07/03	52	75	2	18	10,341	65,663	1	6	441,706	1,589,043	83,291	550,570
07/04	68	99	1	17	4,372	25,372	3	20	781,328	2,973,922	19,536	130,259
07/05	40	50	0	0	24,836	146,290	465	3,693	32,059	112,598	92,650	647,423
07/06	2	3	0	0	13	80	0	0	7,067	38,433	4,986	34,712
07/07	78	136	3	25	11,683	70,665	46	357	1,008,681	3,672,966	6,325	47,561
07/08	4	4	0	0	4,250	25,633	0	0	3,832	13,475	2,731	16,514
07/09	76	110	0	0	12,464	75,249	72	449	976,266	3,722,829	10,245	71,970
07/10	3	3	0	0	5,718	34,310	73	510	12,375	30,938	966	6,938
07/11	81	103	2	17	10,383	62,388	147	1,049	891,513	3,317,389	7,980	59,554
07/12	1	1	0	0	717	4,302	0	0	150	332	0	0
07/13	61	80	1	9	10,804	66,921	342	1,887	743,192	2,734,272	4,514	32,129
07/15	63	96	1	10	11,945	71,923	187	1,383	797,290	2,859,306	17,513	93,930
07/16	58	101	3	37	2,779	16,820	353	3,079	723,212	2,639,575	11,870	91,787
07/17	69	91	4	78	7,115	43,137	201	1,571	652,295	2,420,841	12,326	88,686
07/18	21	22	0	0	1,618	9,722	5	40	129,793	480,367	2,417	18,963

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Date	Permits	Landings	Chinook		Sockeye		Coho		Pink		Chum	
			Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
07/19	63	74	1	20	5,827	35,676	823	5,945	460,763	1,693,095	10,510	78,832
07/20	15	29	0	0	1,148	7,042	0	0	455,479	1,710,598	9	52
07/21	60	68	3	55	12,138	73,440	253	1,665	468,587	1,703,469	7,987	58,428
07/22	14	27	0	0	107	534	7	35	378,653	1,334,678	89	525
07/23	70	75	3	27	14,423	88,261	390	2,781	541,306	2,023,128	23,111	132,149
07/25	55	66	1	8	10,927	66,246	217	1,615	674,822	2,474,448	4,673	30,582
07/27	77	107	4	86	7,165	44,108	456	3,414	995,921	3,672,913	5,309	40,745
07/29	57	67	5	80	4,456	27,943	268	1,821	662,341	2,266,056	1,655	11,010
07/30	1	1	0	0	0	0	0	0	7,424	24,502	0	0
07/31	56	74	7	56	3,855	20,466	495	3,444	868,663	3,055,436	10,895	43,329
08/02	43	55	0	0	1,074	6,810	474	3,315	568,959	1,963,384	1,492	10,083
08/04	39	50	0	0	517	3,199	168	1,128	539,589	1,752,952	18,724	60,159
08/06	49	55	0	0	237	1,410	185	1,268	595,506	2,057,324	300	2,098
08/08	47	49	0	0	431	2,692	165	1,217	480,765	1,632,598	788	5,873
08/10	22	24	0	0	0	0	0	0	546,335	1,906,274	298	1,029
08/11	7	11	0	0	0	0	0	0	146,659	536,316	0	0
08/12	28	38	0	0	32	138	18	147	519,094	1,851,141	191	1,136
08/13	11	16	0	0	1	7	0	0	273,646	931,513	0	0
08/14	24	30	0	0	0	0	0	0	463,181	1,621,534	0	0
08/15	17	22	0	0	0	0	0	0	496,827	1,845,482	0	0
08/16	20	25	0	0	0	0	0	0	515,984	2,126,304	0	0
08/17	18	21	0	0	0	0	0	0	340,767	1,507,514	0	0
08/18	31	44	0	0	0	0	0	0	561,721	2,269,806	0	0
08/19	26	36	0	0	0	0	0	0	570,191	2,359,965	0	0
08/20	30	38	0	0	0	0	0	0	928,333	3,465,955	0	0
08/21	33	43	0	0	0	0	0	0	823,025	3,308,111	0	0
08/22	29	35	0	0	0	0	0	0	936,438	3,294,261	0	0
08/23	32	45	0	0	0	0	0	0	942,519	3,345,510	0	0
08/24	36	48	0	0	0	0	0	0	944,216	3,357,017	0	0
08/25	27	44	0	0	0	0	0	0	867,468	3,088,756	0	0
08/26	34	44	0	0	0	0	0	0	800,768	2,902,179	0	0
08/27	32	44	0	0	0	0	0	0	839,357	3,020,987	0	2,140
08/28	30	44	0	0	0	0	0	0	841,919	3,431,799	0	0
08/29	28	38	0	0	0	0	0	0	617,631	2,213,303	0	0
08/30	32	51	0	0	0	0	0	0	847,696	3,345,508	0	0
08/31	25	40	0	0	0	0	49	395	922,777	3,252,097	0	0
09/01	21	37	0	0	0	0	0	0	648,791	2,306,106	0	0
09/02	33	47	0	0	5	27	20,383	169,750	517,580	1,803,105	33	197
09/03	19	30	0	0	0	0	0	0	618,672	2,170,213	0	0
09/04	23	32	0	0	0	0	12,200	97,430	401,614	1,346,448	0	0
09/05	3	4	0	0	0	0	75	870	142,101	487,880	0	0
09/06	9	9	0	0	0	0	15,108	126,518	142,939	428,819	0	0
09/07	2	2	0	0	0	0	0	0	144,340	433,022	0	0
09/08	9	9	0	0	0	0	5,593	45,030	70,820	212,459	5	35
09/09	1	1	0	0	0	0	0	0	14,040	421,219	0	0
09/10	5	5	0	0	0	0	7,594	57,576	31,362	447,946	0	0
09/11	1	1	0	0	0	0	0	0	13,229	396,889	0	0
Total	105	3,905	120	1,925	197,407	1,194,319	66,838	539,569	38,661,721	142,885,067	1,481,727	10,100,491
Average Weight				16.04		5.17		8.07		3.70		6.82

Appendix D2.—Total commercial salmon harvest by species, all gear and districts combined, 1971-2003.

Year^a	Chinook	Sockeye	Coho	Pink	Chum	Total
1971	3,551	88,368	30,551	7,310,964	574,265	8,007,699
1972 ^b	547	197,526	1,634	54,783	45,370	299,860
1973	2,405	124,802	1,399	2,056,878	729,839	2,915,323
1974 ^b	1,590	129,366	801	448,773	88,544	669,074
1975	2,519	189,613	6,142	4,452,805	100,479	4,751,558
1976	1,044	112,809	6,171	3,018,991	370,478	3,509,493
1977	648	310,358	843	4,513,082	572,610	5,397,541
1978	1,042	222,083	1,495	2,913,721	485,147	3,623,488
1979	2,015	150,040	6,843	15,607,620	326,414	16,092,932
1980	189	189,816	2,952	14,157,057	482,016	14,832,030
1981	404	251,222	4,383	20,524,470	1,878,716	22,659,195
1982	255	1,055,099	24,362	20,396,222	1,335,368	22,811,306
1983	1,048	92,111	10,496	14,038,796	1,041,309	15,183,760
1984	489	311,955	12,420	22,086,806	1,201,842	23,613,512
1985	1,104	493,278	19,753	25,056,663	1,280,093	26,850,891
1986	1,330	488,715	12,277	11,407,271	1,683,049	13,592,642
1987	874	540,109	47,751	29,198,507	1,904,494	31,691,735
1988	1,037	183,572	75,709	11,817,323	1,832,114	13,909,755
1989	1,113	140,090	203,574	21,860,582	995,962	23,201,321
1990	447	58,497	234,525	44,163,479	959,838	45,416,786
1991	445	507,815	145,311	37,134,311	331,906	38,119,788
1992	1,475	780,932	202,311	8,635,448	328,568	9,948,734
1993	2,148	418,948	48,310	5,761,436	1,173,341	7,404,183
1994	1,376	334,183	121,518	36,874,188	1,039,095	38,370,360
1995	1,364	230,057	140,314	16,045,396	702,216	17,119,347
1996	700	606,525	172,448	26,036,570	2,077,996	28,894,239
1997	1,186	1,197,776	64,360	25,828,078	2,224,725	29,316,125
1998	2,013	365,591	74,105	28,664,281	1,266,887	30,372,877
1999	1,055	339,037	81,841	44,993,247	2,963,838	48,379,018
2000	1,133	548,790	353,013	38,875,724	5,158,397	44,937,057
2001	861	932,070	239,947	35,237,137	3,097,005	39,507,020
2002	958	1,013,396	37,586	18,947,254	6,341,864	26,341,058
1993 - 2002 Average	1,279	598,637	133,344	27,726,331	2,604,536	31,064,128

^a Includes purse seine, drift gillnet, and set gillnet harvests from all PWS fishing districts; Eastern, Northern, Unakwik, Coghill, Northwestern, Eshamy, Southwestern, Montague and Southeastern. Also includes hatchery sales harvests, confiscated fish, donated and discarded fish, the surimi study fish, and special use educational permit harvests.

^b General purse seine season closed.

Appendix D3.—Commercial common property pink salmon harvest for all gear types, by district, 1975-2003.

Year	Eastern	Northern	Coghill	Northwest	Eshamy	Southwest	Montague	Southeast	Total^a
1975	712,328	171,657	303,597	420,891		1,673,887	118,467	875,456	4,276,283
1976	1,380,943	384,267	217,696	207,190		589,458		82,366	2,861,920
1977	1,673,044	147,964	230,215	208,727		930,469	77,104	824,374	4,091,897
1978	1,516,076	933,013	13,059					216,696	2,678,844
1979	4,500,032	115,886	38,560	59,423		5,111,073	1,347,413	4,160,925	15,333,312
1980	3,140,134	1,271,177	134,876	306,109		7,507,776	950	1,271,389	13,632,411
1981	4,797,583	1,194,621	34,155	46,874		10,371,220	278,879	3,221,268	19,944,600
1982	2,959,601	2,331,903	1,000,524	520,972	3,997	10,801,771	6,444	747,116	18,372,328
1983	2,430,063	1,021,345	273,131	714,522		5,957,068	158,241	1,482,013	12,036,383
1984	4,525,029	2,194,904	996,483	1,412,822	544,082	10,197,349	11,587	1,245,042	21,127,298
1985	6,715,143	1,002,872	523,773	527,132	58,183	10,843,752	1,448,809	2,733,562	23,853,226
1986	2,488,540	944,871	214,593	285,184	43,061	6,374,535		147,268	10,498,052
1987	6,964,549	2,419,611	1,578,568	750,877	89,902	13,341,940	111,011	955,988	26,212,446
1988	481,324	286,743	2,932,072	7,738	529,329	5,411,424		1,776	9,650,406
1989	3,151,096	6,464,090	3,925,487	181,565	^b	^b	^b	73,177	13,795,415
1990	7,970,364	5,482,585	2,692,788	891,444	534,951	17,811,479	10,658	12,325	35,406,594
1991	2,617,222	4,150,612	2,211,575		64,591	17,849,425			26,893,425
1992	489,228	1,142,061	363,887		543,115	3,039,775			5,578,066
1993		413,308	493,747		130,542	2,475,798			3,513,395
1994	11,554,320	7,171,038	3,597,094		565,669	3,408,093			26,296,214
1995	4,235,638	3,656,119	1,078,693		88,830	1,707,745	18,239	11,418	10,796,682
1996 ^b	6,059,063	5,039,988	1,543,869		35,691	5,046,919			17,725,530
1997 ^c	4,534,365	3,162,822	2,030,586		222,934	5,929,544	65,107	28,040	15,973,398
1998 ^c	2,231,061	5,035,736	3,228,761		134,984	8,425,853	430,525	350,081	19,837,001
1999	12,305,629	4,981,085	3,542,130		170,525	9,511,998	189,641	914,907	31,615,915
2000	9,819,466	4,093,620	3,359,542	17,223	514,258	9,308,399	87,634	549,763	27,749,905
2001	16,050,235	404,899	957,042		495,325	3,072,848	807,010	534,538	22,321,897
2002	355,964	594,245	1,277,637		186,786	5,710,938	32,857	1,075	8,159,502
1993–2002									
Average	7,460,638	3,455,286	2,110,910	17,223	254,554	5,459,814	233,002	341,403	18,398,944
2003	14,945,744	5,909,643	11,439,915		90,102	5,789,419	60,287	514,452	38,749,562

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

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

^c Eastern and Northern District totals exclude discarded salmon.

^d Montague District totals include discarded salmon.

Appendix D4.–Aerial escapement indices for pink and chum salmon by district, 2003.

Pink Salmon (Odd Cycle)					
District	Escapement Midpoint	Desired Escapement Range	1977-2003 Mean Index	Observed Escapement Index^a	Deviation From Goal
Eastern	567,500	355,000 - 780,000	527,063	975,327	71.9%
Northern/Unakwik	172,500	110,000 - 235,000	148,602	255,059	47.9%
Coghill	200,000	125,000 - 275,000	153,156	375,147	87.6%
Northwestern	105,000	65,000 - 145,000	94,888	103,931	-1.0%
Eshamy	7,500	5,000 - 10,000	5,478	5,206	-30.6%
Southwestern	162,500	100,000 - 225,000	152,858	130,356	-19.8%
Montague	250,000	155,000 - 345,000	258,228	320,494	28.2%
Southeastern	535,000	335,000 - 735,000	536,019	691,769	29.3%
Total	2,000,000			2,857,289	42.9%
Chum Salmon					
District	Escapement Midpoint	Desired Escapement Range	1976-2003 Mean Index	Observed Escapement Index^a	Deviation From Goal
Eastern	90,000	50,000 - 130,000	111,129	198,921	121.0%
Northern/Unakwik	38,000	21,000 - 55,000	40,916	44,272	16.5%
Coghill	16,500	8,000 - 25,000	19,743	19,729	19.6%
Northwestern	12,500	6,000 - 19,000	13,557	12,736	1.9%
Eshamy	None	None - None	77	-	-
Southwestern	None	None - None	2,851	12,373	-
Montague	None	None - None	4,623	9,015	-
Southeastern	17,500	15,000 - 20,000	24,725	116,131	563.6%
Total	174,500			391,789	124.5%
Pink Salmon (Even Cycle)					
District	Escapement Mid point	Even Cycle Escapement Range	1976-2000 Mean Index	Observed Escapement Index^b	Deviation From Mid-point
Eastern	474,000	427,000 - 521,000	441,384	226,068	-52.3%
Northern	213,000	192,000 - 235,000	173,788	138,204	-35.1%
Coghill	143,000	129,000 - 158,000	115,692	54,882	-61.6%
Northwestern ^c	135,000	122,000 - 149,000	107,319	50,981	-62.2%
Eshamy ^c	8,200	7,000 - 9,000	2,238	1,397	-83.0%
Southwestern	144,000	130,000 - 159,000	125,326	35,554	-75.3%
Montague	70,000	63,000 - 77,000	78,871	71,461	2.1%
Southeastern	239,000	215,000 - 263,000	227,924	364,630	52.6%
Total	1,426,200		1,272,542	943,177	-33.9%
Chum Salmon					
District	Escapement Mid point	Even Cycle Escapement Range	1976-2001 Mean Index	Observed Escapement Index^b	Deviation From Mid-point
Eastern	98,100	87,200 - 109,000	111,197	94,046	-4.1%
Northern	33,075	29,400 - 36,750	44,256	30,531	-7.7%
Coghill	33,325	29,600 - 37,050	23,365	7,430	-77.7%
Northwestern ^c	21,350	19,000 - 23,700	15,805	16,194	-24.1%
Eshamy ^c	0	0 - 0	64	60	
Southwestern	3,825	3,400 - 4,250	2,673	3,985	4.2%
Montague	12,825	11,400 - 14,250	4,869	565	-95.6%
Southeastern	22,500	20,000 - 25,000	24,111	104,906	366.2%
Total	225,000		226,340	257,717	14.5%

^a Based on weekly aerial survey counts of 208 index spawning streams in Prince William Sound. This does not represent the total spawning escapement but rather a comparable annual index.

^b Based on weekly aerial survey counts of 209 index spawning streams in Prince William Sound. This does not represent the total spawning escapement but rather a comparable annual index.

^c Aerial Surveys were not flown in these districts for twenty-six days from mid-August through early September due to inclement weather. As a result, observed escapement indexes for these districts may be low.

Appendix D5.—Pink salmon escapement indices by district, 1971-2003.

Pink Salmon Escapements^{a, b}									
Year	Eastern	Northern/ Unakwik	Coghill	Northwest	Eshamy	Southwest	Montague	Southeast	Total
1965	257,853	59,820	91,584	159,011	9,340	65,380	77,042	255,926	975,956
1966	544,980	288,710	135,440	79,960	11,720	115,570	42,220	204,570	1,423,170
1967	255,240	144,200	65,240	82,980	5,020	42,950	10,020	236,610	842,260
1968	364,930	151,120	108,020	117,430	10,770	172,770	52,350	179,120	1,156,510
1969	160,600	94,770	39,020	23,830	0	57,890	1,550	26,910	404,570
1970	387,090	125,360	95,170	82,660	7,610	66,790	73,880	140,660	979,220
1971	352,800	126,210	62,160	14,320	1,710	79,140	296,730	179,480	1,112,550
1972	344,470	83,900	30,960	39,020	1,100	29,530	33,140	79,060	641,180
1973	309,040	69,660	493,780	2,910	0	52,320	119,520	177,780	1,225,010
1974	256,880	206,750	56,940	163,930	6,240	160,980	11,750	94,650	958,120
1975	412,560	38,260	452,430	4,990	0	77,270	85,380	194,670	1,265,560
1976	472,080	139,600	57,090	68,150	5,840	52,120	13,790	117,590	926,260
1977	390,930	69,980	130,510	80,890	16,450	178,670	152,960	277,780	1,298,170
1978	279,120	163,010	85,450	132,300	5,430	258,980	56,690	164,030	1,145,010
1979	642,220	200,730	70,980	124,020	0	231,300	219,400	728,630	2,217,280
1980	535,960	189,140	214,930	159,260	13,100	133,470	118,400	307,680	1,671,940
1981	599,340	243,170	106,450	51,210	3,990	93,630	255,420	359,870	1,713,080
1982	573,070	332,560	368,380	174,290	15,080	195,950	132,380	482,860	2,274,570
1983	481,950	168,410	310,330	196,630	12,610	161,290	230,200	601,680	2,163,100
1984	1,209,740	593,310	429,450	452,370	16,860	345,760	191,810	792,560	4,031,860
1985	750,530	214,210	296,970	199,190	1,410	181,270	332,240	645,510	2,621,330
1986	356,380	141,420	101,600	81,490	3,840	74,980	44,680	155,830	960,220
1987	514,570	132,960	147,060	75,390	3,450	112,920	149,260	330,630	1,466,240
1988	362,370	143,850	37,070	73,780	490	126,440	67,990	152,540	964,530
1989	359,730	106,530	45,510	68,540	19,470	176,230	181,760	315,000	1,272,770
1990	443,660	131,580	49,110	115,870	17,870	150,100	113,572	304,090	1,325,852
1991	474,380	165,930	98,580	101,320	18,800	197,095	247,890	533,170	1,837,165
1992	204,383	72,915	23,611	42,308	2,709	66,953	47,156	95,070	555,105
1993	315,209	95,614	41,837	46,011	9,348	98,573	144,784	315,093	1,066,469
1994	615,240	178,151	65,648	141,290	11,799	144,594	60,084	196,378	1,413,184
1995	396,696	84,447	46,029	50,582	10,182	82,490	183,448	336,310	1,190,184
1996	584,236	218,022	104,781	86,709	3,000	63,337	92,966	330,285	1,483,336
1997	345,725	65,260	52,961	53,740	914	112,010	206,943	585,135	1,422,688
1998	377,700	213,288	85,968	97,485	4,644	280,335	161,275	199,410	1,420,105
1999	622,502	214,723	168,816	52,340	6,900	163,347	381,054	853,180	2,462,862
2000	554,984	168,247	223,646	66,078	4,286	131,648	227,881	282,258	1,659,028
2001	436,585	163,573	148,665	102,294	2,963	176,503	314,323	655,480	2,000,386
2002	226,068	138,204	54,882	50,981	1,397	35,554	71,461	364,630	943,177
2003	975,327	255,059	375,147	103,931	5,206	130,356	320,494	691,769	2,857,289
Even Cycle Average (1972-2002)									
Avg.	470,404	196,719	126,292	120,799	7,910	142,795	85,667	237,702	1,388,289
Odd Cycle Average (1971-2003)									
Avg.	425,182	129,393	150,995	78,431	6,450	123,173	188,943	400,465	1,503,034

^a Historical data revised in 1989

^b Coghill and Northwestern escapement numbers correspond to current district boundaries. .

Appendix D6.—Weekly aerial survey indices of pink salmon escapement by statistical area, 2003.

Survey Location	Statistical Area	Week Ending Dates ^a														Adjusted Total ^b
		06/21	06/28	07/05	07/12	07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	
Orca Inlet	221-10	0	0	1,500	3,500	20,000	4,500	25,500	8,000	NS	5,500	2,000	1,200	NS	0	48,058
Simpson & Sheep Bay	221-20	0	0	0	10,100	37,150	130,100	62,600	NS	63,500	NS	53,400	33,200	NS	8,075	233,484
Port Gravina	221-30	0	500	0	91,050	117,070	92,000	106,900	NS	50,500	NS	71,500	27,550	NS	1,755	317,535
Port Fidalgo	221-40	0	300	100	46,250	85,800	82,800	43,700	NS	25,000	NS	54,300	62,200	NS	6,075	236,936
Valdez Arm	221-50	0	20	100	7,150	48,050	28,650	34,050	NS	15,400	NS	30,600	61,700	NS	14,348	139,314
Port Valdez	221-61	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Eastern District Total		0	820	1,700	158,050	308,070	338,050	272,750	8,000	154,400	5,500	211,800	185,850	NS	30,253	975,327
Columbia & Long Bay	222-10	NS	NS	0	0	0	4,400	11,575	NS	7,000	50	16,500	22,101	NS	130	37,405
Wells Bay & Unakwik Inlet	222-20	NS	NS	0	1,000	59,550	11,550	35,600	23,500	9,000	17,700	11,200	43,000	33,500	420	167,302
Eaglek Bay	222-30	NS	NS	NS	NS	5,200	NS	6,000	14,800	NS	17,500	NS	26,350	8,550	NS	50,352
Northern District Total		NS	NS	0	1,000	64,750	15,950	53,175	38,300	16,000	35,250	27,700	91,451	42,050	550	255,059
Upper Unakwik Inlet	229-10	NS	NS	NS	NS	0	NS	500	1,200	NS	1,500	NS	4,500	3,000	NS	7,443
Unakwik District (229) Total		NS	NS	NS	NS	0	NS	500	1,200	NS	1,500	NS	4,500	3,000	NS	7,443
West Side Port Wells	223-10	NS	NS	NS	NS	9,506	NS	10,000	47,890	NS	24,470	NS	35,360	7,200	NS	85,908
Esther Passage	223-20	NS	NS	NS	NS	200	NS	100	1,200	NS	1,600	NS	10,200	2,000	NS	10,200
College Fiord	223-30	NS	NS	NS	NS	45,000	NS	50,000	50,140	NS	180,100	NS	26,850	40,000	NS	279,039
Coghill District Total		NS	NS	NS	NS	54,706	NS	60,100	99,230	NS	206,170	NS	72,410	49,200	NS	375,147
Passage Canal & Cochrane	224-10	NS	NS	NS	NS	4,220	NS	4,000	12,220	NS	17,100	NS	21,150	3,220	NS	40,127
Culross Passage	224-30	NS	NS	NS	NS	12,000	NS	1,700	31,100	NS	8,200	NS	9,730	3,370	NS	42,171
Port Nellie Juan	224-40	NS	NS	NS	NS	520	NS	4,150	7,570	NS	5,200	NS	14,875	1,050	NS	21,633
Northwestern District Total		NS	NS	NS	NS	16,740	NS	9,850	50,890	NS	30,500	NS	45,755	7,640	NS	103,931
Crafton/Eshamy	225-30	NS	NS	NS	NS	0	NS	0	40	NS	2,250	NS	3,200	320	NS	5,206
Eshamy District Total		NS	NS	NS	NS	0	NS	0	40	NS	2,250	NS	3,200	320	NS	5,206
Chenega Is. & Dangerous Passage	226-20	NS	NS	NS	NS	NS	10,125	NS	39,600	17,910	28,625	NS	37,950	3,005	NS	79,208
East Knight Is.	226-30	NS	NS	NS	NS	NS	700	NS	2,000	1,900	1,000	NS	2,500	1,400	NS	5,257
Bainbridge & Latouche Passage	226-40	NS	NS	NS	NS	NS	0	NS	625	1,635	7,500	NS	34,800	13,750	NS	37,690
Port Bainbridge	226-50	NS	NS	NS	NS	NS	NS	NS	7,000	2,700	1,000	NS	4,300	400	NS	8,201

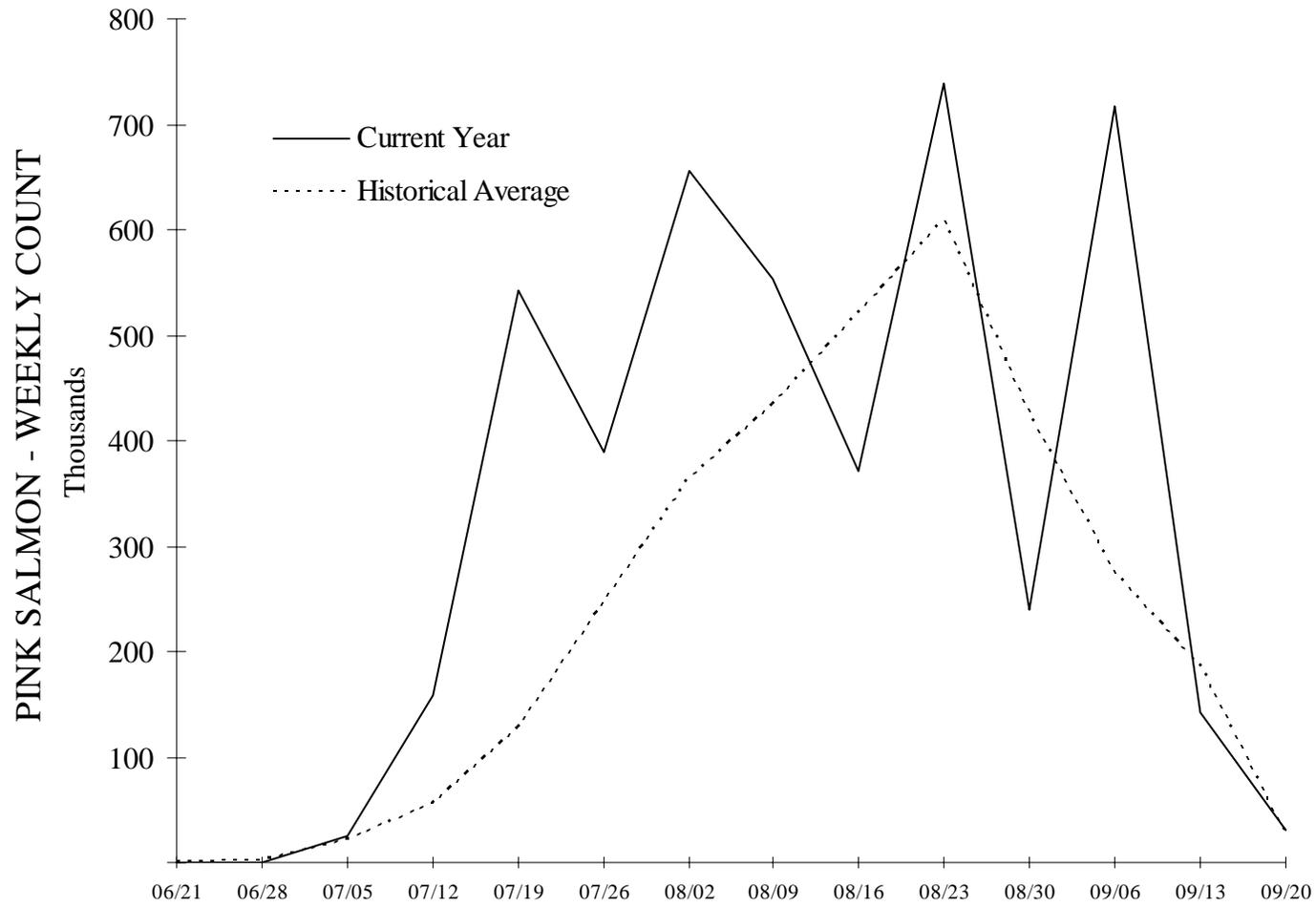
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Survey Location	Statistical	Week Ending Dates ^a														Adjusted
	Area	06/21	06/28	07/05	07/12	07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	Total ^b
Southwestern District Total		NS	NS	NS	NS	NS	10,825	NS	49,225	24,145	38,125	NS	79,550	18,555	NS	130,356
Montague Strait	227-10	NS	NS	NS	NS	NS	22,650	NS	36,800	153,675	94,700	NS	97,900	15,460	NS	246,893
Green Island	227-20	NS	NS	NS	NS	NS	2,550	NS	8,195	22,400	52,000	NS	30,800	6,640	NS	73,601
Montague District Total		NS	NS	NS	NS	NS	25,200	NS	44,995	176,075	146,700	NS	128,700	22,100	NS	320,494
Orca Is. & East Hawkins	228-10	NS	NS	0	NS	800	NS	200	700	NS	1,000	NS	450	NS	NS	2,239
Hawkins Cutoff	228-20	0	NS	15,900	NS	29,100	NS	76,800	98,300	NS	41,000	NS	5,150	NS	NS	169,046
North Hawkins & Canoe Passage	228-30	NS	NS	0	NS	13,300	NS	36,300	32,800	NS	30,000	NS	14,200	NS	NS	83,793
Double Bay	228-40	0	NS	0	NS	5,500	NS	18,000	16,200	NS	37,000	NS	8,900	NS	NS	59,348
Johnstone Point	228-50	0	NS	0	NS	7,500	NS	23,500	14,000	NS	23,000	NS	6,150	NS	NS	48,504
Port Etches	228-60	0	NS	8,000	NS	42,400	NS	104,900	99,850	NS	140,000	NS	70,350	NS	NS	328,839
Southeastern District Total		0	NS	23,900	NS	98,600	NS	259,700	261,850	NS	272,000	NS	105,200	NS	NS	691,769
TOTAL OF 9 DISTRICTS		0	820	25,600	159,050	542,866	390,025	656,075	553,730	370,620	737,995	239,500	716,616	142,865	30,803	2,864,732

^a There are a total of 208 streams included in the systematic aerial survey program. The survey program commences in the Eastern District where the earliest escapements in the Sound occur. Weather and conditions permitting, each stream is flown weekly. Failure to fly a survey due to run timing or bad survey conditions is denoted by NS (no survey). A notation of NC (no count) occurs when a stream is flown but no count is possible because of survey conditions (i.e., water clarity). During the peak of the pink salmon run many streams are flown twice weekly to provide fisheries managers with more timely escapement data. In cases where more than one survey per week was flown the weekly observation shown in this table is the average of the two counts if observing conditions during both were good or, the maximum of the two counts if conditions during the minimum count were poor.

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



Appendix D7.—Current year and historical weekly pink salmon escapement performance of index spawning streams, 2003.

Appendix D8.—Total chum salmon harvests and escapement indices, including hatchery sales harvests and broodstock, 1965-2003.

Year	CHUM SALMON ESCAPEMENTS ^a									Hatchery		Common	Total Run ^c
	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total	Sales	Brood	Property	
											Harvest ^b		
1965	69,180	20,980	20,768	18,907	0	1,829	17,500	46,480	195,644			201,043	396,687
1966	75,690	24,870	10,540	5,770	0	2,180	14,100	9,410	142,560			426,628	569,188
1967	74,570	23,270	7,450	1,670	0	6,200	4,980	9,070	127,210			274,234	401,444
1968	48,960	10,620	8,780	800	0	580	220	4,610	74,570			342,939	417,509
1969	58,690	17,340	8,410	780	0	0	0	6,320	91,540			320,977	412,517
1970	34,430	4,020	11,880	2,720	0	550	0	7,950	61,550			230,661	292,211
1971	49,730	11,870	6,600	5,600	100	1,430	27,990	6,450	109,770			574,265	684,035
1972	112,950	70,760	28,160	22,980	0	4,010	3,340	26,990	269,190			45,370	314,560
1973	213,170	140,030	72,610	13,250	0	1,020	3,110	48,080	491,270			729,839	1,221,109
1974	72,010	55,510	29,280	6,580	0	240	80	3,200	166,900			88,544	255,444
1975	30,040	8,910	3,640	430	0	1,280	140	2,850	47,290			100,479	147,769
1976	16,260	29,430	25,670	8,300	0	90	0	770	80,520			370,478	450,998
1977	47,880	48,600	43,940	10,090	0	700	0	8,280	159,490			575,839	735,329
1978	90,250	27,480	18,160	12,940	0	790	0	6,550	156,170			485,147	641,317
1979	42,630	17,320	6,330	8,770	0	90	0	5,140	80,280			324,040	404,320
1980	26,720	27,880	23,340	3,060	0	2,040	70	6,710	89,820	6		412,948	502,774
1981	71,560	28,670	2,050	15,130	0	710	0	16,010	134,130	118		1,745,869	1,880,117
1982	146,120	68,580	22,130	21,880	0	1,530	0	25,260	285,500	0	86,200	1,335,368	1,707,068
1983	143,800	85,720	61,410	31,660	340	3,170	0	21,410	347,510	0	44,000	1,030,546	1,422,056
1984	129,190	59,080	19,690	7,920	0	20	0	8,650	224,550	4,886	3,000	1,196,785	1,429,221
1985	111,310	33,410	22,140	13,290	0	620	0	4,470	185,240	3,840	0	1,302,090	1,491,170
1986	126,690	50,740	13,140	17,420	0	1,890	0	8,830	218,710	20,683	12,523	1,662,366	1,914,282
1987	183,620	38,700	24,510	26,460	0	1,690	0	44,020	319,000	2,549	15,574	1,902,063	2,239,186
1988	258,560	75,420	39,240	40,780	0	2,350	500	66,930	483,780	42,694	108,271	1,792,616	2,427,361
1989	112,080	46,470	22,680	27,430	320	11,690	0	22,640	243,310	129,551	74,513	862,551	1,309,925

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Year	CHUM SALMON ESCAPEMENTS ^a									Hatchery		Common Property	
	Eastern	Northern	Coghill	Northwestern	Eshamy	Southwestern	Montague	Southeastern	Total	Sales	Brood	Harvest ^b	Total Run ^c
	1990	115,100	112,480	26,020	37,020	0	80	1,050	7,275	299,025	24,554	107,284	935,284
1991	86,360	19,080	6,070	8,960	0	2,800	925	9,203	133,398	13,471	114,814	318,435	580,118
1992	48,804	12,903	10,003	11,072	300	2,940	783	3,881	90,686	57,392	183,940	271,176	603,194
1993	54,102	24,975	8,430	18,966	0	1,300	30	19,172	126,975	475,148	140,330	706,196	1,448,649
1994	40,476	23,942	14,176	12,992	100	2,225	0	4,057	97,968	380,365	114,654	677,848	1,270,835
1995	75,655	28,899	11,596	4,883	0	2,250	1,000	23,200	147,483	231,539	172,542	486,510	1,038,074
1996	137,908	55,568	19,669	24,405	0	2,231	5,216	47,334	292,331	1,066,705	253,751	1,011,291	2,624,078
1997	93,146	19,429	3,101	8,387	0	800	4,000	43,274	172,137	811,179	178,933	1,413,546	2,575,795
1998	86,227	28,867	22,764	7,553	0	1,602	10,690	52,103	209,806	519,215	179,875	747,672	1,656,568
1999	242,713	36,691	5,057	4,544	0	2,393	8,725	36,181	336,304	777,180	207,073	2,186,658	3,507,215
2000	196,253	23,655	20,488	10,150	16	11,440	66,202	34,969	363,173	1,729,876	85,441	3,428,521	5,607,011
2001	198,683	75,473	13,388	6,373	700	5,187	10,408	37,526	347,738	936,028	171,046	2,153,920	3,608,732
2002	94,046	30,531	7,430	16,194	60	3,985	565	104,906	257,717	2,580,936	209,833	3,760,934	6,809,420
2003	198,921	44,272	19,729	12,736	110	12,373	9,015	116,131	413,287	1,540,227	200,933	3,981,763	6,136,210
AVG	102,935	40,063	18,986	13,047	52	2,521	4,888	24,520	207,014	472,839	121,115	1,036,242	1,602,555

^a Coghill and Northwestern District escapement numbers correspond to current district boundaries.

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

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

Appendix D9.—Weekly aerial survey indices of chum salmon escapement by statistical area, 2003.

Survey Location	Statistical Area	Week Ending Dates ^a														Adjusted Total ^b
		06/21	06/28	07/05	07/12	07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	
Orca Inlet	221-10	0	0	3,000	700	1,400	2,200	1,500	3,400	NS	3,500	0	20	NS	0	10,963
Simpson & Sheep Bay	221-20	700	0	0	3,350	6,300	17,360	8,050	NS	15,700	NS	4,400	0	NS	83	35,176
Port Gravina	221-30	0	1,000	2,702	46,050	37,550	12,900	19,950	NS	4,270	NS	6,900	0	NS	65	70,873
Port Fidalgo	221-40	100	400	1,650	23,000	12,720	14,000	9,200	NS	3,050	NS	11,300	0	NS	1,370	42,428
Valdez Arm	221-50	250	555	2,330	9,120	5,120	2,920	10,010	NS	11,750	NS	13,200	0	NS	5,984	39,481
Port Valdez	221-61	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Eastern District Total		1,050	1,955	9,682	82,220	63,090	49,380	48,710	3,400	34,770	3,500	35,800	20	NS	7,502	198,921
Columbia & Long Bay	222-10	NS	NS	250	530	0	1,225	3,825	NS	1,500	50	2,500	0	NS	30	6,123
Wells Bay & Unakwik Inlet	222-20	NS	NS	1,500	6,000	15,250	3,600	9,800	6,350	950	3,000	1,100	750	630	100	28,020
Eaglek Bay	222-30	NS	NS	NS	NS	1,050	NS	6,050	4,450	NS	4,300	NS	1,250	0	NS	10,129
Northern District Total		NS	NS	1,750	6,530	16,300	4,825	19,675	10,800	2,450	7,350	3,600	2,000	630	130	44,272
Upper Unakwik Inlet	229-10	NS	NS	NS	NS	0	NS	200	0	NS	150	NS	0	100	NS	293
Unakwik District (229) Total		NS	NS	NS	NS	0	NS	200	0	NS	150	NS	0	100	NS	293
West Side Port Wells	223-10	NS	NS	NS	NS	2,850	NS	640	6,251	NS	3,790	NS	3,320	590	NS	11,891
Esther Passage	223-20	NS	NS	NS	NS	0	NS	100	0	NS	600	NS	0	0	NS	600
College Fiord	223-30	NS	NS	NS	NS	1,500	NS	1,000	5,050	NS	1,850	NS	1,550	400	NS	7,238
Coghill District Total		NS	NS	NS	NS	4,350	NS	1,740	11,301	NS	6,240	NS	4,870	990	NS	19,729
Passage Canal & Cochrane	224-10	NS	NS	NS	NS	1,450	NS	400	3,120	NS	2,800	NS	3,250	210	NS	7,585
Culross Passage	224-30	NS	NS	NS	NS	0	NS	150	450	NS	2,100	NS	0	300	NS	2,375
Port Nellie Juan	224-40	NS	NS	NS	NS	450	NS	100	1,400	NS	2,150	NS	0	0	NS	2,776
Northwestern District Total		NS	NS	NS	NS	1,900	NS	650	4,970	NS	7,050	NS	3,250	510	NS	12,736
Crafton/Eshamy	225-30	NS	NS	NS	NS	0	NS	0	0	NS	110	NS	0	0	NS	110
Eshamy District Total		NS	NS	NS	NS	0	NS	0	0	NS	110	NS	0	0	NS	110
Chenega Is. & Dangerous Passage	226-20	NS	NS	NS	NS	NS	300	NS	4,880	650	5,400	NS	400	60	NS	9,013
East Knight Is.	226-30	NS	NS	NS	NS	NS	0	NS	200	0	500	NS	0	0	NS	500
Bainbridge & Latouche Passage	226-40	NS	NS	NS	NS	NS	0	NS	60	0	2,100	NS	0	0	NS	2,160
Port Bainbridge	226-50	NS	NS	NS	NS	NS	NS	NS	700	150	100	NS	0	0	NS	700
Southwestern District Total		NS	NS	NS	NS	NS	300	NS	5,840	800	8,100	NS	400	60	NS	12,373
Montague Strait	227-10	NS	NS	NS	NS	NS	1,210	NS	2,680	1,550	3,800	NS	1,070	650	NS	6,937
Green Island	227-20	NS	NS	NS	NS	NS	150	NS	930	425	1,350	NS	170	45	NS	2,078
Montague District Total		NS	NS	NS	NS	NS	1,360	NS	3,610	1,975	5,150	NS	1,240	695	NS	9,015

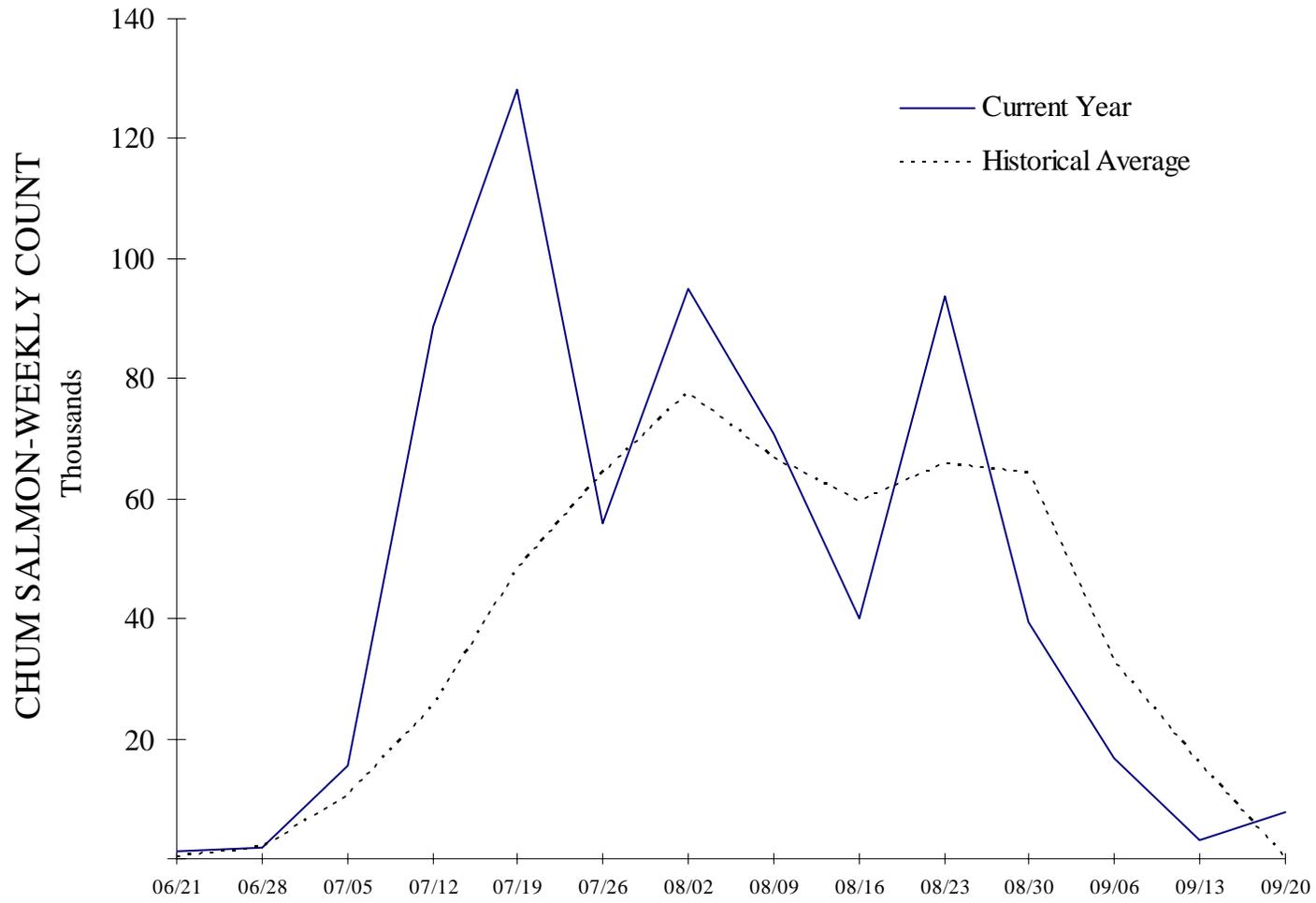
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Survey Location	Statistical Area	Week Ending Dates ^a														Adjusted Total ^b
		06/21	06/28	07/05	07/12	07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06	09/13	09/20	
Orca Is. & East Hawkins	228-10	NS	NS	0	NS	0	NS	50	50	NS	0	NS	0	NS	NS	54
Hawkins Cutoff	228-20	0	NS	0	NS	14,500	NS	7,300	8,400	NS	18,000	NS	300	NS	NS	34,938
North Hawkins & Canoe Passage	228-30	NS	NS	10	NS	3,750	NS	3,700	3,470	NS	4,200	NS	170	NS	NS	10,385
Double Bay	228-40	0	NS	1,700	NS	1,650	NS	850	6,000	NS	5,500	NS	400	NS	NS	11,547
Johnstone Point	228-50	0	NS	1,000	NS	1,600	NS	2,500	2,500	NS	2,500	NS	250	NS	NS	6,990
Port Etches	228-60	50	NS	1,500	NS	21,100	NS	9,700	10,520	NS	25,750	NS	3,800	NS	NS	52,217
Southeastern District Total		50	NS	4,210	NS	42,600	NS	24,100	30,940	NS	55,950	NS	4,920	NS	NS	116,131
TOTAL OF 9 DISTRICTS		1,100	1,955	15,642	88,750	128,240	55,865	95,075	70,861	39,995	93,600	39,400	16,700	2,985	7,632	413,580

^a There are a total of 208 streams included in the systematic aerial survey program. The survey program commences in the Eastern District where the earliest escapements in the Sound occur. Weather and conditions permitting, each stream is flown weekly. Failure to fly a survey due to run timing or bad survey conditions is denoted by NS (no survey). A notation of NC (no count) occurs when a stream is flown but no count is possible because of survey conditions (i.e., water clarity). During the peak of the pink salmon run many streams are flown twice weekly to provide fisheries managers with more timely escapement data. In cases where more than one survey per week was flown the weekly observation shown in this table is the average of the two counts if observing conditions during both were good or, the maximum of the two counts if conditions during the minimum count were poor.

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



Appendix D10.—Current year and historical weekly chum salmon escapement performance of index spawning streams, 2003.

Appendix D11.—Aerial survey escapement indices of sockeye salmon from selected systems, 2003.

System Name	Stream Number	Week Ending Date ^a								
		07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06	09/13
Sheep River	36	0	0	550	NS	0	NS	0	0	NS
Keta Creek	83	0	0	0	NS	0	NS	0	0	NS
Billy's Hole	218	0	400	0	NS	200	0	300	0	NS
Cowpen Creek	242	0	NS	0	750	NS	0	0	800	800
Miner's River	244	1,450	NS	2,000	1,100	NS	1,500	0	1,100	800
Red Creek	300	0	NS	0	250	NS	100	NS	900	0
Golden Lagoon	310	0	NS	0	0	NS	0	NS	0	0
Coghill River	322	5,000	NS	0	0	NS	0	NS	4,000	0
Halferty Creek	454	0	NS	0	0	NS	300	NS	20	0
Cochrane Creek	461	0	NS	0	0	NS	0	NS	0	0
Shrode Creek	476	0	NS	0	5,500	NS	5	NS	360	400
Gumboot Creek	507	0	NS	0	3	NS	0	NS	0	0
Eshamy River	511	500	NS	0	2,000	NS	1,500	NS	0	0
Jackpot River	608	NS	1,400	0	1,000	450	1,000	NS	560	60
Brizgaloff Creek	623	NS	150	NS	0	150	0	NS	100	40
Bainbridge Creek	630	NS	250	NS	0	450	1,000	NS	170	15
Total		6,950	2,200	2,550	10,603	1,250	5,405	300	8,010	2,115

^a Counts contained in this table are obtained in conjunction with the regular pink and chum salmon aerial survey program. Many of these sockeye salmon systems are difficult to survey by air and thus the counts do not necessarily represent total live abundance at a particular time.

Appendix D12.—Estimated age and sex composition of Prince William Sound commercial common property chum salmon harvests, by district, 2003.

		Brood Year and Age Class					Total
		2000	1999	1998	1997	1996	
		0.2	0.3	0.4	0.5	0.6	
Coghill District							
Strata Combined:	05/26 - 08/08						
Sampling dates:	05/30 - 07/02						
Sample size:	1,934						
Female	Percentage of sample	0.5	30.6	22.9	0.4	0.1	54.4
	Number in harvest	6,883	452,110	337,626	6,068	1,224	803,912
Male	Percentage of sample	0.7	23.2	20.4	0.7	0.0	45.1
	Number in harvest	10,648	343,033	301,890	10,536	0	666,107
Total	Percentage of sample	1.2	54.1	43.5	1.1	0.1	100.0
	Number in harvest	17,531	799,431	642,118	16,604	1,224	1,476,909
	Standard error	4,366	19,592	19,454	4,341	1,224	
Montague District							
Stratum dates:	05/26 - 06/22						
Sampling date:	06/20 - 06/22						
Sample size:	384						
Female	Percentage of sample	0.8	58.3	12.5	0.0	0.0	71.6
	Number in harvest	4,426	330,479	70,817	0	0	405,722
Male	Percentage of sample	0.3	22.4	5.7	0.0	0.0	28.4
	Number in harvest	1,475	126,880	32,458	0	0	160,813
Total	Percentage of sample	1.0	80.7	18.2	0.0	0.0	100.0
	Number in harvest	5,901	457,359	103,275	0	0	566,535
	Standard error	2,939	11,418	11,177	0	0	

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		Brood Year and Age Class					Total
		2000	1999	1998	1997	1996	
		0.2	0.3	0.4	0.5	0.6	
Eastern District							
Stratum dates:	06/23 - 06/23						
Sampling date:	06/24 - 06/24						
Sample size:	381						
Female	Percentage of sample	0.5	19.7	13.9	1.3	0.0	35.4
	Number in harvest	593	22,234	15,712	1,482	0	40,022
Male	Percentage of sample	0.8	31.0	31.5	1.3	0.0	64.6
	Number in harvest	889	34,982	35,575	1,482	0	72,928
Total	Percentage of sample	1.3	50.7	45.4	2.6	0.0	100.0
	Number in harvest	1,482	57,216	51,287	2,965	0	112,950
	Standard error	659	2,897	2,885	926	0	
All Districts Combined							
Stratum dates:	05/26 - 08/08						
Sampling date:	05/30 - 07/02						
Sample size:	2,699						
Female	Percentage of sample	0.6	37.3	19.7	0.4	0.1	58.0
	Number in harvest	11,902	804,823	424,155	7,551	1,224	1,249,655
Male	Percentage of sample	0.6	23.4	17.2	0.6	0.0	41.7
	Number in harvest	13,013	504,895	369,923	12,018	0	899,849
Total	Percentage of sample	1.2	60.9	36.9	0.9	0.1	100.0
	Number in harvest	24,915	1,314,006	796,680	19,569	1,224	2,156,394
	Standard error	5,304	22,861	22,621	4,439	1,224	

Appendix D13.—Summary of periods, dates, duration, and emergency orders issued by district, for the commercial purse seine salmon fishery, 2003.

Eastern (221)		Northern (222)		Coghill (223)		Southwestern (226)		Montague (227)		Southeastern (228)		Emergency Orders
Dates	Hours	Dates	Hrs	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	
						05/26-06/01	156 ^a	05/26-06/01	156 ^a			2-F-E-004-03
				05/29-05/30	24 ^a							2-F-E-005-03
						06/02-06/08	156 ^a	06/02-06/08	156 ^a			2-F-E-004-03
				06/05-06/06	24 ^a							2-F-E-009-03
						06/9-06/15	156 ^a	06/09-06/15	156 ^a			2-F-E-004-03
				06/12-06/13	24 ^a							2-F-E-014-03
						06/16-06/22	156 ^a	06/16-06/22	156 ^a			2-F-E-004-03
06/23	12 ^a											2-F-E-021-03
						06/23-06/29	156 ^a	06/23-06/29	156 ^a			2-F-E-004-03
06/26	12 ^b											2-F-E-030-03
06/28	12 ^c											2-F-E-031-03
06/29	12 ^c											2-F-E-031-03
06/30	12 ^c											2-F-E-032-03
				06/30-07/01	24 ^a							2-F-E-035-03
						06/30-07/06	156 ^a	06/30-07/06	156 ^a			2-F-E-004-03
07/02	12 ^d											2-F-E-033-03
07/03	12 ^d			07/03	12 ^b							2-F-E-033-03, 2-F-E-038-03
07/04	12 ^d											2-F-E-043-03
				07/05	12 ^b							2-F-E-038-03
07/07	12 ^d			07/07	12 ^c					07/07	12 ^a	2-F-E-049-03
						07/07-07/13	156 ^a	07/07-07/13	156 ^a			2-F-E-004-03
07/09	12 ^{d,e}			07/09	12 ^c					07/09	12 ^a	2-F-E-050-03, 2-F-E-051-03
07/11	12 ^{e,f}			07/11	12 ^c					07/11	12 ^a	2-F-E-056-03, 2-F-E-070-03
07/13	12 ^{e,f}			07/13	12 ^c					07/13	12 ^a	2-F-E-057-03
07/15	12 ^{e,f}					07/14-07/20	156 ^a	07/14-07/20	156 ^a			2-F-E-004-03
07/16	12 ^{e,f}									07/15	12 ^a	2-F-E-058-03, 2-F-E-064-03
07/17	12 ^{e,f}			07/15-07/17	60 ^d					07/17	12 ^b	2-F-E-057-03, 2-F-E-058-03, 2-F-E-064-03
07/19	12 ^{e,f}			07/18-07/20	60 ^e					07/19	12 ^b	2-F-E-064-03
07/20-07/22	56 ^e									07/21	12 ^b	2-F-E-074-03
07/21	12 ^f	07/21	12 ^a	07/21-07/24	84 ^f	07/21	12 ^b					2-F-E-074-03
07/23	12 ^{e,f}	07/23	12 ^a			07/23	12 ^c			07/23	12 ^b	2-F-E-075-03

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Eastern (221)		Northern (222)		Coghill (223)		Southwestern (226)		Montague (227)		Southeastern (228)		Emergency Orders
Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	
07/25	12 ^f	07/25	12 ^b	07/25-07/27	60 ^f	07/25	12 ^c	07/25	12 ^b	07/25	12 ^b	2-F-E-081-03
07/27	12 ^{e,f}	07/27	12 ^b			07/27	12 ^d	07/27	12 ^b	07/27	12 ^b	2-F-E-082-03
07/29	12 ^{e,f}	07/29	12 ^a	07/29-07/31	48 ^f	07/29	12 ^d	07/29	12 ^b	07/29	12 ^b	2-F-E-083-03
07/31	12 ^{e,f}	07/31	12 ^b			07/31	12 ^d	07/31	12 ^b	07/31	12 ^b	2-F-E-093-03
08/02	12 ^g	08/02	12 ^c	08/02	12 ^g	08/02	12 ^d	08/02	12 ^b	08/02	12 ^b	2-F-E-096-03
08/04	12 ^g	08/04	12 ^d	08/04	12 ^g	08/04	12 ^e	08/04	12 ^b	08/04	12 ^b	2-F-E-097-03
08/06	12 ^{e,g}	08/06	12 ^e	08/06	12 ^b	08/06	12 ^f	08/06	12 ^b	08/06	12 ^b	2-F-E-098-03
08/08	12 ^g	08/08	12 ^e	08/08	12 ^h	08/08	12 ^g	08/08	12 ^b	08/08	12 ^b	2-F-E-099-03
08/10	12 ^{e,g}	08/10	12 ^e	08/10	12 ^{g,i}	08/10	12 ^g	08/10	12 ^b	08/10	12 ^b	2-F-E-100-03
				08/11	12 ⁱ							2-F-E-100-03
08/12	12 ^{e,g}	08/12	12 ^e	08/12	12 ^{g,i}	08/12	12 ^g	08/12	12 ^b	08/12	12 ^b	2-F-E-112-03
				08/13	12 ⁱ							2-F-E-112-03
08/14	12 ^{e,g}	08/14	12 ^e	08/14	12 ^{g,i}	08/14	12 ^g	08/14	12 ^b	08/14	12 ^b	2-F-E-113-03
08/15	12 ^{e,g}	08/15	12 ^e	08/15	12 ^{g,i}	08/15	12 ^h	08/15	12 ^b	08/15	12 ^b	2-F-E-113-03
08/16	12 ^{e,g}	08/16	12 ^e	08/16	12 ^{g,i}	08/16	12 ^h	08/16	12 ^b	08/16	12 ^b	2-F-E-113-03
08/17	12 ^{e,g}	08/17	12 ^e	08/17	12 ^{g,i}	08/17	12 ^h	08/17	12 ^b	08/17	12 ^b	2-F-E-113-03
08/18	12 ^{e,g}	08/18	12 ^e	08/18	12 ^{g,i}	08/18	12 ^h	08/18	12 ^b	08/18	12 ^b	2-F-E-113-03
08/19	12 ^{e,g}	08/19	12 ^e	08/19	12 ^{g,i}	08/19	14 ^h	08/19	12 ^b	08/19	12 ^b	2-F-E-113-03, 2-F-E-115-03
08/20	12 ^{e,g}	08/20	12 ^e	08/20	14 ^{g,i}	08/20	14 ^h	08/20	12 ^b	08/20	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/21	12 ^{e,g}	08/21	12 ^e	08/21	14 ^{g,i}	08/21	14 ^h	08/21	12 ^b	08/21	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/22	12 ^{e,g}	08/22	12 ^e	08/22	14 ^{g,i}	08/22	14 ^h	08/22	12 ^b	08/22	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/23	12 ^{e,g}	08/23	12 ^e	08/23	14 ^{g,i}	08/23	14 ^h	08/23	12 ^b	08/23	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/24	12 ^{e,g}	08/24	12 ^e	08/24	14 ^{g,i}	08/24	14 ^h	08/24	12 ^b	08/24	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/25	12 ^{e,g}	08/25	12 ^e	08/25	14 ^{g,i}	08/25	14 ^h	08/25	12 ^b	08/25	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03
08/26	12 ^{e,g}	08/26	14 ^{e,f}	08/26	14 ^{g,i}	08/26	14 ^h	08/26	12 ^b	08/26	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-119-03
08/27	12 ^g	08/27	14 ^{e,f}	08/27	14 ^{g,i}	08/27	14 ^h	08/27	12 ^b	08/27	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-119-03
08/28	12 ^g	08/28	14 ^{e,g}	08/28	14 ^{g,i}	08/28	14 ^h	08/28	12 ^b	08/28	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-119-03
08/29	12 ^g	08/29	14 ^{e,g}	08/29	14 ^{g,i}	08/29	14 ^h	08/29	12 ^b	08/29	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-119-03
08/30	12 ^g	08/30	14 ^{e,g}	08/30	14 ^{g,i}	08/30	14 ^h	08/30	12 ^b	08/30	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-121-03
08/31	12 ^g	08/31	14 ^{e,g}	08/31	14 ^{g,i}	08/31	14 ^h	08/31	12 ^b	08/31	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-121-03
09/01	12 ^g	09/01	14 ^{e,g}	09/01	14 ^{g,i}	09/01	14 ^h	09/01	12 ^b	09/01	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-121-03
09/02	12 ^{g,h}	09/02	14 ^{e,g}	09/02	14 ^{g,i}	09/02	14 ^h	09/02	12 ^b	09/02	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03, 2-F-E-121-03

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Eastern (221)		Northern (222)		Coghill (223)		Southwestern (226)		Montague (227)		Southeastern (228)		Emergency Orders	
Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.	Dates	Hrs.		
09/03	12 ^g	09/03	14 ^{e,g}	09/03	14 ^{g,i}	09/03	14 ^h	09/03	12 ^b	09/03	12 ^b	2-F-E-113-03, 2-F-E-115-03,2-F-E-118-03,2-F-E-122-03	
09/04	12 ^{g,i}	09/04	14 ^{e,g}	09/04	14 ^{g,i}	09/04	14 ^h	09/04	12 ^b	09/04	12 ^b	2-F-E-113-03, 2-F-E-115-03, 2-F-E-118-03,2-F-E-122-03, 2-F-E-123-03	
09/05	12 ^g	09/05	14 ^{e,g}	09/05	14 ^{g,i}	09/05	14 ^h	09/05	12 ^b	09/05	12 ^b	2-F-E-113-03, 2-F-E-115-03,2-F-E-118-03,2-F-E-122-03	
09/06	12 ^j	09/06	18 ^g	09/06	14 ⁱ	09/06	18 ⁱ					2-F-E-118-03, 2-F-E-124-03, 2-F-E-124-03	
		09/07	18 ^g	09/07	14 ⁱ	09/07	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
09/08	12 ^j	09/08	18 ^g	09/08	14 ⁱ	09/08	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
				09/08-09/10	48 ^j							2-F-E-111-03	
		09/09	18 ^g	09/09	14 ⁱ	09/09	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
09/10	12 ^j	09/10	18 ^g	09/10	14 ⁱ	09/10	18 ⁱ					2-F-E-118-03, 2-F-E-124-03, 2-F-E-125-03	
				09/11-09/20	216							2-F-E-132-03	
		09/11	18 ^g	09/11	14 ⁱ	09/11	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
09/12-09/15	84 ^j											2-F-E-129-03	
		09/12	18 ^g	09/12	14 ⁱ	09/12	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/13	18 ^g	09/13	14 ⁱ	09/13	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/14	18 ^g	09/14	14 ⁱ	09/14	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/15	18 ^g	09/15	14 ⁱ	09/15	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
09/16-09/19	84 ^j											2-F-E-130-03	
		09/16	18 ^g	09/16	14 ⁱ	09/16	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/17	18 ^g	09/17	14 ⁱ	09/17	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/18	18 ^g	09/18	14 ⁱ	09/18	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/19	18 ^g	09/19	14 ⁱ	09/19	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/20	18 ^g	09/20	14 ⁱ	09/20	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/21	18 ^g	09/21	14 ⁱ	09/21	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
		09/22	18 ^g	09/22	14 ⁱ	09/22	18 ⁱ					2-F-E-118-03, 2-F-E-124-03	
				09/22-09/25	72 ^j							2-F-E-135-03	

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Eastern District

- a Waters of the Eastern District, south of the latitude of Black Point and north of a line from Entrance Point to Potato Point, were open.
- b In the Eastern District, waters south of the latitude of Black Point and in Port Valdez, east of 146° 30' 37" W. longitude, were open.
- c In the Eastern District, waters south of the latitude of Black Point and in Port Valdez, east of 146° 30.62' W. longitude, were open.
- d Waters of the Eastern District, south of the latitude of Black Point and north of a line from Entrance Point to Potato Point.
- e In the Eastern District, waters of the Solomon Gulch Hatchery THA were open for the harvest of pink salmon for roe recovery.
- f Waters of the Eastern District were open.
- g The Eastern District excluding waters of Port Valdez north of a line from Entrance Point to Potato Point was open.
- h In the Eastern District, waters of Port Valdez north of a line from Entrance Point to Potato Point and west of 146° 21.3' W. longitude were open.
- i In the Eastern District, waters of Port Valdez north of a line from Entrance Point to Potato Point and west of a line from the brown oil boom container located between Solomon Gulch Hatchery and Allison Point to the east end of the container dock in front of the grain elevators on the north shore of Port Valdez were open.
- j In the Eastern District, waters of Port Valdez north of a line from Entrance Point to Potato Point were open. The SGH SHA was closed.

Northern District

- a Waters of the Northern District, excluding the Perry Island and Cannery Creek Subdistricts, were open.
- b Waters of the Northern District, excluding the Perry Island Subdistrict and excluding the Cannery Creek Hatchery THA and SHA, were open.
- c Waters of the Northern District, excluding the Cannery Creek Subdistrict, were open.
- d Waters of the Northern District, excluding the Cannery Creek Hatchery THA and SHA, were open.
- e Waters of the Northern District, excluding the Cannery Creek Hatchery SHA, were open.
- f In the Northern District, waters of the Cannery Creek Hatchery THA were open for the harvest of pink salmon for roe recovery.
- g In the Northern District, waters of the Cannery Creek Hatchery THA and SHA were open for the harvest of pink salmon for roe recovery.

Southwestern District

- a In the Southwestern District, only the Armin F. Koenig (AFK) Hatchery SHA was open. Anadromous stream closures in the AFK SHA were not in effect.
- b Within the Southwestern District, only the Point Elrington Subdistrict was open.
- c Within the Southwestern District, only the Port San Juan Subdistrict was open.
- d In the Southwestern District, the Port San Juan Subdistrict and waters on the east side of Knight Island south of 60°28.5' N. latitude and north of the latitude of Point Helen were open.
- e In the Southwestern District, the Point Elrington and Port San Juan Subdistricts, excluding the AFK Hatchery THA and SHA were open. Waters on the east side of Knight Island south of 60°28.5' N. latitude and north of the latitude of Point Helen were also open.
- f In the Southwestern District, the Point Elrington and Port San Juan Subdistricts, excluding the AFK Hatchery SHA were open. Waters on the east side of Knight Island south of 60°28.5' N. latitude and north of the latitude of Point Helen were also open.
- g Waters of the Southwestern District excluding the AFK Hatchery SHA were open.
- h Waters of the Southwestern District excluding the AFK Hatchery THA and SHA were open. The AFK Hatchery THA and SHA were open for the harvest of pink salmon for roe recovery.
- i The AFK Hatchery THA and SHA were open for the harvest of pink salmon for roe recovery.

Montague District

- a In the Montague District, only the Port Chalmers Subdistrict was open. Anadromous stream closures and regulatory closed waters in the Port Chambers Subdistrict were not in effect.
- b Waters of the Montague District were open.

Southeastern District

- a Waters of the Southeastern District, west of the longitude of Middle Ground buoy, were open.
- b Waters of the Southeastern District were open.

APPENDIX E: HATCHERY RETURNS

Appendix E1.—Daily salmon sales harvests and sex ratios at the Wally Noerenberg Hatchery, 2003.

Date	Pink Salmon % Female	Pink Salmon	Chum Salmon
05/24		0	15,978
05/27		0	21,403
05/29		0	7,933
06/03		0	16,148
06/04		0	24,265
06/05		0	41,502
06/06		0	27,707
06/07		0	30,879
06/08		0	55,634
06/09		0	67,905
06/10		0	65,621
06/11		0	74,652
06/12		0	34,432
06/13		0	15,783
06/14		0	53,542
06/15		0	80,890
06/16		0	53,348
06/17		0	87,664
06/18		0	30,847
06/19		0	27,470
06/20		0	37,495
06/21		0	26,913
06/22		0	30,754
06/23		0	31,059
06/24		0	51,510
06/25		0	73,403
06/26		0	49,753
06/27		0	69,947
06/28		0	76,094
06/29		0	63,547
06/30		0	43,558
07/01		0	50,783
07/02		0	45,182
07/03		0	13,882
07/14		2,970	21,110
07/18		16,827	7,101
07/21		25,731	0
07/22		75,498	7,765
07/23	12.7%	71,541	6,768
07/24	15.2%	200,522	0
07/25	17.5%	118,151	0

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Date	Pink Salmon % Female	Pink Salmon	Chum Salmon
07/26	15.9%	209,422	0
07/27	17.8%	79,362	0
07/28	23.3%	142,777	0
07/29	24.9%	172,898	0
07/30	30.4%	281,597	0
07/31	27.2%	165,354	0
08/01	31.1%	298,923	0
08/02	30.3%	256,610	0
08/03	29.4%	452,623	0
08/04	32.7%	186,188	0
08/05	35.6%	369,339	0
08/06	34.1%	146,750	0
08/07	38.7%	129,104	0
08/08	42.4%	219,096	0
08/09	39.5%	132,438	0
08/10	45.4%	64,769	0
08/12	49.5%	61,029	0
08/13	48.9%	75,468	0
08/14	53.4%	26,799	0
08/15	47.5%	74,348	0
08/16	49.4%	65,093	0
08/17	59.5%	66,926	0
08/18		55,684	0
08/19		11,667	0
08/20		9,920	0
08/21		18,440	0
08/22		15,720	0
08/23		16,703	0
08/25		22,185	0
09/04		62,486	0
Totals		4,400,958	1,540,227

SALES SUMMARY

	Pink	Chum
Pounds Sold	14,717,480	9,129,130
Average Weights	3.34	5.93
Roe Sales/pounds	111,645	19,171

BROODSTOCK SUMMARY

	Pink	Chum
Fish spawned at hatchery	151,763	139,964
Green/bad/excess	333,434	26,300
Roe Fish	203,509	22,791
Eggtake mortality	294,276	11,878
Total available broodstock	982,982	200,933
Estimated unharvested return	0	0
Estimated return to hatchery	982,982	200,933

Appendix E2.—Daily salmon sales, harvests, and sex ratios at the Armin F. Koernig Hatchery, 2003.

Date	% Female	Pink
07/25	3.6%	101,973
07/26	3.1%	58,942
07/27	7.3%	116,024
07/28	7.8%	90,509
07/29	9.4%	28,906
07/30	12.1%	132,264
07/31	10.6%	126,880
08/01	13.5%	73,568
08/02	22.1%	65,076
08/04	22.7%	64,302
08/07	23.8%	99,688
08/08	32.0%	33,033
08/09	24.8%	49,279
08/10	30.2%	77,531
08/11	37.4%	94,963
08/12	54.7%	90,840
08/13	51.0%	65,458
08/14	59.7%	67,754
Totals		1,436,990

SALES SUMMARY	Pink
Pounds Sold	4,646,256
Average Weight	3.23
Roe Sales (lbs)	35,354

PINK BROODSTOCK SUMMARY	
Spawned at hatchery	203,822
Excessed/green/bad	67,939
Roe Fish	70,644
Fishway/system mortality	443,166
Total available broodstock	785,571
Estimated unharvested return	350,000
Estimated return to hatchery	1,135,571

Appendix E3.—Daily pink salmon sales harvests and sex ratios at the Solomon Gulch Hatchery, 2003.

Date	% Female	Pink Salmon
06/18		34,099
06/19	16.0%	147,676
06/20	20.0%	183,441
06/21	20.0%	160,249
06/22	13.0%	181,016
06/24	13.0%	170,393
06/25	36.0%	247,616
06/27	27.0%	272,045
06/28	28.0%	34,211
07/01	41.0%	307,636
07/05	51.0%	459,423
07/06	36.0%	432,092
07/08	62.0%	360,868
07/10		443,993
07/12	53.0%	385,740
07/14	53.0%	367,796
Totals		4,188,294
SALES SUMMARY		
Total Pounds Sold		15,580,015
Average Weight		3.72
Roe Sales (lbs.)		74,730
PINK SALMON BROODSTOCK SUMMARY		
Spawned at hatchery		177,880
Green/bad/excess		62,290
Roe Fish		339,304
System mortalities		10,981
Total available broodstock		590,455
Estimated creek spawners		46,163
Estimated unharvested return		1,000,000
Estimated return to hatchery		1,636,618
COHO SALMON BROODSTOCK SUMMARY		
Spawned at hatchery		1,373
Green/bad/excess		361
System mortalities		15
Total available broodstock		1,749
Estimated creek/bay spawners		205
Roe Sales		19,512
Fish estimated remaining above weir		0
Estimated return to hatchery		21,466

Appendix E4.—Daily pink salmon sales harvests and sex ratios at the Cannery Creek Hatchery, 2003.

Date	% Female	Pink Salmon
07/30	22.5%	79,435
07/31	25.7%	50,126
08/01	29.0%	25,636
08/02	31.9%	25,804
08/05	28.9%	85,092
08/06	36.5%	116,637
08/07	32.7%	212,542
08/08	42.1%	157,869
08/09	38.5%	173,002
08/10	43.9%	61,011
08/11	42.9%	229,728
08/12	50.5%	138,443
08/13	42.1%	183,909
08/14	53.7%	72,398
08/15	43.3%	203,328
08/16	48.1%	182,713
08/17	47.9%	212,503
08/18		113,964
08/20		34,373
08/22		24,506
08/27		17,114
Totals		2,400,133
SALES SUMMARY		Pink
Pounds Sold		8,401,984
Average Weight		3.50
Roe Sales (lbs)		26,701
PINK SALMON BROODSTOCK SUMMARY		
Spawned at hatchery		171,437
Green/bad/excess		39,830
Roe fish		52,440
Mortality		235,100
Total available broodstock		498,807
Estimated unharvested return		150,000
Estimated return to hatchery		648,807

Appendix E5.—Daily salmon sales harvests at the Main Bay Hatchery, 2003.

Date	Sockeye Salmon
06/21	18,435
06/24	18,274
06/25	22,173
06/26	22,348
06/27	15,745
06/28	32,590
06/29	39,091
06/30	35,328
07/01	13,370
07/02	33,550
07/03	8,912
07/04	38,667
07/05	15,079
07/06	15,863
07/08	18,244
07/09	8,593
07/10	10,508
Totals	366,770
SALES SUMMARY	
Pounds Sold	2,211,474
Average Weight	6.03
MAIN BAY SOCKEYE BROODSTOCK SUMMARY	
Main Bay Late Stock/Eshamy Lake	
Good	4,972
Green/bad/excess	408
System mortalities	1,498
Estimated return to Hatchery	6,878

Appendix E6.—Sales harvests of salmon by species from private nonprofit hatcheries as reported on fish tickets, 1977-2003.

Year	Hatchery ^b	Harvest by Species ^a				Total
		Sockeye	Coho	Pink	Chum	
1977	AFK			15,545		15,545
1978	AFK			114,188		114,188
1979	AFK			223,748		223,748
1980	AFK, N			346,728	6	346,734
1981	AFK			707,037	118	707,155
1982	AFK			1,354,732		1,354,732
1983	AFK			616,963		616,963
1984	AFK, SG			415,393	4,886	420,279
1985	AFK, SG			1,209,960	3,840	1,213,800
1986	AFK, SG		2,156	905,464	20,683	928,303
1987 ^c	AFK, SG, E, CC		7,015	2,691,190	2,549	2,700,754
1988	AFK, SG, E		6,110	1,632,701	42,694	1,681,505
1989 ^d	AFK, SG, WNH, CC, MB		52,307	7,812,373	131,362	7,996,042
1990	AFK, SG, WNH, CC		14,199	8,732,658	24,554	8,771,411
1991	AFK, SG, WNH, CC		52,625	5,955,561	13,471	6,021,657
1992	AFK, SG, WNH, CC, MB	163,086	73,530	3,049,394	57,392	3,343,402
1993	AFK, SG, WNH, CC, MB	113,738	3,259	2,212,403	475,148	2,804,548
1994	AFK, SG, WNH, CC, MB	79,541	22,454	10,521,439	380,365	11,003,799
1995	AFK, SG, WNH, CC, MB	63,326	13,248	5,100,819	231,539	5,408,932
1996 ^e	AFK, SG, WNH, CC, MB	86,911	38,945	8,291,205	1,066,683	9,483,744
1997	AFK, SG, WNH, CC, MB, GH	266,335	2,933	9,854,675	811,179	10,935,122
1998	AFK, SG, WNH, CC, MB, GH	148,288	20,199	8,825,226	519,215	9,512,928
1999	AFK, SG, WNH, CC, GH	28,777	0	13,130,211	777,180	13,936,168
2000	AFK, SG, WNH, CC, MB	218	1	11,125,819	1,729,876	12,855,914
2001	AFK, SG, WNH, CC, MB	43,073	21,781	12,914,314	936,028	13,915,196
2002	AFK, SG, WNH, CC, MB	93,722	1	10,787,752	2,580,926	13,462,402
2003 ^f	AFK, SG, WNH, CC, MB	366,770	0	12,426,375	1,540,227	14,333,372
Average (1993-2003)		117,336	11,166	9,562,749	1,004,397	10,695,648

^a Includes salmon harvested by private nonprofit hatcheries in Prince William Sound to generate revenues to offset operating costs. Does not include carcass sales or fish processed only for roe extraction after egg takes.

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

^c PWSAC administered a sales harvest at the state owned Cannery Creek hatchery. A majority of the coho salmon sold were carcasses and surplus brood fish from the Solomon Gulch hatchery.

^d PWSAC administered a sales harvest at the state owned Main Bay Hatchery to harvest a surplus of chum salmon due to closure of the common property fishery.

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

^f Does not include 730,599 pink, 22,792 chum, and 19,782 coho salmon processed for roe extraction.

Appendix E7.—Summary of pink and chum salmon runs to Prince William Sound hatcheries, 2003.

Pink salmon runs to Prince William Sound hatcheries. ^a								
	2002 Fry Release	2003 Forecast Run ^b	Estimated Total Run	Marine Survival	Estimated CPF Contribution	Estimated Sales Harvest Contribution ^c	Broodstock Escapement ^d	Eggs Collected (millions)
Hatchery								
Solomon Gulch	202,573,328	10,450,000	17,784,840	8.8%	11,971,729	4,176,473	1,636,618	202.6
Armin F. Koernig	155,982,828	7,580,000	7,067,276	4.5%	4,494,486	1,436,990	1,135,571	156.0
Wally Noerenberg	106,229,524	4,920,000	17,843,246	16.8%	12,459,062	4,400,958	982,982	106.2
Cannery Creek	138,626,713	2,190,000	8,349,433	6.0%	5,389,950	2,408,123	551,247	138.6
Total Pink Salmon	603,412,393	25,140,000	51,044,795	8.46%	34,315,227	12,422,544	4,306,418	603.4
Chum salmon runs to Prince William Sound hatcheries. ^a								
		2003 Forecast Run ^b	Estimated Total Run		Estimated CPF Contribution	Sales Harvest ^c	Broodstock Escapement ^d	Eggs Collected (millions)
Hatchery or release site ^e								
Armin F. Koernig		2,400	30,505		30,505	0	0	0.0
Wally Noerenberg ^f		3,739,000	2,748,749		1,007,589	1,540,227	200,933	151.5
Port Chalmers		990,000	784,989		784,989	0	0	0.0
Total Chum Salmon		4,731,400	3,564,243		1,823,083	1,540,227	200,933	151.5

^a Contribution estimates of pink and chum salmon from PWS hatcheries are based on analysis of otolith recoveries and location of harvest as reported on fish tickets.

^b The 2003 forecasts of hatchery runs were completed by Prince William Sound Aquaculture and Valdez development Association.

^c Does not include carcass sales because they are part of the broodstock.

^d Includes broodstock, overmature/green fish, holding mortalities, excess fish and fish processed for roe extraction. Also includes watershed spawners, and fish remaining in the bays after all other harvests were complete.

^e All returning chum salmon were reared at WNH. The AFK and Port Chalmers runs were remote releases of fish reared at WNH.

^f The WNH total chum salmon run was calculated as the sum of CPF harvests in the Eshamy and Coghill Districts minus the average 1970-1986 wild chum salmon harvests in the Eshamy and Coghill Districts plus the WNH cost recovery harvest and broodstock escapement.

Appendix E8.—Historical harvest contributions, thermally marked otolith releases, and total returns of pink salmon to Prince William Sound hatcheries, return years 1997-2003.

Solomon Gulch								
Brood Year	Return Year	Fry Release	Hatchery Contribution to Broodstock Esc. ^a	Total Cost Recovery Harvest	Hatchery Contribution to CR Harvest	Hatchery Contribution to the CPF ^b	Total Hatchery Return	Estimated Marine Survival
1995	1997	233,088,327	728,923	2,431,007	2,428,010	4,005,264	7,162,197	3.07%
1996	1998	188,862,094	295,438	3,428,348	3,076,945	1,226,679	4,599,062	2.44%
1997	1999	195,162,163	954,305	4,379,659	4,354,601	9,465,378	14,774,284	7.57%
1998	2000	213,906,642	520,934	4,033,635	3,983,473	7,635,581	12,139,988	5.68%
1999	2001	195,763,690	524,857	3,970,310	3,932,080	11,458,958	15,915,895	8.13%
2000	2002	203,897,201	420,062	4,430,173	4,368,519	360,850	5,149,431	2.53%
2001	2003	202,573,328	1,636,618	4,188,294	4,184,463	11,871,024	17,692,105	8.73%
Armin F. Koernig								
1995	1997	108,636,976	0	3,206,683	3,139,053	3,815,265	6,954,318	6.40%
1996	1998	52,384,532	643,153	1,634,956	1,582,038	5,037,454	7,262,645	13.86%
1997	1999	105,974,235	1,352,746	2,814,760	2,994,037	5,108,346	9,455,129	8.92%
1998	2000	133,156,995	235,813	2,017,913	1,998,334	4,646,469	6,880,616	5.17%
1999	2001	142,537,692	368,706	2,929,441	2,803,175	1,668,025	4,839,906	3.40%
2000	2002	150,287,930	368,694	2,285,050	2,291,770	5,098,103	7,758,567	5.16%
2001	2003	155,982,828	1,135,571	1,436,990	1,436,990	4,494,486	7,067,047	4.53%

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Wally Noerenberg								
Brood Year	Return Year	Fry Release	Hatchery Contribution to Broodstock Esc.	Total Cost Recovery Harvest	Hatchery Contribution to CR Harvest	Hatchery Contribution to the CPF ^a	Total Hatchery Return	Estimated Marine Survival
1995	1997	176,431,919	409,455	2,280,868	2,321,255	3,464,254	6,194,964	3.51%
1996	1998	106,440,456	1,163,890	2,437,615	2,427,120	4,817,354	8,408,364	7.90%
1997	1999	103,675,208	886,277	3,860,431	3,861,891	4,828,682	9,576,850	9.24%
1998	2000	123,869,678	255,851	3,536,232	3,520,212	4,980,503	8,756,566	7.07%
1999	2001	116,069,339	325,003	4,937,169	4,949,180	1,906,503	7,180,686	6.19%
2000	2002	127,651,881	350,000	3,471,338	3,426,483	1,840,319	5,616,802	4.40%
2001	2003	106,229,524	982,982	4,400,958	4,400,958	12,422,082	17,806,022	16.76%
Cannery Creek								
1995	1997	140,441,131	577,736	1,897,259	1,852,317	3,608,272	6,038,325	4.30%
1996	1998	136,838,852	904,945	1,324,307	1,305,144	4,869,014	7,079,103	5.17%
1997	1999	137,571,564	1,293,460	2,076,361	2,014,448	5,414,942	8,722,850	6.34%
1998	2000	131,195,588	280,811	1,538,039	1,575,341	4,688,206	6,544,358	4.99%
1999	2001	132,236,317	428,859	1,089,998	1,103,072	589,171	2,121,102	1.60%
2000	2002	139,226,716	345,082	601,191	616,354	627,065	1,588,501	1.14%
2001	2003	138,626,713	551,247	2,400,133	2,400,133	5,390,008	8,341,388	6.02%

^a Broodstock escapements include all fish remaining after commercial harvests, i.e., fish used for brood, watershed spawners, and fish remaining in front of the hatchery.

^b Commercial common property fisheries.

Appendix E9.—Historical hatchery fry releases, harvest contributions, and total returns of pink salmon to all hatcheries combined, Prince William Sound, 1997-2003.

Brood Year	Return Year	Fry Release ^a	CWT/Otolith Applied to Fry Release ^a	Total Broodstock Escapement ^{a, b}	Total Cost Recovery Harvest ^c	Hatchery contributions ^d					Estimated Marine Survival
						Brood Escapements	CR Harvests	Other Harvests ^e	CPF	Total	
1995	1997	641,675,469 ^f	1,079,354	1,977,463	9,854,675	1,974,521	9,780,451	226	14,893,055	26,648,253	4.15%
1996	1998	483,704,011 ^f	All	3,011,186	8,825,226	3,008,251	8,666,960	6,931	16,145,999	27,828,141	5.75%
1997	1999	542,383,070 ^f	All	4,531,560	13,130,211	4,529,055	12,988,616	237,318	24,838,848	42,593,837	7.85%
1998	2000	602,128,903 ^f	All	1,293,409	11,125,819	1,293,409	11,055,419	728	22,099,196	34,448,752	5.72%
1999	2001	586,607,038 ^f	All	1,647,425	12,914,314	1,647,425	12,765,960	1,204	15,625,341	30,039,930	5.12%
2000	2002	621,062,096 ^f	All	1,497,115	10,787,752	1,497,115	10,703,126	992	7,926,335	20,127,568	3.24%
2001	2003	603,412,393 ^f	All	4,306,418	12,426,375	4,306,418	12,422,544	606	34,315,227	51,044,795	8.46%

^a Data from Prince William Sound Aquaculture and Valdez Fisheries Development Association annual reports and tagging reports.

^b Brood escapements include all fish not sold in the commercial common property or cost recovery fisheries, i.e., fish used for brood, excess to brood, and remaining in the bays after all fisheries and brood collections.

^c Data from ADF&G fish ticket database.

^d Data from ADF&G contribution estimates. No otolith collections were made from broodstock escapements after 1999 because the 1997-1999 data indicated broodstock escapements were < 0.05 % wild stock fish. Otolith sampling has been a low priority in the hatchery cost recovery (CR) harvests since 1999 because sampling in the 1997-1999 CR harvests indicated few wild fish (< 2%). The other harvests and commercial common property contributions are from all fishing districts in Prince William Sound (221-229) excluding the Bering and Copper River District harvests.

^e Includes donated, discarded, test fisheries, and all other miscellaneous harvests. Data from ADF&G fish ticket and special project data summaries.

^f All hatchery pink salmon fry released after brood year 1995 had thermal otolith marks.

Appendix E10.—Historical harvest contributions, coded wire tag (CWT) and thermally marked otolith releases, and total returns of pink salmon to all hatcheries combined, 1977-2003.

Brood Year	Return Year	Fry Release ^a	CWT/Otolith Applied to Fry Release ^b	Total Cost Recovery Harvest ^c	Hatchery Contributions ^d				Total Return	Estimated Marine Survival
					Hatchery Cost Recovery Harvests ^b	Commercial Property Harvests ^a	Other Harvests ^e	Broodstock Escapements ^a		
1975	1977	1,000,000	0	15,545	7,745	4,000	0	16,112	27,857	2.79%
1976	1978	11,010,577	0	114,188	114,188	0	0	40,432	154,620	1.40%
1977	1979	16,950,784	0	223,748	223,748	275,000	0	54,207	552,955	3.26%
1978	1980	25,600,739	0	346,728	346,728	1,092,048	0	145,061	1,583,837	6.19%
1979	1981	24,194,000	0	707,037	707,037	1,430,747	0	268,501	2,406,285	9.95%
1980	1982	91,076,000	0	1,354,732	1,354,732	4,303,900	0	239,945	5,898,577	6.48%
1981	1983	91,951,000	0	686,963	686,963	3,338,366	0	258,062	4,283,391	4.66%
1982	1984	115,107,533	0	415,393	415,393	3,313,423	0	341,259	4,070,075	3.54%
1983	1985	116,336,000	0	1,209,960	1,209,960	6,259,923	0	640,340	8,110,223	6.97%
1984	1986	191,306,265	0	905,464	905,464	5,662,315	0	466,471	7,034,250	3.68%
1985	1987	231,538,713	646,561	2,691,190	2,691,190	14,197,065	0	1,158,908	18,047,163	7.79%
1986	1988	218,830,647	568,688	1,632,701	1,632,701	8,748,000	0	824,302	11,205,003	5.12%
1987	1989	532,045,966	939,498	7,853,419	5,767,911	10,561,099	0	856,927	19,052,529 ^f	3.58%
1988	1990	507,688,297	1,074,099	8,732,658	6,691,160	24,379,475	0	749,910	33,315,579 ^f	6.56%
1989	1991	615,139,948	1,128,899	6,119,141	5,201,860	20,900,355	3,573,805	1,324,255	32,750,955 ^f	5.32%
1990	1992	603,519,636	1,091,403	3,049,394	2,626,248	4,345,805	30,290	789,880	8,579,332 ^f	1.42%
1991	1993	495,700,200	823,128	2,639,982	1,544,727	2,392,162	14,648	921,073	6,177,575 ^f	1.25%
1992	1994	567,320,470	950,976	10,308,169	7,613,582	21,173,273	56,396	1,422,306	35,100,601 ^f	6.19%

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Brood Year	Return Year	Fry Release ^a	CWT/Otolith Applied to Fry Release ^b	Total Cost Recovery Harvest ^c	Hatchery Contributions ^d					Total Return	Estimated Marine Survival
					Hatchery Cost Recovery Harvests ^b	Commercial Common Property Harvests ^a	Other Harvests ^e	Broodstock Escapements ^a			
1993	1995	488,575,978 ^g	941,811	5,057,418	4,703,457	9,072,469	78,020	1,154,635	14,475,842 ^f	2.96%	
1994	1996	613,158,229 ^g	1,017,782	8,285,166	5,363,551	14,502,198	0	544,531	24,284,522 ^f	3.96%	
1995	1997	651,675,427 ^g	1,079,354	9,854,675	9,780,451	14,893,055	226	1,974,521	26,648,253	4.09%	
1996	1998	484,525,934 ^g	484,525,934	8,825,226	8,666,960	16,145,999	6,931	3,008,251	27,828,141	5.74%	
1997	1999	542,356,070 ^g	542,356,934	13,130,211	12,988,616	24,838,848	237,318	4,529,055	42,593,837	7.85%	
1998	2000	602,128,903 ^g	602,128,903	11,125,819	11,055,419	22,099,196	728	1,293,409	34,448,752	5.72%	
1999	2001	586,607,038 ^g	586,607,038	12,914,314	12,765,960	15,625,341	1,204	1,647,425	30,039,930	5.12%	
2000	2002	621,063,728 ^g	621,063,728	10,787,752	10,703,126	7,926,335	992	1,497,115	20,127,568	3.24%	
2001	2003	603,412,393 ^g	603,412,393	12,426,990	12,422,544	34,177,600	606	4,306,418	50,907,168	8.44%	

^a Data for BY 1985 and 1987 - 1995 provided by the ADF&G CWT project. PWSAC provided data for all other years. Beginning in 1994, broodstock numbers include fish processed for roe and reported by PWSAC. The hatchery contribution to broodstock escapements includes all fish not harvested in CPF or sales harvests.

^b Data for brood years 1985 - 1995 provided by the ADF&G CWT project; succeeding years data from thermally marked otoliths. Sales numbers include inter-hatchery contributions.

^c Data for all years from ADF&G fish ticket information.

^d Data from ADF&G contribution estimates. No otolith collections were made from broodstock escapements after 1999 because the 1997-1999 data indicated broodstock escapements were < 0.05 % wild stock fish. Otolith sampling has been a low priority in the hatchery cost recovery (CR) harvests since 1999 because sampling in the 1997-1999 CR harvests indicated few wild fish (< 2%). The other harvests and commercial common property contributions are from all fishing districts in Prince William Sound (221-229) excluding the Bering and Copper River District harvests.

^e Includes donated, discarded, test fisheries, and all other miscellaneous harvests. Data from ADF&G fish ticket and special project data summaries.

^f Revised contribution based on individual hatchery CWT adjustment factors.

^g All hatchery pink salmon fry released after brood year 1995 had thermal otolith marks.

Appendix E11.—Hatchery contributions to the commercial common property pink salmon purse seine fishery in the Eastern District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Date(s)												
01	06/23		1,201,296	88.4%	0	0.0%	0	0.0%	0	0.0%	157,313	11.6%	1,358,609
02	06/26		1,279,159	90.6%	0	0.0%	0	0.0%	0	0.0%	132,327	9.4%	1,411,486
03	06/28		892,872	95.8%	0	0.0%	0	0.0%	0	0.0%	38,821	4.2%	931,693
04	06/29		826,966	94.9%	0	0.0%	0	0.0%	0	0.0%	44,701	5.1%	871,667
05	06/30		698,461	96.8%	0	0.0%	7,592	1.1%	0	0.0%	15,184	2.1%	721,237
06	07/02		877,856	93.8%	0	0.0%	0	0.0%	0	0.0%	58,524	6.3%	936,380
07	07/03		382,960	88.9%	0	0.0%	0	0.0%	0	0.0%	47,870	11.1%	430,830
08	07/04		708,790	91.7%	0	0.0%	0	0.0%	0	0.0%	64,435	8.3%	773,225
09	07/07		885,642	89.6%	0	0.0%	0	0.0%	0	0.0%	102,982	10.4%	988,624
10	07/09		902,041	94.6%	0	0.0%	0	0.0%	0	0.0%	51,841	5.4%	953,882
11	07/11		766,077	88.5%	0	0.0%	0	0.0%	0	0.0%	99,139	11.5%	865,216
12	07/13		524,600	75.0%	0	0.0%	0	0.0%	0	0.0%	174,867	25.0%	699,467
13	07/15		506,977	70.8%	7,456	104.2%	0	0.0%	0	0.0%	201,300	28.1%	715,732
14	07/16		255,525	35.4%	0	0.0%	7,515	1.0%	0	0.0%	458,441	63.5%	721,481
15	07/17		287,259	63.5%	9,418	208.3%	9,418	2.1%	0	0.0%	145,984	32.3%	452,079
16	07/18		92,959	94.1%	0	0.0%	0	0.0%	0	0.0%	5,810	5.9%	98,769
17	07/19		109,016	42.7%	2,659	104.2%	7,977	3.1%	0	0.0%	135,605	53.1%	255,257
18	07/20 - 07/22		409,342	42.7%	9,984	104.2%	29,952	3.1%	0	0.0%	509,182	53.1%	958,460
19	07/23		59,460	39.5%	6,995	465.1%	0	0.0%	0	0.0%	83,943	55.8%	150,398
20	07/25		3,885	39.5%	457	465.1%	0	0.0%	0	0.0%	5,485	55.8%	9,828
21	07/27		41,236	39.5%	4,851	465.1%	0	0.0%	0	0.0%	58,215	55.8%	104,302
22	07/29		0	0.0%	1,423	303.0%	0	0.0%	1,423	3.0%	44,109	93.9%	46,955
23	07/31		0	0.0%	6,017	303.0%	0	0.0%	6,017	3.0%	186,530	93.9%	198,564
24	08/02		0	0.0%	231	303.0%	0	0.0%	231	3.0%	7,157	93.9%	7,619
25	08/04		0	0.0%	148	303.0%	0	0.0%	148	3.0%	4,587	93.9%	4,883
26	08/06		0	0.0%	107,077	8333.3%	7,138	5.6%	0	0.0%	14,277	11.1%	128,492
27	08/08		7,774	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7,774
28	08/10		15,213	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	15,213
29	08/12		58,741	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	58,741
30	08/14		43,951	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	43,951
31	08/15		24,869	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	24,869
49	09/02		61	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	61
			11,862,988	79.4%	156,716	1.0%	69,593	0.5%	7,819	0.1%	2,848,629	19.1%	14,945,744

Appendix E 12.–Hatchery contributions to the commercial common property pink salmon purse seine fishery in the Northern District, 2003.

Period	Harvest											
	Date	SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
1	07/21	3,967	4.1%	37,024	37.8%	27,768	28.4%	0	0.0%	29,090	29.7%	97,848
2	07/23	2,393	1.5%	35,896	22.7%	64,612	40.9%	2,393	1.5%	52,647	33.3%	157,941
3	07/25	7,600	2.1%	201,395	55.8%	110,197	30.5%	0	0.0%	41,799	11.6%	360,991
4	07/27	5,388	1.1%	377,129	76.9%	26,938	5.5%	0	0.0%	80,813	16.5%	490,268
5	07/29	4,128	1.4%	239,399	81.7%	37,148	12.7%	0	0.0%	12,383	4.2%	293,057
6	07/31	0	0.0%	217,765	75.0%	45,845	15.8%	3,820	1.3%	22,923	7.9%	290,353
7	08/02	0		0		0		0		0		0
8	08/04	1,179	1.2%	86,070	84.9%	10,611	10.5%	0	0.0%	3,537	3.5%	101,397
9	08/06	1,527	1.2%	111,454	84.9%	13,741	10.5%	0	0.0%	4,580	3.5%	131,302
10	08/08	2,014	1.0%	118,833	61.5%	62,438	32.3%	2,014	1.0%	8,056	4.2%	193,355
11	08/10	1,433	1.0%	84,573	61.5%	44,437	32.3%	1,433	1.0%	5,734	4.2%	137,611
12	08/12	1,020	1.0%	60,165	61.5%	31,612	32.3%	1,020	1.0%	4,079	4.2%	97,895
13	08/14	1,224	1.0%	72,242	61.5%	37,958	32.3%	1,224	1.0%	4,898	4.2%	117,547
14	08/15	260	1.0%	15,365	61.5%	8,073	32.3%	260	1.0%	1,042	4.2%	25,000
15	08/16	1,052	1.0%	62,090	61.5%	32,623	32.3%	1,052	1.0%	4,209	4.2%	101,027
16	08/17	0		0		0		0		0		0
17	08/18	939	1.0%	55,386	61.5%	29,101	32.3%	939	1.0%	3,755	4.2%	90,120
20	08/21	328	1.0%	19,359	61.5%	10,172	32.3%	328	1.0%	1,313	4.2%	31,500
21	08/22	0		0		0		0		0		0
22	08/23	394	1.0%	23,254	61.5%	12,218	32.3%	394	1.0%	1,577	4.2%	37,837
23	08/24	94	1.0%	5,558	61.5%	2,920	32.3%	94	1.0%	377	4.2%	9,044
24	08/25	0		0		0		0		0		0
25	08/26	1,025	1.0%	60,452	61.5%	31,763	32.3%	1,025	1.0%	4,098	4.2%	98,362
26	08/27	0	0.0%	204,509	100.0%	0	0.0%	0	0.0%	0	0.0%	204,509
27	08/28	0	0.0%	356,955	100.0%	0	0.0%	0	0.0%	0	0.0%	356,955
28	08/29	0	0.0%	289,806	100.0%	0	0.0%	0	0.0%	0	0.0%	289,806
29	08/30	0	0.0%	455,680	100.0%	0	0.0%	0	0.0%	0	0.0%	455,680
30	08/31	0	0.0%	529,533	100.0%	0	0.0%	0	0.0%	0	0.0%	529,533
31	09/01	0	0.0%	356,074	100.0%	0	0.0%	0	0.0%	0	0.0%	356,074
32	09/02	0	0.0%	269,205	100.0%	0	0.0%	0	0.0%	0	0.0%	269,205
33	09/03	0	0.0%	333,418	100.0%	0	0.0%	0	0.0%	0	0.0%	333,418
34	09/04	0	0.0%	143,177	100.0%	0	0.0%	0	0.0%	0	0.0%	143,177
35	09/05	0	0.0%	90,300	100.0%	0	0.0%	0	0.0%	0	0.0%	90,300
40	09/10	0	0.0%	18,531	100.0%	0	0.0%	0	0.0%	0	0.0%	18,531
		35,965	0.6%	4,930,595	83.4%	640,175	10.8%	15,998	0.3%	286,909	4.9%	5,909,643

Appendix E13.—Hatchery contributions to the commercial common property pink salmon drift gillnet and purse seine fisheries in the Coghill District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
1	05/26	- 05/27	0		0								0
2	05/29	- 05/30	0		0		0		0		0		0
3	06/02	- 06/03	0		0		0		0		0		0
4	06/05	- 06/06	0		0		0		0		0		0
5	06/09	- 06/10	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	100.0%	4
6	06/12	- 06/13	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%	2
7	06/16	- 06/17	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	100.0%	5
8	06/19	- 06/20	1	4.0%	1	2.0%	2	6.0%	0	0.0%	28	88.0%	32
9	06/23	- 06/24	16	4.0%	8	2.0%	24	6.0%	0	0.0%	358	88.0%	407
10	06/26	- 06/27	77	4.0%	38	2.0%	115	6.0%	0	0.0%	1,686	88.0%	1,916
11	06/30	- 07/06	3,051	4.0%	1,526	2.0%	4,577	6.0%	0	0.0%	67,127	88.0%	76,281
12	07/07	- 07/13	5,273	4.0%	2,637	2.0%	7,910	6.0%	0	0.0%	116,013	88.0%	131,833
13	07/14	- 07/17	2,928	2.1%	8,784	6.3%	55,631	39.6%	0	0.0%	73,198	52.1%	140,541
14	07/18	- 07/20	0	0.0%	6,887	6.5%	64,738	61.0%	1,377	1.3%	33,058	31.2%	106,060
15	07/21	- 07/24	0	0.0%	537	6.5%	5,046	61.0%	107	1.3%	2,577	31.2%	8,267
16	07/25	- 07/27	0	0.0%	487	6.5%	4,577	61.0%	97	1.3%	2,337	31.2%	7,499
17	07/29	- 07/31	0	0.0%	1,550	6.5%	14,572	61.0%	310	1.3%	7,441	31.2%	23,874
18	08/02	- 08/02	0	0.0%	20,388	6.5%	282,030	89.2%	0	0.0%	13,592	4.3%	316,010
19	08/04	- 08/04	0	0.0%	7,438	3.4%	208,257	95.5%	0	0.0%	2,479	1.1%	218,174
20	08/06	- 08/06	1,193	1.0%	2,387	2.1%	108,588	94.8%	0	0.0%	2,387	2.1%	114,554
21	08/08	- 08/08	0	0.0%	1,537	2.2%	69,164	96.8%	768	1.1%	0	0.0%	71,469
22	08/10	- 08/10	0	0.0%	0	0.0%	393,511	100.0%	0	0.0%	0	0.0%	393,511
23	08/11	- 08/11	0	0.0%	0	0.0%	146,659	100.0%	0	0.0%	0	0.0%	146,659
24	08/12	- 08/12	0	0.0%	0	0.0%	359,243	100.0%	0	0.0%	0	0.0%	359,243
25	08/13	- 08/13	0	0.0%	0	0.0%	273,646	100.0%	0	0.0%	0	0.0%	273,646
26	08/14	- 08/14	0	0.0%	0	0.0%	301,683	100.0%	0	0.0%	0	0.0%	301,683
27	08/15	- 08/15	0	0.0%	0	0.0%	308,697	100.0%	0	0.0%	0	0.0%	308,697
28	08/16	- 08/16	0	0.0%	0	0.0%	404,880	100.0%	0	0.0%	0	0.0%	404,880
29	08/17	- 08/17	0	0.0%	0	0.0%	280,901	100.0%	0	0.0%	0	0.0%	280,901
30	08/18	- 08/18	0	0.0%	0	0.0%	435,630	100.0%	0	0.0%	0	0.0%	435,630
31	08/19	- 08/19	0	0.0%	0	0.0%	467,093	100.0%	0	0.0%	0	0.0%	467,093
32	08/20	- 08/20	0	0.0%	0	0.0%	790,133	100.0%	0	0.0%	0	0.0%	790,133
33	08/21	- 08/21	0	0.0%	0	0.0%	631,593	100.0%	0	0.0%	0	0.0%	631,593
34	08/22	- 08/22	0	0.0%	0	0.0%	777,035	100.0%	0	0.0%	0	0.0%	777,035

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Period	Harvest											
	Date	SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
35	08/23	0	0.0%	0	0.0%	864,382	100.0%	0	0.0%	0	0.0%	864,382
36	08/24	0	0.0%	0	0.0%	766,088	100.0%	0	0.0%	0	0.0%	766,088
37	08/25	0	0.0%	0	0.0%	712,444	100.0%	0	0.0%	0	0.0%	712,444
38	08/26	0	0.0%	0	0.0%	532,484	100.0%	0	0.0%	0	0.0%	532,484
39	08/27	0	0.0%	0	0.0%	467,608	100.0%	0	0.0%	0	0.0%	467,608
40	08/28	0	0.0%	0	0.0%	313,701	100.0%	0	0.0%	0	0.0%	313,701
41	08/29	0	0.0%	0	0.0%	225,750	100.0%	0	0.0%	0	0.0%	225,750
42	08/30	0	0.0%	0	0.0%	235,056	100.0%	0	0.0%	0	0.0%	235,056
43	08/31	0	0.0%	0	0.0%	227,808	100.0%	0	0.0%	0	0.0%	227,808
44	09/01	0	0.0%	0	0.0%	135,417	100.0%	0	0.0%	0	0.0%	135,417
45	09/02	0	0.0%	0	0.0%	83,700	100.0%	0	0.0%	0	0.0%	83,700
46	09/03	0	0.0%	0	0.0%	100,269	100.0%	0	0.0%	0	0.0%	100,269
47	09/04	0	0.0%	0	0.0%	31,470	100.0%	0	0.0%	0	0.0%	31,470
52	09/11	0	0.0%	0	0.0%	525	100.0%	0	0.0%	0	0.0%	525
54	09/22	0		0		0		0		0		0
55	09/26	0		0		0		0		0		0
		12,540	0.1%	54,203	0.5%	11,092,637	96.6%	2,661	0.0%	322,293	2.8%	11,484,334

Appendix E14.—Hatchery contributions to the commercial common property pink salmon drift and set gillnet fisheries in the Eshamy District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
01	06/09	- 06/10	0		0		0		0		0		0
02	06/30	- 07/01	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1,345	100.0%	1,345
03	07/04	- 07/06	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2,973	100.0%	2,973
04	07/08	- 07/09	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6,286	100.0%	6,286
05	07/10	- 07/11	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9,276	100.0%	9,276
06	07/14	- 07/16	0	0.0%	0	0.0%	0	0.0%	0	0.0%	19,676	100.0%	19,676
07	07/17	- 07/19	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16,212	100.0%	16,212
08	07/21	- 07/22	0	0.0%	333	5.1%	4331	66.7%	666	10.3%	1,166	17.9%	6,497
09	07/24	- 07/27	0	0.0%	393	5.1%	5107	66.7%	786	10.3%	1,375	17.9%	7,661
10	07/28	- 07/31	0	0.0%	190	5.1%	1531	41.1%	344	9.2%	1,664	44.6%	3,729
11	07/31	- 08/03	0	0.0%	204	5.2%	1075	27.6%	161	4.1%	2,460	63.1%	3,901
12	08/04	- 08/06	0	0.0%	147	5.2%	772	27.6%	116	4.1%	1,766	63.1%	2,801
13	08/07	- 08/08	83	1.0%	433	5.2%	2445	29.5%	342	4.1%	4,993	60.2%	8,296
14	08/11	- 08/12	11	1.0%	59	5.2%	331	29.5%	46	4.1%	676	60.2%	1,123
15	08/14	- 08/15	0		0		0		0		0		0
16	08/18	- 08/20	0		0		0		0		0		0
17	08/21	- 08/23	3	1.0%	19	5.8%	97	29.7%	27	8.4%	180	55.1%	327
18	08/25	- 08/27	0		0		0		0		0		0
19	08/28	- 08/30	0		0		0		0		0		0
20	09/01	- 09/03	0		0		0		0		0		0
21	09/04	- 09/05	0		0		0		0		0		0
			97	0.1%	1,777	2.0%	15,690	17.4%	2,489	2.8%	70,048	77.7%	90,102

Appendix E15.—Hatchery contributions to the commercial common property pink salmon purse seine fishery in the Southwestern District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
01	05/26	- 06/01	0		0		0		0		0		0
02	06/02	- 06/08	0		0		0		0		0		0
03	06/09	- 06/15	0		0		0		0		0		0
04	06/16	- 06/22	0	0.0%	0	0.0%	0	0.0%	3	100.0%	0	0.0%	3
05	07/14	- 07/20	0	0.0%	0	0.0%	0	0.0%	9749	96.0%	406	4.0%	10,155
06	07/21	- 07/21	26,523	18.5%	14041	9.8%	37444	26.1%	31203	21.7%	34324	23.9%	143,535
07	07/23	- 07/23	0	0.0%	14449	9.6%	35319	23.4%	65822	43.6%	35319	23.4%	150,909
08	07/25	- 07/25	2,428	1.0%	14567	6.3%	55838	24.0%	121388	52.1%	38844	16.7%	233,065
09	07/27	- 07/27	4,135	1.0%	24812	6.3%	95112	24.0%	206766	52.1%	66165	16.7%	396,991
10	07/29	- 07/29	0	0.0%	24331	8.0%	90373	29.5%	149464	48.9%	41711	13.6%	305,879
11	07/31	- 07/31	0	0.0%	39284	10.3%	91663	24.1%	178961	47.1%	69838	18.4%	379,746
12	08/02	- 08/02	3,105	1.3%	34160	13.9%	62109	25.3%	118007	48.1%	27949	11.4%	245,330
13	08/04	- 08/04	2,656	1.2%	21248	9.9%	39840	18.5%	114207	53.1%	37184	17.3%	215,135
14	08/06	- 08/06	0	0.0%	38061	17.7%	65742	30.6%	83042	38.7%	27681	12.9%	214,526
15	08/08	- 08/08	0	0.0%	18924	9.1%	66235	31.8%	100929	48.5%	22078	10.6%	208,167
16	08/15	- 08/15	0	0.0%	0	0.0%	0	0.0%	138261	100.0%	0	0.0%	138,261
17	08/16	- 08/16	0	0.0%	0	0.0%	0	0.0%	10077	100.0%	0	0.0%	10,077
18	08/17	- 08/17	0	0.0%	0	0.0%	0	0.0%	59866	100.0%	0	0.0%	59,866
19	08/18	- 08/18	0	0.0%	0	0.0%	0	0.0%	35971	100.0%	0	0.0%	35,971
20	08/19	- 08/19	0	0.0%	0	0.0%	0	0.0%	103098	100.0%	0	0.0%	103,098
21	08/20	- 08/20	0	0.0%	0	0.0%	0	0.0%	138200	100.0%	0	0.0%	138,200
22	08/21	- 08/21	0	0.0%	0	0.0%	0	0.0%	159932	100.0%	0	0.0%	159,932
23	08/22	- 08/22	0	0.0%	0	0.0%	0	0.0%	159403	100.0%	0	0.0%	159,403
24	08/23	- 08/23	0	0.0%	0	0.0%	0	0.0%	40300	100.0%	0	0.0%	40,300
25	08/24	- 08/24	0	0.0%	0	0.0%	0	0.0%	169084	100.0%	0	0.0%	169,084
26	08/25	- 08/25	0	0.0%	0	0.0%	0	0.0%	155024	100.0%	0	0.0%	155,024
27	08/26	- 08/26	0	0.0%	0	0.0%	0	0.0%	169922	100.0%	0	0.0%	169,922
28	08/27	- 08/27	0	0.0%	0	0.0%	0	0.0%	167240	100.0%	0	0.0%	167,240
29	08/28	- 08/28	0	0.0%	0	0.0%	0	0.0%	158563	100.0%	0	0.0%	158,563
30	08/29	- 08/29	0	0.0%	0	0.0%	0	0.0%	114775	100.0%	0	0.0%	114,775
31	08/30	- 08/30	0	0.0%	0	0.0%	0	0.0%	156960	100.0%	0	0.0%	156,960
32	08/31	- 08/31	0	0.0%	0	0.0%	0	0.0%	165436	100.0%	0	0.0%	165,436
33	09/01	- 09/01	0	0.0%	0	0.0%	0	0.0%	157300	100.0%	0	0.0%	157,300
34	09/02	- 09/02	0	0.0%	0	0.0%	0	0.0%	164614	100.0%	0	0.0%	164,614

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Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
41	09/03	- 09/03	0	0.0%	0	0.0%	0	0.0%	184985	100.0%	0	0.0%	184,985
42	09/04	- 09/04	0	0.0%	0	0.0%	0	0.0%	226967	100.0%	0	0.0%	226,967
43	09/05	- 09/05	0	0.0%	0	0.0%	0	0.0%	51801	100.0%	0	0.0%	51,801
44	09/06	- 09/06	0	0.0%	0	0.0%	0	0.0%	142939	100.0%	0	0.0%	142,939
45	09/07	- 09/07	0	0.0%	0	0.0%	0	0.0%	144340	100.0%	0	0.0%	144,340
46	09/08	- 09/08	0	0.0%	0	0.0%	0	0.0%	70820	100.0%	0	0.0%	70,820
47	09/09	- 09/09	0	0.0%	0	0.0%	0	0.0%	14040	100.0%	0	0.0%	14,040
48	09/10	- 09/10	0	0.0%	0	0.0%	0	0.0%	12831	100.0%	0	0.0%	12,831
49	09/11	- 09/11	0	0.0%	0	0.0%	0	0.0%	13229	100.0%	0	0.0%	13,229
			38,847	0.7%	243,877	4.2%	639,676	11.0%	4,465,520	77.1%	401,499	6.9%	5,789,419

Appendix E16.—Hatchery contributions to the commercial common property pink salmon purse seine fishery in the Montague District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
01	05/26	- 06/01	0		0		0		0		0		0
02	06/02	- 06/08	0		0		0		0		0		0
03	06/09	- 06/15	1,457	36.0%	0	0.0%	0	0.0%	0	0.0%	2,591	64.0%	4,048
04	06/16	- 06/22	5,368	28.0%	0	0.0%	0	0.0%	0	0.0%	13,804	72.0%	19,172
05	06/23	- 06/29	2,678	36.0%	0	0.0%	0	0.0%	0	0.0%	4,761	64.0%	7,439
06	06/30	- 07/06	3,016	40.0%	0	0.0%	0	0.0%	0	0.0%	4,525	60.0%	7,541
07	07/07	- 07/13	29	36.7%	0	0.0%	0	0.0%	0	0.0%	50	63.3%	79
08	07/14	- 07/20	6,162	28.0%	0	0.0%	0	0.0%	0	0.0%	15,846	72.0%	22,008
			18,710	31.0%	0	0.0%	0	0.0%	0	0.0%	41,577	69.0%	60,287

Appendix E17.—Hatchery contributions to the commercial common property pink salmon purse seine fishery in the Southeastern District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
01	07/07	- 07/07	0		0		0		0		0		0
02	07/09	- 07/09	0	0.0%	0	0.0%	0	0.0%	0	0.0%	489	100.0%	489
03	07/11	- 07/11	0		0		0		0		0		0
04	07/13	- 07/13	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9,103	100.0%	9,103
05	07/15	- 07/15	0	0.0%	0	0.0%	0	0.0%	0	0.0%	32,163	100.0%	32,163
06	07/17	- 07/17	2,582	2.2%	1,291	1.1%	1,291	1.1%	0	0.0%	112,306	95.6%	117,469
07	07/19	- 07/19	0	0.0%	1,490	1.1%	0	0.0%	0	0.0%	129,647	98.9%	131,137
08	07/21	- 07/21	0	0.0%	0	0.0%	0	0.0%	0	0.0%	72,654	100.0%	72,654
09	07/23	- 07/23	0	0.0%	0	0.0%	0	0.0%	0	0.0%	73,791	100.0%	73,791
10	07/25	- 07/25	0	0.0%	0	0.0%	0	0.0%	0	0.0%	63,439	100.0%	63,439
11	07/27	- 07/27	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4,360	100.0%	4,360
12	07/29	- 07/29	0		0		0		0		0		0
13	07/31	- 07/31	0		0		0		0		0		0
14	08/02	- 08/02	0		0		0		0		0		0
15	08/04	- 08/04	0		0		0		0		0		0
16	08/06	- 08/06	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6,632	100.0%	6,632
17	08/08	- 08/08	0		0		0		0		0		0
18	08/10	- 08/10	0		0		0		0		0		0
19	08/12	- 08/12	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3,215	100.0%	3,215
			2,582	0.0%	2,781	0.0%	1,291	0.0%	0	0.0%	507,798	98.7%	514,452

Appendix E18.—Hatchery contributions to the commercial common property pink salmon drift gillnet and purse seine fisheries in the Unakwik District, 2003.

Period	Harvest		SGH	%	CCH	%	WNH	%	AFK	%	Wild	%	Total
	Dates												
01	06/16	- 06/17	0		0		0		0		0		0
02	06/23	- 06/24	0		0		0		0		0		0
03	06/26	- 06/27	0		0		0		0		0		0
04	06/30	- 07/01	0		0		0		0		0		0
05	07/04	- 07/05	0		0		0		0		0		0
06	07/08	- 07/09	0		0		0		0		0		0
07	07/10	- 07/11	0		0		0		0		0		0
08	07/14	- 07/16	0		0		0		0		0		0
09	07/17	- 07/19	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2,261	100.0%	2,261
			0	0.0%	0	0.0%	0	0.0%	0	0.0%	2,261	100.0%	2,261

Appendix E19.–Hatchery contributions to the commercial common property chum salmon drift gillnet and purse seine fisheries in the Montague District, 2003.

Dates	Period	Hours	W. Noerenberg		Port Chalmers		A.F. Koernig		Hatchery total	Wild		Total
			Nr.	Percent	Nr.	Percent	Nr.	Percent		Nr.	Percent	
05/26 - 06/01	1 ^a	156	1,426	5.3	22,337	82.5	0		23,763	3,327	12.3	27,090
06/02 - 06/08	2 ^a	156	4,663	5.3	73,061	82.5	0		77,725	10,881	12.3	88,606
06/09 - 06/15	3 ^a	156	7,724	5.3	121,005	82.5	0		128,729	18,022	12.3	146,751
06/16 - 06/22	4	156	8,085	5.3	126,665	82.5	0		134,750	18,865	12.3	153,615
06/23 - 06/29	5 ^a	156	5,964	5.3	93,437	82.5	0		99,401	13,916	12.3	113,317
06/30 - 07/06	6	156	2,824	8.3	22,590	66.7	0		25,414	8,471	25.0	33,885
07/07 - 07/13	7 ^b	156	136	8.3	1,091	66.7	0		1,228	409	25.0	1,637
07/14 - 07/20	8 ^b	156	136	8.3	1,089	66.7	0		1,226	409	25.0	1,634
Total			30,958	5.5	461,276	81.4	0	0.0	492,235	74,300	13.1	566,535

^a Proportions from period 4 were used to allocate harvest.

^b Proportions from period 6 were used to allocate harvest.

Appendix E20.—Hatchery contributions to the commercial common property chum salmon drift gillnet and purse seine fisheries in the Coghill District, 2003.

Dates	Period	Hours	W. Noerenberg		Port Chalmers		A.F. Koernig		Hatchery Total	Wild		Total
			Nr.	Percent	Nr.	Percent	Nr.	Percent		Nr.	Percent	
05/26 - 05/27	1 ^{a,c}	24	2,348	72.8	491	15.2	0		2,839	385	12.0	3,224
05/29 - 05/30	2 ^e	24	68,880	72.8	14,393	15.2	0		83,272	11,309	12.0	94,581
06/02 - 06/03	3 ^c	24	12,937	74.0	2,733	15.6	0		15,670	1,822	10.4	17,492
06/05 - 06/06	4 ^e	24	95,034	59.4	40,014	25.0	1,667	1.0	136,715	23,342	14.6	160,057
06/09 - 06/10	5 ^c	24	47,198	69.9	13,070	19.4	726	1.1	60,995	6,535	9.7	67,530
06/12 - 06/13	6 ^e	24	187,266	75.3	32,186	12.9	0		219,453	29,260	11.8	248,713
06/16 - 06/17	7 ^c	24	89,894	77.3	15,864	13.6	1,322	1.1	107,079	9,254	8.0	116,333
06/19 - 06/20	8 ^c	24	72,247	69.7	22,140	21.3	1,165	1.1	95,553	8,157	7.9	103,710
06/23 - 06/24	9 ^c	24	98,718	78.4	10,015	8.0	0		108,733	17,168	13.6	125,901
06/26 - 06/27	10 ^e	24	118,730	88.6	3,044	2.3	0		121,775	12,177	9.1	133,952
06/30 - 07/06	11 ^e	156	146,883	42.3	155,785	44.9	0		302,668	44,510	12.8	347,178
07/07 - 07/13	12 ^e	156	23,897	62.7	9,152	24.0	0		33,049	5,085	13.3	38,134
07/14 - 07/17	13 ^{b,e}	84	10,334	62.7	3,958	24.0	0		14,291	2,199	13.3	16,490
07/18 - 07/20	14 ^{b,e}	60	2,131	62.7	816	24.0	0		2,948	453	13.3	3,401
07/21 - 07/24	15 ^{b,d}	60	12	62.7	5	24.0	0		16	3	13.3	19
07/25 - 07/27	16 ^{b,d}	60	98	62.7	38	24.0	0		136	21	13.3	157
07/29 - 07/31	17 ^{b,d}	48	0		0		0		0	0		0
08/02 - 08/02	18 ^{b,d}	12	3	62.7	1	24.0	0		4	1	13.3	5
08/04 - 08/04	19 ^{b,d}	12	0		0		0		0	0		0
08/06 - 08/06	20 ^{b,d}	12	4	62.7	1	24.0	0		5	1	13.3	6
08/08 - 08/08	21 ^{b,d}	12	16	62.7	6	24.0	0		23	3	13.3	26
Total			976,631	66.1	323,713	21.9	4,881	0.3	1,305,224	171,685	11.6	1,476,909

^a Proportions from period 2 were used to allocate harvest.

^b Proportions from period 12 were used to allocate harvest.

^c Periods 1,3,5,7-9 harvests are from drift gillnet fishery only (64,313 chum salmon).

^d Periods 15-21 harvests are from purse seine fishery only however, Esther subdistrict was open for drift gillnet fishery.

^e Periods 2,4,6,10-14 harvests are from drift gillnet and purse seine fisheries combined.

APPENDIX F. SUBSISTENCE AND PERSONAL USE FISHERIES

Appendix F1.— Subsistence salmon harvest by species and gear type, Prince William Sound and Upper Copper River, 2003.

Area	Permits	Permits	Gear Type	Chinook ^a	Sockeye ^a	Coho ^a	Pink ^a	Chum ^a	Other ^b	Total
	Issued	Fished								
Prince William Sound	11	NA	Drift Gillnet	0	48	0	0	3	0	51
PWS TOTAL	11	NA		0	48	0	0	3	0	48
Copper River District	384	225	Drift Gillnet	710	1,607	36	0	0	0	2,353
Upper Copper River	7,430	NA	Dip Net and Fish Wheel	4,043	114,948	2,579	0	0	0	121,570
Eastern/Northern Districts	15	4	Drift gillnet, purse seine, and dip net	0	81	185	20	12	0	298
Southwestern District	13	5	Drift gillnet, purse seine, and dip net	6	219	156	149	147	0	677
Batzulnetas	NA									
Total	7,864			4,759	116,951	2,956	169	165	0	124,997

^a Reported harvest only.

^b Includes whitefish, flounder, and Dolly Varden.

Appendix F2.—Salmon harvest and effort in the Prince William Sound subsistence fishery, 1965-2003

Year	Permits		Harvest ^a						Total
	Issued	Returned	Chinook	Sockeye	Coho	Pink	Chum	Unknown	
1965	22	16				179	25		204
1966	3	3		3	19	20	50		92
1967	4	3			4	4			8
1968	4	3			20	156		22	198
1969	7	3			16				16
1970	1	1							0
1971	3	2				46			46
1972	0								0
1973	19	16			289				289
1974	3	1							0
1975	2	0							0
1976	0								0
1977	4	4							0
1978	3	2							0
1979	15	2							0
1980	26	15		7	6				13
1981	12	8		3	29		2		34
1982	35	27		84	4	31	24		143
1983	26	21		22	36	9	79		146
1984	8	8		10		11	2		23
1985	22	16	1	27	16	14	26		84
1986	25	14		5	15				20
1987	18	17	5	31	6		16		58
1988	7	7	2	51	7	10	9		79
1989	11	7	0	0	0	0	3	0	3
1990	8	7	0	0	7	4	0	0	11
1991	9	5	0	2	0	0	0	0	2
1992	10	6	0	20	0	0	0	0	20
1993	6	6	1	104	10	0	0	0	115
1994	5	4	0	0	0	0	0	0	0
1995	4	2	0	0	0	0	0	0	0
1996	10	7	0	0	0	0	0	0	0
1997	4	3	0	3	0	0	0	0	3
1998	4	3	0	0	0	0	0	0	0
1999	3	3	0	0	0	0	0	0	0
2000	3	3	0	0	0	0	0	0	0
2001	3	3	0	0	0	0	0	0	0
2002	11	9	0	31	0	9	7	0	47
2003	11	11	0	48	0	0	3	0	51

^a Includes harvest from Prince William Sound Area, exclusive of the Copper River District and customary and traditional subsistence locations within PWS. Reported harvest only.

Appendix F3.—Salmon harvest and effort in the Copper River District subsistence drift gillnet fishery, 1965-2003.

Year	Total Issued	Permits Issued			Harvest			Total
		Fished ^a	Not Fished	Not returned	Chinook ^e	Sockeye ^e	Coho ^e	
1965	31	15	5	11	12	459	85	556
1966	45	21	10	14	47	175		222
1967	61	37	19	5	83	153		236
1968	17	7	8	2	11	36		47
1969	49	20	13	16	16	63	85	164
1970	32	24	3	5	66	179		245
1971	29	17	9	3	10	32	4	46
1972	104	75	5	24	149	569	53	771
1973	94	89	N/A	5	153	326	180	659
1974	9	3	2	4	5	4	2	11
1975	2	2	N/A	0	0	5	0	5
1976	27	14	N/A	13	1	10	0	11
1977	23	22	N/A	1	10	71	0	81
1978	34	9	19	6	37	18	12	67
1979	49	21	20	8	45	26	17	88
1980	39	18	17	4	19	27	17	63
1981	72	30	21	21	48	145	104	297
1982	108	48	42	18	60	634	106	802 ^b
1983	87	31	42	14	79	107	57	254 ^b
1984	118	57	47	14	68	324	135	549 ^b
1985	94	67	27	0	88	261	83	433 ^b
1986	88	57	28	3	86	348	47	481 ^b
1987	95	39	50	6	49	359	14	510 ^b
1988	114	57	40	17	59	226	42	440 ^b
1989	75	32	32	11	56	339	51	454 ^b
1990	88	40	39	12	60	469	82	680 ^{c,d}
1991	129	71	44	14	136	830	38	1,009 ^{c,d}
1992	126	67	47	12	142	785	42	999 ^{c,d}
1993	111	50	43	18	120	428	29	579 ^{c,d}
1994	101	60	37	4	164	474	67	708 ^d
1995	126	72	41	13	154	692	31	880 ^{c,d}
1996	176	101	57	18	276	969	47	1,294 ^{c,d}
1997	269	165	78	26	200	1,001	1,777	2,989 ^{c,d}
1998	245	144	87	14	295	850	680	1,832 ^{c,d}
1999	294	175	100	19	353	1,330	682	2,379 ^{c,d}
2000	416	293	107	16	689	4,360	44	5,118 ^b
2001	468	288	151	29	826	3,072	70	3,971 ^b
2002	355	199	132	24	549	3,067	28	3,695 ^d
2003	384	225	140	19	710	1,607	36	2,353

^a Includes all permit holders; successful or unsuccessful.

^b Total also includes pink, chum, and/or Dolly Varden.

^c Data updated in 2000.

^d Total includes whitefish, Dolly Varden, and/or other species.

^e Reported harvest only

Appendix F4.—Salmon harvest and effort in the Eastern District (Tatitlek) and Southwestern District (Chenega) subsistence fisheries, 1988-2003.

Year	Permits		Harvest ^a						Total
	Issued	Fished	Chinook	Sockeye	Coho	Pink	Chum	Unknown	
EASTERN									
1988 ^c	17	9	2	210	211	143	245	0	811
1989 ^c	14	7	1	107	653	33	43	0	837
1990 ^c	13	3	0	5	241	10	4	0	260
1991 ^c	17	7	0	107	984	320	28	0	1,439
1992 ^c	16	5	2	441	369	30	49	0	891
1993	18	7	2	512	305	144	74	180	1,217
1994	14	4	0	50	143	50	70	0	313
1995 ^b	15								
1996	6	1	0	0	38	0	0	0	38
1997	6	3	0	107	45	0	54	0	206
1998 ^c	11	3	0	2	321	4	28	0	355
1999	17	8	0	344	541	31	31	0	947
2000	12	3	0	140	468	40	40	0	688
2001	14	8	0	114	230	60	12	0	416
2002 ^d	19	5	0	375	136	28	36	0	575
2003	15 ^e	4	0	81	185	20	12	0	298
SOUTHWESTERN									
1988	10	5	1	50	8	251	294	0	604
1989	8	7	0	322	0	554	180	0	1,056
1990	7	2	1	36	5	20	2	0	64
1991	12	4	3	345	42	195	53	0	638
1992	14	8	1	526	23	313	99	0	962
1993 ^c	22	17	2	875	60	232	124	0	1,293
1994	16	8	5	192	77	402	161	0	837
1995	10	5	2	152	67	67	41	0	329
1996 ^c	7	4	0	135	9	125	46	0	315
1997	5	4	44	193	30	110	272	0	649
1998	4	3	13	114	20	65	119	0	331
1999	14	7	57	499	62	168	101	0	887
2000	12	6	24	39	229	211	143	0	646
2001	16	8	2	119	92	95	146	0	454
2002	10	4	10	142	123	83	60	0	418
2003 ^f	13	5	6	219	156	149	147	0	677

^a Reported harvest only.

^b No permits were returned.

^c Data updated 2001.

^d Of the 19 permits issued, only 6 permits were returned.

^e Of the 15 permits issued, only 5 permits were returned and 4 of 5 permits reported fishing.

^f Of the 13 permits issued, only 7 permits were returned and 5 of 7 permits reported fishing.

Appendix F5.—Salmon harvest by species and numbers of permits by gear type for the Upper Copper River subsistence and personal use fisheries, 1981-2003. All data updated in 2003.

Year	Fishery or Subdistrict	Permits Issued			Reported Harvest ^a			Reported Harvest by Species			Total Salmon Harvest	
		Dip Net	Fish Wheel	Total	% Dip Net	% Fish Wheel	Total	Chinook	Sockeye	Coho	Reported	Estimated
1981	Subsistence	3,555	523	4,078	52%	48%	55,796	1,913	53,008	849	55,770	68,654
1982	Subsistence	5,475	615	6,090	62%	38%	100,734	2,532	96,799	1,246	100,577	109,557
1983	Subsistence	6,911	630	7,541	67%	33%	108,228	5,421	100,995	1,690	108,106	118,599
1984	Subsistence	104	458	562	6%	94%	20,597	366	20,101	120	20,587	28,715
	Personal use	5,311	17	5,328	100%		47,306	1,641	44,977	669	47,287	50,734
	Total	5,415	475	5,890	70%	30%	67,903	2,007	65,078	789	67,874	79,449
1985	Subsistence	4,153	533	5,686	57%	43%	52,733	1,673	50,488	544	52,705	64,164
1986	Subsistence ^b	39	366	405	3%	97%	25,781	622	24,890	264	25,776	28,423
	Personal use	3,966	65	4,031	98%	2%	42,695	2,294	39,794	521	42,609	44,047
	Total	4,005	431	4,436	62%	38%	68,476	2,916	64,684	785	68,385	72,470
1987	Subsistence ^b	59	372	431	4%	96%	25,271	531	21,615	105	22,251	34,142
	Personal use	4,186	73	4,259	99%	1%	43,449	2,749	40,285	393	43,427	46,908
	Total	4,245	445	4,690	64%	36%	68,720	3,280	61,900	498	65,678	81,050
1988	Subsistence	70	339	409	9%	91%	21,481	693	20,391	260	21,344	30,755
	Personal use	4,205	46	4,251	97%	3%	41,721	2,724	38,514	456	41,694	45,855
	Total	4,275	385	4,660	68%	32%	63,202	3,417	58,905	716	63,038	76,610
1989	Subsistence	78	308	386	8%	92%	27,732	745	26,835	65	27,645	29,308
	Personal use	4,447	137	4,584	94%	6%	56,769	2,168	53,722	825	56,715	58,941
	Total	4,525	445	4,970	66%	34%	84,501	2,913	80,557	890	84,360	88,249
1990	Subsistence	95	311	406	9%	91%	30,663	610	29,947	87	30,644	32,524
	Personal use	5,631	58	5,689	99%	1%	68,277	2,611	64,054	1,457	68,122	70,812
	Total	5,726	369	6,095	71%	29%	98,940	3,221	94,001	1,544	98,766	103,336
1991	Subsistence	293	418	711	16%	84%	37,761	1,217	36,289	213	37,719	41,205
	Personal use	6,222	NA	6,222	100%		82,767	3,947	75,499	3,264	82,710	85,059
	Total	6,515	418	6,933	74%	26%	120,528	5,164	111,788	3,477	120,429	126,264
1992	Subsistence	151	504	655	10%	90%	44,448	1,368	42,689	330	44,387	47,095
	Personal use	6,387	NA	6,387	100%		89,840	3,337	84,981	1,487	89,805	91,683
	Total	6,538	504	7,042	70%	30%	134,288	4,705	127,670	1,817	134,192	138,778
1993	Subsistence	14	759	773	1%	99%	50,044	1,308	48,582	70	49,960	54,854
	Personal use	7,914	NA	7,914	100%		93,747	2,729	89,629	1,358	93,716	97,767
	Total	7,928	759	8,687	65%	35%	143,791	4,037	138,211	1,428	143,676	152,621

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Year	Fishery or Subdistrict	Permits Issued			Reported Harvest ^a			Reported Harvest by Species			Total Salmon Harvest	
		Dip Net	Fish Wheel	Total	% Dip Net	% Fish Wheel	Total	Chinook	Sockeye	Coho	Reported	Estimated
1994	Subsistence	267	703	970	10%	90%	64,658	1,827	62,717	55	64,599	70,391
	Personal use	7,061	NA	7,061	100%		95,903	3,596	90,332	1,903	95,831	99,822
	Total	7,328	703	8,031	64%	36%	160,561	5,423	153,049	1,958	160,430	170,213
1995	Subsistence	191	665	856	7%	93%	51,517	1,762	48,903	821	51,486	55,323
	Personal use	6,760	NA	6,760	100%		85,997	4,568	76,670	4,726	85,964	88,617
	Total	6,951	667	7,616	65%	35%	137,514	6,330	125,573	5,547	137,450	143,940
1996	Subsistence	219	631	850	11%	89%	50,843	1,388	48,747	522	50,657	54,290
	Personal use	7,198	NA	7,198	100%		99,511	3,493	92,590	3,295	99,378	102,108
	Total	7,417	631	8,048	70%	30%	150,354	4,881	141,337	3,817	150,035	156,398
1997	Subsistence	286	847	1,133	10%	90%	80,961	2,439	78,188	177	80,804	85,744
	Personal use	9,086	NA	9,086	100%		151,842	5,359	146,311	157	151,827	154,349
	Total	9,372	847	10,219	69%	31%	232,803	7,798	224,499	334	232,631	240,093
1998	Subsistence	272	738	1,010	13%	87%	63,633	1,751	61,268	507	63,526	66,951
	Personal use	10,006	NA	10,006	100%		143,027	6,583	134,299	2,100	142,982	146,075
	Total	10,278	738	11,016	73%	27%	206,660	8,334	195,567	2,607	206,508	213,026
1999	Subsistence	336	766	1,104	12%	88%	76,391	3,058	72,901	292	76,251	82,119
	Personal use	9,943	NA	9,943	100%		145,853	5,758	137,945	2,117	145,820	149,779
	Total	10,279	766	11,047	70%	30%	222,244	8,816	210,846	2,409	222,071	231,898
2000	Glennallen Subdistrict	464	787	1,251	14%	86%	63,739	4,782	58,241	511	63,534	64,885
	Chitina Subdistrict ^c	8,151	NA	8,151	100%		110,095	3,037	103,329	3,540	109,906	114,681
	Total	8,615	787	9,402	69%	31%	173,834	7,819	161,570	4,051	173,440	179,566
2001	Glennallen Subdistrict	408	832	1,240	11%	89%	83,668	3,373	79,117	1,101	83,591	88,578
	Chitina Subdistrict ^c	9,462	NA	9,462	100%		126,866	2,803	121,304	2,385	126,492	138,425
	Total	9,870	832	10,702	64%	36%	210,534	6,176	200,421	3,486	210,083	227,003
2002	Glennallen Subdistrict	460	662	1,122	14%	86%	51,866	3,424	47,892	524	51,840	55,059
	Chitina Subdistrict ^c	6,805	NA	6,805	100%		79,472	1,745	75,747	1,712	79,204	90,241
	Total	7,265	662	7,927	66%	34%	131,338	5,169	123,639	2,236	131,044	145,300
2003	Glennallen Subdistrict	399	613	1,012	14%	86%	47,054	2,585	47,719	487	50,791	50,892
	Chitina Subdistrict ^d	6,418	NA	6,418	100%		84,686	1,870	80,134	2,409	84,413	84,686
	Total	6,817	613	7,430	67%	33%	131,740	4,455	127,853	2,896	135,204	135,578

^a Includes all reported species.

^b Subsistence dip net catch estimated.

^c State personal use in the Chitina Subdistrict was changed to subsistence in 2000.

^d State subsistence in the Chitina Subdistrict was changed to personal use in 2003.

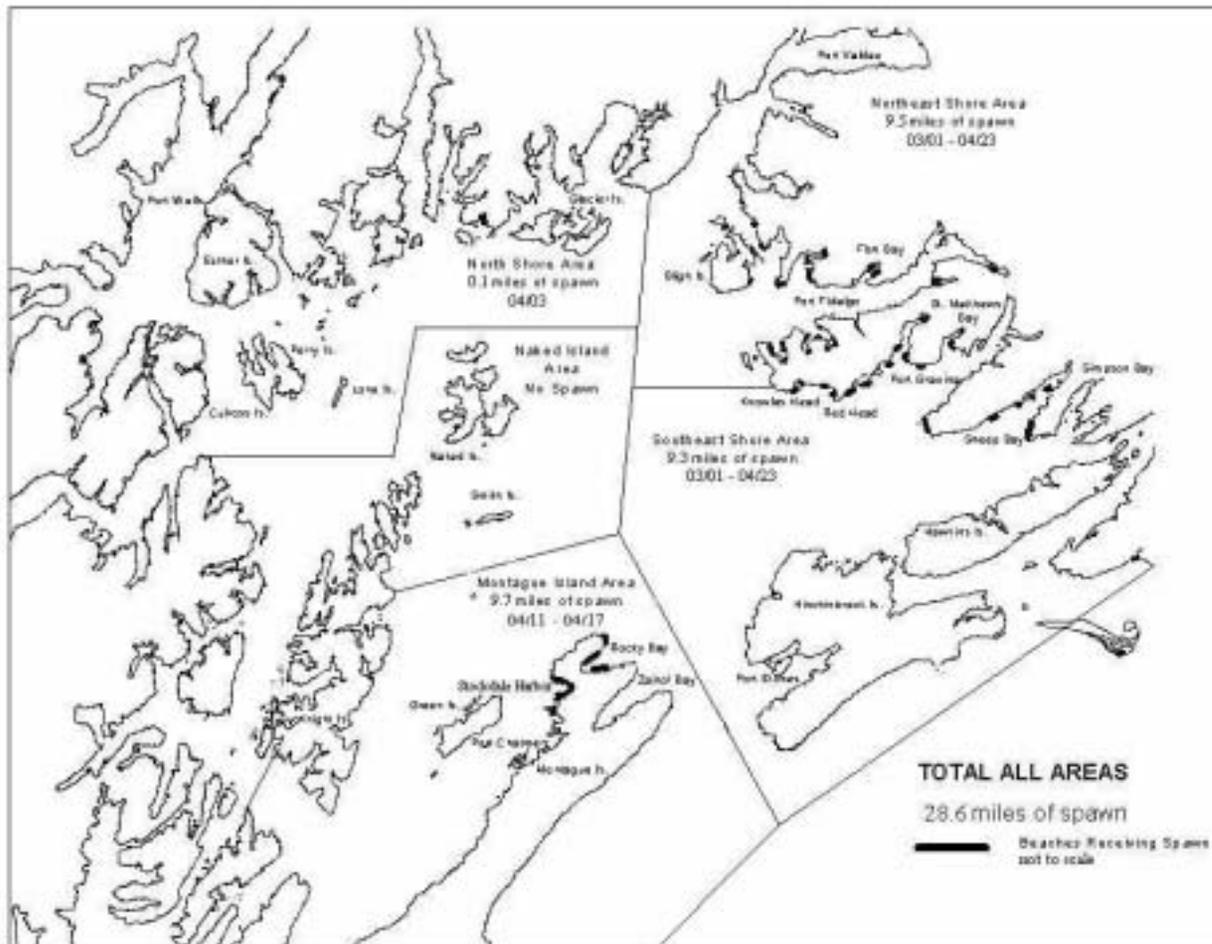
Appendix F6.—“Home Pack” salmon harvest by district, species, and gear type, Prince William Sound Management Area, 2003.

District	Permits	Landings	Gear					
			Type	Chinook ^a	Sockeye	Coho	Pink	Chum
Copper River	287	614	Drift gillnet	1,068	4,077	0	4	1
Bering River	0	0	Drift gillnet	0	0	0	0	0
PWS ^b	21	24	Drift and set gillnet, purse seine	26	23	0	0	0
Total	308	638		1,094	4,100	0	4	1

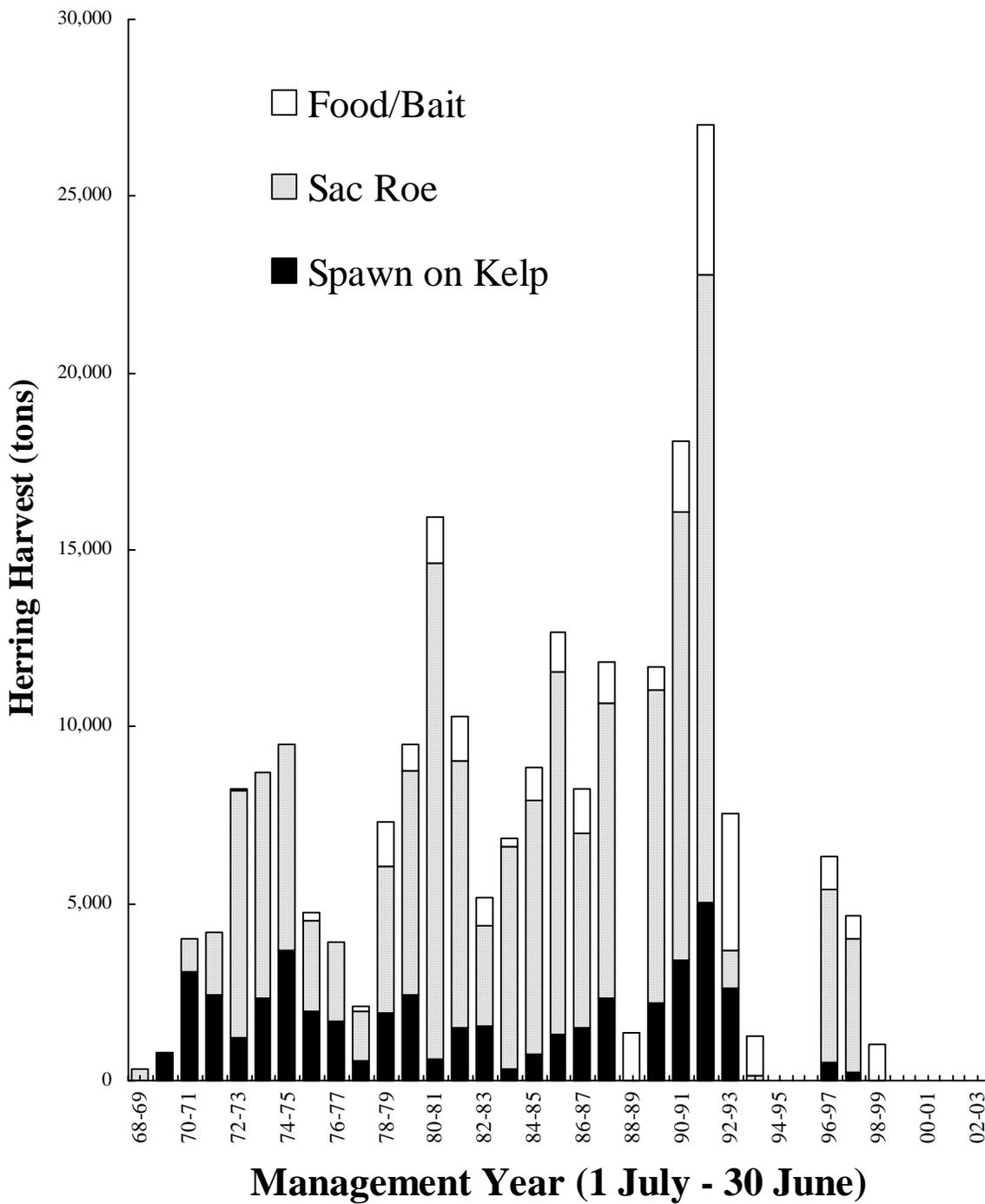
^a In 1994 the BOF passed regulation 5 AAC 24.356 requiring all Chinook salmon taken in the Copper River and Bering River Districts, but not sold be reported on fish tickets.

^b Coghill, Eshamy, and Southwestern Districts.

APPENDIX G: HERRING FISHERIES



Appendix G1.—Location of spawning herring and miles of spawn observed during aerial surveys in Prince William Sound, 2003.



Appendix G2.—Prince William Sound commercial Pacific herring harvest by management year and fishery, 1968-2003.

Appendix G3.—Pacific herring sac roe purse seine and drift gillnet fishery effort, anticipated harvest, and actual harvest, 1969-2003.

Calendar Year	Purse Seine Fishery							Drift Gillnet Fishery							Total Harvest (tons)
	Opening Dates	Effort Hours	Effort (Boats)	Guideline Harvest ^a	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Opening Dates	Effort Hours	Effort (Boats)	Guideline Harvest ^a	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	
1969	3/01 - 6/30		5		325.4										325.4
1970	3/01 - 6/30														
1971	3/01 - 6/30		12		919.2										919.2
1972	3/01 - 6/30		18		1,777.2										1,777.2
1973	4/23 - 5/09		31		6,991.9										6,991.9
1974	4/10 - 4/17		72		6,371.0			4/10 - 4/17		3		3.8			6,374.8
1975	4/15 - 4/22	14.0	76		5,853.8	5.50			14.0						5,853.8
1976	5/08 & 6/01	13.0	66		2,584.2	3.01			13.0						2,584.2
1977	4/09 - 4/10	38.0	58		2,265.6	1.03		4/09 - 04/10	38.0	1		1.6	0.04		2,267.1
1978	4/17 - 4/21 ^b	106.0	75	5,000	1,329.5	0.17		4/17 - 04/21	106.0	38		61.7	0.02		1,391.2
1979	4/07 - 4/19	215.5	89	5,000	4,138.0	0.22		CLOSED ^c							4,138.0
1980	4/01 - 4/09	162.0	76	5,000	6,042.2	0.49		4/17 - 5/05		16		264.4			6,306.7
1981	4/01 - 4/09	60.0	106	5,000	13,768.2	2.16		4/16 - 4/18	53.0	18		234.5	0.25		14,002.8
1982	4/23	2.0	95	5,000	7,148.3	37.62	10-14%	4/24 - 4/26	54.0	18		393.9	0.41	12-15%	7,542.2
1983	4/13	1.0	103 ^d	5,000	2,728.5	26.49	11.0%	4/21 - 4/22	24.0	22		105.4	0.20	11.0%	2,833.9
1984	4/14	3.0	105 ^e	5,000	5,946.1	18.88	10-11%	4/18 - 4/22	59.0	23	250	342.7	0.25	8-14%	6,288.8
1985	4/28 - 4/29	4.0	103 ^f	5,000	6,764.1	16.42	10-12%	4/29 - 5/01	34.0	21	250	413.3	0.58	10-12%	7,177.4
1986	4/17	3.0	106	5-7,000	9,828.1	30.91	11.0%	4/24 - 4/28	90.0	24	3-400	448.6	0.21	11.4%	10,276.7
1987	4/08 - 4/09	1.5	96	3-5,000	4,982.2	34.60	10.0%	4/10 - 4/11	24.0	24	2-300	533.3	0.93	9.5%	5,515.5
1988	4/21 - 4/22	2.0	105	4-5,000	7,977.3	37.99	10.5%	4/23	5.5	24	275	353.0	2.67	10.0%	8,330.3
1989	Season Closed ^g			6,400								375			0
1990	4/12	0.3	96	6,038	8,362.1	290.35	10.0%	4/13	4.0	24	353	505.4	5.26	10.6%	8,867.5

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Calendar Year	Purse Seine Fishery							Drift Gillnet Fishery							Total Harvest (tons)
	Opening Dates	Effort Hours (Boats)	Guideline Harvest ^a	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %	Opening Dates	Effort Hours (Boats)	Guideline Harvest ^a	Harvest (tons)	CPUE (tons/Boat Hr)	Estimated Roe %			
1991	4/09, 4/10, & 4/19	1.3 104	11,233	11,923.0 ^b	85.32	10.5%	4/18	10.5 24	657 742.0	2.94	11.06%	12,665.1			
1992	4/13, 4/17, & 4/21	2.0 104	14,100	16,784.2 ⁱ	80.69	10.0%	4/23 - 4/24	11.0 24	825 940.6	3.56	10.8%	17,724.8			
1993	No Harvest		15,586				4/15, 4/17-4/19	36.0 24	912 1,029.9	1.19	11.01%	1,029.9			
1994	Season Closed ^j		0	151.0 ^k					0			151.0			
1995	Season Closed ^j		0						0			0			
1996	Season Closed ^j		0						0			0			
1997	4/13,4/15	1.8 71	2,965	4,703.5	36.80	9.75%	4/09	2.5 22	175 175.7	3.19	8.00%	4,879.2			
1998	4/06	0.5 46	3,367	3,329.7	144.77	9.6%	4/11, 4/12	6.5 20	197 415.1	3.19	11.0%	3,744.8			
1999	Season Closed ^j		3,447						202			0			
2000	Season Closed ^j		0						0			0			
2001	Season Closed ^j		0						0			0			
2002	Season Closed ^j		0						0			0			
2003	Season Closed ^j		0						0			0			

^a Guideline harvest based on preseason harvest projection beginning in 1986.

^b An additional opening on 6/14 for 6 hours resulted in no harvest.

^c Drift gillnet fishery closed by Board of Fisheries action.

^d Of 103 permit holders participating, 72 actually made deliveries.

^e Of 105 permit holders participating, 101 actually made deliveries.

^f Of 103 permit holders participating, 62 made deliveries at Montague Island and 90 made deliveries in the north-shore area.

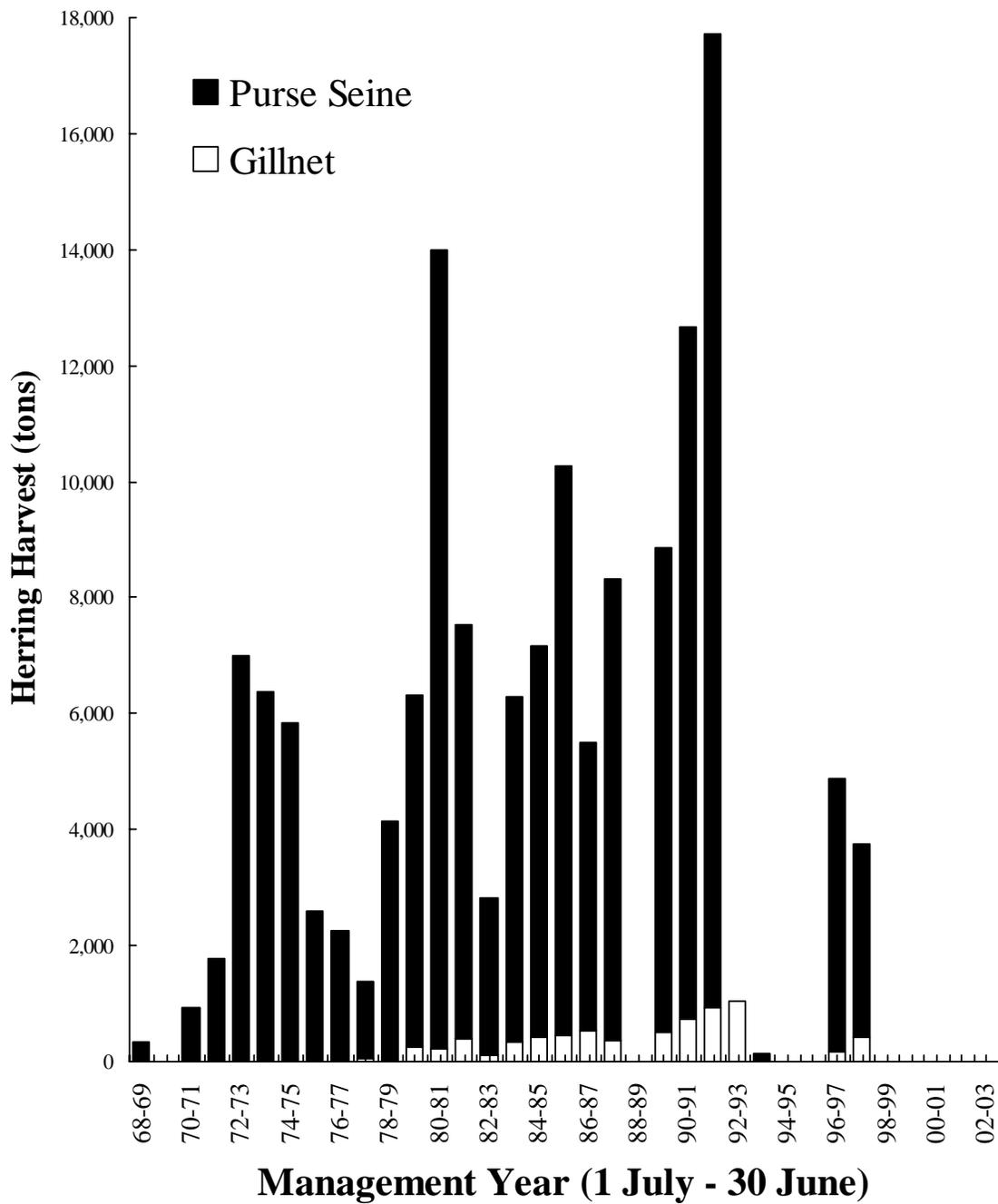
^g All herring commercial fisheries in PWS were closed during spring 1989 because of the potential for contamination from the T/V Exxon Valdez oil spill.

^h Total for 1991 includes a 92.2 ton test fishing set made by ADF&G for aerial survey calibration.

ⁱ Total for 1992 includes a 192.5 ton test fishing harvest made by ADF&G for aerial survey calibration.

^j Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.

^k Harvest for 1994 consisted of a single test fishing harvest made by ADF&G for aerial survey calibration.



Appendix G4.—Prince William Sound commercial Pacific herring sac roe purse seine and gillnet harvest by management year, 1968-2003.

Appendix G5.—Pacific herring spawn-on-kelp harvests from natural spawning, 1969-2003.

Calendar Year	Fishery Dates	Effort Hours (Nr. of Divers)	Guideline Harvest (tons)	Harvest by Kelp Species and Grounds Price (\$/lb)								Spawn-on-Kelp Harvest		Herring Utilized ^a tons
				Ribbon		Sieve		Fucus		Other		lbs.	tons	
				Percent	Price	Percent	Price	Percent	Price	Percent	Price			
1969	5/18-5/31	3										5,424	2.7	21.7
1970	4/19-6/06	34										190,374	95.2	761.5
1971	4/18-5/15	159										769,481	384.7	3,077.9
1972	4/30-5/20	397										600,453	300.2	2,401.8
1973	4/23-5/26	176										306,358	153.2	1,225.4
1974	4/22-5/04	143		Mostly Ribbon - Some Sieve and Hair				\$0.60-0.75				580,588	290.3	2,322.4
1975	4/25-5/10	328										916,919	458.5	3,667.7
1976	4/21- ?	279										485,043	242.5	1,940.2
1977	4/27-12/31	104										417,000	208.5	1,668.0
1978	4/20-4/30	66	165	23%		50%				27% ^b		141,268	70.6	565.1
1979	4/25-5/03	97	200									474,242	237.1	1,897.0
1980	4/23-4/30	10	458	200	60%	\$1.25	40%	\$0.85				603,880	301.9	2,415.5
1981	4/25	12	196	200	38%	\$1.25	60%	\$0.85		2% ^b	\$0.60	122,532	61.3	490.1
1982	5/05-5/08	73	152	187	83%	\$1.42	11%	\$0.95		6% ^b	\$0.74	291,430	145.7	1,165.7
1983	4/27	12	185	187	51%	\$2.00-2.45	35%	\$1.50-1.70		14% ^c		298,362	149.2	1,193.4
1984	Season Closed ^d	225 ^e	187											
1985	5/06 & 5/08	20	106	169	51%	\$1.25	49%	\$0.50				60,832	30.4	243.3
1986	4/30-5/03	86	29	142	97%	\$1.75		\$0.80		^b	\$0.80	95,205	47.6	380.8
1987	4/15-4/17	44	59	103	90%	\$1.70		\$0.85		^b	\$0.80	176,485	88.2	705.9
1988	4/29 & 4/30	12	159	103	64%	\$1.50	24%	\$0.75-1.00		12% ^b	\$0.75-1.00	194,762	97.4	779.0
1989	Season Closed ^f		110											

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Calendar Year	Fishery Dates	Effort (Nr. of Divers)		Guideline Harvest (tons)	Harvest by Kelp Species and Grounds Price (\$/lb)								Spawn-on-Kelp Harvest		Herring Utilized ^a (tons)
					Ribbon		Sieve		Fucus		Other		lbs.	tons	
					Percent	Price	Percent	Price	Percent	Price	Percent	Price			
1990	4/21-4/22	16	134	104	37%	\$0.99	6%	\$0.52			57% ^b	\$0.88	237,575	118.8	950.3
1991	5/11-5/17	95	48	195					100%	\$0.75-0.85			215,147	107.6	860.8
1992	4/24-4/30	101	217	243	21%	\$0.70			76%	\$0.40	3%		504,663	252.3	2,018.7
1993	4/19-4/24	114	83	268					100%	\$0.55			325,181	162.6	1,300.7
1994	Season Closed ^g			110											
1995	Season Closed ^g														
1996	Season Closed ^g														
1997	4/25 & 4/26	26.4	45	56.4					100%				52,800	26.4	211.2
1998	4/22-4/27	62	35	464	16%	\$0.80			84%	\$0.50			34,695	17.3	138.8
1999	Season Closed ^g			475											
2000	Season Closed ^g														
2001	Season Closed ^g														
2002	Season Closed ^g														
2003	Season Closed ^g														

^a Indicates the annual removal of reproductive capacity from the population based on the assumption that average fish roe recovery is 10%, and 80% of spawn-on-kelp harvest weight consists of eggs.

^b Hair kelp.

^c Mostly Macrocystis. Some hair kelp.

^d Season remained closed due to lack of suitable spawn.

^e Permits issued.

^f All herring commercial fisheries in Prince William Sound were closed spring 1989 because of the potential for contamination of catches from the T/V Exxon Valdez oil spill.

^g Season remained closed due to low herring abundance.

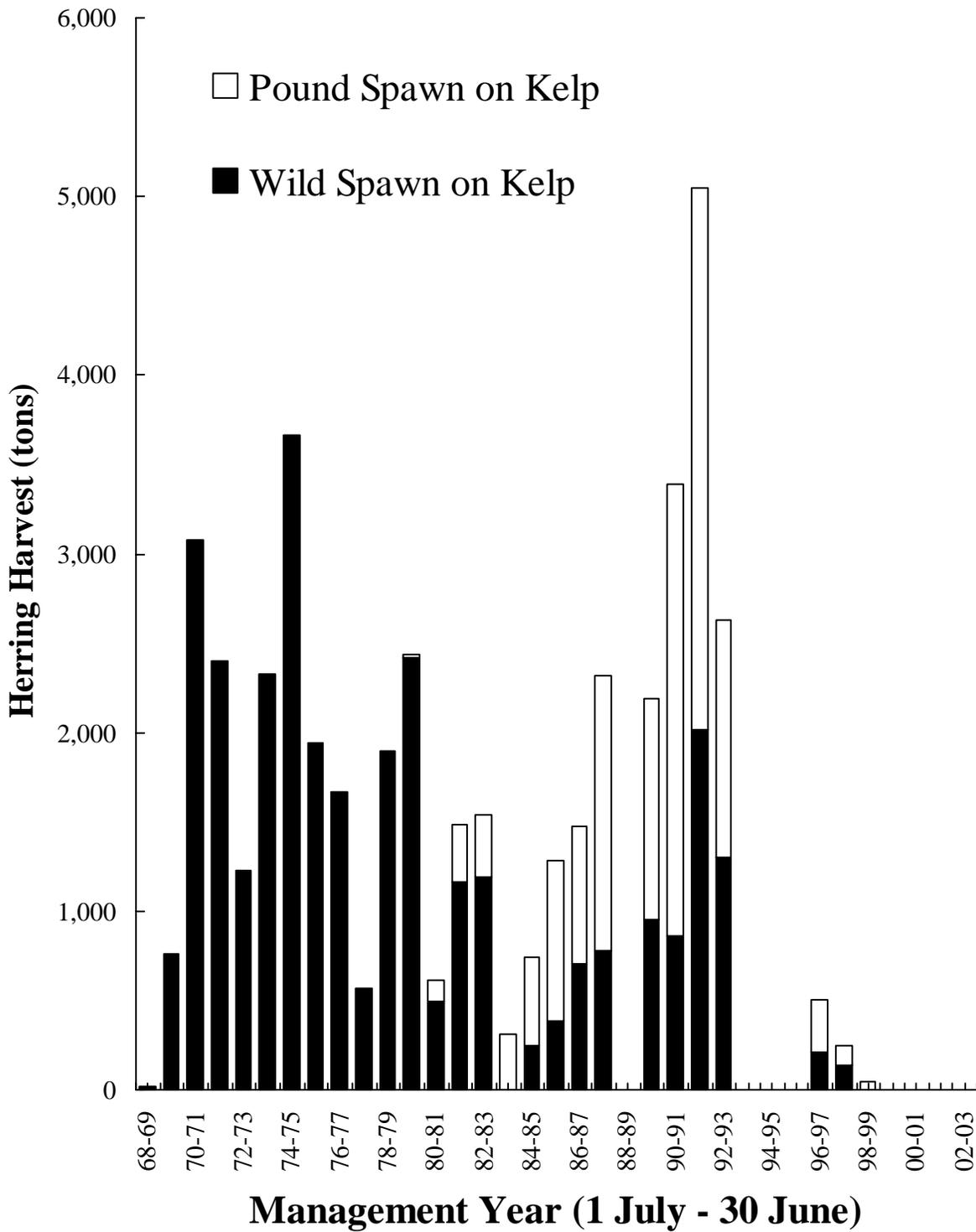
Appendix G6.—Pacific herring spawn-on-kelp harvest produced in pounds, 1979-2003.

Calendar Year	Fishery Dates ^c	Effort				Guideline Harvest (tons)	Blades per Permit Holder		Spawn-on-Kelp Harvest (tons)			Herring Utilized ^b (tons)
		CFEC Permits ^d	Permits Committed ^e	Producing Permits ^a Closed ^f Open ^g			Closed ^f	Open ^g	Ribbon	Macrocystis	Total	
1979		2	0									
1980	4/14	14	4	2		8			0.9	0.4	1.3	16.6
1981	4/14	18	18	7		16			8.6	1.1	9.7	120.7
1982	4/29-5/10	25	20	18		26			25.1	0.5	25.5	319.2
1983	4/30-5/04	47	38	26		26			17.7	10.1	27.7	346.7
1984	4/24-5/08	65	45	37		26			6.4	18.8	25.2	315.1
1985	4/25-5/07	81	59	50		40			12.1	28.1	40.2	502.1
1986	4/21-4/28	104	82	81		60			0	72.2	72.2	903.0
1987	4/10-4/21	111	111	108		85			0	61.2	61.2	765.1
1988	4/12-4/23	122	122	119		85			0	123.2	123.2	1,540.5
1989	Season Closed ^h											
1990	4/11-4/26	128	128	122		118			0	98.8	98.8	1,235.3
1991	4/07-4/20	126	126	119		220	1200		0	202.4	202.4	2,530.5
1992	4/07-4/24	127	127	127		276	1770		0	242.2	242.2	3,027.7
1993	4/10-4/22	128	124	52		305	1950		0	106.4	106.4	1,330.5
1994	Season Closed ⁱ											
1995	Season Closed ⁱ											
1996	Season Closed ⁱ											
1997	4/10-5/6	128	116	7	84	725	410	640	0	34.3	34.3	290.5
1998	^j	128	36	13	20	823	425	660	0	10.7	10.7	104.3
1999	^k	128	27	7	2	843	435	680	0	6.2	6.2	48.8
2000	Season Closed ⁱ											
2001	Season Closed ⁱ											
2002	Season Closed ⁱ											
2003	Season Closed ⁱ											

-continued-

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



Appendix G7.—Prince William Sound commercial spawn-on-kelp Pacific herring usage by management year, 1968-2003.

Appendix G8.—Prince William Sound commercial Pacific herring food/bait fishery effort and harvests, management years 1969-2003.

Harvest Management Year	Fishing		Guideline Harvest	Purse Seine		Pair Trawl		Mid-Water Trawl		Otter Trawl		Total Harvest (tons)	
	Dates			Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)		
	Opened	Closed											
1969-1970	10/01/69	06/30/70	^a	-	14.0							14.0	
1970-1971	10/01/70	06/30/71	^a									0	
1971-1972	10/01/71	06/30/72	^a	-	20.0							20.0	
1972-1973	10/01/72	05/09/73	^a	-	9.0							9.0	
1973-1974	08/27/73	04/17/74	^a	^b	8.5							8.5	
1974-1975	07/15/74	03/10/75	^b									0	
1975-1976	06/01/75	06/25/75	^c	^b	4	226.7						226.7	
1976-1977	02/01/77	03/09/77	^b									0	
1977-1978	10/01/77	02/28/78	^b	-	17.0	-	145.3					162.3	
1978-1979	10/16/78	?	^d	^b	-	195.4	7	988.7	-	9.4	-	81.0	1,274.4
1979-1980	09/16/79	02/28/80	^e	1,400	-	510.8	4	145.1	-	103.2	-	2.6	761.7
1980-1981	09/15/80	11/07/80		1,400	-	1,030.4	6	275.7					1,306.1
1980-1982	09/15/81	09/30/81		1,400	7	1,189.4	-	73.1					1,262.5
1982-1983	09/15/82	01/31/83		1,400	6	797.3							797.3
1983-1984	09/15/83	01/31/84		1,400	-	257.6							257.6
1984-1985	09/15/84	01/31/85		1,400	-	936.2							936.2
1985-1986	09/01/85	02/15/86		1,400	6	1,118.1							1,118.1
1986-1987	09/01/86	10/24/86		1,400	6	1,276.2							1,276.2
1987-1988	09/02/87	11/12/87	^f	1,400	7	1,189.4							1,189.4
1988-1989	11/01/88	11/05/88		1,400	8	1,335.3							1,335.3
1989-1990	11/01/89	01/31/90		1,694	-	646.1							646.1
1990-1991	09/21/90	11/24/90	^g	3,151	5	1,955.0			-	60.8			2,015.9
1991-1992	10/01/91	10/14/91		3,956	14	4,258.5							4,258.5
1992-1993	10/01/92	10/22/92		3,416	^h	17	3,900.3						3,900.3
1993-1994	10/07/93	10/10/93		978	ⁱ	8	1,087.0						1,087.0

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Harvest Management	Fishing Dates		Guideline Harvest	Purse Seine		Pair Trawl		Mid-Water Trawl		Otter Trawl		Total Harvest (tons)
	Opened	Closed		Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)	Effort (Boats)	Harvest (tons)	
1994-1995	Season Closed ^j											0
1995-1996	Season Closed ^j											0
1996-1997	11/01/96	11/03/96	825	6	933.9							933.9
1997-1998 ^k	11/1/97, 2/19/98 -	02/28/98	945	12	679.7							679.7
1998-1999	11/02/98,	11/04/98, 11/06/98	967	11 ^l	1,003.3	-	-					1,003.3
1999-2000	Season Closed ^j											0
2000-2001	Season Closed ^j											0
2001-2002	Season Closed ^j											0
2002-2003	Season Closed ^j											0

^a Openings set by regulation. Ending date coincides with regulatory ending of sac roe season.

^b No official quota, but unofficial goal was 1,500 tons.

^c Harvest from special June food-and-bait fishery opening. Although this harvest actually occurred at the end of the 1975 management year, it is included in the 1976 harvest management year to be consistent with other food-and-bait harvests that occur after spring sac roe fisheries.

^d Fishery closed from 1 January to 6 January 1979.

^e Fishery closed from 1 January to 15 February 1980.

^f Fishing season opened by regulation on September 1, 1987 in the District. The north-shore and east-shore herring districts opened on September 23. The season was closed by emergency order on October 6 for a period of five weeks, reopened on November 9, and closed for the duration of the 1987-88 season on November 12, 1987.

^g Fishery open from September 21 until November 24. The Montague Island area was open from September 24 until November 24.

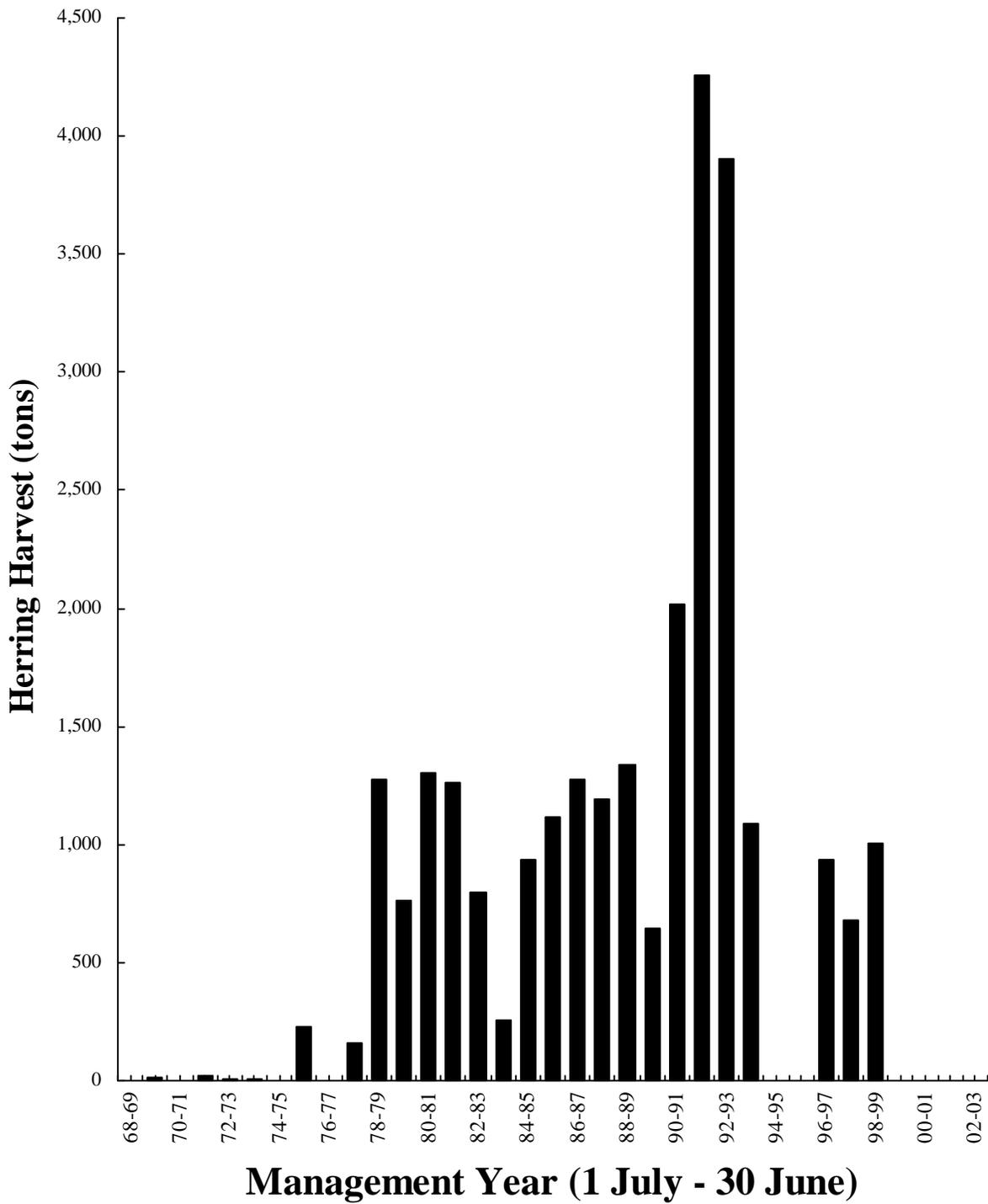
^h Preseason guideline harvest level based on spawn deposition biomass estimate. Final guideline harvest based on age-structured analysis was issued in January 1993 and was 4,373 tons.

ⁱ Preseason guideline harvest level based on preliminary aerial survey biomass estimate of 40,000 tons.

^j Season closed because the herring biomass was forecast to be less than the 22,000 ton spawning biomass threshold.

^k Season reopened in spring 1998 based on final age structured assessment modelling. Of the total harvest, 578.1 tons were taken in November 1997 and 101.6 tons were taken in February 1998.

^l Includes sale from ADF&G test fishing near Knowles Head, 31 October 1998.



Appendix G9.—Prince William Sound commercial food/bait Pacific herring harvest, management years 1968-2003.

Appendix G10.—Annual Pacific herring biomass indices for harvest management years 1973-2003.

Harvest Management Year	Total Spring	Aerial Survey Estimates				Pre-Fishery Run Biomass		Observed Peak Acoustic Biomass Estimates		Prior Year
	Use and Harvest	Peak Biomass	Maximum Possible	Mile of	Mile of	Age Structured	Age Structured	Fall	Spring	Forecast
	Mortality ^a	Estimate ^b	Observed Biomass ^c	Spawn ^d	Spawn ^e	Analysis ^g	Analysis ^g	(tons)	(tons)	(tons)
	(tons)	(tons)				(tons)	(tons)			
1973-1974	6,375	41,080	107,290	38.5	75.2					
1974-1975	5,854			34.2	42.4					
1975-1976	2,584	7,330	25,247	32.8	33.7					
1976-1977	2,267	16,830	17,460	39.3	73.5					
1977-1978	1,391	13,410	36,540	28.7	36.3					
1978-1979	4,138	42,100	107,390	54.5	73.2					
1979-1980	6,323	62,110	122,050	50.5	73.9	58,221	63,290			
1980-1981	14,124	77,810	161,690	85.4	140.1	63,494	76,890			
1981-1982	7,861	68,790	97,620	49.0	65.1	56,823	64,366			
1982-1983	3,181	41,850	107,710	67.4	99.8 ^h	65,949	68,753			
1983-1984	6,604	58,870	158,760	60.1	86.8	77,021	83,037			
1984-1985	7,679	20,830	60,954	101.2	149.5	96,694	104,034			
1985-1986	11,180	15,180	54,820	72.4	152.3	74,740	85,543			
1986-1987	6,281	26,530	52,192	65.3	155.9	71,773	76,891			
1987-1988	9,871	34,270	67,175	166.3	236.9	123,346	132,633			43,992
1988-1989	ⁱ	56,915	186,708	98.4	185.8	119,237	119,237			54,899
1989-1990	10,103	57,900	145,013	94.1	144.4	89,613	99,783			51,692
1990-1991	15,196	42,765	141,375	58.0	64.8	64,836	78,985			96,666

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Harvest Management Year	Total Spring	Aerial Survey Estimates					Pre-Fishery Run Biomass		Observed Peak Acoustic Biomass Estimates		Prior Year
	Use and Harvest Mortality ^a	Peak Biomass Estimate ^b	Maximum Possible Observed Biomass ^c	Miles of Spawn ^d	Mile Days of Spawn ^e	Age Structured Analysis ^g	Age Structured Analysis ^g	Fall (tons)	Spring (tons)	Forecast (tons)	
	(tons)	(tons)	(tons)			(tons)	(tons)				
1991-1992	20,752	53,835	130,569	74.7	99.5	77,598	96,860			121,342	
1992-1993	2,360	20,725	109,865	20.4	40.8	22,735	24,873			134,133	
1993-1994	151	19,640	154,008	14.6	20.0	16,559	16,559	20,998		29,787	
1994-1995	0	7,113	20,868	20.4	32.3	18,104	18,104	13,840	14,643	19,009	
1995-1996	0	10,691	37,771	27.2	39.1	27,909	27,909	26,776	25,353	24,332	
1996-1997	5,170	10,858	57,114	42.7	56.0	33,387	37,925	3,086	44,095	37,599	
1997-1998	3,849	13,817	50,124	38.7	48.5	34,726	38,389		25,045	38,640	
1998-1999	49	6,366	10,872	25.4	37.8	28,310	28,362		19,113	39,557	
1999-2000	0	1,610	2,889	19.5	24.6				7,444		
2000 - 2001	0	587	898	16.0	16.8				7,037		
2001 - 2002	0	150	1,063	21.5	23.0				12,015		
2002 - 2003	0	2,560	5,600	25.2	28.6				29,873		

^a Represents the common property seine and gillnet sac roe harvest, and equivalent use of herring in closed pound SOK fisheries.

^b Largest single day aerial estimate of herring biomass in short tons.

^c The sum of all daily aerial biomass estimates for a given year.

^d Total linear miles of spawn.

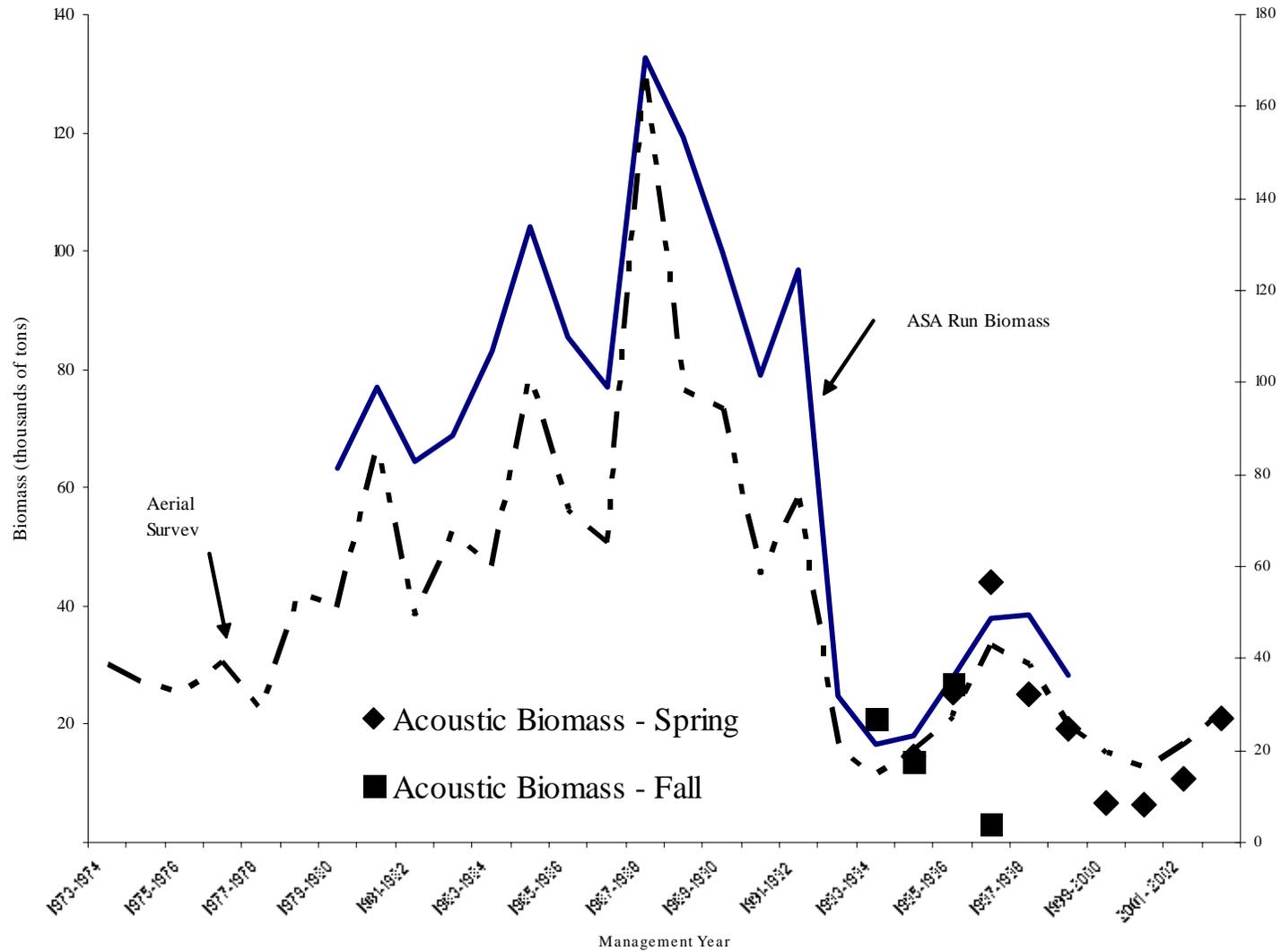
^e The sum of the daily observed linear miles of herring spawn.

^f Estimates are made from underwater surveys of spawn deposition.

^g Unexploited escapement and run biomass estimates from age structured analysis, February 1998.

^h Partial estimate of spawning biomass from feasibility study.

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



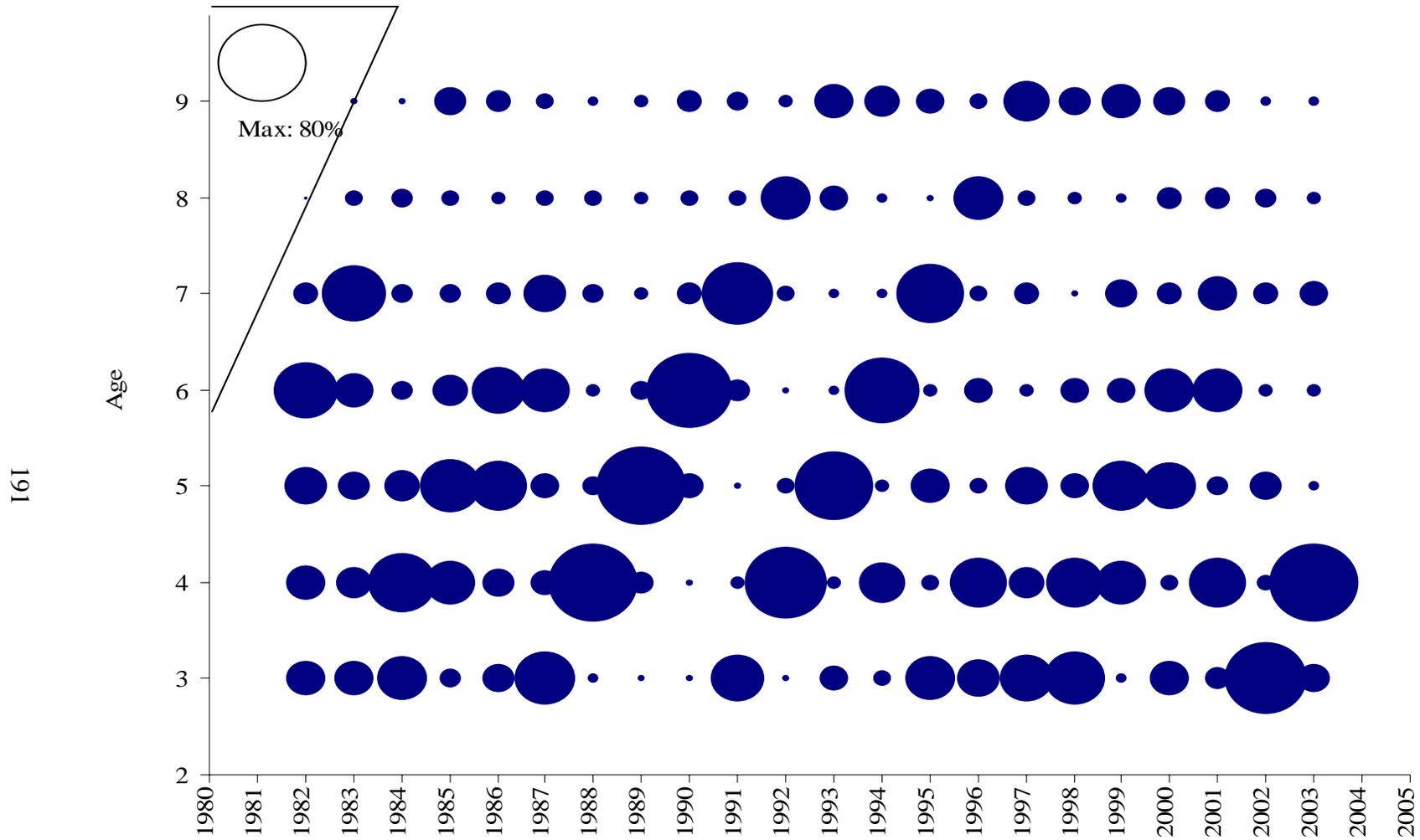
Appendix G11.—Prince William Sound annual Pacific herring biomass indices by management year, 1973-2003, and forecast run biomass from 2000 run of the ASA model.

Appendix G12.—Mean price and estimated exvessel value of the commercial Pacific herring harvest by gear type based on verbal post season estimates from processors and permit holders, 1978-2003.

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Calendar Year	Sac Roe Fisheries				Spawn on Kelp Fisheries				Food-and-Bait Fishery		TOTAL VALUE
	Purse Seine		Drift Gillnet		Wild Spawn on Kelp		Pounds		Mixed Gear		
	Price per ton	Total Value	Price per ton	Total Value	Price per lb	Total Value	Price per lb ^a	Total Value	Price per ton	Total Value	
1978	\$ 720	\$ 956,800			\$ 1.25	\$ 175,000			\$ 380	\$ 489,820	\$ 1,621,700
1979	\$ 1,260	\$ 5,213,880			\$ 1.74	\$ 821,280			\$ 300	\$ 196,800	\$ 6,231,960
1980	\$ 320	\$ 1,933,760			\$ 1.09	\$ 667,080			\$ 300	\$ 424,800	\$ 3,025,640
1981	\$ 400	\$ 5,508,000	\$ 580	\$ 135,720	\$ 1.00	\$ 122,000			\$ 260	\$ 328,120	\$ 6,093,840
1982	\$ 380	\$ 2,716,240	\$ 640	\$ 251,520	\$ 1.29	\$ 397,320			\$ 220	\$ 194,260	\$ 3,559,340
1983	\$ 600	\$ 1,634,400	\$ 1,040	\$ 109,200	\$ 2.10	\$ 634,200			\$ 260	\$ 70,980	\$ 2,448,780
1984	\$ 760	\$ 4,435,360	\$ 640	\$ 218,880	NO HARVEST		\$ 3.50	\$ 176,439	\$ 260	\$ 265,460	\$ 5,096,139
1985	\$ 760	\$ 5,380,800	\$ 900	\$ 371,700	\$ 0.48	\$ 19,200	\$ 7.09	\$ 569,058	\$ 250	\$ 279,500	\$ 6,620,258
1986	\$ 820	\$ 8,058,960	\$ 920	\$ 412,160	\$ 1.70	\$ 159,800	\$ 8.00	\$ 1,155,200	\$ 180	\$ 229,680	\$ 10,015,800
1987	\$ 1,100	\$ 5,480,200	\$ 960	\$ 511,680	\$ 1.70	\$ 299,200	\$ 15.00	\$ 1,836,000	\$ 300	\$ 356,700	\$ 8,483,780
1988	\$ 840	\$ 6,600,000	\$ 1,400	\$ 537,000	\$ 1.20	\$ 232,000	\$ 18.00	\$ 4,500,000	\$ 300	\$ 400,590	\$ 12,236,500
1989					SEASON CLOSED				\$ 300	\$ 193,830	\$ 193,830
1990	\$ 640	\$ 5,351,744	\$ 640	\$ 323,456	\$ 0.90	\$ 213,840	\$ 11.40	\$ 2,305,080	\$ 300	\$ 605,130	\$ 8,799,250
1991	\$ 600	\$ 7,153,800	\$ 600	\$ 445,200	\$ 0.80	\$ 172,160	\$ 9.00	\$ 2,880,000	\$ 250	\$ 1,064,625	\$ 11,715,785
1992	\$ 400	\$ 6,713,680	\$ 800	\$ 752,480	\$ 0.46	\$ 232,116	\$ 8.00	\$ 3,875,200	\$ 200	\$ 780,060	\$ 12,353,536
1993		NO HARVEST	\$ 400	\$ 411,960	\$ 0.55	\$ 178,860	\$ 10.00	\$ 2,000,000	\$ 200	\$ 217,400	\$ 2,808,220
1994					SEASON CLOSED						SEASON CLOSED
1995					SEASON CLOSED						SEASON CLOSED
1996					SEASON CLOSED				\$ 200	\$ 187,000	\$ 187,000
1997	\$ 200	\$ 940,600	\$ 80	\$ 14,080	\$ 0.61	\$ 32,000	\$ 8.00	\$ 426,816	\$ 250	\$ 170,000	\$ 1,583,496
1998	\$ 300	\$ 999,000	\$ 375	\$ 156,000	\$ 0.65	\$ 23,000	\$ 5.00	\$ 107,000	\$ 295	\$ 296,000	\$ 1,581,000
1999					SEASON CLOSED				\$ 8.00	\$ 99,000	SEASON CLOSED
2000					SEASON CLOSED						SEASON CLOSED
2001					SEASON CLOSED						SEASON CLOSED
2002					SEASON CLOSED						SEASON CLOSED
2003					SEASON CLOSED						SEASON CLOSED

^a The price per pound for spawn on kelp in pounds is based on the final product weight, not harvest weight.



Appendix G13.—Pacific herring percentage contribution by weight of each age group to the spring run biomass, 1982-2003.